



INDEPENDENT STATE OF PAPUA NEW GUINEA

AGRICULTURE MEDIUM TERM DEVELOPMENT PLAN 2020 - 2022

DEPARTMENT OF AGRICULTURE AND LIVESTOCK



***“ALIGNING THE SECTOR TO TAKE BACK PNG’S ECONOMY
THROUGH INCLUSIVE, SMART AND SUSTAINABLE AGRICULTURE”***





For more information contact:

Department of Agriculture and Livestock

P O Box 2033
Port Moresby
National Capital District
Papua New Guinea

Telephone: + (675) 3007824

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VISION

PNG will be the First Richest Black Christian Nation with a healthy, empowered and fruitful agricultural communities.

MISSION

Transform the PNG Agriculture sector through smart innovations, inclusive and productive partnerships that are responsive to the rural population.

GOAL

The sector development goal is aimed at developing ***“a World Class agriculture sector that is responsive to international and domestic markets for a diverse range of products by 2022”***.

FOREWORD BY MINISTER



The Marape-Basil Government deliberately focused on the Key Themes: *“Make PNG the Richest Black Christian Nation”* and *“Take Back PNG, where no child is left behind”*. Under these themes, we prioritized and issued key policy instructions to all sectors across the country for implementation between 2020 and 2022. Among economic sectors, the government focused on agriculture as an important sub-sector contributing to the achievement of the government’s key themes. Agriculture sector is the backbone, foundation of our rural economy and heart of the nation for socio-economic prosperity and wealth creation. It produces all the food from subsistence farming and provides a base for employment and income generation for over 85% of the population. Marape-Basil government, recognizing that agriculture has enormous potential and will continue to play an important role in sustaining the basic livelihood of our people, has put in place additional Vice-Ministers for Agriculture and Livestock responsible to assist the minister.

The Prime Minister Hon. James Marape, visited the Department of Agriculture and Livestock (DAL) in July 2019 where he held an official dialogue with the senior managers of DAL and the commodity boards and agencies in the agriculture sector. During this dialogue, he reiterated the need for an agriculture sector alignment plan that incorporates governments policy directives and targets and aligns to MTDP III and other higher national plans. The current government’s policy directive for the agriculture sector is to *“increase cash crops, food and grain crops, fresh fruits and vegetables and livestock production by 30% by 2022”*. In pursuit to achieving this target, all resources such as funding from the government and other sources will be strategically planned and aligned and ensure that agriculture sector achieves the government’s target by 2022.

The DAL, as the lead agency in the sector, formulated the aligned Agriculture Medium Term Development Plan (AMTDP) 2020-2022 in consultation with the Departments of National Planning and Monitoring and Treasury, and the sub-sector agencies. The AMTDP underpins the PNG’s agriculture sector goal of developing *“a World Class agriculture sector that is responsive to international and domestic markets for a diverse range of products by 2022”* which is directly in line with the Marape-Basil government’s policy directive and encompasses sub-sector plans and programs to be implemented between 2020 and 2022 financial years.

There are currently ten (10) commodity boards and agencies within the sector including DAL with Rice and Grain Board yet to be established. The commodity boards and agencies include Oil Palm Industry Corporation (OPIC), Coffee Industry Corporation (CIC), PNG Cocoa Board (PNGCB), Kokonas Industri Koporesen (KIK), Rubber Industry Board (RIB), Livestock Development Corporation (LDC), Fresh Produce Development Agency (FPDA), Spice Industry Board (SIB), National Agriculture Research Institute (NARI), and National Agriculture Quarantine and Inspection Authority (NAQIA). The National Food Security and Rice Development Programs also form part of the sector programs that will be coordinated by DAL as the lead agency in the sector. AMTDP creates space for all stakeholders to actively participate in developing the sector including DAL, DNPM, DoT, commodity boards and agencies, provincial and local level governments, development partners, private sectors, MSMEs/SMEs and non-government organizations.



An additional section in AMTDP in Part 2 (2.5) include Sector Growth Drivers (SGDs). The SGDs are the blueprint and foundation for addressing challenges and issues of the sector through short-medium-long term development planning. Among the major challenges and issues, lack of sector coordination and management and unavailability of agricultural statistics and information has hindered effective policy decisions at the national level. Other challenges and issues at the sub-sector level include; constraints to market accessibility, inefficient agricultural extension services and land tenure issues. Furthermore, cross-cutting issues affecting agricultural productivity include; Climate Change, Gender (Women and Youth) in Agriculture and Food Nutrition and Quality, Agro-Food Safety and Codex International Food Standards as the main focus area of Food Security.

The financial requirement for implementing AMTDP is estimated at K2.3 billion. This will be sourced annually between 2020 and 2022, mainly from the government of PNG and others including; development partners, Provincial Services Improvement Program (PSIP), District Service Improvement Program (DSIP), private sectors and other approved programs by the government such as SMEs and Agriculture Equity Fund. The overall coordination and management of the implementation of AMTDP will be the responsibility of DAL at the national level. DAL will ensure that commodity boards and agencies are held accountable for their annual targets thereby achieving a 30% growth at aggregate levels by 2022.

I sincerely congratulate DAL for taking the lead in formulating the aligned sector plan. In consideration of government's Public-Private Partnership (PPP) Policy, I urge all relevant stakeholder partners for unified efforts, with integrated planning, coordination and effective implementation to realize meaningful development outcome's for sustainable and equitable benefits, hence improving rural quality of life in the short to medium term future through agriculture.

Finally, I am greatly honoured to present the AMTDP to DAL, DNPM, DoT, commodity boards and agencies, provincial and local level governments, development partners, private sectors and non-government organizations to take full responsibility and ownership of this important sector alignment plan. I believe together as a team we will achieve positive economic returns on investments, hence giving the agriculture sector its rightful prominence as the country's economic power-house.



HON. JOHN SIMON, MP
Minister for Agriculture and Livestock



ACKNOWLEDGEMENT BY SECRETARY



First and foremost, I thank Our Almighty God, the God of Abraham, Issac and Jacob, the God of Israel who we declared to be God over Papua New Guinea for His continued Grace and Presence through the formulation of the Agriculture Medium Term Development Plan (AMTDP) 2020-2022. Henceforth, I pray for His Continuous Grace and Guidance to realize our dream of *“Taking back PNG’s Economy through Inclusive, Smart and Sustainable Agriculture”*. We will do this through AMTDP and we are proud to be the first sector to align to the National Medium Term Development Plan (MTDP III) 2018-2022.

I am honoured and look forward to working closely with our Minister for Agriculture and Livestock, Honourable John Simon, MP to drive the sector forward through this development plan. I also take this special moment to acknowledge and thank our Prime Minister of Papua New Guinea, Honorable James Marape, MP. The AMTDP is a direct result of his call to the Department and the sector agencies for a blueprint plan during his visit in July 2019. To his cabinet ministers and other members of parliament you also have my gratitude for your support to the sector, giving national priority and endowing it with the allocation of three Vice Ministers, a decree not undertaken before.

I would like to sincerely acknowledge and appreciate the technical advisory support and also the greatly needed financial assistance provided by the Food and Agriculture Organization of the United Nations (FAO), Departments of National Planning and Monitoring (DNPM), Treasury (DoT) and DAL towards this very important plan. My deepest gratitude goes to the Secretary of the Department of National Planning and Monitoring and his staff for their invaluable technical advice and guidance rendered throughout the planning and formulation process of the alignment exercise.

Special thanks and appreciation are extended to the sub-sector agency heads for your contribution to the formulation of the AMTDP with provision of pertinent, specific and up-to-date data and challenges in your respective commodities. The department and the minister will rely on you to monitor progress on the targets set in the AMTDP for performance accountability purposes as we account for the targets set in the MTDP III as a sector.

Finally, I thank the DAL Technical Working Group for their tireless efforts and time committed to producing this alignment plan and also appreciate DAL managers and staff for their contribution to this end.

Thank you all.

A handwritten signature in blue ink, appearing to read 'Daniel O Kombuk'. The signature is fluid and cursive, written over a light blue background.

DANIEL O KOMBUK

Secretary, Department of Agriculture and Livestock



ACRONYMS

AMTDP	Agriculture Medium Term Development Plan
BCS	Bogia Coconut Syndrome
CBB	Coffee Berry Borer
CCDA	Climate Change and Development Authority
CEPA	Conservation Environment Protection Authority
CHVP	Coconut High-Value Products
CIC	Coffee Industry Corporation
CPB	Cocoa Pod Borer
DAL	Department of Agriculture and Livestock
DCI	Department of Communication and Information
DDA	District Development Authority
DTCI	Department of Trade Commerce and Industry
DNPM	Department of National Planning & Monitoring
DoT	Department of Treasury
DoF	Department of Finance
DPI	Division of Primary Industry
DSIP	District Services Improvement Program
DSP	Development Strategic Plan
FAO	Food and Agriculture Organisation of the United Nation
FER	Functional Expenditure Review
FPDA	Fresh Produce Development Agency
GAP	Good Agriculture Practice
GDP	Gross Domestic Product
GoPNG	Government of Papua New Guinea
ICT	Information Communication Technology
IFAD	International Fund for Agriculture Development
KIK	Kokonasi Industri Koporesen
KRA	Key Result Area
LDC	Livestock Development Corporation
MTDP III	Medium Term Development Plan III (2018 -2022)
M&E	Monitoring and Evaluation
MSMEs	Micro-Small to Medium Enterprises
MVF	Markets for Village Farmers
NAC	National Agriculture Council
NADP	National Agriculture Development Plan, 2007-2016
NAQIA	National Agriculture Quarantine Inspection Authority
NARI	National Agriculture Research Institute
NCC	National Codex Committee
NEC	National Executive Council
NFSP	National Food Security Policy
NGO	Non-Government Organisation
NII	National Impact Indicator
NPSC	National Project Steering Committee
NRM	Natural Resource Management
OLPLLG	Organic Law on Provincial and Local Level Governments
NSO	National Statistical Office
OPIC	Oil Palm Industry Corporation
PACD	PNG Agriculture Commercialization and Diversification
PCU	Project Coordination Unit
PGK'	PNG Kina
PIP	Public Investment Program
PSIP	Provincial Services Improvement Program
PNG	Papua New Guinea
PPAP	Productive Partnership in Agriculture Project
PPP	Public-Private Partnership
PSC	Project Steering Committee
QEB	Quarterly Economic Buletin
SDGs	Sustainable Development Goals
SGDs	Sector Growth Drivers
SIB	Spice Industry Board
SMEs	Small-Medium Enterprises
TWG	Technical Working Group
VCO	Virgin Coconut Oil
WIA	Women in Agriculture
WIADU	Women in Agriculture Development Unit
WTO	World Trade Organisation



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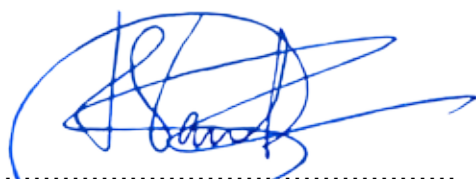
APPROVAL BY SECRETARY
DEPARTMENT OF NATIONAL PLANNING AND MONITORING



Independent State of Papua New Guinea

Department of National Planning and Monitoring

I, **Koney Samuel** by virtues of the powers vested on me as the Secretary for the Department of National Planning and Monitoring, and in compliance with the Papua New Guinea Planning and Monitoring Responsibility Act 2016 hereby approve the Agriculture Medium Term Development Plan 2020 - 2022 for Implementation.



.....
Koney Samuel

Secretary

Department of National Planning and Monitoring

25th September, 2020



EXECUTIVE SUMMARY

The Agriculture Medium Term Development Plan (AMTDP) 2020-2022 is a medium-term plan for the agriculture sector that encompasses sub-sector plans and programs. It is developed in alignment to the Medium Term Development Plan (MTDP) III 2018-2022 and other higher national development plans and priorities such as the Vision 2050, PNG Development Strategic Plan (PNG DSP) 2010-2030 and Alotau Accord II Priorities in a cascading logical manner. The alignment of the AMTDP to MTDP III is the first of its kind for the sector after MTDP I (2011-2015) and MTDP II (2016-2017).

AMTDP is in line with the Planning and Monitoring Responsibility Act (2016) which reinforces MTDP III as the overarching development planning framework for all sectors to align their plans and programs. Furthermore, it was formulated in response to Marape-Basil government's call for an agriculture sector alignment plan in July 2019. It underpins the government's overarching theme of *"Making PNG the Richest Black Christian Nation"* and *"Take Back PNG, where no child is left behind"* with specific policy directive for the sector to *"increase cash crops, food and grain crops, fruits and vegetables and livestock production by 30% by 2022"*. The AMTDP upholds PNG's agriculture sector medium term goal of developing *"a World Class agriculture sector that is responsive to international and domestic markets for a diverse range of products by 2022"* which is directly in line with the government aspirations for the sector.

The overarching government's aspirations, policy directive and the sector's medium term goal uphold the MTDP III theme *"Securing Our Future Through Inclusive Sustainable Growth"* supported by six (6) Key Result Areas (KRAs) of the eight (8) KRAs in MTDP III. The six Agriculture Sector KRAs include:

- KRA 1: Increased revenue and wealth creation
- KRA 2: Quality infrastructure and utilities
- KRA 3: Sustainable social development
- KRA 5: Improved service delivery
- KRA 6: Improved governance
- KRA 7: Responsible sustainable development

The alignment of sector plans and programs in AMTDP is based on the six MTDP III sector KRAs linking other higher national development plans and priorities. In pursuit of achieving sector KRA indicators and targets, it requires a strategic shift in capital investment allocation of about K2.3 billion of the national government budget to the agriculture sector within the AMTDP (2020-2022). This investment will be geared towards achieving the Marape-Basil government's sector target of a 30% increase in productivity by 2022.

MTDP III focuses on a 10% growth annually in all sectors between 2018 and 2022. Hence, AMTDP used 2017/2018 baseline data from the Quarterly Economic Bulletin (QEB) from the Bank of PNG, sub-sector agencies' strategic plans, MTDP III targets and other relevant sources to project a 10% increase annually between 2020 and 2022 to achieve a total accrued increase in cash crops, food and grain crops, fruits and vegetables and livestock production by 30% by 2022. To achieve the sector's National Impact Indicators (NIIs) and targets, DAL as the lead agency is responsible for the coordination and management of the implementation of the AMTDP.



PART 1

INTRODUCTION



PART 1. INTRODUCTION

1.1 Purpose of Agriculture Medium Term Development Plan

The Agriculture Medium Term Development Plan (AMTDP) sets out the agriculture sector's development priorities for the next three (3) years (2020-2022). It is aligned to the Medium Term Development Plan (MTDP) III 2018-2022 sector goals and targets. It provides the direction for everyone with a stake in the development of the agriculture sector, including the Department of Agriculture and Livestock (DAL), commodity boards and agencies, provincial governments, private sectors, development partners, farmers/producers and other stakeholders to align their development plans to AMTDP. AMTDP defines the policy directions and priority areas for investment within different sub-sectors as stipulated in MTDP III. This ensures the flow and direction of resources to where they are required to make a change in the lives of the people through increased revenue generation, improved food and nutrition security and poverty alleviation. AMTDP outlines strategic interventions, implementation strategies and the key players to contribute to the development outcomes in the sector through collective participation.

1.2 Rationale of the Plan

The formulation of AMTDP 2020-2022 is in line with the PNG Planning and Monitoring Responsibility Act (2016) which mandates the MTDP III (2018-2022) as the national development planning framework under which all sector plans should be aligned. The aligned AMTDP was also developed following the national government's policy directive of sector planning and alignment to MTDP III. Given the government's focus on the agriculture sector which is stipulated in MTDP III goal, AMTDP encompasses sub-sector plans and programs to MTDP III goal and KRAs. It sets costs and achievable targets for sector development plans and programs over the next three (3) years (2020-2022).

The agriculture sector was without an alignment plan when MTDP III was introduced in 2018. The formulation of the aligned AMTDP 2020-2022 deemed necessary as it aligns sector plans and programs to MTDP III for implementation over the next three (3) years (2020-2022). AMTDP is the first sector alignment plan since the first MTDP (2011-2015), followed by the MTDP II (2016-2017) and MTDP III (2018-2022) consequently. Therefore, it is the blueprint that sets the foundation for future alignment and also paves the way for the formulation of a long-term national agriculture policy and master plan after the review of the last National Agriculture Development Plan (NADP) 2007-2016.

1.3 Planning Approach

1.3.1 AMTDP Formulation Process

A Technical Working Group (TWG) from DAL was appointed on the 27th of July 2019 to formulate the AMTDP. The TWG was supported by a technical consultant from the Food and Agriculture Organisation of the United Nations (FAO) Country Office in DAL, Port Moresby who provided technical advice and guidance throughout the AMTDP formulation process. Senior managers in DAL also provided advice and guidance throughout the design process. Furthermore, the Macro Planning Division of DNPM, Port Moresby provided regular advice and guidance on the alignment and the structure and components of AMTDP during the design. The AMTDP design process adopts two (2) methodologies and include; i) Review of national plans, sub-sector strategic plans and other related documents such as the Quarterly Economic Bulletin (QEB) from the Bank of PNG and, ii) Stakeholder consultations, workshops and meetings.



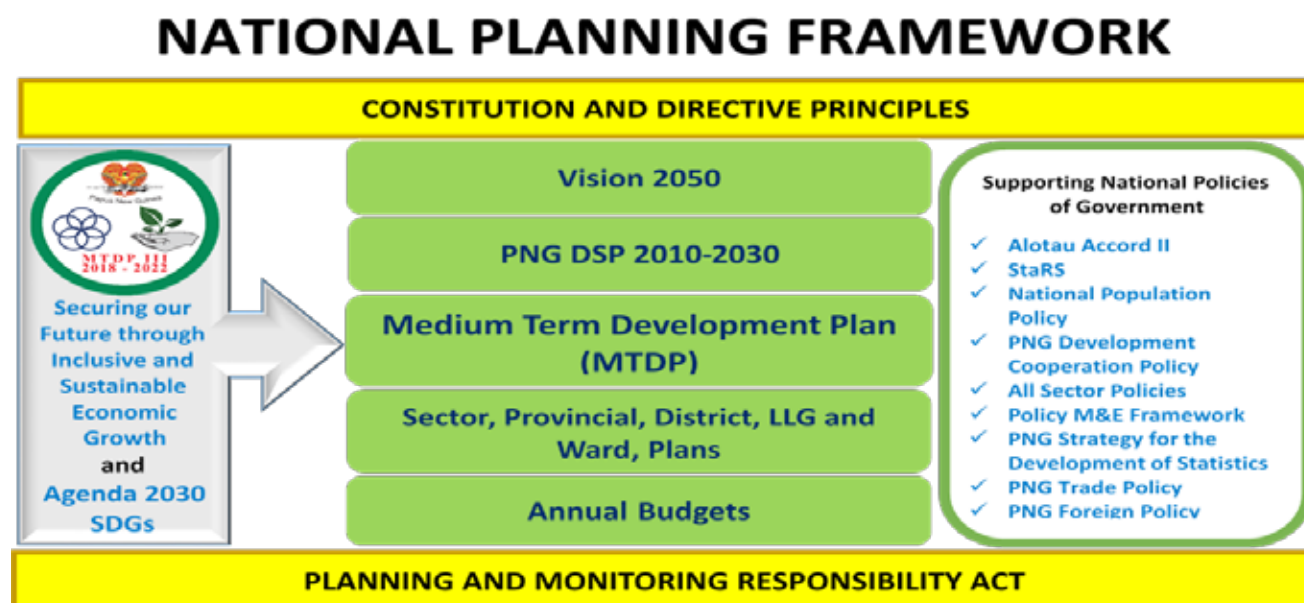
The TWG reviewed MTDP III, sub-sector strategic plans and QEB and developed AMTDP Working Paper No. 1. A series of workshops and meetings held at DAL in Port Moresby and the working paper was presented to senior managers of DAL and the alignment team from DNPM. Their comments and inputs were incorporated and developed Working Paper No.2 and was presented during the sub-sector validation workshops held at the four (4) regions¹ in Kokopo, Lae, Goroka and Port Moresby. The comments, inputs and information collected from the workshops were reviewed, analysed and developed AMTDP first draft. The first draft was circulated to senior managers of DAL and DNPM followed by a meeting to consolidate comments and inputs to develop the second draft. The second draft was circulated to DAL and DNPM for final comments and inputs and developed final version 1.

The final version 1 was presented during a stakeholder validation consultative workshop at Edgewood Hotel, Port Moresby, attended by DAL, DNPM, sub-sector agencies and the provinces and districts. Their comments and inputs were reviewed, analysed and developed final version 2. A series of meetings were held at DNPM to validate and finalize logframes. All logframes in MTDP III were revised and included in AMTDP with National Impact Indicators and targets captured in agriculture logframe and industry-specific indicators and targets in sub-sector logframes. Additional logframes in AMTDP include Sector Governance and the Spice Logframe which were not captured in MTDP III. The TWG incorporated all logframes and developed this final version which was endorsed by DNPM.

1.3.2 AMTDP formulated within the National Development Planning Framework

The PNG Planning and Monitoring Responsibility Act 2016 mandates the MTDP III as the national development planning framework for the country. The MTDP III is the third Medium Term Development Plan for PNG. It was formulated within the existing National Planning Framework as shown in Figure 1.1. All sectoral, provincial and district plans must be aligned to implement Government’s development priorities over the next five (5) years.

Figure 1.1 National Planning Framework



In line with PNG Planning and Monitoring Responsibility Act 2016, DAL as the lead agency in the agriculture sector formulated AMTDP and aligned sub-sector development plans and

¹NGI – Kokopo (Cocoa Board), Momase – Lae (NARI), Highlands – Goroka (FPDA and CIC), Southern – Port Moresby (DAL, NAQIA, KIK, OPIC, Spice Board, Rubber Board and LDC)



programs to MTDP III (2018-2022). This alignment is important to attract funding resources to support critical development interventions at all agriculture sub-sectors.

1.3.3 Alignment of AMTDP at Policy and Implementation Levels

AMTDP aligns the agriculture sector to MTDP III and higher national development plans and priorities under the national planning framework. It aligns the sector at the policy and implementation levels.

At the policy level, AMTDP aligns its goal to the MTDP III goal. That is, AMTDP's goal of developing *“a World Class agriculture sector that is responsive to international and domestic markets for a diverse range of products by 2022”* is directly in line with MTDP III goal *“securing our future through inclusive sustainable economic growth”* that encompasses development goals and objectives of the higher national plans and priorities. The AMTDP goal will be realized through the Strategic Outcome *“increase cash crops, food and grain crops, fruits and vegetables and livestock production by 30% by 2022”*.

At the implementation level, AMTDP aligns sub-sector plans and programs to MTDP III and other higher national development plans and priorities using MTDP III sector Key Result Areas (KRAs) and outcomes (Tables 1.1 and 1.2). The MTDP III goal encompasses eight (8) KRAs. Of the 8 KRAs, agriculture sector falls directly under six (6) KRAs.

KRA 1: Increased Revenue and Wealth Creation

KRA 2: Quality Infrastructure and Utilities

KRA 3: Sustainable Social Development

KRA 5: Improved Service Delivery

KRA 6: Improved Governance

KRA 7: Responsible Sustainable Development

AMTDP aligns MTDP III sector KRAs to other higher national plans and priorities, not forgetting the nation's alignment to the global Sustainable Development Goals (SDGs) and is presented in Table 1.1. The sector directly falls under six (6) pillars of PNG Vision 2050, five (5) objectives of PNG DSP 2010-2030, five (5) Priorities of Alotau Accord II and sixteen (16) Sustainable Development Goals (SDGs)².

Table 1.1 Alignment of MTDP III Sector KRAs to Higher National Plans and Priorities

PNG Vision 2050 Pillars	MTDP III Sector KRAs
Human Capital Development, Gender, Youth and People Empowerment	KRA 3
Wealth Creation	KRA 1
Institutional Development and Service delivery	KRA 5
Environmental Sustainability and Climate Change	KRA 7
Spiritual, Cultural and Community Development	KRA 3
Strategic Planning, Integration and Control	KRA 6 & 7
PNG Development Strategic Plan 2030 Objectives	MTDP III Sector KRAs
Systems and Institutions	KRA 5, 6 & 7
Human Development	KRA 3

²PNG is a signatory to several international conventions and treaties, including the Sustainable Development Goals (SDGs). PNG has an obligation to take action and report to the UN General Assembly. Hence, the SDGs should be incorporated into any development plan of the government of PNG.



Wealth Creation	KRA 1
Environment and Climate Change	KRA 7
Partnership with Churches for Integral Human Development	KRA 3
Alotau Accord II Priorities	MTDP III Sector KRAs
Increase Revenue	KRA 1
Increase Exports	KRA 1
Reduce Imports	KRA 1
Create Wealth	KRA 1
Deliver Quality Services	KRA 3 & 5
UNs Sustainable Development Goals	MTDP III Sector KRAs
No Poverty (1)	KRA 1
Zero Hunger (2)	KRA 1
Good Health and Wellbeing (3)	KRA 5 & 3
Quality Education (4)	KRA 5
Gender Equality (5)	KRA 1
Clean Water and Sanitation (6)	KRA 7
Affordable and Clean Energy (7)	KRA 7
Decent Work and Economic Growth (8)	KRA 1
Industry, Innovation and Infrastructure (9)	KRA 2
Reduced Inequalities (10)	KRA 1 & 3
Sustainable Cities and Communities (11)	KRA 3 & 7
Responsible Consumption and Production (12)	KRA 7
Climate Action (13)	KRA 7
Life Below Water (14)	KRA 7
Life on Land (15)	KRA 7
Partnerships for the Goals (17)	KRA 6

(Source: MTDP III, Vol 2, 2018)

MTDP III Sector KRAs encompass sector development program goals and outcomes to achieve AMTDP goal. Sector KRAs, goals, objectives and outcomes are indicated in Table 1.2.

Table 1.2 MTDP III Agriculture Sector KRAs, Goals and Outcomes

Sector KRA	Goal	Outcomes
KRA 1	Increased Revenue & Wealth Creation	1.1. Increase revenue from Commodity Board's levies. 1.2. Increase exports of major agricultural commodities. 1.3. Create more employment and economic opportunities for women and youth and build the capacity of productive workforce at all levels of development interface. 1.4. Increase bankable land for productive utilisation to unlock its economic potential and engage land-owners in the formal market. 1.5. Reduce imports of major food items like rice, dairy, fresh produce, and meat.



		<ul style="list-style-type: none"> 1.6. Reduce the import of technical skilled labour by upgrading and increasing the number of TVET institutions. 1.7. Create wealth by promoting SME growth and attracting direct investments. 1.8. Women's economic empowerment.
KRA 2	Quality Infrastructure & Utilities	<ul style="list-style-type: none"> 2.1. Improve Infrastructure with sustainable and disaster resilient quality to provide more enabling environment for growth of economy and for the improvement of service delivery.
KRA 3	Sustainable Development Social	<ul style="list-style-type: none"> 3.1. Resourceful and productive youths. 3.2. Improved Food and Nutrition Standards.
KRA 5	Improved Delivery Service	<ul style="list-style-type: none"> 5.1. Effective Public Service Delivery. 5.2. Integrated Approach for Service Delivery in Districts.
KRA 6	Improved Governance	<ul style="list-style-type: none"> 6.1. Promote Good Governance. 6.2. Develop a Centralized civil and identity registry system.
KRA 7	Responsible sustainable development	<ul style="list-style-type: none"> 7.1. Promote PNG's Environmental Sustainability. 7.2. Adapt to the domestic impacts of Climate Change and contribute to Global Efforts to abate greenhouse gas emissions. 7.3. Manage and reduce the risks of natural disasters thereby increasing the resilience of PNG communities to disasters. 7.4. Sustainable use of water.

(Source: MTDP III, Vol 2, 2018)

AMTDP revises MTDP III sector KRA indicators and targets and aligns agriculture and sub-sector goals, economic growth goal, indicators (targets), sector strategies, deliverables and investments from 2020 to 2022. These are outlined in the Agriculture, Sector Governance and Sub-sector Logframes in Part 3.

1.4 Structure of AMTDP

AMTDP comprises of 6 Parts. Part 1 contains the introduction and outlines the purpose, rationale and the planning approach of AMTDP. Part 2 analyses the overview of the agriculture sector and its importance in the economy, the policy and institutional framework, challenges, opportunities and issues, and development potential. The Sector Growth Drivers (SGDs) have been relatively derived to address the challenges and issues and improve agricultural productivity in the medium to long term. Part 3 discusses the alignment of the sector KRAs to MTDP III using agriculture, sector governance and sub-sector logframes. Part 4 focuses on the financing requirement and investment analysis of AMTDP. Part 5 describes the implementation and management of AMTDP at national, regional, provincial and district levels. Finally, Part 6 presents the reviews, monitoring and evaluation guidelines and processes of AMTDP.



PART 2

AGRICULTURE SECTOR SITUATIONAL ANALYSIS



PART 2. AGRICULTURE SECTOR SITUATIONAL ANALYSIS

2.1 Overview of the Agriculture Sector

The agriculture sector is the foundation and a vital engine for economic development for PNG. It provides the basis for the social and economic survival of Papua New Guineans and sustains the livelihood of more than 85% of the population for food and income generation. The agriculture sector consists of several sub-sectors including (a) Food crops (Traditional staples, Fruits, Vegetables, Rice and Grain); (b) Livestock (Cattle, Sheep, Goat, Poultry, Pigs, Aquaculture (Fish farming) and Apiculture (Honey bee farming); (c) Tree cash crops (Palm oil, Coffee, Cocoa, Coconut, Rubber and Tea); (d) Spice Crops (Vanilla, Cardamom, Chillies, Ginger, Pyrethrum etc). In PNG, the agriculture sector is characterized by two main production systems; (i) the subsistence and semi-commercial production system and (ii) the plantation and estate-based production system.

2.1.1 Subsistence and semi-commercial production systems

The food crops and livestock sector in PNG are predominantly based on subsistence and semi-commercial production by smallholders. They grow staple root crops, fruit and vegetables either for consumption or for sale in local markets. They also grow cash crops in smallholder blocks mainly for export. The types of crops grown and animals raised are highly adapted to the local environments. Virtually, all smallholder crops are rain-fed, inter-cropped, have low inputs and low productivity. Food crops account for over 50% of the total agricultural output, and only about 25% of the product is marketed.

The driving force of the subsistence production system in PNG is the smallholder farm family-unit based and there are about more than 850,000 of these households. Traditionally, smallholders have accounted for most of the output of the main export and staple agricultural commodities. They produce 75% of coffee, 80% of coconuts, 70% of cocoa and 25% of oil palm. Nearly all the spice and minor crops including vanilla, cardamom, chillies, and pyrethrum are produced by smallholders. They provide nearly all the labour on the estates and plantations that produce the coffee, coconut, cocoa, oil palm and rubber. Tea failed as a smallholder crop in the 1970s and is now the only crop that is almost entirely grown on estates in the highlands and in Garaina, Morobe Province with declining production volume.

In PNG, the livestock sub-sector accounts for about 13% of the total agricultural production of which subsistence pig and poultry production account for about two-thirds. PNG produces all its poultry products and meets its domestic demand. Broiler production dominates the commercial sector, followed by beef, eggs, and pork. Pigs play an important economic and cultural role in the village, particularly in the highlands, providing wealth, status and animal protein. Despite an abundance of natural resources suitable for livestock production and enviable low disease risk status, livestock production has declined.

The agriculture sector now focuses and transits from the traditional subsistence and semi-commercial production system to an agri-business oriented Micro-Small to Medium Enterprises (MSMEs) and Small to Medium Enterprise (SME) model agriculture farming for food crops purely for cash. This trend is fast building rural economy that needs to be accounted for to give real-time data for planning and decision making.

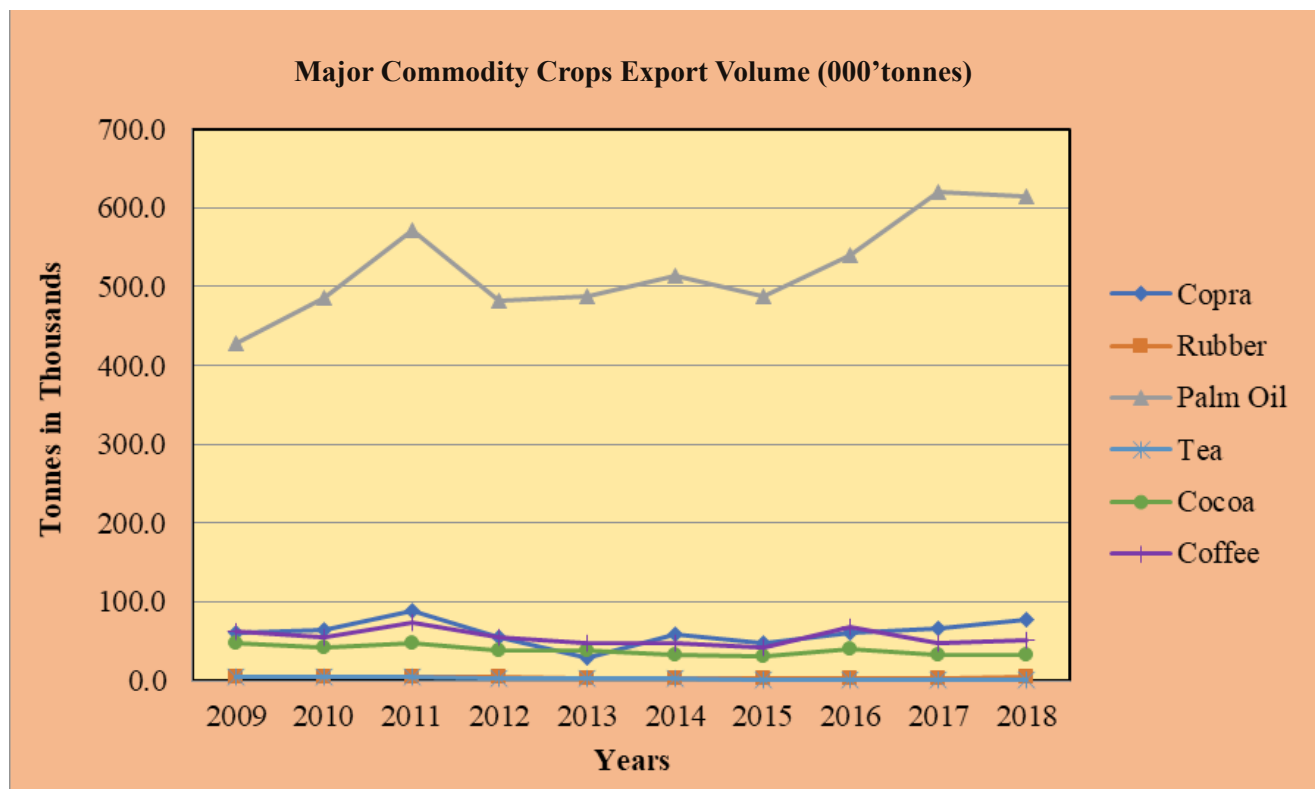


2.1.2 Plantation and estate-based production system

The tree cash crops sub-sector, which is exclusively export-oriented, is based on the primary products of major export commodity crops including oil palm, coffee, cocoa, coconut, rubber and tea. These crops are mainly produced by the estates and plantations, but smallholders (village out-growers) supply the estates and plantations with throughput, especially for oil palm and rubber. At present, the estates and plantations produce 25% of all coffee, 20% of coconut and 30% of cocoa grown in PNG, whilst the smallholders produce the balance. A portion of the sugarcane processed by Ramu Sugar Ltd is grown and supplied by village out-growers. Currently, Oil palm is the highest income-earning commodity in the sector followed by coffee, cocoa, coconut, rubber and tea.

The growth performance of the export-oriented agricultural sector has generally been weak. Since independence, the average yield performance of major export crops such as palm oil, coffee, cocoa, coconut (copra), rubber and tea has been very low and stagnant compared to other countries in the Asia-Pacific region such as Indonesia and Malaysia. The estimated growth is well below expectations, and often around 2.0% compared to the population growth of 3.1%. Generally, over the last decade, major export crops produced a total export volume of 7.4 billion tonnes and generated around K20.5 billion in export revenue. Figures 2.1 and 2.2 use Quarterly Economic Bulletin (QEB) export data from the Bank of PNG to illustrate the export volume and value of major export commodity crops over the last 10 years (2009-2018).

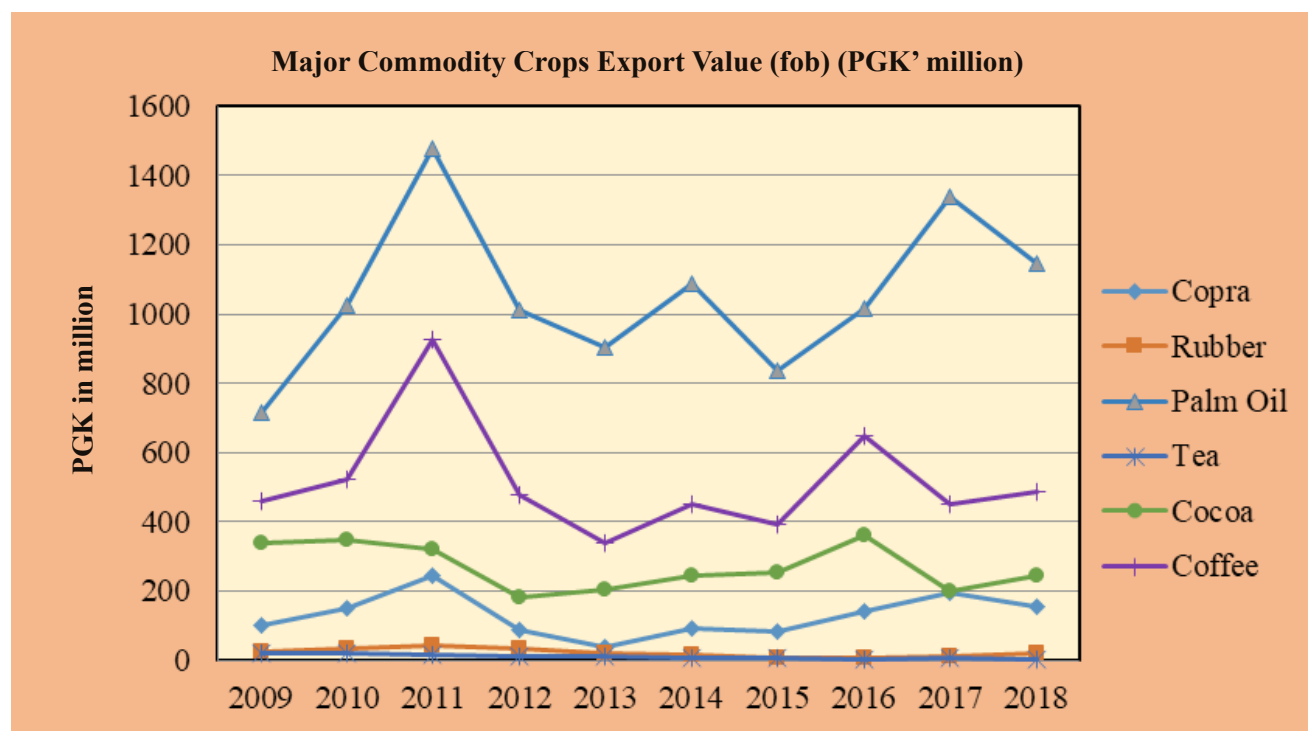
Figure 2.1 Major Commodity Crops Export Volume (2009-2018)



Palm Oil is the highest revenue earner for the country apart from other cash crops. This is due to private sector intervention by New Britain Palm Oil Ltd in the oil palm industry in a big way and not through government policy intervention or support to the industry.



Figure 2.2 Major Commodity Crops Export Value (2009-2018)



The performance of major export commodity crops in the last five (5) years (2014-2018) are illustrated in Appendix 1(a-g). Although, spice crops contribute to export revenue, their export volumes and values are not recorded in QEB. Hence, figures 2.1 and 2.2 do not illustrate spices export volumes and values over the last 10 years. However, the PNG Spice Industry Board provided spices export data (volume and value) for the last five years (2014-2018) and are illustrated in Appendix 1(f). Tea production declined significantly in the last five years [Appendix 1(g)]. This is attributed to the fact that it is only grown in plantations by private firms which are now abandoned.

2.2 Importance of Agriculture in the Economy

For the majority of Papua New Guineans, the agriculture sector is the mainstay of the country's economy, especially the rural economy, and will continue to be for many generations to come. Agriculture is a key component of the renewable resources sector that sustains the livelihood of more than 85% of the 8 million people of PNG. The sector produces all the food for subsistence and provides a base for income generation for our people. It employs over 25% of the workforce in the formal sector, contributes an average of 18% to foreign exchange earnings. It provides markets for the industries and services sector, and a source of capital, labour and products for the other sectors. On the whole, it is also the sector where there is substantial untapped potential. The contribution of the agriculture sector to the national economy of PNG derives from the food crops (fruits and vegetables), livestock and the tree crops sub-sectors.

2.2.1 Agriculture Contribution to GDP

Over the years since independence, the agriculture sector's contribution to the national GDP has declined from a high of 36.7% in 1977 to 23.1% in 2012. The downward trend is partly a consequence of the sector's performance as dictated by world market prices for agricultural commodities as well as increases in non-agricultural exports, such as crude oil and minerals. Until 2018, the sector contributed about 26% to the national GDP. Despite its contribution to GDP, the government's investment in the agriculture sector over the years has



been consistently below 2% of the national budget which is very low compared to the non-renewable sector (mineral and oil) which normally receives more than 75% annually.

In the 21st century, the allocation of funding from the government to support agriculture development, rural infrastructure, education and health become scarce as a greater share of public expenditure going to debt servicing, public sector wage and import bills. Furthermore, agriculture sector growth is 2.0%, trailing behind population growth at 3.1%. In the next 25 years, if the population growth rate is not kept in check, and accounting for other effects (such as deaths by disease, etc), the population will double, and reach 16 million. Social indicators are staggering and demands on agriculture will be enormous.

2.2.2 Food Import Replacement

The current food production is not consistent with population growth. This has resulted in the government of PNG spending an average of K1 billion annually between 2010 and 2017 to import food products such as rice, meat and fresh produce (fruits and vegetables) to feed the growing population (Appendix 2a). In 2018, the government spent K683.4 million to import 9,104,000 tonnes of rice, meat products, fruits and vegetables to meet the food demand of the population. Rice and meat imports have been consistently high compared to fruits and vegetables. The government imports 400,000 tonnes of rice amounting K600 million annually. Similarly, the imports of meat products have increased over the last five (5) years (2014-2018), and accounts for about K82 million in 2018 (Appendix 2b). A sharp decline in imports of meat products in 2018 is due to meat import ban to control African Swine Flu (ASF). Of the total food importation, fresh produce (fruits & vegetables) imports accounted for 27,984 tonnes between 2010 and 2018 (Appendix 2c).

The domestic fresh produce movement along the supply chains to informal and formal urban markets (Lae and Port Moresby) increased from 57, 000 tonnes in 2014 to 92, 000 tonnes in 2017 (Appendix 2d). The food deficit in major towns and cities in PNG is between 1000 to 9000 tonnes annually. PNG's current fresh food and vegetable production along food value-chain do not conform to international market standards and expectations because of quality and biosecurity issues. Furthermore, supply is inconsistent to meet market demand. Despite its commercial viability, PNG continues to import fresh fruits and vegetable from overseas markets.

Given all these factors and to contain any adverse effects on the national economy, the government through the Department of Agriculture and Livestock (DAL) sets out its medium-term development plan (2020-2022) aligning to MTDP III for increased agricultural production, export revenue and import replacement in PNG. The main elements of which are presented in this document.

2.3 Sector Policy and Institutional Framework

2.3.1 Policy Framework

The national government's PNG Vision 2050 sets the broad context within which agriculture institutions are to be delivered. The goals of PNG Vision 2050 underpin the PNG Development Strategic Plan (PNGDSP) 2010-2030, the Medium-Term Development Plans (MTDPs)¹, the Alotau Accord II Agreements, the National Agriculture Development Plan (NADP) 2007-2016, and the sub-sector agencies strategic plans. PNG Vision 2050 sets three (3) long-term key outcomes for the agriculture sector:

¹MTDP I (2011-2015), MTDP II (2016-2017) and MTDP III (2018-2022)



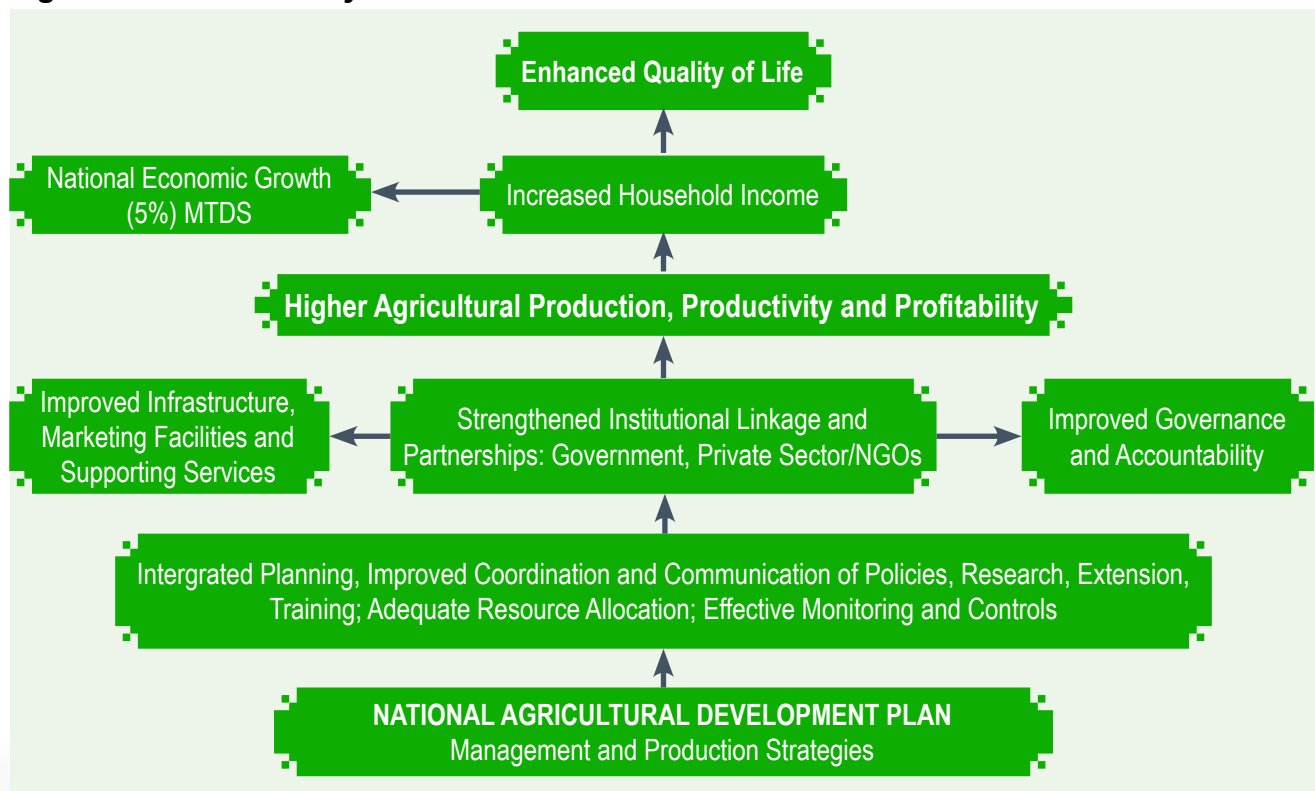
- a. Increased domestic and export production and revenue from agricultural activities and business.
- b. Increased number of national men and women in small, medium and corporate businesses in agriculture; and
- c. Increased number and volume of new investments in the agriculture sector.

PNG DSP 2010-2030 provides the roadmap for achieving the key outcomes which will be accomplished through the implementation of MTDPs. We are now in MTDP III 2018-2022. The PNG DSP objectives for the agriculture sector include “Systems and Institutions, Human Development, Wealth Creation, Environment and Climate Change, and Partnership with Churches for Integral Human Development” which are supported by the MTDP III goal “securing our future through inclusive sustainable economic growth”. This is further strengthened by the AMTDP’s theme “Aligning the sector to take back PNG’s Economy through Inclusive, Smart and Sustainable Agriculture”.

For the agriculture sector agencies to achieve the government’s overall goals, it is imperative that planning at all levels in the sector is aligned with those goals. Hence, AMTDP (2020-2022) goal of developing “a World Class agriculture sector that is responsive to international and domestic markets for a diverse range of products by 2022” is aligned to the MTDP III goal. AMTDP is the overarching policy framework for the agriculture sector that aims to improve planning, investment (funding) and coordination mechanisms to work towards achieving government aspirations in the higher national plans.

The NADP (2007-2016) is still considered a living document until it is reviewed and superseded by another strategic plan, therefore references are made to NADP for guidance on the overall agricultural policy framework. AMTDP adopts NADP Policy Framework that provides the strategic focus and direction for the sector agencies to perform effectively and efficiently to achieve the key outcomes and targets stipulated in the higher national plans.

Figure 2.3 NADP Policy Framework



A National Agriculture Policy and Master Plan will be formulated after the AMTDP design is completed. This will set a clear direction and road map for agriculture development in the long term as the agriculture sector is the foundation for PNG's economic prosperity. Hence, the agriculture sector is the current government's top priority focus. It will improve and enhance the economic empowerment of all people towards becoming wealthy and happy fulfilling the vision 2050 and the Marape-Steven government's vision of PNG becoming the richest black Christian nation, where no child is left behind within the next 10 years.

2.3.2 Institutional Framework

The Department of Agriculture and Livestock (DAL) was the only department in the sector responsible for the development of agriculture and livestock programs during pre-independence. After independence in 1975, DAL's commodity technical functions were transferred to the commodity boards and agencies under the twin policies of corporatization and privatization. The commodity boards and agencies are responsible for various programs in the sector whilst DAL maintains the policy coordination and management role of the sector. Other technical functions and innovations that are not accommodated in the commodity boards were maintained in DAL as a lead agency in the agriculture sector.

The current institutions within the agriculture sector include the DAL as the lead agency followed by the commodity boards and agencies comprising of Oil Palm Industry Corporation (OPIC), Coffee Industry Corporation (CIC), PNG Cocoa Board (PNGCB), Kokonas Industri Koporesen (KIK), Spice Industry Board (SIB), Fresh Produce Development Agency (FPDA), Livestock Development Corporation (LDC), National Agriculture Research Institute (NARI) and National Agriculture Quarantine Inspection Authority (NAQIA). The commodity boards and agencies mandatory functions were enacted through their respective institutional acts passed by parliament or policy decisions made by the National Executive Council (NEC).

Table 2.1 Sector Agencies, Acts and Functions Created Under Corporatization Policy

Commodity Board / Agency	Status (Acts)	Year of establishment	Functions
1. Cocoa Board	Board under its Act (Cocoa Act 1981)	1982	Regulate, manage and carry out research and extension for the Cocoa Industry
2. LDC	Public enterprise (Companies Act 1997)	1983	Responsible for the development of all forms of livestock including cattle raising and grazing systems in PNG.
3. FPDA	A public company under (Companies Act 1997)	1989	Manage fresh food and horticultural industry in PNG
4. CIC	A corporation with its Act and public company (CIC Act 1991)	1991	Coffee industry Regulation, research and extension.
5. Spice Board	Board under its Act (Spice Industry Act 1989)	1991	Regulate and coordinate the spice industry development in the country
6. OPIC	A corporation under its Act (OPIC Act 1992)	1992	Smallholder oil palm extension services



7. NARI	Technical institution under its Act (NARI Act 1996)	1996	Generate and promote appropriate and improved agricultural technologies
8. NAQIA	Technical institution under its Act (NAQIA Act 1997)	1997	Quarantine inspection, certification and permitting for health and safety standards of imported and exported products.
9. KIK	A corporation under its Act (KIK Act 2002)	2002	Regulate, manage and carry out research and extension for copra (coconut) industry

(Source: Ministry of Agriculture and Livestock, 2007)

Although the Rubber Act was passed in 1963 and is still current, the board has been in disarray over the years as the government focused on the other major commodities such as coffee and cocoa and did not establish a separate institution for the Rubber Board to operate efficiently. DAL maintains an office for Rubber Board until 2020 when Rubber Board members were sworn in and undertook Review of Rubber Act 1963 and institutional arrangements. It is anticipated that by 2022, the Rubber Industry Board will operate as a separate agency in the sector.

Out of the total ten (10) sub-sector agencies, three namely Rubber Industry Board (RIB), Spice Industry Board (SIB) and Livestock Industry Corporation (LDC) are still considered as programs under the DAL due to their Organizational administration and structures yet to be established and capacitated to fully function. AMTDP aims to operationalize these agencies by 2022.

2.3.3 Sector Institutions Functional and Expenditure Reviews

The current institutional framework was adopted since independence in 1975. Under this framework, sector institutions were not well placed, uncoordinated and operate independently without a clear policy framework and direction to account for governments aspirations for the sector. These prevailing issues have been attributed to the legal framework adopted since independence. The corporatisation of sub-sector agencies resulted in their institutional acts that govern their operations. The decentralisation of provincial governments through the Organic Law on Provincial and Local Level Government (OLPLLG) 1976 allows the transfer of agriculture extension function from DAL to the provinces and districts.

Given these scenarios, the sector institutions Functional and Expenditure Review (FER) was conducted in 2005 and a follow-up review in 2014, approved by the National Executive Council (NEC) decision (124/2014). These reviews were conducted purposely to assess institutional issues in DAL as well as sub-sector agencies and recommend reforms to be implemented by sector institutions for improved sector productivity. The FER in 2014 proposed 33 recommendations for sector institutional reforms (Appendix 3). The DAL commits to review and facilitate the implementation of the recommendations. The sub-sectors have already started implementing some of these recommendations and DAL will continue the implementation in collaboration with the commodity boards and the agencies on the various recommendations related to each sub-sector.



2.4 Challenges and Issues affecting Agricultural Development

The agriculture sector is faced with several challenges and issues affecting agricultural development. Most of these challenges and issues have been prevalent in the sector since independence in 1975. The alignment of sector programs endeavours to address these challenges and issues and creates favourable operating environment for increased productivity and revenue within the aligned AMTDP, corporate and strategic plans for sector agencies, and other long-term sector strategic plans.

2.4.1 Lack of Sector Coordination and Management

Historically, the DAL was the only agency in the sector responsible for the development of agriculture and livestock programs during pre-independence until PNG gained independence in 1975. After independence, the reforms through the twin policies of corporatization and privatization transferred the commodity-specific technical functions of the DAL to commodity boards and agencies. Furthermore, the introduction of the Organic Law on Provincial and Local Level Governments (OLPLLG) (1976) also transferred the National Agriculture Extension function from DAL to the provinces and districts. These institutional and legal reforms resulted in the segregation and specialization of commodity boards and agencies which operate independently under their institutional acts. These acts marginalized DAL as it does not have the legislative powers to coordinate the sub-sector agencies. The implementation of the sector's functional and expenditure review (FER) recommendations have been very slow. The two important agriculture bills (AAA and AIC)² that will give recognition to DAL as the lead agency for improved sector coordination and management has been delayed and has not been passed by parliament since 2015.

With the current institutional framework, sector coordination and management have been lacking. Sub-sector agencies report directly to the Minister for Agriculture and Livestock, Departments of National Planning and Monitoring (DNPM) and Treasury (DoT) as guided by their acts. Likewise, the provincial governments report to the Department of Provincial and Local Level Government Affairs, Office of Rural Development, DNPM and DoT on agriculture extension programs. DAL does not have an overarching legal authority to effectively coordinate, manage and report on sub-sector programs including agriculture extension programs in the provinces and districts. Hence, agricultural productivity in PNG has not been fully accounted for at the national level. Without prudent sector coordination, management and reporting, the agriculture sector performance has been stagnant and declining since independence as commodity boards and agencies have not been made accountable to their targets through DAL, being lead sector agency responsible for sector approach budgeting and reporting.

2.4.2 Food Insecurity and Nutritional Issues

PNG's local food production cannot support national food demand. Food crops, vegetables and fruits are produced in reasonable quantities but import other food stuff such as rice, meat products, fruits and vegetables. Furthermore, local food production is not competitive to food imports due mainly to supply issues such as poor quality, inconsistency in supply, poor road connectivity and high marketing cost. Ample fresh produce is grown in the highlands but the issue is how to efficiently deliver these products at a lower cost to urban centres like Lae and Port Moresby. Getting the produce to Port Moresby will be costly compared to Lae because of lack of road links and air freight is very expensive. Besides that, there are also critical value chain issues that need to be addressed like post-harvest management such as food contamination, food loss and waste including cold storage facilities.

²Agriculture Adjustment Act (AAA) and Agriculture Investment Corporation (AIC) Act.



Local meat production is also low and cannot support the demand. Hence, most of the meat products are imported from overseas. The local food production has not kept pace with the rate of population growth, food dietary habits are changing in urban PNG from local food crops in favour of rice and other imported foodstuff which contribute to declining trade balance and an ever-increasing food import bill.

Malnutrition rates in PNG are amongst the highest in the world. There is a widening gap between the demand for food due to the relatively static domestic production, distribution and marketing. The latest DHS 2016-2018 indicated that more than half (57%) of PNG's population experienced moderate to severe food insecurity and 25% of the population experienced severe food insecurity, receiving less than the minimum daily energy requirements of 220Kcal/person/day. Average calorie intake for the poorest 25% of the population falls short of the daily requirements by 220Kcal/day, so does protein intake for the poorest 50% of the population. Non-calorie inputs to nutrition also contribute to poor nutritional outcomes in the rural areas, including the lower average protein in the diet and its uneven availability, the lower energy density of the diet and less access to primary health facilities. Low consumption of proteins is the biggest cause of malnutrition in PNG as indicated by the high rate of stunting of about 48%, which is one of the highest rates in the world. This has resulted in low life expectancy and high rate of infant mortality at birth and low birth weight, which are all associated with women not having access to quality and nutritious foods during pregnancy. This suggests that it is important to consider food security as a means to improved nutrition rather than an end in itself.

Trending issues related to nutrition in recent years include both under and over nutrition affecting all age groups including children, young and old people. Apart from the common indicators such as stunting and wasting in children under five (5) years, a new nemesis is Non-Communicable Diseases (NCDs) and the high prevalence of premature deaths between the ages of 30 -70 years old. The increasing mortality rate is worrying as the affected group is the active workforce and loss in lives affects the country. Currently PNG rate of prevalence is 30% according to World Health Organization (WHO) country profile, 2016.

2.4.3 Lack of Coordination of Strong Partnerships

Strong partnerships between government departments and agencies, sub-sector agencies, provincial governments, development partners, private sectors and Non-government Organisations (NGOs) will improve agricultural development in the sector. However, to some degree, these partnerships have not been well-coordinated or inexistent through DAL as the lead agency in the sector. This has been attributed to the lack of coordination and management of the sector by DAL. Currently, DAL is faced with capacity issues to effectively coordinate partnerships with stakeholders for their support in the sector. This has resulted in most government agencies, development partners, private sectors and NGOs liaising directly with sub-sector agencies and provincial governments for interventions in agriculture through DNPM and Treasury, bypassing DAL as the contact point for any development intervention in the sector.

The government, under the Public-Private Partnership (PPP) Strategy, embarks on private sector involvement in the development process as governments resources to support developments throughout different sectors are limited. Generally, PPP coordination at DAL is weak as it lacks a national agriculture strategic plan that sets the framework for private sector involvement in agriculture development. Partnerships in agriculture development are very



important as the government's annual budgetary allocation to the agriculture sector has been consistently below 2% of the national budget since independence. Hence, the sector cannot implement most of its development programs to harness the full potential of the sector. Private sector intervention in agriculture can influence growth and development in the sector. For instance, Palm Oil is the highest revenue earner for the country apart from other cash crops. This is due to private sector intervention by New Britain Palm Oil Ltd in the oil palm industry in a big way and not through government policy intervention or support to the industry.

Currently, there are some private sector engagement in agriculture such as the NGIP Agmark Limited providing training and extension services for cocoa farmers. Likewise, some private sectors are also supporting smallholder farmers in coffee, rubber, spices and fresh produce sub-sectors. In most cases, some responsible sub-sector agencies are not aware of these arrangements as private sectors are directly engaged with farmers. Under these scenarios, all development efforts and resources can be directed towards the same farmer as there is no proper coordination of partnerships at the sub-sector level. The sub-sector agencies are also partnering with provinces and districts to jointly implement agriculture projects through Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA). These partnerships can be strengthened and replicated in the other provinces and districts for increased agricultural activities.

2.4.4 Lack of Agricultural Services

There are major issues with agricultural training and extension, research and development, and bio-security and quarantine services. Agricultural training, information and extension services are some of the driving forces of agricultural development for rural poverty reduction. However, most PNG farmers (farmer groups or cooperatives) have little access to extension and other related services for many years, and public-sector agricultural extension capacity of PNG had been declining since independence. Farmer training and extension was the responsibility of DAL during pre-independence. However, after independence, the extension function was transferred to the provinces and districts under the OLPLLG. This function may be non-existent or ineffective in most provinces due to government's lack of funding commitment and capacity issues in the provinces and districts.

Agricultural training and extension have also been neglected by the public sector. Attempts to replace public-sector extension with corporatized and privatized services have met with limited success, and an affordable, manageable, equitable and effective national extension system is yet to emerge. Over the years agriculture sector's human resource development and training has become increasingly fragmented and uncoordinated to the extent that, planning and coordination amongst sub-sectors and various training institutions including NGOs-run training institutions are disjointed and lacked coherence. In the absence of the National Agricultural Sector Human Resource Development and Training Plan, coordination of resource assistance is distorted, resulting in an unpredictable availability for disposal.

Agricultural research and development (R&D) is commodity specific. Commodity boards have their research divisions responsible for R&D. Resource capacity issues in most commodity boards affected R&D and innovations for improving productivity. NARI's R&D function is limited to food and grain crops, spices and minor crops, and small livestock. R&D priorities have not been well coordinated as a sector. Hence, R&D outcomes, innovations and technologies released do not reach the smallholder farmers. Biosecurity and quarantine inspection services in the agriculture sector are provided by NAQIA. In most cases, resource capacity issues such as manpower and funding hinder the efficient provision of biosecurity and quarantine inspection



services. Hence, PNG agriculture sector is vulnerable to the invasion of agricultural pest and diseases other quarantine related issues. Subsequently, the recent invasion of African Swine Fever affecting pigs in the highlands and Fall Army Worm in the Western Province are some of the examples of exotic disease and pest outbreak in the country as PNG is vulnerable to agricultural pests and diseases.

In line with the governments initiative to support agriculture Micro Small-Medium Enterprises (MSMEs) and Small-Medium Enterprises (SMEs), the sector should provide relevant business skills training and extension, and other necessary support to elevate subsistence farmers to MSMEs and SMEs. According to PNG SME Policy 2018 and SME Master Plan 2016-2030, 500,000 SMEs and 2 million jobs expected to be delivered by SMEs by 2030. The agriculture sector has been earmarked as a key sector that will play a vital role in delivering these targets. However, the sector still does not have a dedicated MSME/SME policy to guide to contribute to these targets.

2.4.5 Lack of Agricultural Statistics and Information

Agricultural Statistics and information are very important tools for agriculture policy formulation, decision-making and to coordinate and keep track progress of the sector for future planning. However, PNG has not conducted an agricultural census since the 1960s and is the only Pacific Island Country that has not conducted any agricultural census at all. The DAL as lead agency lacks agricultural statistics and information database. Therefore, agriculture sector planning and programming is done on ad hoc bases with insufficient data and information provided by sub-sector agencies. Sub-sector agencies have their statistics and information database which have not been linked up with DAL for informed policy planning and decision making. Hence, the sector urgently requires a central agriculture statistics and information database system in DAL that should link up with commodity boards and agencies as well as provinces and districts and international organisations such as the Food and Agriculture Organisation of the United Nations (FAO) and the World Trade Organization (WTO). The lack of statistics and information, therefore, has over the years resulted in overall poor performance of the agricultural sector in PNG.

Currently, the agriculture sector relies on the 2000 National Census. This survey was conducted with only a few agricultural questions included in the national census survey questionnaires that do not capture the entire agricultural activities in the provinces and districts. After two decades, the government through the National Statistics Office (NSO) is now preparing for the 2021 National Census. DAL is concurrently liaising with NSO to include more agricultural questions in the 2021 national survey questionnaires. However, a separate national agriculture survey is still required to account for the entire agricultural data and statistics in PNG.

The Food and Agriculture Organisation of the United Nations (FAO) has been keen on the preparation and planning for the conduct of PNG Agriculture census. DAL in collaboration with FAO and NSO should initiate planning and preparation for the conduct of PNG Agricultural Census. In 2014, the government allocated K5 million for the national agricultural statistics survey. This funding was insufficient to cover the entire provinces. An initial data survey was conducted in Manus province and cannot be replicated in the other 21 provinces. Further, funding also ceased prematurely in 2015 when it was funded through the Alotau Accord II Agreement and earmarked to be implemented over five years. Based on this experience with government funding for agriculture statistics survey, significant funding is required and should be sustained over some time for the agricultural survey that will cover the entire provinces throughout the country.



2.4.6 Agricultural Trade and Investment Issues

Improving trade and investment in PNG's agriculture sector would encourage development partners and investors to participate in agriculture either through trade or investment. Establishing proactive relations with development partners and investors is vital for agricultural commodities development in PNG. Further strengthening these ties is crucial for the sector through the government and relevant agencies. In line with the PNG National Trade Policy 2017-2032, the sector urgently needs to develop an Agriculture Trade and Investment Policy which has been inexistent since independence. Currently, there is no clear regulatory framework to facilitate imports, exports, investment, taxation in collaboration with the Department of Foreign Affairs and Trade and other relevant organisations. Furthermore, PNG's agriculture sector requires a friendly environment to have access to markets domestically, regionally, and internationally concerning trade for agricultural commodities. To facilitate agricultural trade and investment in the sector, DAL urgently needs to establish a Trade and Investment division.

The PNG National Trade Policy 2017-2032 has outlined several trade measures for the agriculture sector in Chapter 6 (6.1). These measures are relevant and appropriate and Agriculture sector should adopt these trade measures. One of the agriculture trade issues is imposing tariffs on imported food items to protect local industries. However, the downside is that it restricts competition and resulted in the increased price of local products. The government is now implementing reduced tariff or zero tariffs in line with international commitments such as the APEC goal of promoting free open trade with zero tariffs. Besides, DALs Sanitary and Phytosanitary (SPS) Compliance Policy 2011 (currently under review) outline how to address issues related to Agro-Food Safety and Codex International Food Standards to protect consumers and enhance trade along the food chain from farm to table as an integrated approach mechanism.

2.4.7 Agricultural Marketing Issues

Marketing plays a central role in the agriculture sector, but marketing systems for agriculture are often perceived to be the source of problems for farmers. PNG's diverse setting; heavily rural population (85%), over 800 native languages and culture, limited education, rugged terrain and geography and poor infrastructure create major constraint and challenge to developing marketing systems. Hence, an isolated local economy, with few main transport and marketing links to the large urban centre, ports and international markets.

Deteriorating road networks throughout rural areas discourage people to actively participate in the cash economy. To support economic activities, the government promised that roads would be built to connect all areas of the country. Farmers in the most remote regions were encouraged to grow cash crops on the assumption that the government would provide a market and transportation for their produce. However, the government is unable to build roads to all areas of the country and maintain the existing transport network after 44 years of independence. The government needs to re-examine its policy for bringing development to the people. Other challenges include deteriorating market infrastructures. Most rural farmers are constrained by good and affordable air and sea transport system to transport their produce to markets. Currently, air and sea transport of agricultural products charge high freight costs which are not affordable by smallholder farmers.

2.4.8 Agricultural Downstream Processing

Downstream processing in PNG is still in its infancy concerning agro-industries. A long-term strategy is to promote downstream processing for value addition. Though various incentive schemes available to potential investors, the government is encouraging primary and



secondary processing of agricultural produce, in addition to the export of raw materials. The government is further encouraging import substitution programs in potential commodities. Feed formulation and processing using local feed ingredients would be further promoted in the livestock industry.

The policy on the downstream processing is supported on the basis that such operations are economically and financially viable and farmers' incomes are increased. Arrangements must be put in place to pass down the price to the producer as an incentive for boosting production. Processing industries may need to be subsidized in the early stages under the infant industry category. The national government has imposed an export tax on export of raw products to encourage domestic downstream processing. For example, the export tax on logs exports. The same can be applied to export of cocoa, coffee, copra and others in consultation with the respective industries and stakeholders to collectively come up with a suitable approach to impose export tax on these industrial cash crops.

Currently, there has been some downstream processing happening. Palm oil is processed into cooking oil in West New Britain Province and Chocolate products from Cocoa and Coconut Virgin Oil. PNG government can liaise with these industries and stakeholders for further expansion at a larger scale and also look into other potential agricultural raw materials for downstream processing.

2.4.9 Natural Resource Management for Sustainable agriculture development

Natural Resource Management (NRM) is critical for sustainable agriculture development and communities. The National Strategy for Responsible Sustainable Development for PNG (StaRS), 2014, guides sustainable development for all national policies and plans. In line with StaRS, agriculture development policies and plans should consider NRM as an integral part of planning and implementation. Agricultural development should not come at any price, particularly to the environment and to the resource base on which agriculture relies. Agriculture sector needs to promote modern agricultural biotechnology, genetic resource conservation of food crops and livestock and agro-ecological farming practices. PNG has a wealth of diverse food crops species and varieties, whose genetic resources must be conserved and protected to improve food security and economic purposes. Sadly, germplasm of these food crops collections on NARI research stations are not properly looked after and maintained resulting in loss of varieties and PNG's application of agriculture biotechnology tools is still at an infant stage to preserve the germplasm. There is a need to explore this technology for the conservation of genetic resources using modern agricultural biotechnology such as tissue culture. Also, the agriculture sector requires a National Policy on Modern Agriculture Biotechnology to promote food security in PNG.

Using oil palm as an example, oil palm plantations are often devoid of native flora and fauna and require heavy input of pesticides, fertilizers and other agrochemicals that can pollute streams and damage fish stocks. PNG has a unique flora and fauna - tourism can be a more sustainable industry than a cash crop. Each province should strive for a balance between cash crops, subsistence farming and the natural environment (which can offer alternative incomes from forestry, tourism, native foods and nuts and medicines) to help build resilient communities. Likewise, as important, subsistence agriculture needs to be underpinned by sound NRM practices. New developments should be assessed for environmental impact, and measures for sustainable development are part of the implementation plan. This could include ensuring that any research undertaken by NARI and other research institutions, has NRM as a key element; extension services promote NRM; and appropriate education and training courses in NRM in any agriculture-related courses.



2.4.10 Land Tenure

The land is a basic factor of production in agriculture development. Promotion of agricultural development has been hindered by land-related problems including ownership disputes, compensation claims and administration. About 3% of the land is registered under the Land Registration Act and owned by the government. It would be easier to quickly identify the government-owned land and use them for some form of agricultural development. At present 97% of the land is under customary land ownership and remained underdeveloped. Customary land ownership systems worked well in the past due to strong tribal leaderships but have been under increasing pressure now due to population growth and commercial agriculture, mining and forestry development activities. There is a need for the government to seriously consider and introduce legislation to protect all plantation lands. Some of the plantations run down due to land ownership issues such as land compensation demands. Hence, such legislation should insulate plantations against civil disturbances. Unless the government acts positively and decisively on this matter, the plantation sector will continue to be run down until it falls into its death trap.

2.5 Agriculture Sector Growth Drivers

The agriculture Sector Growth Drivers (SGDs) are the blueprint or way forward for addressing major challenges and issues affecting agricultural development which have been existed in the last three or four decades. Strategic actions and interventions are outlined under each growth driver. These provide the road map and pave the way for a smart, innovative and productive agriculture sector that harnesses the government's aspirations as stipulated in the MTDPs and higher national development plans. The SGDs form the basis for consideration whilst formulating short-medium-long term sector development plans. There are eleven (11) SGDs that will guide the sector's endeavour to address the existing development challenges and issues. These include Sector Coordination and Management; Food Security, Quality and Nutrition; Strong Partnerships; Agricultural Services; Agricultural Statistics and Information; Digital Agriculture; Agricultural Trade and Investment; Agricultural Marketing; Downstream Processing; Natural Resource Management for Sustainable Agriculture Development; and Agriculture Land Mobilization.

2.5.1 Sector Coordination and Management

Sector coordination and management at the national level (DAL) is important for policy leadership and to ensure that the government's vision and aspirations for the sector are achieved. That is, the commodity boards and agencies within the sector will be held accountable for their mandated functions and roles for effective service delivery and improved agricultural productivity. Sector coordination and management through DAL can be established through the following strategic actions.

- a. Implementation of Sector FER Recommendations.
- b. Amendments of the two Agriculture Bills (AAA and AIC)
- c. Review of institutional Acts including OLPLLG.
- d. Establish a National Project Steering Committee.
- e. Review and strengthen National Agriculture Council.
- f. Effective linkages with sub-sector agencies and provinces and districts.
- g. Establish agriculture statistics and information database.
- h. Solicit funding for the sector.



2.5.2 Food Security, Quality and Nutrition

Food security, quality and nutritional issues are inter-related. Hence, it is important to consider food security as a means to improved nutrition rather than an end in itself. The following strategies are important for addressing food security, quality and nutritional issues in PNG.

- a. Facilitate endorsement of the National Food Security policy (NFSP) 2018-2025.
- b. Facilitate endorsement of National Sanitary & Phytosanitary Compliance 2011 Policy (currently under review).
- c. Reduce poverty at the household level and high rate of unemployment.
- d. Improve and strengthen linkages and collaboration with other national departments that influence food security.
- e. Increase domestic food production.
- f. Improve support systems (infrastructure, credit and government support).
- g. Increase down-stream processing and preservation of agricultural produce.
- h. Support program(s) towards the export drive for food crops that PNG has economic and physical advantage.
- i. Efficient research-extension system and farmer training programs geared towards promoting food production for cash.
- j. Integrating livestock and fish farming into the traditional farming system and promoting the cultivation of nutrient-rich food crops.

2.5.3 Strong Partnerships

Strong partnerships between sub-sector agencies, other government departments and agencies, provincial governments, private sectors, development partners and NGOs are vital for agricultural development. The following strategic actions or interventions for partnerships are important for agricultural development in PNG.

- a. DAL strengthens relationships with sub-sector agencies for efficient execution of policy directives from the government.
- b. DAL strengthens partnerships with the central government agencies such as DNPM, Treasury and Finance to solicit resources support for sub-sector agencies.
- c. DAL establishes partnerships with development partners through DNPM and Treasury to support sector programs.
- d. DAL partners with departments and agencies in the Transport and Infrastructure sectors to address impediments to agriculture markets access and road infrastructure developments.
- e. Sub-sector agencies partner with the provincial government to jointly implement agriculture programs through MOUs/MOAs.
- f. Sub-sector agencies establish partnerships with private sectors and NGOs to participate in their development programs.

2.5.4 Agricultural Services

Improve the provision of agricultural services will enhance increased agricultural productivity. Most of the services such as training and extension, research and development, and other farmers support services including credit and subsidies have been lacking since independence. These services can be provided by sector agencies, provincial governments, research and financial institutions, private sectors, and NGOs. The following strategic actions will improve the provision of agricultural services throughout the sector.



- a. Improve agriculture training and extension services for farmers
- b. Develop Agriculture SME Strategy/Guidelines.
- c. Provide support for agriculture SMEs and farmer cooperatives.
- d. Provide farmer incentives such as credit, subsidies etc.
- e. Improve agricultural research and development.
- f. Improve Bio-Security and Quarantine Services.
- g. Improve and coordinate human resource development training (Sector-wide approach).
- h. Solicit government's support for agricultural services provision.
- i. Effective collaboration between sector agencies, provincial governments, development partners, private sectors and NGOs to address farmers' needs.

2.5.5 Agricultural Statistics and Information

Establish and maintain agricultural statistics and information database system in DAL will improve agricultural policy formulation and decision making. Agricultural statistics and information collection, storage and processing through a central database are inexistent in the sector since independence. Hence, sector performance over the years has not been fully accounted for at the national level. The following strategic actions are important for agricultural statistics and information collection, storage and dissemination.

- a. DAL should liaise with the government through the National Statistical Office and FAO to secure funding for the agriculture census survey.
- b. DAL should liaise with the Department of Communication and Information and Information Communication Technology (ICT) operators and service providers to set up agriculture statistics and information database systems infrastructure within the sector.
- c. DAL should liaise with commodity boards and agencies, and provincial governments to connect their database system to the central database in DAL
- d. Improve DAL's capacity to carry out agriculture census survey, maintain database system and disseminate agriculture statistics and information for policy formulation and decision-making.

2.5.6 Digital Agriculture

With available Information Communication Technologies (ICTs), the concept of digital agriculture is feasible in PNG in the 21st Century. In PNG, digital agriculture relies heavily on E-Agriculture which is a relatively new and emerging field that focuses on enhancing agricultural and rural development through improving information and communication processes through ICT services and application. The following strategic interventions will improve agricultural productivity through digital agriculture.

- a. Facilitate endorsement of E-Agriculture Strategy (2018-2025).
- b. Introduce E-Agricultural services including E-Marketing and Extension.
- c. Land use mapping using PNGRIS (89 district profiles).
- d. Improve communication systems throughout the sector.
- e. Encourage the use of digital technologies to enhance agricultural productivity.
- f. Effective collaboration with international organisations, national government agencies, agriculture sector agencies, provincial governments and ICT operators and service providers to introduce ICT technologies for agricultural use.



2.5.7 Agricultural Trade and Investment

Improving trade and investment climate in PNG's agriculture sector would encourage development partners and investors to participate in agriculture either through trade or investment. To improve agriculture trade and investment in PNG, the following strategies are necessary.

- a. Develop Agriculture Trade and Investment Policy.
- b. Establish a framework for sector investment and trade.
- c. Adopt trade policy measures for the agriculture sector as stipulated in the National Trade Policy 2017-2032.
- d. Establish Trade and Investment Division in DAL to work in collaboration with relevant agencies in-country and abroad.
- e. Improve aid coordination.
- f. Improve constraints on trade barriers.
- g. Create a friendly business environment for market access domestically, regionally and internationally concerning agricultural trade.
- h. Promote local products awareness at the international markets.
- i. Promote food standard to protect consumers and enhance trade.

2.5.8 Agricultural Marketing

Marketing of agricultural products requires efficient and well-regulated marketing systems. DAL will collaborate with various stakeholders to develop market infrastructures or implement policies, enforce laws and regulations, and create a favourable business environment for marketing activities. The following strategic interventions are required to improve agricultural marketing.

- a. Improve infrastructure developments (feeder roads, jetties, airstrips, electricity, communication networks etc.).
- b. Develop proper marketing systems (infrastructure) for agricultural products (village markets, district markets, Provincial markets.)
- c. Install storage facilities in various market locations, especially for rural farmers.
- d. Review and improve existing regulatory practices for domestic and export markets.
- e. Introduce E-Marketing through ICT for ease of market information communication.
- f. Strengthen the systems for enforcing food safety standard controls based on traceability and proper post-harvest handling along the value chains of crops and livestock.
- g. Promote agriculture commercialization.
- h. Conduct regular market analysis for cash crops and livestock products at domestic and international markets.

2.5.9 Downstream Processing

In PNG, downstream processing is still in its infancy with respect to agro-industries. The current government has been embarking on downstream processing of agricultural produce in which PNG has a comparative and competitive advantage. The following strategic actions will enhance downstream processing of agricultural products in PNG.

- a. Encourage private sector investments in downstream processing for value addition in agricultural produce.
- b. Promote high quality of locally processed agricultural products.



- c. Increase income for households by passing on the price to the producers.
- d. Encourage primary and secondary processing of agricultural produce, in addition to the export of raw materials.
- e. Impose a tax on export of raw agricultural commodities to enhance downstream processing.
- f. Encourage import substitution programs in potential commodities.
- g. Promote safe feed formulation and processing in the livestock industry using local feed ingredients.

2.5.10 Natural Resource Management for Sustainable Agriculture Development

Natural Resource Management (NRM) is critical for sustainable agriculture development and communities. NRM ensures that the environment and resources are sustained to cater for agricultural productivity. The following NRM strategies should be upheld in any agricultural development.

- a. Agricultural developments should be assessed for environmental impact, and measures for sustainable development are part of the implementation plan.
- b. Any research undertaken by research agencies and organisations should focus on NRM as a key element.
- c. Agriculture extension services should promote NRM.
- d. Appropriate education and training courses in NRM in any agriculture-related courses.
- e. Each province should strive for a balance between cash crops, subsistence farming and the natural environment (which can offer alternative incomes from forestry, tourism, native foods and nuts and medicines) to help build resilient communities.
- f. Conservation and protection of crops and livestock genetic resources.
- g. Mainstreaming of “Biodiversity” conservation and protection into sector and sub-sector policies’ goals, objectives and activities as per their context and situation.
- h. Formulate National Policy on Modern Agriculture Biotechnology.

2.5.11 Agriculture Land Mobilization

Land tenure systems in PNG is so complicated that it affects agricultural development. This is an on-going issue that the government needs to address. More land is customarily owned and is underdeveloped. In order to increase agricultural productivity, more underdeveloped lands can be utilized through proper land mobilization procedures. The following strategies are relevant for agriculture land mobilization.

- a. Identify agriculture potential lands and encourage landowners to voluntarily register their lands under the Land Registration Act for agricultural purposes.
- b. Promote close collaboration between government and resource owners on land tenures and agriculture land use issues.
- c. Promote community-based natural resource management and control through participatory land-use planning.
- d. Legislate and protect state-owned land including all plantation lands against unnecessary claims against the interest of the government and investment opportunities.
- e. Government should develop mechanisms of land tenure conversion and lease-lease-back to mobilize customary land for commercial agriculture.



2.6 Cross-Cutting Issues (Mainstreaming)

The main cross-cutting issues that affect agricultural productivity include Climate Change, Gender (Women & Youth) in Agriculture, Food Quality and Nutrition, and Agro-Food Safety and Codex International Food Standards. They have an impact on agricultural productivity, food security, quality and nutrition in one way or another. They are cross-sectoral issues and require effective linkages and collaboration between agriculture sector agencies and other relevant government departments and agencies, development partners and NGOs to effectively address these issues. These issues will be mainstreamed into sub-sector plans and programs and address them in collaboration with other stakeholders.

2.6.1 Climate Change

Climate Change is affecting agricultural productivity at a global scale and PNG is no exception. Hence, it has a major impact on food quality and nutrition security in PNG. The most important Climate Change issue in PNG is the El Nino drought because it affects a large number of people and has a severe impact on food safety and nutrition security. El Nino drought is now occurring frequently at a cycle of 10-15 years. In the last El Nino drought of 2015-2016, it affected almost 2 to 3 million people, especially in the Highlands region. Adopting mitigation and adaptation strategies have been a setback as it involves a wide spectrum of agencies and institutions to jointly address climate change issues. DAL has been establishing linkages with organizations at the national and international levels to address climate change issues within the sector. A memorandum of understanding (MOU) was signed between the DAL and Climate Change and Development Authority (CCDA). Under the MOU, DAL and CCDA establish a partnership to work together and share agricultural data and information for estimating the national greenhouse gas inventory for the agriculture sector. A national agriculture inventory team set up to help design and develop a sustainable inventory management system. Also, the climate-resilient (drought resistant) varieties and genetically modified crops and animals are currently developed with the use of modern agriculture biotechnology to adapt to various specific environmental conditions as a result of climate change.

Key strategies for climate change adaptation and mitigation in the sector include the following.

- a. Facilitate endorsement of National Climate Smart-Agriculture Policy (2019-2030).
- b. Liaise with government agencies, donors, private sectors and NGOs for climate change mitigation and adaptation activities.
- c. Set up meteorological data/information for informed decisions to influence climate-Smart agriculture.
- d. Set up M&E and warning systems for extreme climate events that would affect agricultural productivity.
- e. Introduce climate-resilient (drought resistant) varieties and genetically modified crops and animals.

2.6.2 Gender (Women and Youth) in Agriculture

Gender (Women and Youth) participation in agriculture has not been adequately addressed. In any national plan, gender (women and youth in particular) is categorized as a cross-cutting issue. Therefore, special consideration is given to women and youth participation in agriculture. It is about promoting inclusivity and enhancing women and youth participation in semi-commercial and commercial agricultural opportunities (MSMEs and SMEs), with the aim of women and youth economic empowerment. In PNG, more than 60% of agricultural activity at the subsistence level is captured by women and youth as confirmed by FAO statistics.



Women in Agriculture (WIA) is advocating women activities in agriculture. It also establishes policy dialogue with development partners in-country and abroad to harness support and collaboration to enhance women participation in agricultural activities throughout the country and the APEC region. However, its existence and its involvement and inputs in the agriculture sector in PNG has not been fully recognized by the government and the support it requires to strengthen women activities in agriculture. In DAL, Women in Agriculture Development Unit (WIADU) has been bestowed with the primary function of coordinating women and youth activities in the sub-sector agencies as well as in the provinces and districts. However, effective coordination by WIADU has been lacking due to resource capacity issues.

Youth participation in Agriculture has been minimal due to the lack of opportunities that will attract them to embrace agriculture as a livelihood. Parents do not fully introduce their children to participate actively in agricultural activities. Primary and Secondary education do not treat agriculture subject as a compulsory course for all students. Hence, the interest of most youths is not on agriculture as they grow up.

With these issues, the agriculture should now divert its focus on mainstreaming women and youth participation as sub-activities within the sub-sector development programs. These initiatives can be coordinated by WIA, WIADU and other women and youth groups in the sub-sector agencies such as the Women in Coffee in Coffee Industry Corporation.

Key strategies for women and youth participation in the sector include the following.

- a. Formulate National Women and Youth in Agriculture Policy.
- b. Mainstream women and youth participation in agriculture sub-sector programs.
- c. Train women and youth farmers in small agri-business ventures.
- d. Coordinate women and youth activities in sub-sector agencies and provinces and districts.
- e. Establish linkages with government agencies, development partners, private sectors and NGOs to support women and youth activities in the sector.

2.6.3 Food Quality and Nutrition

Food Quality and Nutrition is an international issue and is supported under the United Nations (UNs) Declaration of Human Rights in 1984, stressing the “right for everyone to have access to adequate safe food” and to be free from hunger and malnutrition. To this effect, the government of PNG through DAL formulated the PNG Food Security Policy in the year 2000, to address the issues of Food Security. The Food Security supports the 1995 National Food and Nutrition Policy by the Department of Health. These policies aim to improve food security and nutrition to reduce and eventually eliminate food insecurity and nutritional problems in PNG.

However, malnutrition rates in PNG are among the highest in the world. There is a widening gap between the demand for food due to the relatively static domestic production, distribution and marketing. Adoption of modern lifestyle by those with ready access to cash has led in some cases to increase in the prevalence of obesity and non-communicable diseases. Some other causes of malnutrition are related to low and variable agricultural income resulting from frosts, drought, floods, pest and disease, lack of access to quality food, poor eating habits, lack of nutritional education program.

The current Food Security policy (2018-2025) is before the CACC for endorsement. DAL will work closely with the Department of Health to deliver nutritional programs. However, DAL will address nutritional problems such as protein deficiency using agricultural approaches



such as integration of livestock and fish into the traditional farming system and promoting the cultivation of nutrient-rich crops.

Key strategies to address nutritional issues in the sector include the following.

- a. Facilitate endorsement of the National Food Security Policy (2018-2025).
- b. Maintain or improve the nutrition of the general population for a healthier lifestyle.
- c. Improve the nutritional well-being of those suffering from nutritional problems.
- d. Establish linkages with DAL, National Department of Health to implement and support food security and nutritional programs.
- e. Liaise with Department of Education for awareness on nutritional issues, food production and preservation.
- f. Promote, support and encourage more agriculture projects to sustain the diet and livelihood of people.

2.6.4 Agro-Food Safety and Codex International Food Standards

Agro-Food safety and Codex PNG is used as a scientific discipline describing handling, preparation, storage of food, to prevent foodborne illnesses. Hence, foodborne illness continued to be debated in the world scenario resulting from the spoilage of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food including heavy metals, agrochemicals, pesticides, and veterinary drugs including animal feed safety as well as toxins such as poisonous mushrooms, various beans that are cooked well and mycotoxins in animal feed. Symptoms including vomiting, fever, aches that may include diarrhoea and others.

Thus, food safety is to protect consumers, enhance promoted agriculture trade, therefore it addresses from the farm to fork, particularly the farm. The primary responsibility of the Department of Agriculture and Livestock (DAL) is to see that farmers are adapted to Good Agriculture Practices (GAP). Therefore, for farmers to follow the GAP, hence the Food Standards become a role player. Because the Agro-Food Safety and Codex PNG section was established in the department to facilitate, coordinate, collaborate well with the various food chain collaborators using the existing internationally recognized and formatted committee network system, and in PNG, DAL under the Agro-Food & Codex (PNG) coordinates national, regional and international food standard functions through the National Codex Committee (NCC).

Additionally, the Agro-Food Safety & Codex (PNG) International food standards program also addresses issues through collaboration work with NARI on Modern Agriculture Biotechnology. Genetically Modified Food Plat Form in collaboration with UNITECH, Maximum Residue Limits (MRLs) on Pesticides and Veterinary drugs and other agrochemicals in food including animal feed safety. The program also collaborates Antimicrobial Resistance (AMR) with other stakeholders, also with International Atomic Energy Agency (IAEA) on technical programs such as Sterile Insect Technology on Cocoa and Artificial Insemination in cattle program with Livestock Development Corporation (LDC) and research capacity program is already built in the University of Natural Resources and Environment (UNRE).

Agro-Food Safety and Codex International Food Standards in PNG under DAL will be enhanced through the following strategies.

- a. Develop Agriculture food Standards that are well defined, transparent must prevail in the international scenario with FAO as Codex Contact Point for PNG in DAL.



- b. Develop and implement Food Standards Program to safeguard consumers and remove technical barriers to trade and promote fair trade practices for food through the Sanitary and Phytosanitary (SPS) Compliance Measures.
- c. Carry out appropriate food surveillance activities and food contaminant monitoring, and research.
- d. Assess, manage and communicate the potential hazards in agro-food safety through the Public-Private Partnership (PPP) arrangement which is already established in DAL's regional coordination network.
- e. Collaborate with NARI and the PNG University of Technology on Agro-Food Safety & Codex (PNG) International food standards program on modern Agriculture Biotechnology and Genetically Modified Food Platform.
- f. Collaborate with international organisations such as International Atomic Energy Agency (IAEA) on technical programs such as Sterile Insect Technology on Cocoa and Artificial Insemination in cattle program with LDC and UNRE.
- g. Develop research capacity programs with universities such as the UNRE and the PNG University of Technology.
- h. Coordinate with EU EDES & Trade Related Assistance Programs (TRAP) on SPS Measures and Food Safety Standards under EU interventions with relevant stakeholders.

2.7 Development Potential

PNG has several strengths and potentials to make agriculture the main source of economic growth. It features favourable environmental conditions for agricultural and livestock production. PNG provided vast idle lands for agricultural productivity. The Nucleus-Estate Model adopted by agricultural industries contracted smallholder farmers to produce for these industries. As the population increases, the demand for food is high. Hence, PNG needs to increase food production to feed the growing population. The government of PNG continue to support the sector through annual budgetary allocation and creating favourable development and investment partnerships.

2.7.1 Favourable Climatic and Environmental Conditions

PNG features favourable environmental conditions for agricultural and livestock production. Many customary lands are left underutilized under a long fallow period and turn into grasslands. For example, Morobe has 409,780 ha of grassland. These large tracks of land could be harnessed for agricultural production. A variety of crops and livestock grow well in PNG. From lowland to highland, crops grow according to their agro-ecological adaptation requirements.



Table 2.2 Agro-ecological Adaptation of Crops and Livestock

Crop/Livestock	General Adaptability	Provincial Adaptability
Oil Palm	Coastal areas	West New Britain, New Ireland, Milne Bay, Oro, Sandaun, Central (Abeda oil palm project Kairuku District-new development)
Coffee	Mainly in highlands ⁵	Western Highlands, Eastern Highlands, Morobe, Simbu, East Sepik, Enga, Southern Highlands, Central (Goilala & Koiari), Oro in Afore & Kokoda Dist.
Cocoa	Coastal to highlands ⁶	East New Britain, Bougainville, New Ireland, West New Britain, Manus, Madang, Morobe, East Sepik, West Sepik, Oro, Milne Bay, Central, Gulf, Simbu, Manus
Coconut	Coastal areas	East Sepik, Sandaun, Madang, Milne Bay, Bougainville, East New Britain, Rabaul, Central, Gulf, Western, Oro, Morobe, Manus
Rubber	Coastal areas	Western, Central, Gulf, Oro, East Sepik, West Sepik, Sandaun, Manus, New Ireland
Rice	Coastal to highlands	Central, Gulf, Western, Oro, Milne Bay, Morobe, East New Britain, Bougainville, New Ireland, Madang, East Sepik, Eastern, Simbu, Western Highlands
Livestock (cattle, sheep and goat)	Coastal to highlands	Eastern Highlands, Southern Highlands, East Sepik, Sandaun, Morobe, Madang, New Ireland, West New Britain, Bougainville, Central, Milne Bay, Gulf, Oro, Western
Fresh Fruits and Vegetables	All provinces	22 provinces
Spices (Vanilla, Cardamom, Chili, Black Pepper, Ginger, Turmeric, Pyrethrum)	Sea Level from 600m up to 1700m (All provinces)	22 provinces

(Ministry of Agriculture & Livestock, 2007)

⁵Arabica coffee is grown in coastal provinces of Morobe, Central, Oro, Gulf, Milne Bay and East Sepik

⁶Cocoa Board has extended Cocoa development program to Simbu and Jiwaka provinces



By the agro-ecological adaptation, crops and livestock suitability maps are presented in Appendix 4. These suitability maps provide the guide for crops and livestock development throughout the 22 provinces of PNG.

2.7.2 Agriculture Corridor

To provide a road map for major developments in agriculture, five (5) regions have been identified by the government as potential areas for agriculture corridor development. They contain large areas with high agricultural potential as well as a backbone of infrastructure to build on: (1) the Sepik Plains Agriculture Corridor (SPAC), (2) Ramu Plain Agriculture Corridor (RPAC), (3) Baiyer-Madang Agriculture Corridor (BMAC), (4) Karimui Plains Agriculture Corridor (KPAC), and (5) the Central Plains Agriculture Corridor (CPAC). By connecting these areas to infrastructure, efficient logistics providing inputs, and storage and transportation to markets, a viable value chain supporting both large-scale and smallholder farming is put in place to enable these rich agriculture regions of the country to realize the fullest economic and social development potential. These potential areas for agriculture corridor development are shown on PNG Economic Corridor Map in Appendix 5.

2.7.3 Entrepreneurial Attitude

Most of the eight (8) million rural populations depend on smallholder production system. Their livelihood and nutrition are hinged on agriculture. Some indicators of the entrepreneurial attitude of the rural farmers are the expansion in the production of fresh vegetables and sweet potatoes, the vanilla boom in response to high prices, and the high proportion of rural households engaged in commercial activities recorded in the 2000 census.

2.7.4 Nucleus-Estate Model

Contract growing between the management of the nucleus farm and out-growers could address farm management, input supply, and marketing. PNG could benefit from studying successful farms such as Ramu Sugar cattle, Niugini Table Birds poultry products, and Oil Palm which showed that private companies can provide extension, training and markets to smallholders under out-grower arrangements for sugar, cattle, poultry and oil palm industries. Church groups, such as Seventh Day Adventist and Lutheran Church-owned Waso Ltd in Enga in the 1970s, developed and operated innovative participatory methods for working with people in rural and remote areas. Their efforts could be duplicated to increase productivity.

2.7.5 Demand for Food

PNG has a population of eight (8) million and would continually need agricultural food products including rice, wheat, beef, pork, chicken, roots crops and vegetables. Food production is not keeping up with population growth. Due to existing protective tariffs, PNG is virtually self-sufficient in sugar, pork and chicken. PNG has been largely self-reliant for its traditional root food crops such as sweet potato, yams, breadfruit and cassava. Sago is an abundant source of starch in many localities and provides an important alternative to imported rice and wheat products. PNG's domestic market for rice is 160,000 tonnes per annum and for wheat 70,000 tonnes per annum. The estimate for meat consumption and production in PNG shows that PNG is a deficit producer of meat hence it imports 60,000 tonnes of meat and meat products annually.



2.7.6 Continued Government Support

The government has been focussing on agriculture as an important sector that will improve and sustain the economy in the medium to long term. It has been supporting the sector with annual budgetary allocation to the sector to improve agricultural productivity. It also created favourable development and investment partnerships. The government established mechanisms such as Memorandum of Understanding/Agreement (MOU/MOA) that binds government agencies such as commodity boards and agencies and the provincial governments to work together to support agriculture development programs. They share operational costs, machinery and technical expertise to implement programs and achieve better development outcomes.

The government also established the Public-Private Partnerships (PPP) strategy that the sector will rely on to partner with private sectors in agriculture development. Furthermore, the government has been liaising with the development partners (bilateral and multilateral) and has been committed to counterpart funding to support any development intervention in the sector. Donor projects in agriculture such as the Productive Partnership in Agriculture Project (PPAP) by the World Bank and the Markets for Village Farmers (MVF) project by the International Fund for Agriculture Development (IFAD) have GoPNG commitments to support the implementation of these projects.



PART 3

ALIGNING SECTOR KEY RESULT AREAS (KRAs) TO MTDP III



PART 3. ALIGNING SECTOR KEY RESULT AREAS (KRAs) TO MTDP III

3.1 MTDP III Sector KRAs

The agriculture sector KRAs in MTDP III include;

KRA 1: Increased Revenue and Wealth Creation

KRA 2: Quality Infrastructure and Utilities

KRA 3: Sustainable Social Development

KRA 5: Improved Service Delivery

KRA 6: Improved Governance

KRA 7: Responsible Sustainable Development

These KRAs provide the overarching development framework which the agriculture and sub-sector logframes are revised and aligned to MTDP III targets. AMTDP used MTDP III agriculture and sub-sector logframes to review and revise sector indicators, strategies, deliverables and key Investments.

3.2 Aligning MTDP III Sector KRAs to Sub-sector Programs

In order to achieve sector targets at aggregate levels, sector KRAs are aligned to sub-sector programs under responsible implementing agencies.

Table 3.1 Alignment of Sector KRAs to Sub-sector Programs

MTDP III Sector Key Result Area	Sub-sector Programs	Implementing Agencies
KRA 1. Increased Revenue & Wealth Creation	All sector programs, Women Economic Empowerment, Provincial and District agriculture programs	All sub-sector agencies, DAL, World Bank, IFAD, Provinces & Districts
KRA 2. Quality Infrastructure & Utilities	Office Building, Maintenance and Relocation under CIC, KIK, FPDA, NARI, LDC, Spice Board, Rubber Board, and Market Access Infrastructure Programs	CIC, KIK, FPDA, NARI, LDC, Spice Board, Rubber Board, DAL, Departments of Transport and Works, National Airports Corporation, and PNG Ports
KRA 3. Sustainable Social Development	Youth in Agriculture SMEs, Food Security, Safety Standards and Nutrition, Provincial and District agriculture programs	All sub-sector agencies, DAL, Department of Trade Commerce and Industry, NDB, Department of Health, Provinces and Districts
KRA 5. Improved Service Delivery	All sector programs, Provincial and District agriculture programs	All sub-sector agencies, DAL, Provinces and Districts
KRA 6. Improved Governance	All sector programs, Provincial and District agriculture programs	All sub-sector agencies, DAL, Provinces and Districts
KRA 7. Responsible Sustainable Development	All sector programs, Climate Change Adaptation and Mitigation Programs, Provincial and District agriculture programs	All sub-sector agencies, DAL, Department of Lands, Conservation Environment Protection Authority, National Forest Authority, Office of Climate Change and Development



3.3 MTDP III Sector KRAs, Goals and Targets

In line with MTDP III Sector KRA goals, AMTDP 2022 targets are set using baseline data from Quarterly Economic Bulletin (QEB) from the Bank of PNG, sub-sector agencies strategic plans and programs, MTDP III and other relevant sources. Targets are projected over three (3) years from 2020 to 2022 with a 10% growth annually at aggregate levels, reaching 30% by 2022. Tables 3.2 to 3.7 indicate sector KRA goals, sub-goals, Indicators, and 2022 targets.

Table 3.2 KRA 1 Goal, Sub-goals, Indicators and Targets

MTDP III KRA 1 Goal: Increase Revenue & Wealth Creation	Indicator	Source	Baseline (2018)	AMTDP 2022 Target
1.1 Increase Revenue	Palm Oil Exports Value (PGK' million)	QEB	1,146.8	1,679.0
	Coffee Exports Value (PGK' millions)	QEB	487 .9	714.3
	Cocoa Exports Earnings (PGK' millions, f.o.b)	QEB	246.5	361.0
	Coconut products total receipts (Copra) (PGK' million)	QEB	115.8	169.5
	Rubber Exports Value (PGK' million)	QEB	19.6	28.7
	Spice Exports Value (PGK' million)	SIBPNG	202.2	296.1
	Fresh Produce revenues by farmers (PGK' million)	FPDA	58	84.9
1.2 Increase Exports	Palm Oil Exports Volume (000' tonnes CPO)	QEB	614.3	899.4
	Coffee Exports Volume (000' tonnes)	QEB	52.1	76.3
	Cocoa Exports Volume (000' tonnes)	QEB	33.3	48.8
	Coconut products (copra) exports Volume (000' tonnes)	QEB	63.6	93.1
	Rubber Exports Volume (000' tonnes)	QEB	4.9	7.2
	Spice Exports Volume (000' tonnes)	SIBPNG	202.2	296.1
1.3 Reduce Imports	Imported Volume of Rice (000' tonnes)	RIPNG	400 (2017)	262.4
	Imported volume of meat products (000' tonnes)	PNG Customs	8,699 (2017)	5,707.4
	Imported volume of Fresh Produce (000' tonnes)	FPDA	5.2	3.4
1.4 Employment Creation and Economic Opportunities	Employment growth rate in Agriculture (%)	MTDP III	3.4	7



1.5 Increase Bankable Land for productive Utilization	Land in formal market (%)	MTDP III	Less than 5	20
1.6 Wealth Creation	Agriculture GDP (%)	NSO/MTDP III	26 (2016)	46.1
1.7 Women's Economic Empowerment	Gender Inequality Index	MTDP III	0.595	0.40

Note: Strategies to achieve the targets under KRA 1 (1.1) and (1.2) are summarised in Agriculture Logframe while (1.3) are outlined in Rice, Livestock and Fresh Fruits and Vegetable Logframes.

Table 3.3 KRA 2 Goal, sub-goal, Indicators and Targets

MTDP III KRA 2 Goal: Quality Infrastructure and Utilities	Indicator	Source	Baseline (2018)	AMTDP 2022 Target
2.1 Improved infrastructure with sustainable and disaster resilient quality to provide more enabling environment for growth of the economy and for the improvement of service delivery	Number of office buildings renovated or built	CIC, NARI	5	10
	Number of rural airstrips (650) rehabilitated to basic safety standards	MTDP III	10	300
	Number of missing link roads constructed	MTDP III	4	8
	Number of New/Improved wharves and ports	MTDP III	16	22
	Number of small wharves and jetties in good condition	MTDP III	88	120
	Number of airports upgraded and maintained for agriculture air cargo	MTDP III	9	16
	Proportion of national priority roads in good (trafficable) condition (%)	MTDP III	33.5	80
	Total length of National Roads (km)	MTDP III	8,740	12,000

Note: Targets under KRA 2 can be achieved through collaborative efforts from the Departments of Works and Transport, and agencies such as National Air Ports Corporation and PNG Ports.



Table 3.4 KRA 3 Goal, Sub-goals, Indicators and Targets

MTDP III KRA 3 Goal: Sustainable Social Development	Indicator	Source	Baseline	AMTDP 2022 Target
3.1 Resource and productive youth	Number of youths in agriculture SMEs	MTDP III	20 (2018)	2,000
3.2 Food Security	Prevalence of stunting in children <5 (%)	NFSP 2016-2025/ HIES	40 (2010)	<30
	Prevalence of wasting in children <5 (%)	NFSP 2016-2025/ HIES	16 (2010)	<2
	Composite staple food production index (million tonnes)	NFSP 2016-2025	4.5 (2000)	7.9
3.3 Food Safety Standards	Development of Food Safety standards (%)	NSPSCP 2011	12 (2011)	<10

Note: Strategies under Food Security Logframe will achieve targets under KRA 3

Table 3.5 KRA 5 Goal, Sub-goals, Indicators and Targets

MTDP III KRA 5 Goal: Improved Service Delivery	Indicator	Source	Baseline (2018)	AMTDP 2022 Target
5.1 Effective Public Service Machinery in the Agriculture Sector	Number of agriculture sector agencies functionality	DAL	9	11
	DAL's Regional Offices functionality (%)	DAL	50%	Regional offices to be 100% functional
5.2 Integrated Approach for Service Delivery in Districts	Percentage (%) of District Development Authorities functionality	MTDP III	20%	All 89 Districts to be 100% functional

Note: Strategies under Sector Governance Logframe will achieve targets under KRA 5.

Table 3.6 KRA 6 Goal, Sub-goals, Indicators and Targets

MTDP III KRA 6 Goal: Improved Governance	Indicator	Source	Baseline (2018)	AMTDP 2022 Target
6.1 Promote Good Governance in the sector	33 FER Recommendations implemented	FER Report, DAL	3	33
	Number of sector agencies reporting through DAL	DAL	0	11
	National Agriculture Council operational	DAL	0	1
	National Project Steering Committee operational	DAL	0	1



	Number of Agriculture legislation Reviewed	DAL	0	9
	Number of Agriculture Acts passed	DAL	0	2
	Number of sector agencies institutional capacity improved	DAL, SIB, LDC, Rubber Board	8	11
6.2	Develop a centralised agriculture statistics/information and database system	DAL	0	1

Note: Strategies under Sector Governance Logframe will achieve targets under KRA 6

Table 3.7 KRA 7 Goal, Sub-goals, Indicators and Targets

MTDP III KRA 7 Goal: Responsible Sustainable Development	Indicator	Source	Baseline (2018)	AMTDP 2022 Target
7.1 Promote PNG's Environmental Sustainability for agricultural productivity	Percentage of land area protected to maintain and improve biological diversity	MTDP III	3.98%	17.9%
	Primary forest depletion rate per year due to commercial agriculture, logging, mining and urban town development	MTDP III	9%	5%
	Percentage of pollution complaints investigated and resolved	MTDP III	20% (2013)	80%
	Percentage of Environmental impact assessment and safeguard strategies in place	DAL	50%	100%
7.2 Effective Monitoring and Mitigating Climate Change Impacts	Number of Policies formulated for Climate Change mitigation & adaptation in agriculture	DAL	0	1
	Number of Climate Mitigation and Adaptation projects implemented	DAL NARI	2	5

Note: Targets under KRA 7 can be achieved through collaborative efforts from the Department of Lands, Conservation Environment Protection Authority (CEPA), National Forest Authority (NFA) and Office of Climate Change and Development (OCCD).

Almost all indicators and targets under MTDP III sector KRA 1 are captured in the Agriculture Logframe as National Impact Indicators (NIIs) while industry-specific indicators and targets are captured under respective Sub-sector Logframes. However, indicators and targets under other KRAs can be achieved through effective collaboration and partnerships with relevant government departments and agencies, provincial governments, development partners, private sectors and NGOs.





3.4 Aligning AMTDP Sector Logframes to MTDP III

3.4 Aligning AMTDP Sector Logframes to MTDP III

The MTDP III Agriculture and sub-sector logframes provide the guide under which AMTDP Agriculture and Sub-sector goals, indicators and targets are revised and aligned. The revised logframes in AMTDP comprised of indicators and targets projected over three (3) years (2020-2022) at 10% growth annually at aggregate levels, thereby achieving a 30% growth by 2022. The indicators (targets), strategies, deliverables and investments under each logframe are linked to the Economic Growth Goal (EGG) reference using the Link Codes. The 2017 and 2018 baseline data from various sources are used to project targets. The 2020 targets are inclusive of 10% growth in 2018 and 2019.

The Agriculture Logframe (3.4.1) captures the summary of National Impact Indicators (NIIs) in which targets of commodity exports volumes (000' tonnes) and values (PGK' million) between 2020 and 2022 are projected. They are projected at a 10% growth annually, reaching 30% growth by 2022. Agriculture Logframe also features a summary of NIIs of import replacement volumes and values of Rice, Livestock, Fruits and Vegetables Logframes. Import replacement volumes and values decrease by 10% annually, reaching 30% reduction by 2022. The Sector Governance Logframe (3.4.2) captures indicators (targets), strategies, deliverables and investments to ensure good governance and effective coordination and management of the sector. These will ensure that the sub-sector agencies are effectively operational to achieve their targets.

Sub-sector logframes (3.4.3-3.4.12) include Oil Palm, Coffee, Cocoa, Coconut, Rubber, Spice, Livestock, Fresh Fruits and Vegetables, Rice and Food Security. Logframes of major commodity crops such as oil palm, coffee, cocoa, rubber and spice use industry-specific indicators such as domestic production volumes and values at industry level, number of households involved in production and area (ha) under production. These indicators are projected at 10% growth annually, reaching 30% by 2022. All logframes are accompanied by narrative summaries of the current status of the industry, production trends and strategies to improve and increase productivity within the AMTDP period.





3.4.1 Agriculture Sector

Goal: A world-class agriculture & livestock sector that is responsive to international and domestic markets for a diverse range of products.

Agriculture currently contributes around 26% to PNG's national GDP. Palm Oil, Coffee, Cocoa, Copra (coconut), Rubber, Spices¹ and Tea are PNG's major export crops contributing K20.5 billion in export revenue from a total of 7.4 billion tonnes produced and exported within the last 10 years (2009-2018). They are produced by commercial plantations and smallholder farmers. In the last five (5) years (2014-2018), major commodity export crops contributed K10.4 billion from a total of 3.5 billion tonnes produced and exported (Figures 3.1 and 3.2). However, the level of production from commercial plantations has declined due to fluctuating world prices, rising labour and overhead costs, poor management and land tenure issues leading to the closure of major estates. The performance of major export crops in the last five (5) years are illustrated in Appendix 1 (a-g). The sector is focusing on a 10% increase in export volume (000' tonnes) and value (PGK' million) annually at aggregate levels, reaching a 30% increase by 2022. Hence, the sector projected a total export volume of 1.4 billion tonnes of export crops, generating K3.2 billion as foreign exchange revenue by 2022.

Figure 3.1 PNG's Major Export Crops Export Volume (2014-2018)

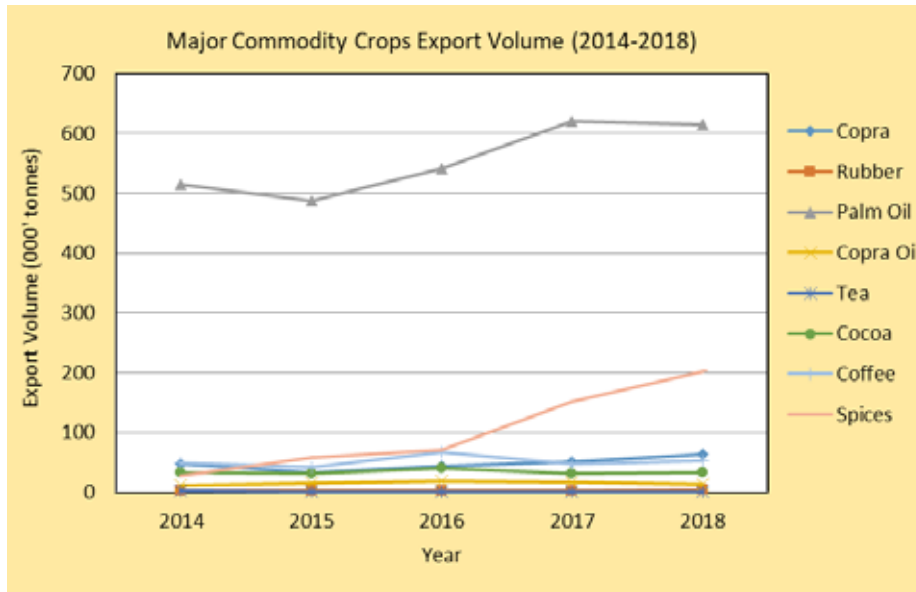
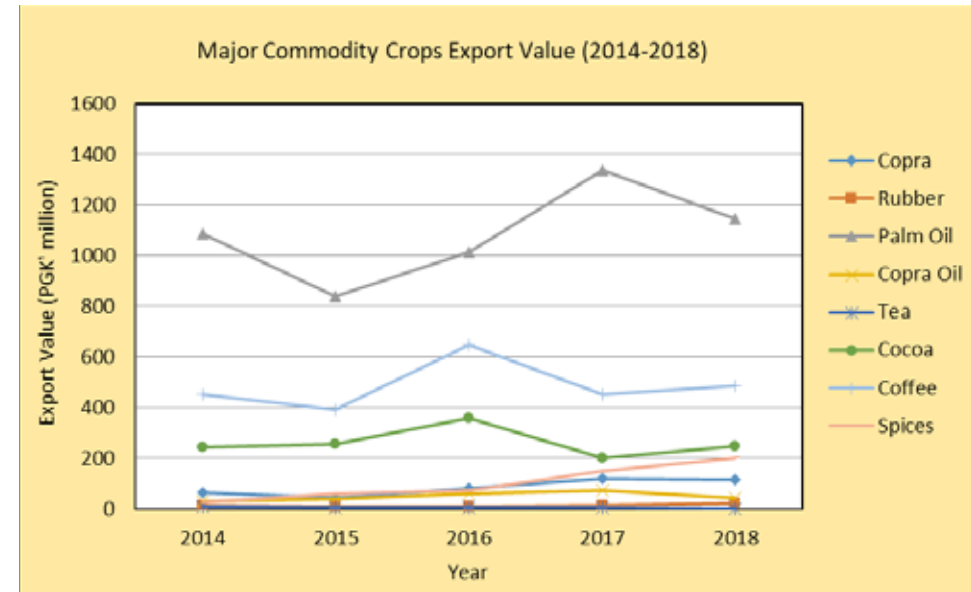


Figure 3.2 PNG's Major Export Crops Export Value (2014-2018)



¹Spice Export Volumes and Values over the years were not captured in QEB. Data presented in this plan are provided by the PNG Spice Industry Board.

PNG's current food crops and livestock production level is not consistent with population growth. PNG's current estimated population growth rate is over 3.1% which represents a rapidly growing population and warrants serious attention by all stakeholders to support the government in safeguarding Papua New Guineans against food insecurity and hunger. Domestic Rice and livestock production have been very low compared to fruits and vegetable production. Hence, the government spends so much money on the import bills of rice, livestock (meat) products and fruits and vegetables. Import replacement commodities include rice, livestock (cattle, pig, sheep/goat and poultry), fruits and vegetables. The total import replacement volumes and values are captured under Rice, Livestock and Fresh Fruits and Vegetable logframes. Import replacement volume decreases from a baseline of 9.1 million tonnes in 2018 to 5.9 million tonnes in 2022. A difference of 3.1 million tonnes is saved and substituted by domestic production volume. Similarly, total import replacement value decreases from K683.4 million in 2018 and reaches K448.4 million in 2022. Subsequently, a savings of K235 million is the reduction on food import bills for the government of PNG in 2022.

In line with the current government's policy directive, the agriculture sector focuses on increasing cash crops, food and grain crops, fruits and vegetables, and livestock production by 10% annually at aggregate levels, reaching 30% at aggregate levels by 2022. It is also focussing on reducing food imports by increasing local production.

Agriculture Logframe

Goal: A world-class agriculture & livestock sector that is responsive to international and domestic markets for a diverse range of products						
SDG and Growth Goal (GG) Ref.	National Impact Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.2	1. Total volume of exports for all commodities (000' tonnes)	QEB	970.4	1,174.2	1,291.6	1,420.7
EGG 1.1, 1.2	2. Total value of exports for all commodities (PGK' million)	QEB	2,218.8	2,684.8	2,953.3	3,248.5
EGG 1.1, 1.6	3. Agriculture GDP (%)	NSO /MTDP III	26 (2016)	38.1	41.9	46.1
EGG 1.2	4. Total Palm Oil Export volume (000' tonnes)	QEB	614.3	743.3	817.6	899.4
EGG 1.1, 1.2	5. Total Palm Oil Export value (PGK' million)	QEB	1,146.8	1,387.6	1,526.4	1,679.0
EGG 1.2	6. Total Coffee Export volume (000' tonnes)	QEB	52.1	63.0	69.3	76.3
EGG 1.1, 1.2	7. Total Coffee Export value (PGK' million)	QEB	487.9	590.4	649.4	714.3
EGG 1.2	8. Total Cocoa Export volume (000' tonnes)	QEB	33.3	40.3	44.3	48.8
EGG 1.1, 1.2	9. Total Cocoa Export value (PGK' million)	QEB	246.5	298.3	328.1	361.0





EGG 1.2	10. Total Copra Export volume (000' tonnes)	QEB	63.6	77.0	84.7	93.1
EGG 1.1, 1.2	11. Total Copra Export value (PGK' million)	QEB	115.8	140.1	154.1	169.5
EGG 1.2	12. Total Rubber Export volume (000' tonnes)	Rubber Board, QEB	4.9	5.9	6.5	7.2
EGG 1.1, 1.2	13. Total Rubber Export value (PGK' million)	QEB	19.6	23.7	26.1	28.7
EGG 1.2	14. Total Spice Export volume (000' tonnes)	SIBPNG	202.2	244.7	269.2	296.1
EGG 1.1, 1.2	15. Total Spice Export value (PGK' million)	National Data- ASYCUDA	202.2	244.7	269.2	296.1
EGG 1.5	16. Total volume of import replacement (000' tonnes)	DAL, Customs- ASYCUDA, RI PNG, FPDA	9,104.2	7,374.4	6,637	5,973.2
EGG 1.1, 1.5	17. Total value of import replacement (PGK' million)	DAL, Customs- ASYCUDA, RI PNG, FPDA	683.4	553.5	498.2	448.4
EGG 1.5	18. Total Rice Import volume (000' tonnes)	RI PNG/DAL	400 (2017)	324	291.6	262.4
EGG 1.1, 1.5	19. Total Rice Import value (PGK' million)	RI PNG/DAL	600 (2017)	486	437.4	393.7
EGG 1.5	20. Total Meat Import volume (000' tonnes)	DAL, National Data-ASYCUDA	8,699	7,046.19	6,341.6	5,707.4
EGG 1.1, 1.5	21. Total Meat Import value (PGK' million)	DAL, National Data-ASYCUDA	82	66.4	59.8	53.8
EGG 1.5	22. Total Fruits & Vegetables Import volume (000' tonnes)	FPDA	5.2	4.2	3.8	3.4
EGG 1.1, 1.5	23. Total Fruits & Vegetables Import value (PGK' million)	FPDA	1.4	1.1	1.0	0.9
EGG 1.5	24. Composite Staple Food production index (000' tonnes)	NFSP	4.5 (2000)	6.6	7.2	7.9
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		DAL (1, 2, 3, 16, 17, 18, 19 & 24), OPIC (4 & 5), CIC (6 & 7), CBPNG (8 & 9), KIK (10 & 11), Rubber Board (12 & 13), Spice Board (14 & 15), LDC (20 & 21), FPDA (22 & 23), NARI, NAQIA,				

	CUSTOMS, DTCl, KAL, DoTI, DoW, DoT, NAC, PNG Ports, DCI/ NICTA, DFA, DPLG, DoH, DEC, OCCDA.
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No.	Sector Strategy	National /Sector Plan or Policy Ref
1	Support MSMEs/SMEs by giving them access to financial capital viable for domestic and international markets (Women)	AMTDP (2020-2022), MTDP III (2018-2022), PNG SME Policy 2016
2	Replanting on smallholder blocks (Export crops)	AMTDP (2020-2022), MTDP III (2018-2022)
3	Develop and establish market access infrastructure	AMTDP (2020-2022), MTDP III (2018-2022)
4	Rehabilitate run-down plantations which should be prudently operated to boost export volumes	AMTDP (2020-2022), MTDP III (2018-2022)
5	Develop and strengthen downstream processing	AMTDP (2020-2022), MTDP III (2018-2022)
6	Revive livestock farms and rundown abattoirs	AMTDP (2020-2022), MTDP III (2018-2022)
7	Boost local production volume of import commodities	AMTDP (2020-2022), MTDP III (2018-2022), National Food Security Policy (2018-2027), National Rice Policy
8	Strengthen agriculture research & development (Coffee, Cocoa, Coconut, Spice, Fresh Produce & Livestock, rubber, rice)	AMTDP (2020-2022), MTDP III (2018-2022)
9	Strengthen agriculture biosecurity and quarantine inspection	AMTDP (2020-2022), MTDP III (2018-2022), National Disease Eradication Plan (2019-2024)
10	Support Disaster emergency response	AMTDP (2020-2022), MTDP III (2018-2022), NFSP

Deliverables	2020	2021	2022	Link Code
1. National Agriculture MSMEs/SMEs supported (Women)	60	70	90	1-24.1-4.1
2. Downstream processing of agricultural commodities developed (Coffee, Cocoa, Coconut, Spice & Fresh Produce, Rice)	3	5	10	1-15.5.2
3. Livestock farms and abattoirs revived to boost local production				1-24.6-7.3
4. Agriculture Research & Development improved and strengthened (DAL, NARI, CIC, KIK, Cocoa Board & OPIC)	✓	✓	✓	1-24.8.4
5. Agriculture biosecurity and quarantine services supported, improved and strengthened (NAQIA)	✓	✓	✓	1-24.9.5
6. Disaster emergency response supported (CC, Covid-19, ASF, FAW)	✓	✓	✓	1-24.10.6





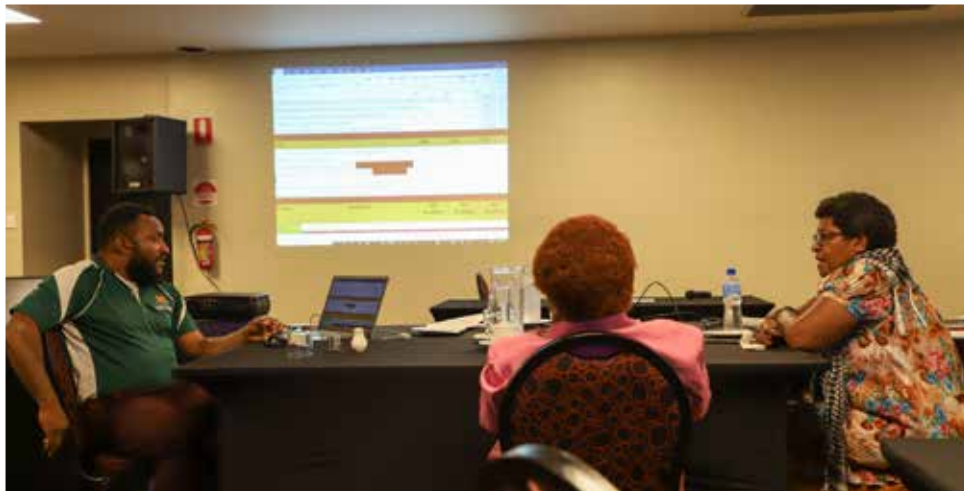
Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-15.5.2	National Agriculture Downstream Processing	50.0	50.0	50.0	150.0	GoPNG/PSIP/DSIP/WB/FAO
1-24.8.4	Agriculture Research & Development Program	75.0	75.0	70.0	220.0	GoPNG/DSIP/ACIAR
1-24.9.5	Biosecurity Program	40.0	40.0	40.0	120.0	GoPNG/ACIAR
1-24.1-4.1	National Women in Agriculture MSME/SME Program	100.0	100.0	100.0	300.0	GoPNG/DSIP/SME
1-24.6-7.3	Livestock Development Program	20.0	20.0	20.0	60.0	GoPNG/DSIP/SME
1-24.10.6	Agriculture Disaster Recovery Program	10.0	10.0	10.0	30.0	GoPNG/PSIP/DSIP
TOTAL		295.0	295.0	290.0	880.0	



3.4.2 Sector Governance

Goal: To provide policy and administrative support for improved performance of the agriculture sector in PNG.

During pre-independence, DAL was the only agency in the sector responsible for the development of agriculture and livestock programs until PNG gained independence in 1975. After independence, the reforms through the twin policies of corporatization and privatization transferred the technical functions of DAL to commodity boards and agencies. Furthermore, the introduction of the Organic Law on Provincial and Local Level Governments (OLPLLG) (1976) also transferred the National Agriculture Extension function from DAL to the provinces and districts. These institutional and legal reforms resulted in the segregation and specialization of commodity boards and agencies which operate independently under their institutional acts. DAL remain as a lead agency responsible for overall sector coordination and management. However, the institutional and legal settings of the sector do not allow DAL to easily coordinate and manage the sector policies and programs. This has been attributed to the fact that the Commodity Boards and agencies operate under their institutional acts and report directly to the Minister for Agriculture and Livestock and the DNPM and Treasury as stipulated under their acts. Hence, DAL does not have the legal authority to effectively lead and coordinate the sector. DAL requires legal authority that will legally define its role as the lead agency in the sector to govern and administer the sector policies and programs. DAL also requires effective coordination and management mechanisms such as the National Agriculture Council (NAC) and the National Project Steering Committee (NPSC) to govern sector PIP programs. Therefore, under the AMTDP, DAL focuses on improving sector governance through the review and amendment to agriculture legislations, improve the formulation of sector policies and plans, address institutional issues and establishing coordination and management mechanisms for effective coordination and management of the sector.





Sector Governance Logframe

Goal: To provide policy and administrative support for improved performance of the agriculture sector in PNG						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.1, 1.6	1. Agriculture Contribution to GDP (%)	NSO/MTDP III	26 (2016)	38.1	41.9	46.1
EGG 1.1	2. Agriculture Sector Budget Allocation (PGK' million)	Treasury, DAL	166 (2019)	182.6	200.9	221.0
EGG 1.3, 1.6	3. Proportion of National Population engaged in Agriculture (%)	NSO	85 (2011)	✓	✓	✓
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		DAL, OPIC, CIC, Cocoa Board, KIK, Spice Board, Rubber Board, LDC, FPDA, NAQIA, NARI				
No.	Sector Strategy	National /Sector Plan or Policy Reference				
1	Revive the National Agriculture Council (NAC) for effective coordination and management of the sector	AMTDP (2020-2022)				
2	Revive the National Agriculture Project Steering Committee (NPSC) for effective coordination and national budget management	AMTDP (2020-2022)				
3	Review of the Agriculture Sector Acts	AMTDP (2020-2022)				
4	Formulate Agriculture Sector Acts that are not in place	AMTDP (2020-2022)				
5	Conduct the National Agriculture Survey	AMTDP (2020-2022)				
6	Alignment of Agriculture Sector development plans	AMTDP (2020-2022)				
7	Formulation of the National Agriculture Policy	AMTDP (2020-2022)				
8	Formulation of the National Agriculture Master Plan	AMTDP (2020-2022)				
9	Effective DAL operationalisation	AMTDP (2020-2022)				
Deliverables			2020	2021	2022	Link Code
1. National Agriculture Council (NAC) revived			✓			1-3.1.1
2. National Agriculture Projects' Steering Committee (NPSC) revived			✓			1-3.2.2
3. Agriculture Sector Acts reviewed (Rubber, OPIC, Spice)				✓	✓	1-3.3.3
4. Agriculture Sector Bills formulated (Livestock, AAA & AIC)				✓	✓	1-3.4.4

5. National Agriculture Survey Conducted (2022)		✓	✓	1-3.5.5
6. National Agriculture Information System established		✓	✓	1-3.5.6
7. Agriculture Sector development plans aligned to the AMTDP		✓	✓	1-3.6.7
8. National Agriculture Policy 2021	✓			1-3.7.8
9. National Agriculture Master Plan (2023-2033)		✓	✓	1-3.8.9
10. DAL Corporate Plan launched and operationalized (DAL Recurrent)	✓			1-3.9.10

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-3.1.1, 1-3.2.2, 1-3.6.7, 1-3.7.8, 1-3.8.9, 1-3.9.10	Agriculture Policy & Master Plan Development Program	10.0	5.0	5.0	20.0	GoPNG
1-3.3.3, 1-3.4.4	Agriculture Legislation Program	10.0	5.0	5.0	20.0	GoPNG
1-3.5.5, 1-3.5.6	Agriculture Census Project	5.0	1.0	1.0	7.0	GoPNG/ FAO
	TOTAL	25.0	11.0	11.0	47.0	





Sub-sectors

3.4.3 Palm Oil

Goal: Increase palm oil production through equity participation of all stakeholders in the palm oil industry.

Oil Palm is grown by smallholders and large plantations. Currently, about six major palm oil project areas are covering 66,813 hectares. About 200,000 people (2.5% of the total population) are directly involved in the oil palm industry and dependent on it for their livelihoods. The oil palm industry is established in a Nucleus Estate type of enterprise whereby there is a centralised processing facility, a large plantation for throughput and service centre, surrounded by out-growers. According to oil palm industry council, the growth in the industry equates to the creation of over 500 new jobs annually. However, major constraints such as lack of government support, deteriorating public infrastructure, high cost of labour and materials with the absence of a regulator has undermined the full potential for growth of the industry. Hence, the industry aims to review and amend OPIC Act to improve coordination management, rehabilitate existing Oil Palm smallholder access roads, increase population and area under oil palm production, replanting, facilitating new investments and promote oil palm research and development.

Oil Palm Logframe

Goal: Increase Palm Oil production through equity participation of all stakeholders in the Oil Palm Industry						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.2	1. Total production Volume (Crude oil) (000' tonnes)	QEB	614.3	743.3	817.6	899.4
EGG 1.2	2. Production Volume (FFB) (000' tonnes)	OPIC	3,915.2	4,737.4	5,211.1	5,732.2
EGG 1.1, 1.2	3. Production Value (PGK' million)	OPIC	1,146.8	1,387.6	1,526.4	1,679.0
EGG 1.4	4. Area under Oil Palm (ha) (Smallholder)	OPIC	66,813 (2019)	73,494	80,843	88,928
EGG 1.3, 1.6	5. Population in Oil Palm production	OPIC	200,000	242,000	266,200	292,820
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		OPIC, OPRA, Provincial Governments				
No.	Sector Strategy	National /Sector Plan or Policy Reference				
1	Review the OPIC Act, 1992*	AMTDP, OPIC Corporate Strategic Plan 2011-2020				
2	Expand OPIC mandate to a national scope*	AMTDP, OPIC Corporate Strategic Plan 2011-2020				
3	Rehabilitate and maintain existing Smallholder Access Roads (Km)	AMTDP, OPIC Corporate Strategic Plan 2011-2020				

4	Increase area under Oil Palm	AMTDP, OPIC Corporate Strategic Plan 2011-2020
5	Replanting of aged Oil Palm trees in smallholder blocks and mini estates	AMTDP, OPIC Corporate Strategic Plan 2011-2020
6	Increase population engaged in palm oil production	AMTDP, OPIC Corporate Strategic Plan 2011-2020
7	Facilitating New Investments for out-growers blocks expansion in Oil Palm Industry	AMTDP, OPIC Corporate Strategic Plan 2011-2020
8	Promote Oil Palm research and development	AMTDP, OPIC Corporate Strategic Plan 2011-2020, National Research Policy

Deliverables	2020	2021	2022	Link Code
1. OPIC Act, 1992 Reviewed		✓		1-5.1.1
2. Scope of the OPIC is expanded to a national scale		✓		1-5.2.2
3. Km of smallholder Roads rehabilitated and maintained (Hoskins, Biala, Popondetta, Alotau, Poliamba, Ramu)	120 (Oro, WNB)	160 (NIP, MB)	200 (WNB, Oro)	1-5.3.3
4. Area under Oil Palm increased (ha) (ESP, Madang, WNB, Gulf, Morobe, Central, Milne Bay)	100,000	-	-	1-5.4.4
5. Ha of Smallholder Oil Palm replanted/ (Hoskins, Biala, Popondetta, Alotau, Poliamba, Ramu)	0	14,000	-	1-5.5.5
6. No. of new investments in land mobilization and ILGs and new development of smallholders formed	0	15	-	1-5.6-7.6
7. Oil Palm research and development supported	✓	✓	✓	1-5.8.7

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-5.3.3	Oil Palm Feeder Road Maintenance	10.0	10.0	10.0	30.0	GoPNG
1-5.4.4, 1-5.5.5, 1-5.6-7.6	Replanting of Smallholder Oil Palm	30.0	30.0	-	60.0	GoPNG
1-5.8.7	Oil Palm Research & Development Program	1.0	1.0	1.0	3.0	GoPNG
TOTAL		41.0	41.0	11.0	93.0	

* Investment for the review of OPIC Act and institutional capacity building is captured under Sector Governance Logframe.





3.4.4 Coffee

Goal: To support the development of a sustainable and competitive coffee industry in PNG, which will maximise financial returns to coffee producers and contribute to government's economic and social policy goals.

Coffee is the largest employer in the agricultural sector in PNG. Coffee supports more than 450,000 households who are involved in growing coffee in the 17 coffee growing provinces. Also, the industry employs some 15,000 to 20,000 people as full time as well as part-time workers. Production and export levels declined from 2013 to 2015 due to the Coffee Berry Borer (CBB) and the fall in commodity prices, followed by the closure of two major coffee plantations, WhagiMek in Jiwaka and Gumanch in the Western Highlands Provinces. The CBB is currently prevalent in Jiwaka and the containment and control measures are currently underway. The industry's main focus now is to revive rundown coffee plantations, support coffee MSME/SME value chain actors, improve coffee market accessibility and quality to attract premium prices and provide research, extension, training, and business support services to coffee smallholder farmers and provision of freight subsidies to freight coffee out of remote locations.

Coffee Logframe

Goal: To support the development of a sustainable and competitive coffee industry in PNG, which will maximise financial returns to coffee producers and contribute to government's economic and social policy goals

SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.2	1. Coffee Production Volume (000' tonnes)	CIC	53.0	64.1	70.5	77.6
EGG 1.1, 1.2	2. Coffee Production Value (PGK' million)	CIC	409.4	495.4	544.9	599.4
EGG 1.3, 1.6	3. No. of households involved in Coffee farming	CIC	450,000	544,500	598,950	658,845
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		CIC, DoW, NAC, PNG Ports, Provincial Governments				
No.	Sector Strategy	National /Sector Plan or Policy Ref.				
1	Revive rundown coffee plantations	AMTDP, Coffee Industry Strategic Plan				
2	Support MSME/SME coffee value chain actors	AMTDP, Coffee Industry Strategic Plan, SME Policy 2016				
3	Improve Coffee market accessibility	AMTDP, Coffee Industry Strategic Plan				
4	Establish internationally certified coffee mills to attract premium prices and promote value adding products	AMTDP, Coffee Industry Strategic Plan				

5	Promote green energy and e-marketing in coffee industry	AMTDP, Coffee Industry Strategic Plan, National e-Agriculture Strategy
6	Provide research, extension, training, and business support services to coffee smallholder farmers	AMTDP, Coffee Industry Strategic Plan
7	Address pests and diseases affecting coffee production	AMTDP, Coffee Industry Strategic Plan

Deliverables	2020	2021	2022	Link Code
1. Coffee plantations revived (Jiwaka, WHP, EHP)	2	2	4	1-2.1.1
2. 30 MSME/SME coffee value chain actors supported	✓	✓	✓	1-3.2.2
3. Existing roads (Km) for smallholder coffee farmers in remote areas improved	124	266	405	1-3.3.3
4. Access to coffee markets improved (Freight subsidized in the remote areas)	✓	✓	✓	1-3.3.4
5. Coffee mills upgraded to international standards increased	3	6	9	1-2.4.5
6. Green energy and e-marketing in coffee industry promoted	✓	✓	✓	1-3.5.6
7. Provincial/ District coffee extension services supported (Jiwaka/ WHP/EHP/ESP/Central/Morobe)	✓	✓	✓	1-3.6.7
8. Strategic defence of PNG Coffee Industry against pest and diseases established	✓	✓	✓	1-3.7.8

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-2.1.1	Coffee Rehabilitation and Development Program	8.5	8.5	8.5	25.5	GoPNG
1-3.2.2	Coffee MSME/SME Support Program	5.0	5.0	5.0	15.0	GoPNG/PSIP/DSIP
1-3.3.3	Coffee Access Roads Program	10.0	10.0	10.0	30.0	GoPNG
1-3.3.4	Coffee Freight Subsidy Scheme	1.2	1.2	1.2	3.6	GoPNG
1-2.4.5, 1-3.5.6	Coffee Lae Export Office	4.0	4.0	5.0	13.0	GoPNG
1-3.6.7	Coffee Extension Services Program	6.0	6.0	12.0	24.0	GoPNG
1-3.7.8	Coffee Research and Development Program	5.0	10.0	10.0	25.0	GoPNG
1-3.2.2, 1-3.6.7, 1-3.7.8	PNG Agriculture Commercialization & Diversification Project (Capacity building, extension services)	19.2	19.2	19.2	57.6	GoPNG/WB*
TOTAL		58.9	63.9	70.9	193.7	

*World Bank Donor (non-cash warrant - PGK'17.2 million), GoPNG K2 million. Total funding is K19.2





3.4.5 Cocoa

Goal: Quality Cocoa production is increased and expanded for the betterment of livelihood of small-scale cocoa farmers and economy of the nation.

The cocoa industry is largely made up of smallholders and is rural-based with 151,000 households (representing over 2 million people). The number of households increases with the latest inclusion of smallholder cocoa production in Karimui in Simbu, Jimi in Jiwaka and parts of Eastern Highlands provinces in the Highlands region. The cocoa growing households depend on cocoa as the main cash crop and it hugely impacts their livelihoods. However, the cocoa industry is constrained by the Cocoa Pod Borer (CPB), an insect pest of cocoa which has adversely affected the cocoa industry. Smallholder productivity has been low with inconsistent production levels. Most cocoa farmers are scattered in isolated remote areas with poor access to markets, finance (credit), and extension services. The deteriorating market infrastructure (roads and jetties) and high freight cost affected most of the rural cocoa farmers. Furthermore, there is a lack of commitment from lower levels of government to fund and implement cocoa programs in their districts. Hence, the cocoa industry is now targeting nursery rollout to provinces and districts, increase and extend the area under cocoa production, rehabilitate cocoa plantation and senile cocoa farms and promote cocoa MSMEs and group-based farming systems and promote cocoa quality improvement, enhancement and downstream processing. Furthermore, the industry aims at improving market access infrastructure, and support provincial cocoa development, extension and marketing and, support cocoa research and development and subsidize air freight and capacity building for cocoa development and increase production in the provinces.



Cocoa Logframe

Goal: Quality Cocoa production is increased and expanded for the betterment of livelihood of smallscale cocoa farmers and economy of the nation

SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.2	1. Total Cocoa production volume (000' tonnes)	PNGCB	46.5	56.3	61.9	68.1
EGG 1.1, 1.2	2. Total Cocoa Production Value (PGK' million)	PNGCB	372.0	450.1	495.1	544.6
EGG 1.3, 1.6	3. No. of households involved in Cocoa farming	Cocoa Board	151,000	182,710	200,981	221,079
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		Cocoa Board of PNG, Provincial Governments				

No.	Sector Strategy	National/Sector Plan or Policy Reference
1	Improve Regional cocoa nurseries and seed gardens	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
2	Improve district cocoa nurseries through MOA partnerships	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
3	Distribute seedlings to cocoa farmers	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
4	Increase area under Cocoa production	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
5	Facilitate the rehabilitation of cocoa plantations and senile cocoa farms	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
6	Promote Cocoa MSMEs and group-based production systems	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
7	Promote cocoa quality improvement, enhancement and downstream processing	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
8	Facilitate, identify and advise on priority areas for market access infrastructure	AMTDP, Cocoa Industry Strategic Plan (2016-2025)
9	Support provincial Cocoa Development, Extension and Marketing	AMTDP, Provincial Economic Development Plan
10	Support Cocoa Research and Development	AMTDP, Cocoa Industry Strategic Plan (2016-2025)

Deliverables	2020	2021	2022	Link Code
1. Regional nurseries improved (MAD, ENBP, CP & JP)	2	2	4	1-3.1.1
2. District Nurseries improved through MOAs	10	15	15	1-3.2.2
3. Number of seedlings distributed	1,000	1,000	1,000	1-3.3.3
4. Number of hectares (ha) developed	250	250	250	1-3.4.4
5. Number of plantations rehabilitated	5	5	5	1-2.5.5





6. Number of Cocoa MSMEs/SME increased	10	10	10	1-3.6.6
7. Cocoa Quality - Combination drier rollout improved	✓	✓	✓	1-3.7.7
8. Market access - cocoa roads/jetties/air freight subsidies improved	✓	✓	✓	1-3.8.8
9. Provincial Cocoa Development, Extension and Marketing supported	✓	✓	✓	1-3.9.9
10. Cocoa Research and Development Programs supported	✓	✓	✓	1-3.10.10

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-3.1.1	Regional Nurseries Program	37.0	37.0	38.9	112.9	GoPNG
1-2.5.5	Rehabilitation of Cocoa Plantations	0	5.0	5.3	10.3	GoPNG
1-3.6.6	Cocoa Industry SME Program	2.0	2.1	2.2	6.3	GoPNG
1-3.7.7	Cocoa Quality Improvement Program	5.0	5.0	5.3	15.3	GoPNG
1-3.8.8	Remote Areas Cocoa Freight Subsidy Scheme	10.0	10.0	10.0	30.0	GoPNG/ WB
1-3.1.1, 1-3.6.6, 1-3.9.9, 1-3.10.10	PNG Agriculture Commercialization & Diversification Project (Capacity building, Extension Services)	19.2	19.2	19.2	57.6	GoPNG/ WB*
TOTAL		73.2	78.3	80.9	232.4	

*World Bank Donor (non-cash warrant - PGK'17.2 million), GoPNG K2 million. Total funding is K19.2



3.4.6 Coconut

Goal: To create entrepreneurial, prosperous, and healthy communities through a dynamic, innovative and sustainable coconut industry.

An estimated population of 464,328 households are engaged in coconut activities in PNG to either generate income or to produce coconut as food to supplement their livelihoods. From the total household, 134,655 (29%) are engaged in cash-generating activities, whilst 329,673 households (71%) are engaged for their use. The industry was hit by the Bogia Coconut Syndrome (BCS), a plant disease and has been causing increasingly severe losses to coconut palms since 2007 in the Bogia region of Madang. Hundreds of palms have been killed and two coconut plantations (constituting 200ha) have been abandoned with the BCS spreading to other areas of PNG. The Hawaiian Rhinoceros Beetle is also continuously devastating the coconut palms in the Southern Region and affecting the growth of new coconut palms. This indicates potential economic and social losses. The industry in the medium term aims to establish regional nursery and seedlings distribution centres, rehabilitate coconut plantations and support replanting and expansion, promote downstream processing, coconut SMEs, diversification, agribusiness, marketing and trade and, coconut research and development to improve productivity and product quality.

Coconut Logframe

Goal: To create entrepreneurial, prosperous, and healthy communities through a dynamic, innovative and sustainable coconut industry						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.2	1. Copra Production Volume (000' tonnes)	KIK	106.5	128.9	141.8	155.9
EGG 1.1, 1.2	2. Copra Production Value (PGK' million)	KIK	500.0	605.0	665.5	732.1
EGG 1.1, 1.5	3. Total Coconut products domestic sales (PGK' million)	KIK	381	461.0	507.1	557.8
EGG 1.3, 1.6	4. No. of households involved in Coconut production	KIK	464,328	561,837	618,021	679,822
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		Kokonas Industri Koporesen (KIK), Provincial Governments				
No.	Sector Strategy	National /Sector Plan or Policy Reference				
1	Establish Regional nursery and seedlings distribution centres	AMTDP, Coconut Industry Strategic Plan 2016-2025				
2	Rehabilitate coconut plantations	AMTDP, Coconut Industry Strategic Plan 2016-2025				
3	Support Replanting and expansion	AMTDP, Coconut Industry Strategic Plan 2016-2025				
4	Promote downstream processing	AMTDP, Coconut Industry Strategic Plan 2016-2025				





5	Promote coconut SMEs, diversification, agribusiness, marketing and trade	AMTDP, Coconut Industry Strategic Plan 2016-2025
6	Improve Pest and disease control	AMTDP, Coconut Industry Strategic Plan 2016-2025
7	Promote coconut research and development to improve productivity and product quality	AMTDP, Coconut Industry Strategic Plan 2016-2025

Deliverables	2020	2021	2022	Link Code
1. Regional coconut nurseries established and maintained in 14 provinces	2	7	9	1-4.1.1
2. Two abandoned plantations rehabilitated per region	2	2	4	1-4.2.2
3. Replanting and expansion supported (Ha)	43.36	43.36	43.36	1-4.3.3
4. Downstream processing of coconut products promoted	4	8	12	1-4.4.4
5. New SMEs on processing of High Value Coconut Products and Marketing established	3	6	9	1-4.5.5
6. Protocols for containment of BCS and rhinoceros beetle developed and implemented (Bogia Coconut Syndrome (BCS) and Hawaiian Rhinoceros Beetles)	1	4	7	1-4.6.6
7. Coconut research and development promoted	✓	✓	✓	1-4.7.7

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-4.1.1	Coconut Nursery Establishment & Seedlings Distribution Program	10.0	10.0	10.0	30.0	GoPNG
1-4.2.2	Coconut Plantation Rehabilitation Program	1.7	1.7	7.6	11.0	GoPNG
1-4.5.5	SMEs Support on Processing of High Value Coconut Products (HVCPs) and Marketing	7.6	7.6	1.0	16.2	GoPNG
1-4.7.7	Coconut Research & Development Program	20.4	20.4	20.4	61.2	GoPNG
1-4.1.1, 1-4.5.5, 1-4.7.7	PNG Agriculture Commercialization & Diversification Project (Capacity building, extension services)	13.4	13.4	13.4	40.2	GoPNG/WB*
TOTAL		53.1	53.1	52.4	158.6	

* World Bank Donor (non-cash warrant - PGK'11.4 million), GoPNG K2 million. Total funding is K13.4 million

3.4.7 Rubber

Goal: Rubber production is revitalized with increase in participation of smallholders to contribute toward increase in exports earning and income for rural farmers.

Rubber industry provides employment opportunities for over 200,000 households in nine (9) lowland rubber growing provinces and currently, the number of farmers is slowly increasing. The Rubber growing provinces include Western, Central, Gulf, Oro, East Sepik, West Sepik, Sandaun, Manus, New Ireland. At present, there are three (3) major rubber estates, of which two (2) are currently managed by Rubber Industry Board under DAL; Gavien in East Sepik Province and Cape Rodney in Central Province, whilst other estates are owned and managed by a private company, Galley Reach in Central and North Fly in Western Province. Regardless of being a low priority commodity by government and the investors, rubber is a pest and disease-free commodity and has the potential to be developed to support agriculture development for socio-economic growth and advancement in PNG. It can attract foreign investors into large scale rubber production in PNG, if the industry is fully developed and is supported by the government, with favourable investment enabling environments. Given these scenarios, rubber industry aims to review the Rubber Act, 1963 to strengthen coordination and management, improve training and extension services for rubber farmers, rehabilitate nurseries, plantations and revive factories and expand area under rubber. The industry also aims to provide quality inspection and monitoring systems, improve research and development, create partnerships with the provinces, development partners and private sectors, and support freight subsidy (Land/Water).

Rubber Logframe

Goal: Rubber production is revitalized with increase in participation of smallholders to contribute toward increase in exports earning and income for rural farmers						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.2	1. Total production Volume (000' tonnes)	Rubber Board, QEB	4.9	5.9	6.5	7.2
EGG 1.1, 1.2	2. Total production Value (PGK' million)	QEB	19.6	23.7	26.1	28.7
EGG 1.4	3. Area under Rubber (Ha)	Rubber Board	20,000	24,200	26,620	29,282
EGG 1.3, 1.6	4. Number of households in Rubber farming	Rubber Board	200,000	242,000	266,200	292,820
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		DAL, Rubber Board, Provincial Governments				
No.	Sector Strategy		National /Sector Plan or Policy Reference			
1	Review the Rubber Act, 1963*		AMTDP, MTDP III			





2	Strengthen coordination and management of the Rubber Industry*	AMTDP, MTDP III
3	Improve training and extension services for rubber farmers	AMTDP, MTDP III
4	Rehabilitate Rubber nurseries and plantations	AMTDP, MTDP III
5	Expand area under rubber	AMTDP, MTDP III
6	Provide Quality Inspection and Monitoring Systems	AMTDP, MTDP III
7	Improve Research & Development	AMTDP, MTDP III
8	Revive Rubber Factories	AMTDP, MTDP III
9	Create partnerships with Provinces, Development Partners and Private Sectors	AMTDP, MTDP III
10	Support Freight subsidy (Land/Water)	AMTDP, MTDP III

Deliverables	2020	2021	2022	Link Code
1. Rubber Act, 1963 reviewed	✓	✓	✓	1-4.1.1
2. Rubber Board institutionalized and capacitated	✓	✓	✓	1.4.2.2
3. Farmers and staff trainings and extension services enhanced (CP, WP & ESP)	2	4	6	1-4.3.3
4. Number of rubber nurseries and plantations rehabilitated	1			1-4.4.4
5. Area under rubber expanded (ha)		10	20	1-4.5.5
6. Quality control and monitoring system established (Rubber Board)	-	✓		1-4.6.6
7. Rubber Research & Development improved		✓		1-4.7.7
8. Rubber factories revived (CP & ESP)		1	2	1-4.8.8
9. Number of Partnerships established	3	3	3	1-4.9.9
10. Market access - Rubber roads subsidies established (km)		300	500	1-4.10.10

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-4.1.1, 1-4.2.2, 1-4.3.3, 1-4.4.4, 1-4.5.5, 1-4.6.6, 1-4.7.7, 1-4.8.8, 1-4.9.9	Rubber Development Program	5.0	5.0	5.0	15.0	GoPNG
1-4.10.10	Market Access Program	20.0	20.0	25.0	65.0	GoPNG/ DSIP/PSIP
	TOTAL	25.0	25.0	30.0	80.0	

* Investment for the review of Rubber Act and institutional capacity building is captured under Sector Governance Logframe.

3.4.8 Spice

Goal: To promote and develop spice and minor crops to increase income generating opportunities and as an alternative cash commodity.

The Spice Industry involves the production and marketing of crops like vanilla, cardamom, ginger, turmeric, cinnamon, pepper, citronella, and nutmeg. They have substantial economic potential to provide rural communities with income to sustain their livelihood and can also generate export revenue for PNG. They are produced by smallholder farming communities throughout the country. The Spice Industry Board (SIB) is mandated to regulate, monitor and provide extension and training to develop the spice industry. There are about 250,000 households directly involved in spice production throughout the country. The SIB is constrained with institutional and human resource capacities with inconsistent government funding since its inception in 1991. Spice industry regulation and policies need to be reviewed to strengthen the industry to operate effectively to enhance growth. The SIB internal revenue source is currently through the receipts of export registration fees. This is insufficient to maintain the annual operational cost of the SIB Secretariat. Despite the increase in vanilla production, the productivity of spice crops has been low. This is partly attributed to the lack of farmer training and extension services to enhance productivity. There are no facilities for downstream processing. Generally, there is a lack of quality control and monitoring system on spice produce. Further, spice produce market access, export and trade have been lacking. There was no private sector involvement in a big way in terms of field production, processing and marketing. There is a lack of production model starting from field production through to marketing. Despite the challenges, the spice industry aims to Review the Spice Act (1998) and strengthen coordination and management of the industry, improve training and extension services for spice farmers, provide quality inspection and monitoring systems and, create partnerships with provinces and development partners.

Spice Logframe

Goal: To promote and develop spice and minor crops to increase income generating opportunities and as an alternative cash commodity						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.1, 1.2	1. Total Volume of Spice Production (kg)	SIBPNG	202,223	244,689.8	269,158.8	296,074.7
EGG 1.1, 1.2	2. Volume of Vanilla production (kg)	SIBPNG	200,000	242,000	266,200	292,820
EGG 1.1, 1.2	3. Volume of Cardamom production (kg)	SIBPNG	230	278.3	306.1	336.7
EGG 1.1	4. Total value of Spice production (PGK' million)	SIBPNG	202.2	244.7	269.1	296.0
EGG 1.1	5. Total value of Vanilla production (PGK' million)	SIBPNG	200.0	242	266.2	292.8
EGG 1.1	6. Total value of Cardamom production (PGK' million)	SIBPNG	0.03	0.04	0.041	0.044





EGG 1.3, 1.6	7. Proportion (%) of population in Spice Farming	SIBPNG	3.1	3.8	4.1	4.5
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Government Agencies		DAL, Spice Board, Provincial Governments				

No.	Sector Strategy	National /Sector Plan or Policy Reference
1	Review the Spice Act (1998)*	AMTDP, MTDP III
2	Strengthen Coordination and management of the industry*	MTDP III, NSPDP
3	Improve training and extension services for spice farmers	NSPDP
4	Provide Quality Inspection and Monitoring Systems	NSPDP
5	Create partnerships with provinces and development partners	AMTDP, MTDP III

Deliverables	2020	2021	2022	Link Code
1. Spice Act reviewed		✓		1-7.1.1
2. Spice Board institutionalized and capacitated	✓	✓	✓	1-7.2.2
3. Farmers and staff trainings and extension services enhanced (ESP, WSP, Madang, Morobe)	✓	✓	✓	1-7.3.3
4. Trainings and extension services provided for new farmers and staff (JP, WHP, MP)	✓	✓	✓	1-7.3.4
5. Quality control and monitoring system established	✓	✓	✓	1-7.4.5
6. Number of partnerships established	3	3	3	1-7.5.6

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-7.1.1, 1-7.2.2, 1-7.3.3, 1-7.3.4, 1-7.4.5, 1-7.5.6	National Spice Development Program	27.5	27.5	27.5	82.5	GoPNG
1-7.2.2, 1-7.3.3, 1-7.3.4, 1-7.5.6	PNG Agriculture Commercialization & Diversification Project (Capacity building, extension services)	13.4	13.4	13.4	40.2	GoPNG/ WB**
TOTAL		40.9	40.9	40.9	122.7	

* Investment for institutional improvements such as review of Spice Act and capacity improvement is captured under Sector Governance Logframe.

** World Bank Donor (non-cash warrant - PGK'11.4 million), GoPNG K2 million. Total funding is K13.4 million

3.4.9 Rice

Goal: Domestic commercial rice production industry is established in partnership with private sector and small-scale farmers to reduce the volume of imported rice and meet growing demand.

Rice is a staple diet for most Papua New Guineans. PNG spends about K600 million to import 400,000 tonnes/year (all grain type) to meet domestic demand because there has been no attempt to grow rice on a larger scale to meet local consumption demands. According to DAL, PNG currently produces around 4,500 tonnes of rice per year, which is a substantial volume except that they are not being properly marketed and distributed. Much of this production remains at the smallholder levels and lack appropriate support to expand production and sell commercially to adequately meet local demand and lower current rice import levels. About 12,902 smallholder rice farmers are currently involved in rice production. PNG needs to produce sufficient volumes of rice to adequately meet domestic demand and lessen the high dependency on imported rice in the long term. The government needs to seriously invest in large-scale rice farming in partnership with potential and existing partners in the private sector to develop rice on a commercial scale. PNG needs to develop approximately 60,000 hectares of rice to completely replace importation and sustain domestic rice demand. Currently, about 3,663 hectares of land is under smallholder rice farmers around the country. In line with the PNG National Rice Policy (2015-2030), DAL in partnership with the provinces and investors aims to promote and increase domestic commercial and small-scale rice production and promote markets throughout PNG to reduce reliance on imported rice.

Rice Logframe

Goal: Domestic commercial rice production industry is established in partnership with private sector and small-scale farmers to reduce the volume of imported rice and meet growing demand						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2017)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.5	1. Domestic Rice production Volume (000' tonnes)	RI PNG/DAL	4.5	6.0	6.6	7.2
EGG 1.1, 1.5	2. Domestic Rice production Value (PGK' million)	DAL	1.6	2.1	2.3	2.6
EGG 1.4	3. Area under Rice farming (Ha)	RI PNG	3,662	4,874	5,362	5,89
EGG 1.3, 1.6	4. Number of households in Rice farming	DAL	12,902	17,173	18,890	20,779
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agency		DAL, Provincial Governments				





No.	Sector Strategy	National /Sector Plan or Policy Reference
1	Promote and increase domestic commercial & small-scale rice production to reduce rice import volume	AMTDP, MTDP III, Rice Policy (2015-2030)
2	Adequately promote and market local rice produce to reduce rice import value	AMTDP, MTDP III, Rice Policy (2015-2030)
3	Expand area under rice (Ha)	AMTDP, MTDP III, Rice Policy (2015-2030)
4	Promote partnerships	AMTDP, MTDP III, Rice Policy (2015-2030)

Deliverables	2020	2021	2022	Link Code
1. Domestic (Commercial & smallholder) rice production increased (000' tonnes) (WP, JP, MP, ESP)	5.9 (WP-1.5, CP-0.3, MP-3, JP-0.5, SHP-0.5, ESP- 0.05)	6.3 (Same as 2020)	6.8 (Same as 2020)	1-4.1.1
2. Local rice markets promoted (WP, JP, MP, ESP)	(WP-2, JP-1, ESP- 1 & MP-1)	(JP-2, ESP-1, MP-2, WP-2 & CP-1)	✓	1-4.2.2
3. Area under rice for Commercial & smallholder rice farming increased (Ha)	4,761.9	5,128.2	5,494.5	1-4.3.3
4. Number of partnerships established	4	4	4	1-4.4.4

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-4.1.1, 1-4.2.2, 1-4.3.3, 1-4.4.4	National Rice Development Program	30.0	30.0	30.0	90.0	GoPNG
TOTAL		30.0	30.0	30.0	90.0	



3.4.10 Livestock

Goal: Commercially viable livestock industry is strategically established and expanded to meet growing domestic demand in partnership with private sector and rural farmers.

The livestock industry in PNG comprised of cattle, sheep, goat, poultry, pigs and apiculture (honey bee farming). According to the 2000 census, some 400 000 households (47%) of total rural households in PNG are engaged in some kind of livestock production. Livestock contributes 13% of the total domestic food production. In PNG, the total meat consumption requirement is 69,567 tonnes and increases with population growth. Local meat production is estimated at an average of 24,768 tonnes annually between 2014 and 2018. It cannot support the meat consumption requirement of the population. Despite the huge potential², livestock production has declined over the years due to various issues mainly attributed to mismanagement, high cost of operations and little government support for the industry. Subsequently, numbers of large commercial farms and smallholder farms have diminished to an all-time low. Beef cattle numbers have been static for the last 20 years and gradually declined due to mismanagement of stock, pasture and lack of skills in all aspects of animal husbandry and management. On the other hand, meat consumption rate increased at a rate of 5% annually combined with a huge population growth rate of 3.1%. This has resulted in high meat demand and import costs. The import cost of meat is high from small livestock comprised of sheep, swine and poultry is K276.9 million as compared to beef import cost of K81.4 million. Furthermore, there was no financially sustainable development model for the livestock industry. The industry now focuses on rehabilitating breeding and distribution centres, reclaim and rehabilitate old cattle ranches, establish and rehabilitate existing abattoirs and poultry processing facilities. Furthermore, it will encourage smallholder pig, sheep and poultry production for self-sufficiency on meat products and import reduction.

Livestock Logframe

Goal: Commercially viable livestock industry is strategically established and expanded to meet growing domestic demand in partnership with private sector and rural farmers

SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2017)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.5	1. Annual domestic meat production Volume (000' tonnes)	LDC, DAL	4.5	6.0	6.6	7.2
EGG 1.1, 1.5	2. Annual Beef (Bovine) Import Value (PGK' million)	LDC, DAL	81.4	59.3	53.4	48.1
EGG 1.1, 1.5	3. Annual Pork (swine) Import Value (PGK' million)	LDC, DAL	48.5	35.4	31.8	28.6
EGG 1.1, 1.5	4. Annual Sheep meat Import Value (PGK' million)	LDC, DAL	150.1	109.4	98.5	88.6
EGG 1.1, 1.5	5. Annual Poultry meat Import Value (PGK' million)	LDC, DAL	78.3	57.1	51.2	46.1
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		DAL, Livestock Development Corporation (LDC)				

²According to Land Use Data, PNG has over 400,000 ha of grassland suitable for grazing over 300,000 herds of cattle and producing nearly over 60,000 of beef per year.





No.	Sector Strategy	National /Sector Plan or Policy Reference
1	Rehabilitate breeding and distribution centres	AMTDP, MTDP III
2	Reclamation and rehabilitation of old cattle ranches	AMTDP, MTDP III
3	Promote Small Livestock production	AMTDP, MTDP III
4	Establish and rehabilitate existing abattoirs and poultry processing facilities	AMTDP, MTDP III
5	Support research and development for animal pest and disease control (Biosecurity)	AMTDP, MTDP III
6	Promote partnerships	AMTDP, MTDP III

Deliverables	2020	2021	2022	Link Code
1. National Cattle Breeding and distribution centres rehabilitated (EHP, MP, MAD, CP)	4 (EHP, MP, MAD & CP)	✓	✓	1-2.1.1
2. Old cattle ranches reclaimed, rehabilitated and restocked	✓	✓	✓	1-2.2.2
3. Small livestock breeding and distribution centres rehabilitated and restocked (EHP, WHP, SP, CP & ESP)	✓	✓	✓	1-5.3.3
4. Existing abattoirs rehabilitated (CP, MAD, EHP & SP)	1	2	1	1-5.4.4
5. Poultry processing facilities established (WHP, ESP, EP & HP)	1	1	1	1-5.4.5
6. Animal pest and disease research and development supported (ASF)	✓	✓	✓	1-5.5.6
7. Partnerships established	✓	✓	✓	1-5.6.7

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-2.1.1, 1-2.2.2, 1-5.3.3, 1-5.4.4, 1-5.4.5	Livestock Development Program	20.0	20.0	20.0	60.0	GoPNG
1-5.5.6	Surveillance and Monitoring of Pests and Disease Program	20.0	20.0	20.0	60.0	GoPNG
1-5.3.3, 1-5.5.6, 1-5.6.7	PNG Agriculture Commercialization & Diversification Project (Capacity building, extension services)	13.4	13.4	13.4	40.2	GoPNG/ WB*
TOTAL		53.4	53.4	53.4	160.2	

*World Bank Donor (non-cash warrant - PGK'11.4 million), GoPNG K2 million. Total funding is K13.4 million

3.4.11 Fresh Fruits and Vegetables

Goal: Improve efficiency and productivity of farmers and others in the value chain with a commercially and economically viable and sustainable horticulture industry established.

Horticulture subsector deals directly with fresh produce such as fruits, vegetables, nuts, grains, tuber crops and spices. The total market value of fresh produce in PNG is estimated at K2.5 billion. The horticulture industry is predominantly subsistence farming and is mainly smallholder based. The industry is going through a major transition phase as it experiences the integration of subsistence into the commercial operation. Despite its commercial viability, PNG continues to import fresh fruits and vegetable from overseas markets. PNG does not have a reliable seed industry which forces it to rely on the outside world to supply seeds for fruits and vegetable sector. Most PNG farmers lack farm management and technical knowledge and skills and do not have easy access to markets. Lack of appropriate storage facilities at provincial/district levels discourages farmers to venture into commercial farming. Furthermore, other issues include land tenure system, lack of credit and financial literacy information and lack of Policy and support programs to enhance the growth of the industry. Despite these challenges, the industry aims to identify, promote and train lead farmers, improve market infrastructure and accessibility, support MSMEs/SMEs and improve post-harvest management. The industry will also focus on citrus production and marketing, support disaster or emergency response activities (pest and disease/climate change), and identify and establish partnerships to promote the fresh produce value chain. These efforts will be geared towards replacing current import levels of fruits and vegetables to a quarter or less and substitute it with local produce to adequately meet and sustain the local market demands.





Fresh Fruits & Vegetables Logframe

Goal: Improve efficiency and productivity of farmers and others in the value chain with a commercially and economically viable and sustainable horticulture industry established.

SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline (2018)	AMTDP Annual Targets		
				2020	2021	2022
EGG 1.5	1. Production Volume (000' tonne)	FPDA	19.0	23.0	25.3	27.8
EGG 1.1, 1.5	2. Production Value (PGK' million)	FPDA	58	70.2	77.2	84.9
EGG 1.3	3. Number of farmers identified and assisted by FPDA	FPDA	6,053	7,324.1	8,056.5	8,862.2
EGG 1.3, 1.6	4. Number of formal MSMEs/ SMEs	FPDA	39	47.2	51.9	57.1
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		Fresh Produce Development Agency (FPDA), Provincial Governments				

No.	Sector Strategy	National /Sector Plan or Policy Reference
1	Identify and promote lead farmers	AMTDP, FPDA Medium Plan II (2016-2020)
2	Training of farmers	AMTDP, FPDA Medium Plan II (2016-2020)
3	Improve market infrastructure and accessibility	AMTDP, FPDA Medium Plan II (2016-2020)
4	Support MSMEs/ SMEs	AMTDP, FPDA Medium Plan II (2016-2020)
5	Improve post-harvest management	AMTDP, FPDA Medium Plan II (2016-2020)
6	Promote Citrus Production & Marketing	AMTDP, Provincial Economic Development Plan
7	Support disaster/Emergency response activities (pest and disease/climate change)	AMTDP, Provincial Economic Development Plan
8	Identify and establish partnerships to promote the fresh produce value chain	AMTDP, FPDA Medium Plan II (2016-2020)

Deliverables	2020	2021	2022	Link Code
1. Number of lead farming households identified and assisted	5,793	6,083	6,387	1-4.1.1
2. Number of farmers trained	11,000	12,100	13,310	1-4.2.2
3. Market infrastructure and accessibility improved	✓	✓	✓	1-4.3.3
4. MSME and SME farmers and value chain aggregators supported (WHP, SHP, SP, JP, MP & CP)	✓	✓	✓	1-4.4.4

5. Cool storage facilities established (WHP, MP & NCD)	2	3	4	1-4.5.5
6. Citrus production increased and Marketing promoted (WHP, EHP & JP)	✓	✓	✓	1-4.6.6
7. Disaster/Emergency response activities supported	✓	✓	✓	1-4.7.7
8. Charters/ MOUs with partners established	✓	✓	✓	1-4.8.8

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-4.1.1, 1-4.2.2, 1-4.3.3, 1-4.4.4, 1-4.5.5	Fresh Produce Development Program	13.0	13.0	13.0	39.0	GoPNG
1-4.6.6	Citrus Production and Marketing Program	5.0	5.0	5.0	15.0	GoPNG
1-4.7.7	Disaster/Emergency Mitigation Program	1.0	1.0	1.0	3.0	GoPNG
1-4.2.2, 1-4.3.3, 1-4.4.4, 1-4.8.8	Market for Village Farmers Program (Capacity Building, Market Access, Extension Services, Partnerships)	19.3	40.7	47.1	107.1	GoPNG/ PSIP/DSIP/ IFAD*
TOTAL		38.3	59.7	66.1	164.1	

* Investment under Markets for Village Farmers captures mainly the donor component of IFAD with GoPNG counterpart funding of K2 for PCU in DAL.





3.4.12 Food Security

Goal: To provide access to safe and nutrient food in sufficient quality and quantity to improve and maintain a healthy and active life of all people in the country.

In terms of food security for PNG, the agriculture sector continues to be the main source of food production and supply, employment creation and income generation for over 85% of the rural population. About 5% of the total population and 18% of the economically active population have the potential to be employed in the formal sector. PNG's current estimated population growth rate is over 3.1% which represents a rapidly growing population and warrants serious attention by all stakeholders to support the government in safeguarding Papua New Guineans against food insecurity and hunger. Current food production level is not consistent with population growth. Given this scenario, ensuring food security and safety leading to a healthy population is paramount in PNG. Poor living standard and poverty are manifested in low life expectancy, underweight children, poor health, malnutrition/undernourishment and food insecurity. PNG has been largely self-reliant on its traditional root food crops such as sweet potato, taro, yams and cassava. Sago, taro, yam and breadfruit are an abundant source of starch in many localities and provides an important alternative to rice and wheat products. PNG has already put in place a National Food Security Policy (NFSP) (2016-2025) to address its food security needs and concerns. Increased investments and support in agriculture and livestock, economic empowerment and health and education of especially women and girls are vital to ensuring food security and safety leading to a healthy population. PNG also has a National Sanitary & Phytosanitary (SPS) Compliance Policy 2011 (currently under review) that articulate Agro-Food Safety and Codex international food standards to protect the health of consumers and facilitate trade in compliance with SPS Measures. The DAL in partnership with the National Department of Health, Community Development and provincial governments will improve its regional resource centres to implement the National Food Security Action Plan (NFSAP 2018-2027), promote and increase the production of staple food products, small livestock and aquaculture (fish) and apiculture (honey bee) with nutritional values and, promote participation of women in agriculture. This partnership will also support disaster and emergency response activities throughout the regions of PNG.

Food Security Logframe

Goal: To provide access to safe and nutrient food in sufficient quality and quantity to improve and maintain a healthy and active life of all people in the country						
SDG and Growth Goal (GG) Ref.	Indicator (unit)	Source	Baseline 2017	AMTDP Annual Targets		
				2020	2021	2022
SGG 3.9	1. Prevalence of Stunting in children <5 (%)	NFSP 2016-2025/HIES	48 (2010)	35 (16.7)	31 (15.1)	<30 (13.6)
SGG 3.9	2. Prevalence of Wasting in children <5 (%)	NFSP 2016-2025/HIES	16 (2010)	6.4 (5.6)	3.2 (5.0)	<2 (4.5)

SGG 3.9	3. Prevalence of Premature deaths (Non-Communicable Diseases) (%)	WHO	30 (2016)	19.7 (10.5)	17.7 (9.4)	15.9 (8.5)
Lead Government Department		Department of Agriculture & Livestock (DAL)				
Implementing Agencies		DAL, NDoH, Community Development, Provincial Governments				

No.	Sector Strategy	National /Sector Plan or Policy Reference
1	Implement the National Food Security Action Plan (NFSAP 2018-2027)	AMTDP, MTDP III, NFSP 2016-2025
2	Promote and increase production of staple food products with nutritional values	AMTDP, MTDP III, SME Policy, NFSP
3	Promote active participation of Women in Agriculture	AMTDP, MTDP III, NFSP
4	Promote small scale livestock and aquaculture/ apiculture	AMTDP, MTDP III, NFSP
5	Support Disaster and Emergency response activities through partnerships	AMTDP, MTDP III, NFSP
6	Improve DAL resource centres	AMTDP, MTDP III, NFSP

Deliverables	2020	2021	2022	Link Code
1. National Food Security Policy (NFSP) approved by NEC	✓	✓	✓	1-3.1.1
2. Nutrition awareness and training at health centres and clinics conducted (MAD etc.)	✓	✓	✓	1-3.2.2
3. Participation of Women in Food and Agriculture promoted	✓	✓	✓	1-3.3.3
4. Small livestock integrated breeding farms established (Madang, Simbu, Milne Bay)	✓	✓	✓	1-3.4.4
5. Number of partnerships established for recovery	3	-	-	1-3.5.5
6. DAL Resource Centres improved	4	-	-	1-3.6.6

Link Code	Investments	2020 (PGK' million)	2021 (PGK' million)	2022 (PGK' million)	Total estimated costs (PGK' million)	Funding option
1-3.1.1, 1-3.2.2, 1-3.3.3, 1-3.4.4, 1-3.5.5	National Food Security Program	5.0	5.0	10.0	20.0	GoPNG/ FAO/ WB
1-3.6.6	DAL Resource Centres Rehabilitation Program	12.5	12.5	12.5	37.5	GoPNG/ FAO
TOTAL		17.5	17.5	22.5	57.5	



PART 4

FINANCIAL PLAN AND INVESTMENT ANALYSIS



PART 4. FINANCIAL PLAN AND INVESTMENT ANALYSIS

4.1 Financing Requirements for Implementing AMTDP

The financing requirements under AMTDP (2020-2022) are derived from the agriculture investment programs under the main logframes. These are the actual financing requirements to implement AMTDP and are aligned to MTDP III sector development programs. Hence, the total financing requirement under AMTDP is about K2.3 billion. A summary of the annual financing requirements is given in Table 4.1.

Table 4.1 Total Summary of Financing Requirements of the Investment Programs

AMTDP Requirements (PGK' million)				
Investment Programs by Logframes	2020 Budget	2021 Projection	2022 Projection	Total
Agriculture	295.00	295.00	290.00	880.0
Sector Governance	25.00	11.00	11.00	47.0
Oil Palm	41.00	41.00	11.00	93.0
Coffee	58.9	63.9	70.9	193.7
Cocoa	73.2	78.26	80.9	232.4
Coconut	53.1	53.1	52.4	158.6
Rubber	25.00	25.00	30.00	80.0
Rice	30.00	30.00	30.00	90.0
Livestock	53.4	53.4	53.4	160.2
Food Security	17.50	17.50	22.50	57.5
Fresh Fruits & Vegetables	38.3	59.7	66.1	164.1
Spice	40.9	40.9	40.9	122.7
Total	751.34	768.85	759.16	2,279.15 billion

(Source: DAL & DNPM, 2019)

The annual financing requirement is above K750 million, accounting for more than 4% of the national government budget. However, the trend of government's annual budgetary allocation to the sector over the years under MTDP I (2011-2015) and MTDP II (2016-2017) is below 2% (< K200 million). The significant increase in funding under the MTDP III (2018-2022) aligned AMTDP is necessary to implement sector programs to achieve the government aspirations for the sector.

The government of PNG (GoPNG) will be committed to financing most of the investment programs under AMTDP. However, since the government does not have sufficient financial resources to fully fund these programs, other funding sources are identified and captured under the investment programs of the logframes. These include development partners, provincial and local level governments, private sectors and NGOs.

4.1.1 Development Partners (Donors)

Of the K2.3 billion financing requirement under AMTDP, donor components include the World Bank and the International Fund for Agriculture Development (IFAD). The World Bank supported PNG Agriculture Commercialization and Diversification (PACD) Project that commences in



2020 with an estimated donor component of K171.6 million within the AMTDP (2020-2022). IFAD is supporting Markets for Village Farmers (MVF) Project with a donor component of K164.1 million within the AMTDP. In total, the estimated donor “non-cash” component under AMTDP is K332.7 million.

4.1.2 Other Government Approved Funding Sources

The investment programs under AMTDP logframes also capture other government approved funding sources including the national SME program, State Equity Fund for agriculture, EU/FAO STREIT PNG Program (East/West Sepik), Provincial Services Improvement Program (PSIP) and District Services Improvement Programs (DSIP). DAL and sub-sector agencies will negotiate with responsible agencies, provinces and districts to align agriculture programs and secure funds under these sources to support the implementation of AMTDP.

Table 4.2 Financing Framework for AMTDP

Funding Source	Responsible Agency	Program
GoPNG	Department of Commerce & Industry	Agriculture SME
GoPNG	Kumul Agriculture Ltd (KAL)	State Equity Fund for Agriculture
GoPNG, EU, FAO	DNPM, EU, FAO	STREIT PNG Program (East/West Sepik)
GoPNG	Provincial Administrations	Provincial Services Improvement Program
GoPNG	District Administrations	District Services Improvement Program

(Source: DAL/Treasury, 2019)

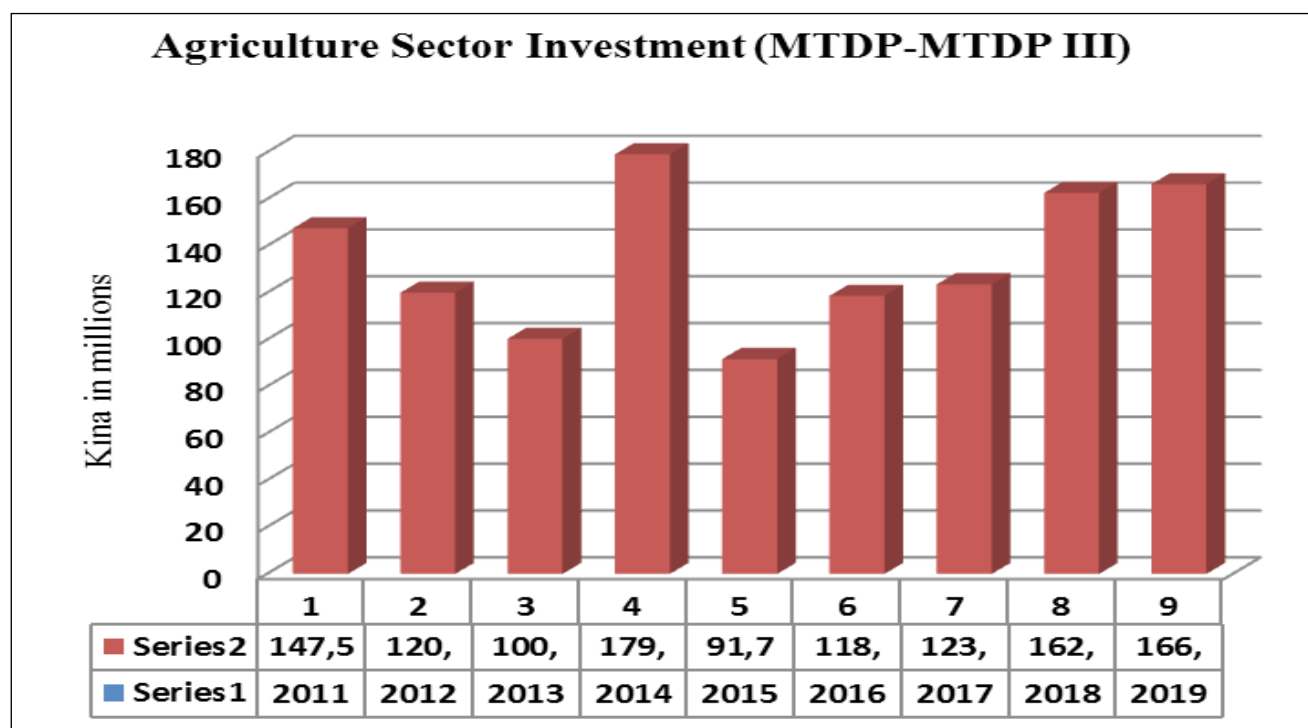
4.2 Investment Trend under the first MTDP - MTDP III

The PNG Development Strategic Plan (PNGDSP) 2010-2030 is being implemented through the MTDPs. In alignment to Medium Term Fiscal Strategies, the first MTDP (2011-2015) and MTDP II (2016-2017) focus on promoting and developing agriculture and agri-business in the medium term. The MTDP III (2018-2022) focusses on securing the future through inclusive, sustainable economic growth in which agriculture is the key priority to boost PNG’s economy.

As shown in Figure 4.1, the agriculture sector received less than 2% (<K200 million) annually since the first MTDP. Total annual appropriation decreased to about K100 million in 2013. A major shift in funding was in 2014 when the sector received K179 million. This increase was due to the appropriation of three or four major impact projects per agency as agreed under the Alotau Accord in 2013. Funding dramatically decreased by half in 2015 when most investment projects under the Alotau Accord ceased prematurely. Funding slightly increased under MTDP II, and 2018 - 2019 of MTDP III but still below 2% of the national government budget. The investment trends within the MTDPs are shown in Figure 4.1.



Figure 4.1 Agriculture Sector Investment (2011-2019)



4.2.1 Return on Investments under MTDP I and MTDP II

Generally, the performance of the agriculture sector under MTDP I and II have been stagnant and low compared to the non-renewable sectors. Agriculture GDP is constant at 26% between MTDP I and II. This is attributed to the fact that investments in the sector since 2011 have been consistently low (below 2% of the national budget). Despite low budgetary allocation, the sector achieved its targets under MTDP I and II.

Table 4.3 Sector Performance under MTDP I and MTDP II

Sector	Indicator	MTDP sector Target for 2015	Where we were in 2017	Trend	Score Card	Comments
Agriculture	Export earnings of export commodities (PGK' billion)	2,368.4 (Actual data)	3,340.0 (2016)	+ 971.6	👍	Achieved target with an improvement of K971

(Source: MTDP III, Vol. 1, 2018)

To maximize the current level of export revenue in MTDP I and II, increased level of funding of more than 4% of the national budget annually in the agriculture sector is required under the MTDP III aligned AMTDP.

4.3 Return on Investment under AMTDP (2020-2022)

The AMTDP requires about K2.3 billion to implement agriculture investment programs between 2020 and 2022. With this funding, the return on investment or achievements of the National Impact Indicators (NIIs) under AMTDP is shown in Table 4.4.



Table 4.4 Targeted Projections of National Impact Indicators under AMTDP

Goal: A world-class agriculture & livestock sector that is responsive to international and domestic markets for a diverse range of products				
National Impact Indicator (unit)	Baseline (2018)	Annual Targets		
		2020	2021	2022
1. Total Volume of exports for all commodities (000' tonnes)	970.4	1,174.2	1,291.6	1,420.7
2. Total Value of exports for all commodities (PGK' million)	2,218.8	2,684.8	2,953.3	3,248.5
3. Total Volume of products for import replacement (000' tonnes)	9,104.2	7,374.4	6,637	5,973.2
4. Total Value of products for import replacement (PGK' million)	683.4	553.5	498.2	448.4

In line with the government's focus on increased cash crop production and revenue, AMTDP projected a total export volume for all export commodities to about 1.4 billion tonnes by 2022 with estimated export earnings of about K3.2 billion. This projection is based on a 10% increase from 2018 baseline of about 970 million tonnes and K2.2 billion export value. Hence, from K2.3 billion investment under AMTDP, the agriculture sector will contribute a net revenue of about K900 million by 2022.

Moreover, with the government's strategy on import replacement which specific focus on cutting down food import bills, AMTDP embarks on reducing food import volume by 10% from a baseline of 9.1 million tonnes in 2018 to about 6 million tonnes in 2022. A savings of 3.1 million tonnes of local food products will replace imports volume. The total value of products for import replacement decreased by 10% from a baseline of K683.4 million in 2018 to K448.4 million in 2022. Hence, the Government of PNG will save K235 million on food import bills by 2022.

The AMTDP provide a general policy overview on the net returns to proposed investments in the plan. It has been difficult due to many unknown variables, to provide a specific sub sector level analysis or at different aggregate levels, using standard agriculture economic analytical methods. Commodity agencies shall however, embark on conducting these economic analysis using model budgets to determine their program or project's net worth at some point in the implementation or during mid-term evaluation of AMTDP.



PART 5



IMPLEMENTATION AND MANAGEMENT OF AMTDP



Implementation

IDEA STRATEGY PLAN Creativity SUCCESS Performance STRATEGY Business Performance MANAGEMENT IDEAS MANAGE STRATEGIC FUTURE Solutions Ideas RESULTS BUSINESS PLAN GOALS Manage TEAM INNOVATION Improve PROBLEM SOLVING Progressive DYNAMIC STRATEGY FUTURE MISSION ACTIVITIES VALUE-ADD PLAN

PART 5. IMPLEMENTATION AND MANAGEMENT OF AMTDP

The DAL and the respective commodity boards and agencies in collaboration with the central government agencies, provinces and districts, development partners, private sectors, NGO's and other agriculture value chain actors will implement AMTDP. Agriculture sector agencies spread throughout the four regions of the country. Hence, AMTDP will be implemented at the national and regional (provincial and district) levels. Agencies at the national level include DAL as the lead agency, central government agencies such as the Departments of National Planning and Monitoring (DNPM), Treasury (DoT), and other line departments and agencies such as the Departments of Lands, Transport, Works, Trade Commerce and Industry (DTCI), Conservation Environment Protection Authority (CEPA), National Airports Corporation, PNG Ports, National Development Bank, Office of Rural Development, Office of Climate Change and Development and National Forest Authority. The agencies at the regional levels include the commodity boards and agencies, local level governments, private sectors, NGOs and value chain actors.

The approach to implementation and management of AMTDP will be based on effective coordination and management, collaboration and partnerships. The DAL as the lead agency will provide oversight, coordination and management of the plan. It has to be strategic and identify the best possible approaches and coordination and management mechanisms for the successful implementation of the plan. Applying smart delivery mechanisms to achieve the maximum value and impact of investment in line with the AMTDP goal and targets is essential. Partnerships and linkages of sector agencies with others are paramount for effective coordination, management and implementation at regional levels. AMTDP will be reviewed annually to determine the achievements of sector targets. At the end of 2022, AMTDP will be reviewed and realigned to the next MTDP.



5.1 Implementation at National Level

5.1.1 Sectoral Coordination and Management

At the national level, effective coordination and management of the sector are important as commodity boards and agencies are segregated and spread throughout the regions, implementing various programs under AMTDP. DAL will coordinate sector programs, and ensures that resources such as funding from the government are directed towards commodity boards and agencies, and strengthen transparency, accountability and reporting mechanisms for successful implementation of programs at aggregate levels, thereby achieving AMTDP sector goal and targets.

The DAL will coordinate and manage AMTDP through the following established coordination and management mechanisms: National Agriculture Council (NAC), Commodity Working Group (CWG), Sector Budget Coordination (SBC), National Project Steering Committee (NPSC), and DAL's Regional Offices (Highlands, Momase, Southern and New Guinea Islands).

- a. **National Agriculture Council (NAC)** - The NAC is an agricultural governing body in PNG chaired by the Agriculture Minister and/or DAL Secretary as a delegate. The NAC committee comprises of central government agencies, Rural Industry Council, Commodity Boards and agencies, provincial governments and the agricultural industries. Hence, implementation and management of the AMTDP can be deliberated at the NAC level annually. NAC meeting resolutions and recommendations will be compiled by DAL's NAC Secretariat and circulate to NAC committee members for informed-decisions concerning the implementation and management of agricultural policies and plans such as the AMTDP. NAC forums will be used as a basis to create awareness of new policies and strategies in the sector going forward.
- b. **Commodity Working Group (CWG)** - A CWG will oversee and coordinate the performance of the major commodities in the sector and ensure that targets at aggregate levels are achieved annually as projected under the AMTDP. The Minister for Agriculture and Livestock and/or DAL Secretary will lead CWG and members comprise of Commodity Boards, central government agencies, Rural Industry Council and other agricultural industries whose interests are commodity-oriented.
- c. **Sector Budget Coordination** - In line with Sector budget coordination approach as required by Departments of National Planning and Monitoring (DNPM) and Treasury (DoT), DAL as the lead agency will coordinate agriculture sector budget within the AMTDP tenure. The Sector Budget Coordination Team will ensure that sector's investment requirements under AMTDP are aligned to MTDP III sector Key Result Areas (KRAs) and funds appropriated accordingly to implement key investment programs within AMTDP (2020-2022). The investment budget submissions for both on-going and new priority projects will be based on DNPM's approved Project Identification Document (PID) and Project Formulation Document (PFD) that guides formulation of projects within the framework of AMTDP, MTDP III and other higher national plans.

DAL's Sector Budget Coordination team will thoroughly appraise sector investment projects based on their model budgets to determine the return on investment (10% growth at aggregate levels) and approve the corresponding level of funding. In January every year (2020-2022), sub-sector Annual Work Programs and Budgets including both operational and investment projects compiled by respective sub-sector agencies and submitted to DAL. DAL will liaise with DNPM and DoT to solicit funds on a timely basis as



per work programs.

- d. **National Project Steering Committee (NPSC)** - All sector investment projects will be implemented through an NPSC chaired by DAL and committees comprised of representatives from the Departments of National Planning and Monitoring (DNPM) and Treasury (DoT) and the heads of commodity boards and agencies who receive funding from the government of PNG. The project steering committees (PSCs) at the sub-sector level oversee implementation of their projects and conduct quarterly reviews and report to the NPSC on a six-monthly (bi-annual) basis.
- e. **DAL Regional Offices** - DAL's regional offices are based in Kokopo, Lae, Goroka and Port Moresby are responsible for provincial and district agriculture support services in their respective regions. The regional Agriculture Advisors should provide technical advisory support to the farmers in collaboration with the Agriculture Extension Officers based in the provinces and districts. The regional offices should also facilitate agriculture projects for the provinces and districts. As PNG's agriculture is rural-based, this connectivity is important for enhancing increased agricultural productivity, thereby contributing significantly to AMTDP targets for major cash crops, spices, food and grain crops, fresh fruits and vegetable. Regional offices report to DAL on agriculture activities at the provinces and districts within their respective regions.

5.1.2 Cross-Sectoral Coordination

DAL is responsible for multi-stakeholder sectoral dialogues and reviews with other MTDP III priority sectors such as Transport, Infrastructure, Law and Justice, Administration, Community and Culture, Education and Health to ensure that AMTDP sector Key Result Areas (KRAs) goals and targets are captured within the overall agriculture development process. These will enable DAL and other government agencies to identify and design joint programs to be implemented within the sector. Impediments to agriculture development such as lack of market access infrastructure, transportation, agriculture training and education, credit facility, law and order and population growth can be effectively coordinated and addressed through cross-sectoral coordination with responsible agencies in these sectors.

DAL will liaise with the departments and agencies in the transport sector to improve market access infrastructure and transportation of agricultural products. Areas with high potential and suitability for crops and livestock productivity will be targeted. In the social sector, DAL and sub-sector agencies interact with the Departments of Education (DoE), Personnel Management (DPM) and Health (DoH) for education, training and Food quality and nutritional programs. DAL has been liaising with DoE through DPM to identify universities and colleges in-country and abroad to facilitate various agricultural education and training for its employees. DAL also liaises with DoH for nutritional education and training on agriculture to support Food Security, Quality and Nutritional programs.

In consultation with the Departments of National Planning and Monitoring (DNPM), Trade Commerce and Industry (DTCI), and National Development Bank (NDB), DAL will implement the agriculture SME program in 2020. Further, DAL coordinate Climate Change adaptation and mitigation activities within the sector through collaboration with the Office of Climate Change and Development (OCCD) and Conservation Environment Protection Authority (CEPA). Coordination and partnerships with agencies in various sectors should be strengthened for maximum benefit in agriculture to grow the economy.





5.1.3 Coordination and Linkages with Development Partners

DAL has taken a lead role at the national level to coordinate and improve development cooperation with the Multilateral and Bilateral development partners. DAL will continue to maintain and strengthen cooperation with these development partners to support sector programs. Under the new PNG Development Cooperation Policy 2018-2022, DAL will focus on strengthening development cooperation effectiveness and ensure that optimal results are achieved through effective coordination between the government and our development partners into the medium term.

a. Bilateral Development Partners

DAL coordinates and strengthens partnerships with Bilateral development partners (governments of foreign countries) who are assisting the agriculture sector. The two important bilateral partners include the New Zealand and the Chinese Governments. The New Zealand government has an on-going commitment under its PNG Development Assistance Strategy to support Fresh Produce Development Agency (FPDA). This support was the result of an agreement between the governments of PNG and New Zealand to support fresh produce sub-sector in PNG. Recently, the Chinese government is in negotiations with the government of PNG to invest in PNG agriculture under the China PNG Belt and Road Integrated Agriculture Industrial Park Project. This is a loan agreement in which the government of PNG will allocate land and the Chinese government will provide funding, technical expertise, machinery and infrastructures. Farms will be established throughout the selected provinces and farmers will have access to markets, training and agriculture input supplies such as seedlings. The Chinese government also assisted PNG on other technical corporation projects in the Eastern Highlands and Central Provinces on Zuncao technology, mushroom production and sweet potato breeding.

b. Multilateral Development Partners

DAL also coordinates and strengthens partnerships with Multilateral development partners (foreign organisations or agencies) who are supporting agriculture programs. They include the World Bank, International Fund for Agriculture Development (IFAD), the Food and Agriculture Organization of the United Nations (FAO) and the European Union (EU). The World Bank, under the concessional loan agreement with the government of PNG, supported the PNG Agriculture Commercialization and Diversification (PACD) Project which focuses on coffee, cocoa, coconut, small livestock and and spices. IFAD is supporting fresh produce sub-sector through the Markets for Village Farmers (MVF) project. These two donor projects commence in 2020 and will be implemented throughout the AMTDP period.



FAO has been an important development partner in the agriculture sector. It has been providing technical assistance towards agricultural policies and plans through its FAO Country office in DAL, Port Moresby. The FAO, EU and the Government of PNG jointly Initiated “Support to Rural Entrepreneurship, Investment and Trade in PNG” STREIT PNG program to be implemented in the East and West Sepik provinces in 2020.

The DAL, through the State Negotiating Team, will continue to liaise with the development partners to take greater control of the management of development cooperation resources, mobilise and strengthen partnerships, apply effective delivery modalities and explore innovative partnerships. With this approach to development planning and management, resources made available from development partners shall be directed to sub-sector programs identified under their development plans. The government of PNG has a mandatory obligation to provide counterpart funding to these programs. In this way, we can ensure that the maximum contribution of development cooperation resources is steered towards the targets and indicators of the AMTDP. All interventions in agriculture by development partners have own implementation and financial disbursement and expenditure guidelines. DAL will monitor and evaluate the projects and report to the government accordingly.

5.2 Implementation at Regional, Provincial and District Levels

5.2.1 Sub-sector Level

The sub-sector agencies based in the regions with the provinces and districts will implement development programs under AMTDP and report to DAL and central government agencies. The sub-sector agencies will align strategic and annual operational work plans and budgets to AMTDP and implement them and report to DAL and central government agencies on a timely basis. In early January every year within AMTDP (2020-2022), all sub-sector agencies develop annual work plans as well as procurement plans based on funded programs and submit to DAL, DNPM and DoT for release of funds for implementation. Funding will be disbursed directly to sub-sector agencies from DNPM and DoT on a timely basis to implement their programs.

For ease of reporting, every project funded within AMTDP (2020-2022) should have a project trust account and funds disbursed and reported accordingly. All projects at sub-sector level should be implemented under a project steering committee (PSC) that oversees, coordinates and manages the implementation. The PSC conducts quarterly, bi-annual and annual meetings and reviews, and report to the National Project Steering Committee (NPSC) in DAL. Heads of sub-sector agencies and program/project managers ensure that funds are expended according to the work programs. Transparency and accountability are important parameters in the use of funds if program outcomes and targets are to be achieved.

5.2.2 Provincial and District Levels

The provinces, districts and LLGs will be the focal point for service delivery and implementation of activities of AMTDP. Hence, AMTDP will be connected and integrated into the district government systems and other relevant stakeholders operating in the districts. The DAL's agriculture advisors in the regional offices will ensure that AMTDP is exposed to the agriculture officers in the provinces and districts for integrating it into their development planning and implementation at the ward level. Furthermore, the commodity boards and agencies who are directly involved with farmers in the provinces and districts should also ensure that they are aware of their production targets (Oil Palm, Coffee, Cocoa, Coconut [copra], Rubber and



Spice) in AMTDP so that they align their plans and implement projects to achieve their targets either through their district development grants or through joint initiative through Memorandum of Understanding (MOU) and/or Memorandum of Agreement (MOA) with commodity boards and agencies or other stakeholders.

The MTDP III emphasizes an increasing role of the provincial and district governments in identifying viable investment options for creating employment and income opportunities for their constituents. As such, any agriculture viable projects in the provinces and districts can be identified and designed in alignment with AMTDP goal and targets. Hence, it is a mandatory requirement for the delivery of AMTDP activities at District level to be compliant with the National Service Delivery Framework derived from the PNG Planning & Monitoring Responsibility Act 2016.

5.2.3 Private Sectors and Non-government Organizations

Under the Public-Private (PPP) strategy of the government, significant ventures and collaboration with the private sectors and Non-government Organisations (NGOs) have gained momentum and provided substantive benefits in some sub-sector agencies. The Agmark Limited supported cocoa farmers with extension services in the cocoa sub-sector. Likewise, other private sectors in coffee, coconut, rubber, spice and fresh produce also support farmers at various capacities. Trukai Industries also supported smallholder rice farmers and other private NGOs and training institutions such the Organisation for Industrial, Spiritual, and Cultural Advancement-International (OISCA) in East New Britain Province also supported rice farmers and others through their training programs. Therefore, with the enabling environment provided by the government and with the infusion of technology and expertise by the private sector, the AMTDP will pave the way to create more productive undertakings that will generate more income and benefit more farmers in the sector.



PART 6

A woman with glasses is speaking at a meeting, gesturing with her hands. She is wearing a patterned scarf and a ring. In the foreground, the back of a person's head is visible, looking towards the speaker. The background shows a meeting room with water bottles and a chair.

MONITORING AND EVALUATION OF AMTDP



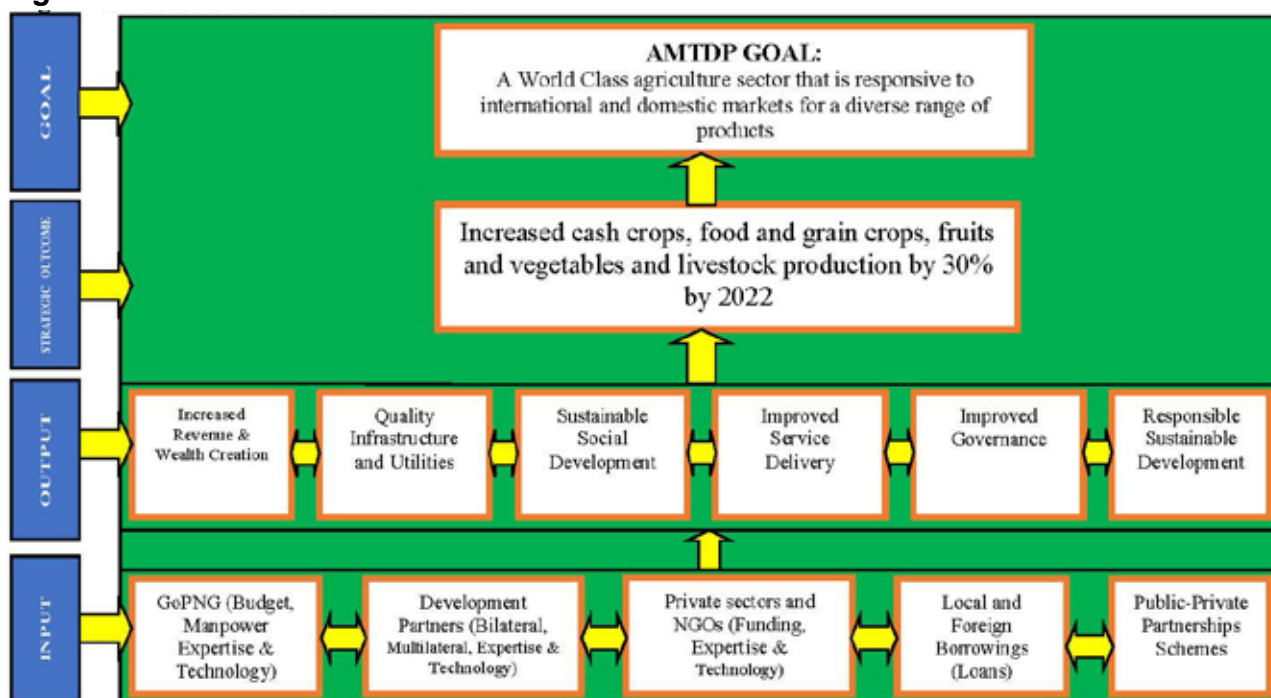
MONITORING
COLLECTION OF DATA IS AT
MULTIPLE POINTS IN THE
PROGRAMME CYCLE

EVALUATION
COLLECTION OF DATA IS AT
INTERVALS

PART 6. MONITORING AND EVALUATION OF AMTDP

The DAL will guide, monitor, and evaluate the delivery of AMTDP during the implementation phase (2020-2022). The AMTDP Monitoring and Evaluation (M&E) Framework was formulated in line with the MTDP III Strategic Framework. It encompasses the goal of AMTDP, strategic outcome, outputs and inputs. The inputs encompass financial, manpower expertise, and technology support from the government of PNG, development partners and private sectors. The outputs are related to the six (6) sector Key Result Areas (KRAs). The KRAs collectively address the strategic outcome, leading to AMTDP Goal. The AMTDP M&E Framework is illustrated in Figure 6.1.

Figure 6.1 AMTDP M&E Framework



AMTDP M&E adapts two levels. The Policy Monitoring and Evaluation (M&E), and the Program/Project Monitoring and Evaluation (M&E). Policy M&E focuses on the high-level impacts and outcome indicators of AMTDP whilst Program/Project M&E is concerned with the lower-level programs/project outcomes and target achievements at the sub-sectors, provinces and districts.

6.1 Policy Monitoring and Evaluation

Policy Monitoring and evaluation focuses on the AMTDP M&E Framework that guides implementation, monitoring, evaluation and reporting across the sub-sector agencies, and the provinces and districts. The AMTDP M&E framework outlines the high-level impact and outcome indicators, including baselines and targets; and lower-level outputs or deliverables; and the annual budgets required to operationalise AMTDP. This follows in line with the GoPNG M&E and annual budget process in which DNPM and DoT set sector priorities and capital estimates (Appendix 6a). The Agriculture Logframe in Part 3 (3.4.1) captures the high-level impact indicators. It will be revisited and revised during annual reviews and the Mid-Term Evaluation to record achievements and make adjustments to the Plan. The Policy M&E process should be coordinated and harmonised with sub-sector agencies to ensure efficiency and effectiveness of the AMTDP interventions.



6.1.1 Policy monitoring

AMTDP Policy monitoring ensures that the outputs and the strategic outcome are contributing to the sector's development goal; as well as tracking implementation progress in delivering inputs and outputs (Figure 6.1). Monitoring of inputs and processes will be sourced from the Sector/Agency quarterly data, extracted from the sector quarterly reports, which provide information on AMTDP achievements against the strategies and targets; and the sector administrative records, which provide information on financial and human resources and other related records. Regular dialogue and consultation with AMTDP stakeholders will be carried out to assess achievements against targets, identify and address management and operational issues, and planning for the next phase of implementation.

6.1.2 Policy evaluation

AMTDP Policy evaluation will undertake objective assessment on the AMTDP sectoral performance against the sector's development agenda, systematic assessment of the six (6) Key Result Areas (KRAs), pinpoint institutional, coordination and management issues, and promote greater learning within DAL, DNPM and executing agencies at sub-sector levels. It will also assess the effectiveness, relevance, efficiency, impact and sustainability of the AMTDP strategic interventions. The annual, mid-term and final evaluation will be undertaken to make adjustments and ensure that the AMTDP goal and strategic outcome are achieved as planned. These evaluation processes are described below:

- i. **Annual reviews** – will be conducted at the end of each year starting in 2020. This will assess and validate achievements of the outcomes, outputs, targets and the performance of the KRAs. It will also identify implementation bottlenecks and document lessons learnt. An annual report against the Logframe indicators will be published and circulated throughout the sub-sector agencies and relevant stakeholders. The report will provide performance information by growth strategies and sector agencies will facilitate further discussion on how to adapt planning for any improvement if needed.
- ii. **Mid-term evaluation** – will provide a mid-term analysis of the cumulative achievements against the AMTDP's goal and targets under the KRAs. It will also reflect the key coordination and implementation issues encountered over the medium term and provide insights on the necessary changes and improvements to be made, including the strategic re-direction for the second half of the AMTDP implementation period. It is envisaged to take place in June 2021; and
- iii. **Final evaluation** - will be an independent evaluation at the end of 2022 to assess the overall achievements of the AMTDP during the implementation period, including the effectiveness, appropriateness and KRAs achieved by the MTDP III key growth strategies, and document lessons learnt to be built on for the next realigned AMTDP. This will be managed by DAL Policy Planning and Coordination Division to make an assessment of the achievements, constraints to determine future challenges and opportunities for planning and implementation for further development in the next AMTDP.

6.2 Program/Project Monitoring and Evaluation

During the implementation of AMTDP, Program/Project Monitoring and Evaluation will be executed quarterly by sub-sector agencies. They will ensure that programs/projects are physically and financially implemented as planned and achieved the desired outcomes, indicators and targets as specified in the sub-sector logframes in Part 3 (3.4.2-3.4.12). With project M&E, it is also useful to refer to the Project Formulation Document which outlines



the project technical justification, scope and cost of works, procurement, risks management, sustainability, and project logframe which is aligned to the AMTDP sub-sector logframe.

The Project Steering Committees (PSCs) of investment projects will conduct quarterly reviews and report to the National Project Steering Committee (NPSC) in DAL on a six-monthly (bi-annual) basis which coincides with the Mid-term Evaluation at the policy M&E so that issues at the implementation level are deliberated at the policy level. Each project is required to complete the 10 quarterly review forms and submit to NPSC during the reviews (Appendix 6b). These forms contain specific information such as the program/project expenditure, manpower, issues and constraints that management rely on to make important decisions. The AMTDP Program/Project Monitoring and Evaluation will be guided by the following processes as outlined in Table 6.1.

Table 6.1 Program/Project M&E Process

Project M&E Process	Description
National Project Steering Committee (NPSC) bi-annual review meetings.	The NPSC reviews based on AMTDP Programs/project/activity progress against planned targets, actual expenditures and issues identified during project/activity implementation and lessons learnt.
Project Steering Committee (PSC) quarterly review meetings.	The PSC reviews based on sub-sector project/activity progress against planned targets, actual expenditures and issues identified during project/activity implementation and lessons learnt.
Quarterly project/activity progress reporting.	The sub-sector agencies must submit progress reports against targets (planned outputs and outcomes). The report should reflect cumulative progress of project/activity outputs and outcomes, analysis of the achievements, challenges, gaps and lessons learnt.
Annual project/activity reviews.	Annual review is meant to track and document project/activity achievements (achievements and initial outcomes); issues and lessons learnt during the year in review (2020, 2021, and 2022).
Project Completion Reports (PCR)	A PCR will summarise all the Annual Reports and specific Project/Activity Reports as per the Project Design. It forms the basis for evaluations to proceed.
Final project/activity evaluation	This evaluation assesses project/activity goals and objectives, or effects on the conditions of the beneficiaries and lessons learnt.

(Source: MTDP III, Vol. 1, 2018)

The AMTDP M&E and reporting processes are in line with the GoPNG's M&E and annual planning and budgeting cycle (Appendix 6a). The AMTDP M&E process also adopts the **Coordination, Learning** and **Adapting** approach through:

- a. Establishing and strengthening the M&E National Project Steering Committee (NPSC) and individual Project Steering Committees (PSC) as the networks of planning, review, reporting, coordination, and communication between DAL and sub-sector agencies (Coordination);
- b. Generating lessons and insights in the delivery of KRAs, growth strategies, sector performance, inter-sectoral coordination, joint M&E initiatives, data sharing and reporting (Learning); and



- c. Utilising evidence to enhance sector, agency, sub-sector and project planning, budgeting, implementation, management and reporting (Adapting).

6.3 Reporting

Sub-sector agencies will be required to submit quarterly, bi-annual and annual reports to DAL. DAL as the lead agency will compile sector's quarterly, bi-annual and annual reports and submit to the Departments of National Planning and Monitoring (DNPM) and Treasury (DoT) for further deliberation at the Central Agencies Coordinating Committee (CACC) and the National Executive Council (NEC). Overall AMTDP reporting, analysis, validation, and dissemination will be managed by the DAL's Policy Planning and Coordination Division, which will monitor and report on national impact indicators (NIIs) using data from the sub-sector agencies and the provinces and districts.

6.3.1 Data Collection and Management

A national agricultural statistics and information database shall be established in DAL to meet the increasing data and information needs of all sub-sector agencies and stakeholders, especially the decision-makers, planners and implementers. It shall collect, compile, analyse, retrieve and report strategic data or information associated with the performance and results of the AMTDP, MTDP III, Sustainable Development Goals (SDGs) and Alotau Accord II priority projects. The National agriculture statistics and information data centre shall serve as a repository of vital information from the sub-sector agencies performance reports. This will be built on progressively until the required resources will become available, and IT competence will be achieved within DAL, DNPM and DoT, sub-sector agencies, provinces and districts, and other stakeholders.

6.4 Monitoring and Evaluation Coordination

The AMTDP M&E relies on coordination among government agencies at all levels, development partners, private sectors and other relevant NGOs. Solid channels of communication and regular interface with AMTDP stakeholders will ensure the ability to adjust the plan during implementation. The DAL and DNPM technical secretariat will work closely with the stakeholders to organise and strengthen, to share sector data, monitor performance and report on AMTDP implementation. These groups will be the main coordination and reporting mechanisms responsible for sector performance against the AMTDP goal and targets, including reporting on issues impeding implementation; and undertake reviews or internal evaluations and coordination. These groups will provide technical support to DAL and DNPM technical secretariat during annual, mid-term, final evaluation of AMTDP implementation. Supporting this approach, AMTDP Annual performance reports will be prepared after annual reviews. Development Partners (private sectors, NGOs, etc.) and other stakeholders will be invited to become members of the coordination group.

6.5 Independent Evaluation

In the past, independent project evaluations are usually not conducted for many completed government funded plans/programs, thus, this shall be now be coordinated and conducted by NPSC sanctioned evaluators. For proper evaluations to be carried out successfully, basic pre-conditions for evaluation must be applied. Some key requirements are Project Designs and Appraisals, Annual Work Plan and Budgets, Baseline and National Impact Indicators, Mid-Term Reviews/Evaluation, Annual Management Reports and Project Completion Reports.





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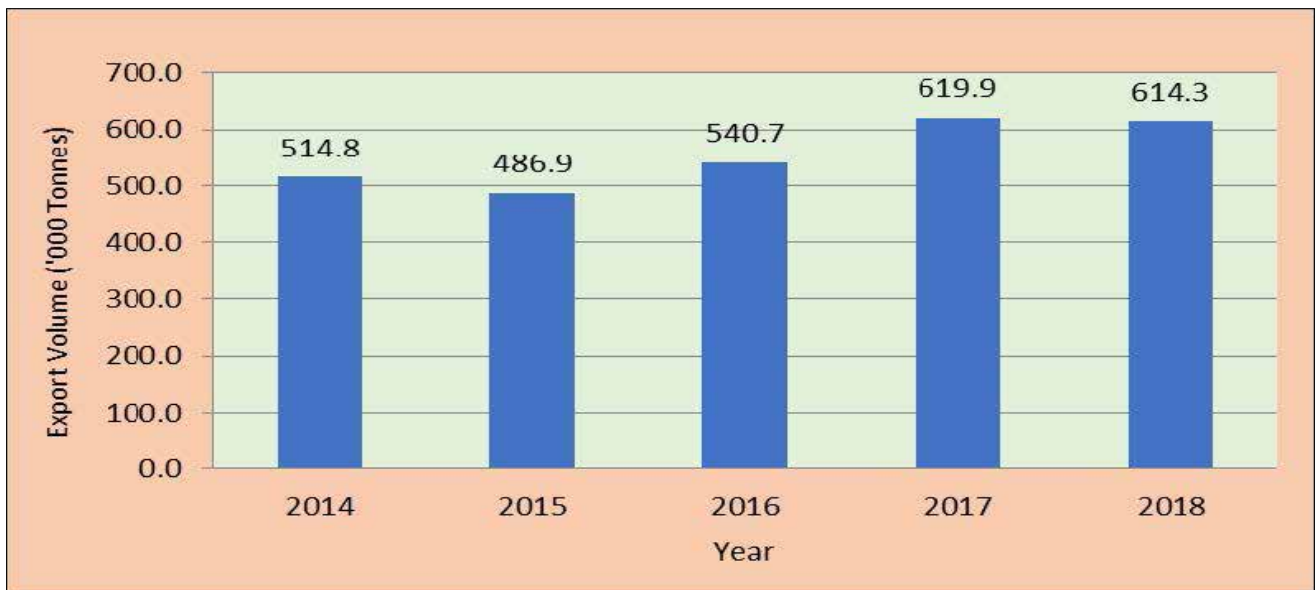


APPENDICES

Appendix 1: Commodity and Spices Export Crops Volume and Value (2014-2018)

a) PALM OIL

Palm Oil Export Volume (2014-2018)



Palm Oil Export Value (2014-2018)

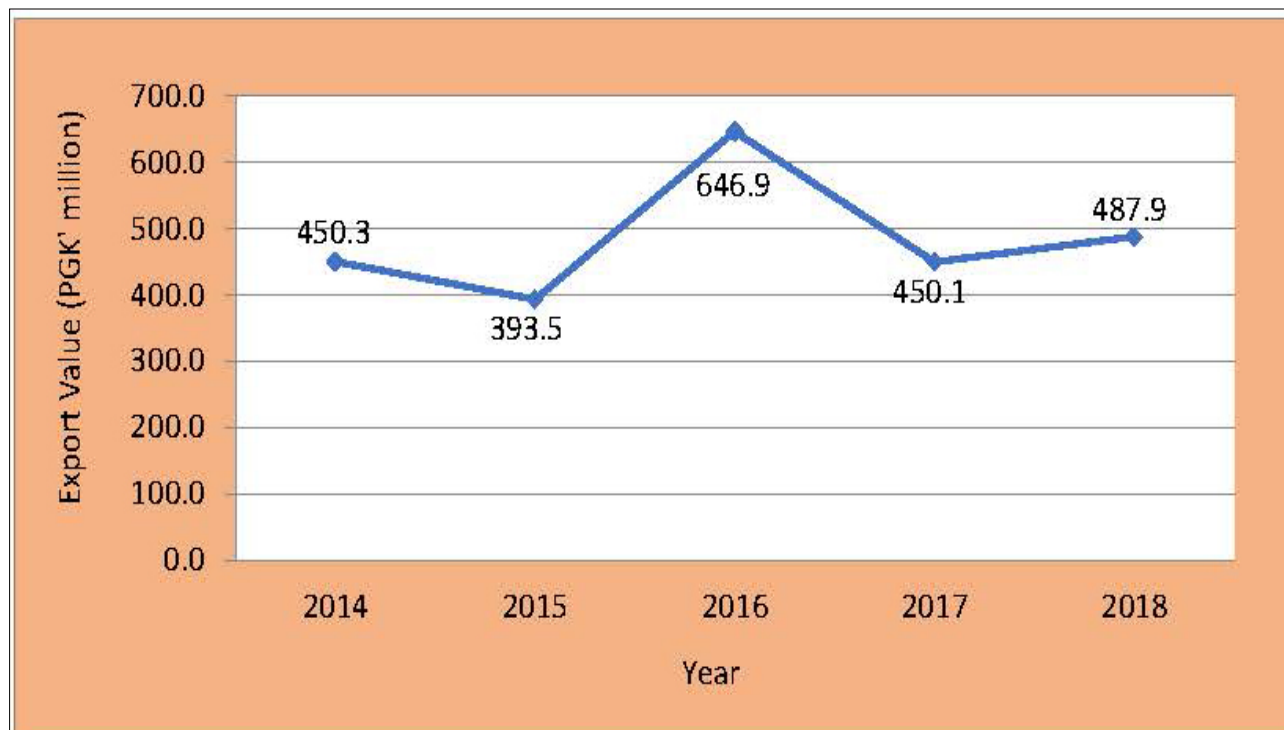


b) COFFEE

PNG's Coffee Export Volume (2014-2018)



PNG's Coffee Export Value (2014-2018)

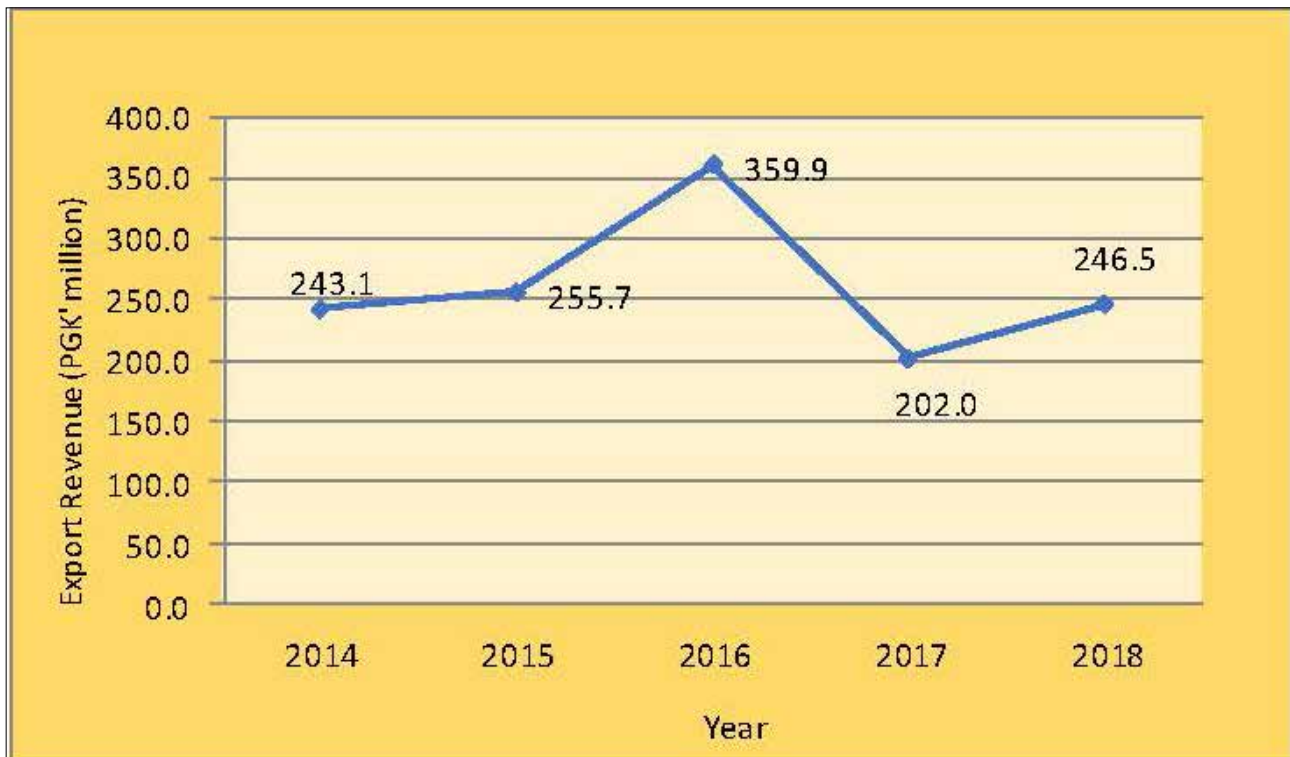


c) COCOA

PNG's Cocoa Export Volume (2014-2018)

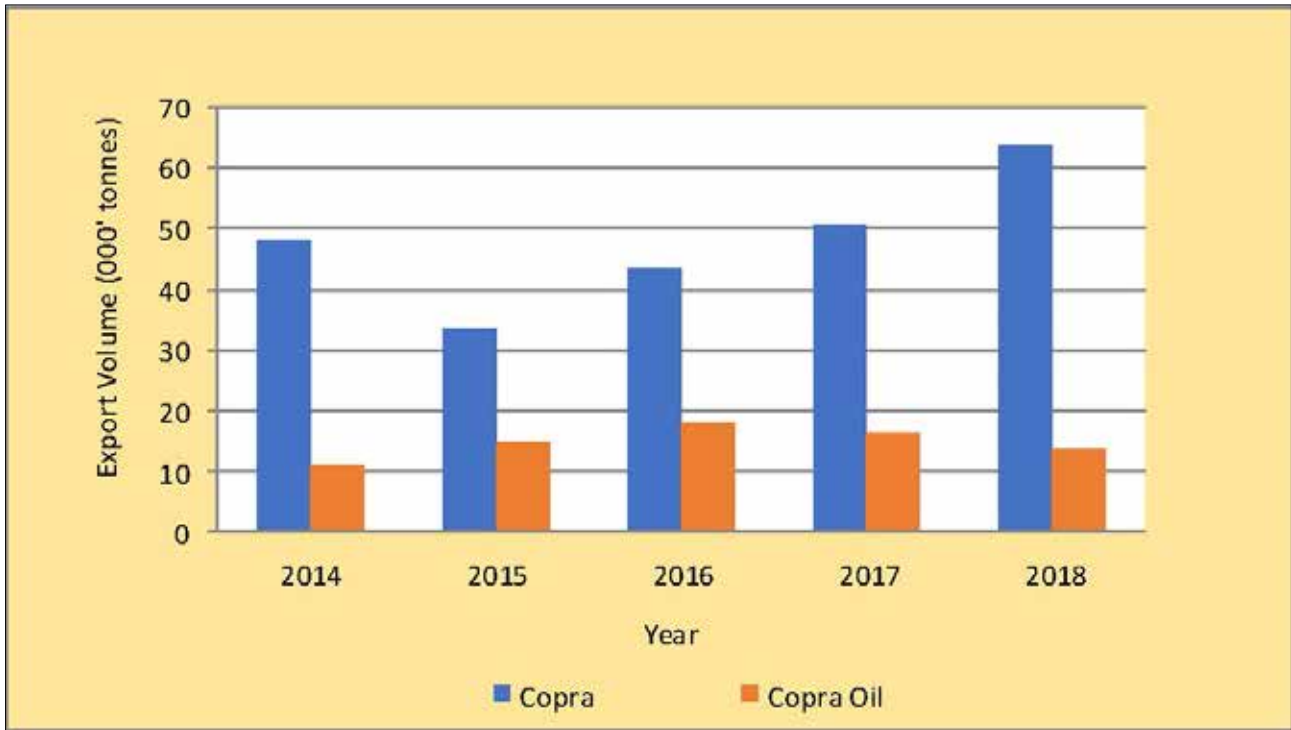


PNG's Cocoa Export Value (2014-2018)

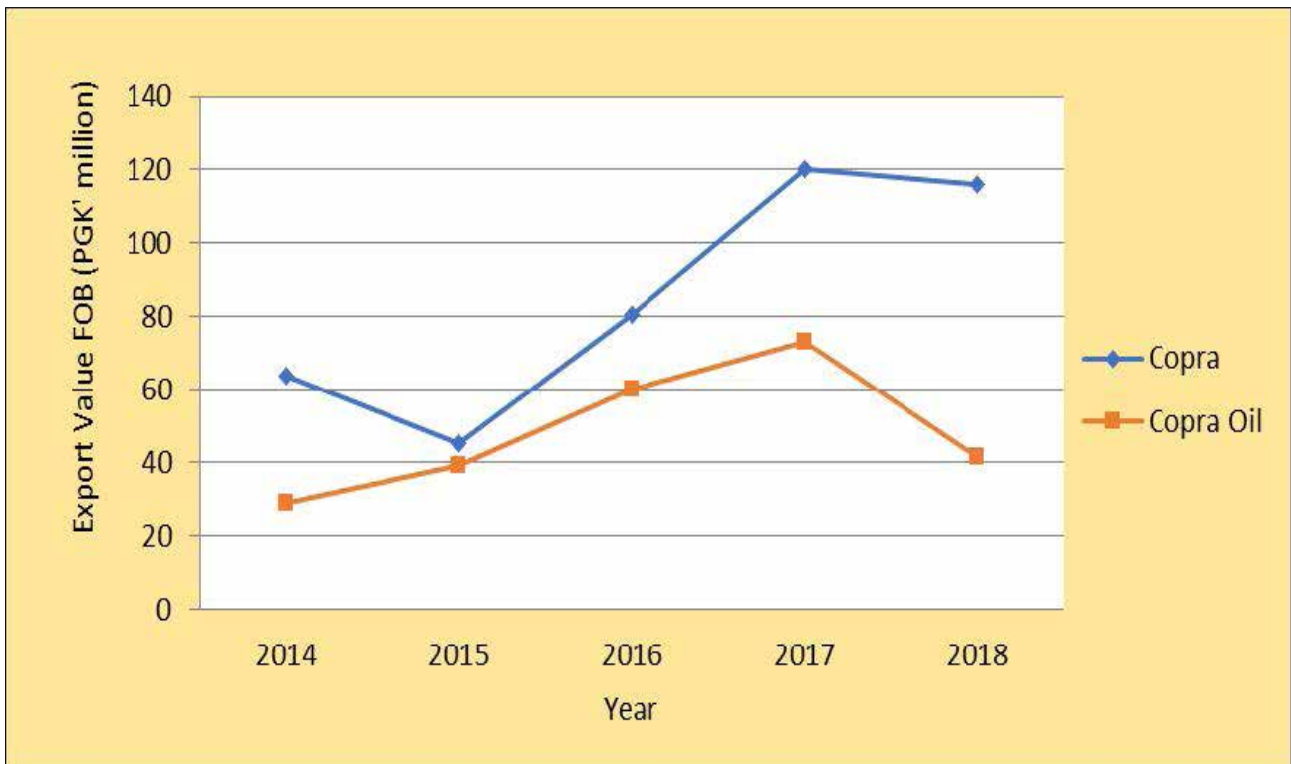


d) COCONUT (Copra/Copra Oil)

PNG's Coconut Products Export Volume (2014-2018)



PNG's Coconut products Export Value FOB (2014-2018)

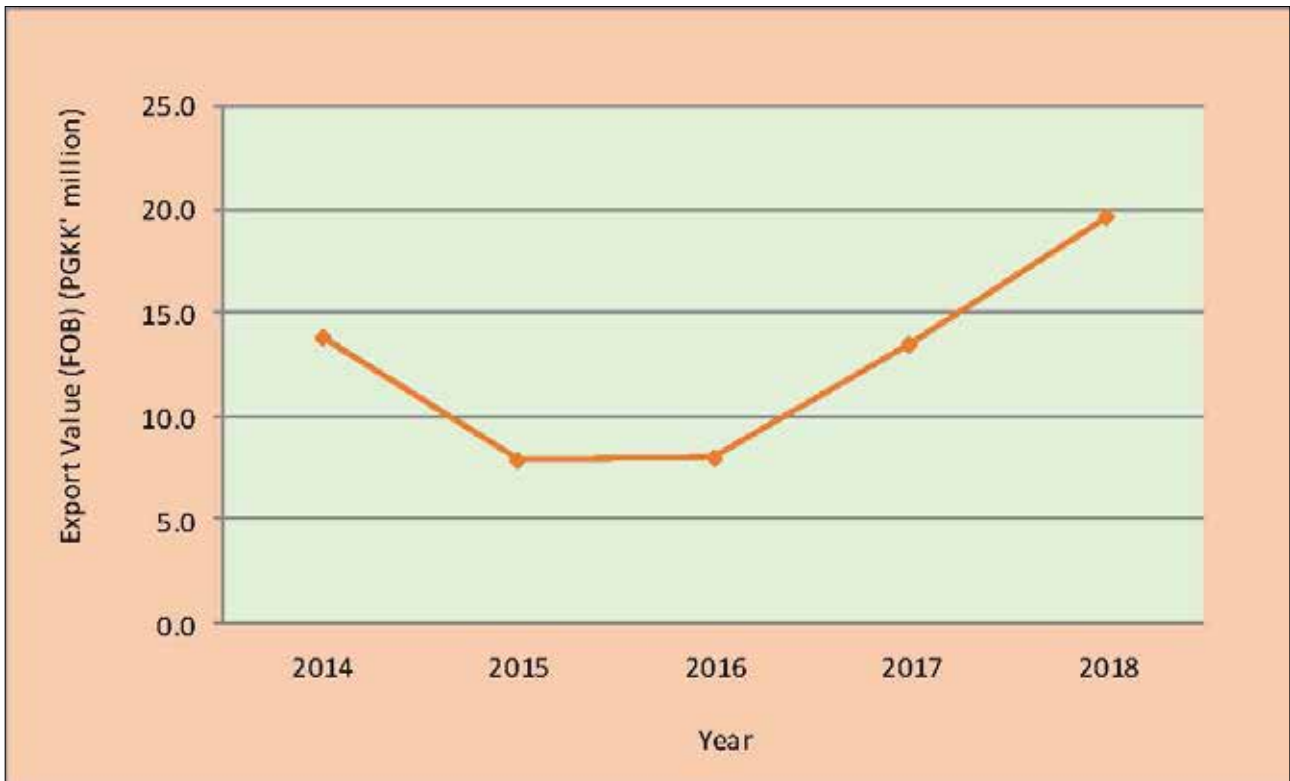


e) RUBBER

PNG's Rubber Export Volume (2014-2018)

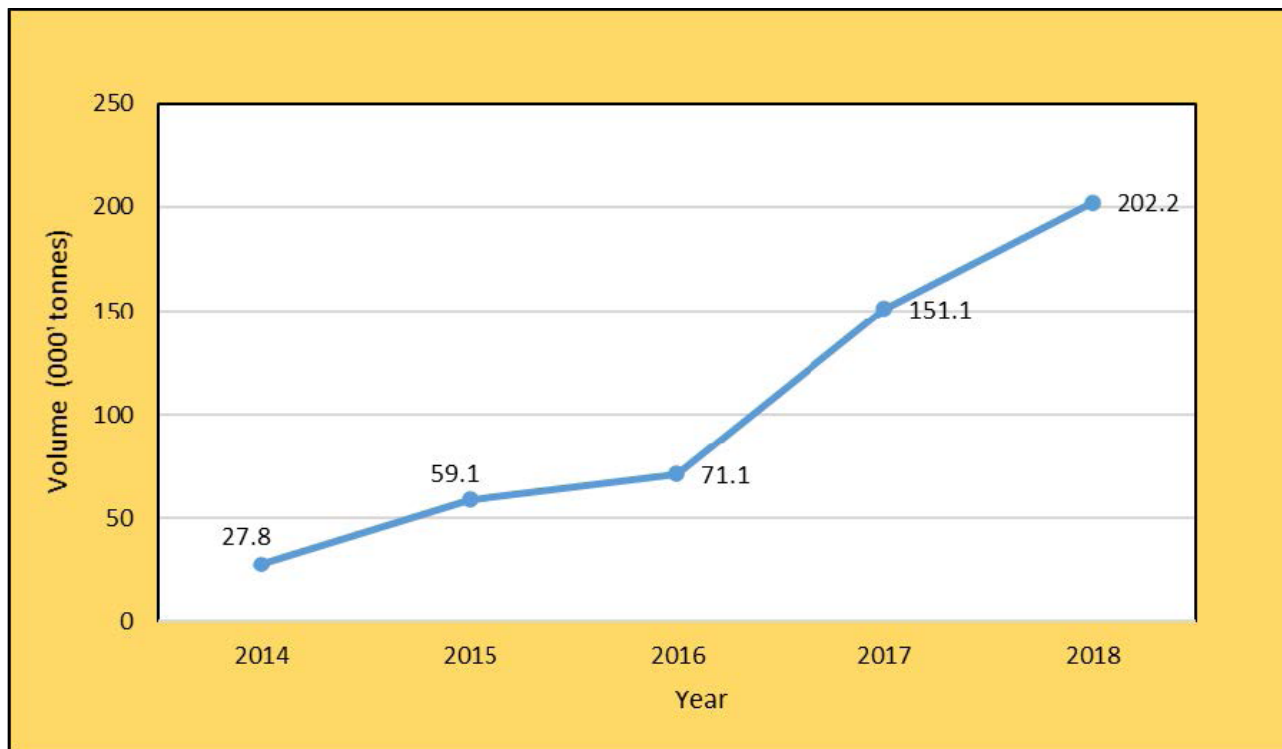


PNG's Rubber Export Value (2014-2018)

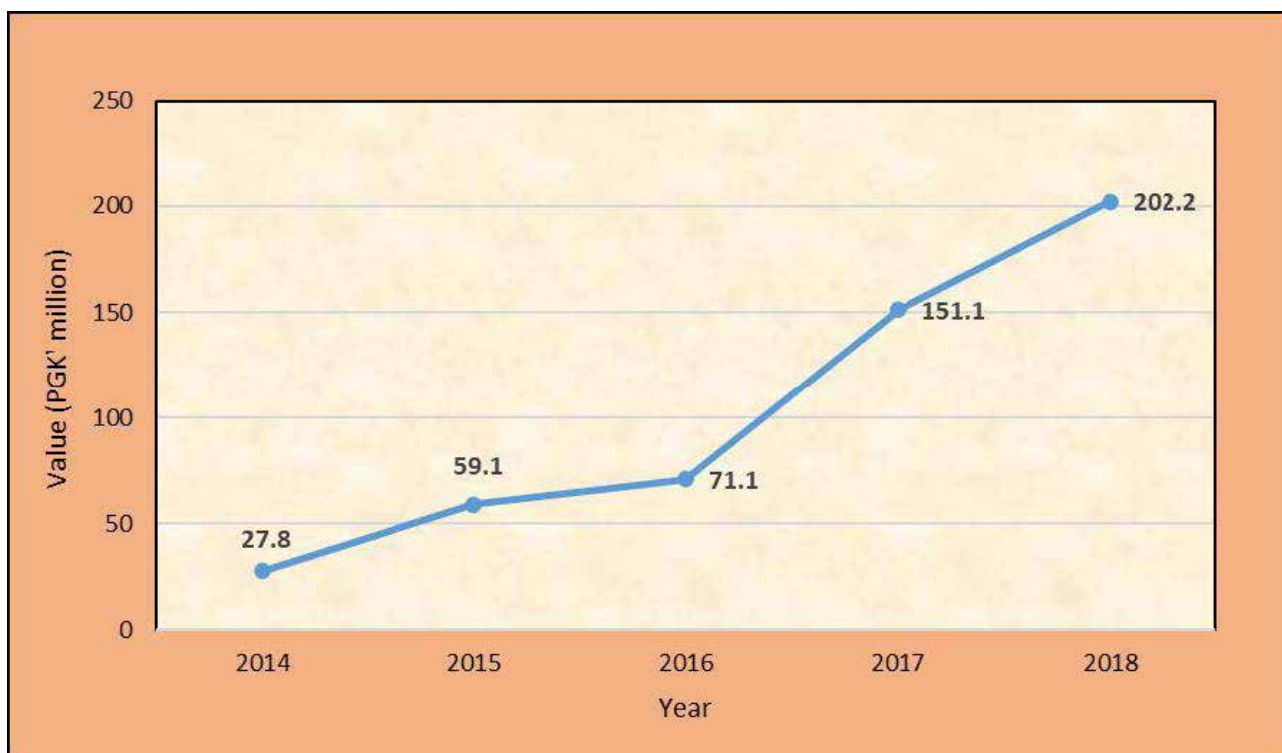


f) SPICES

PNG's Total Spice Export Volume, 2014-2018

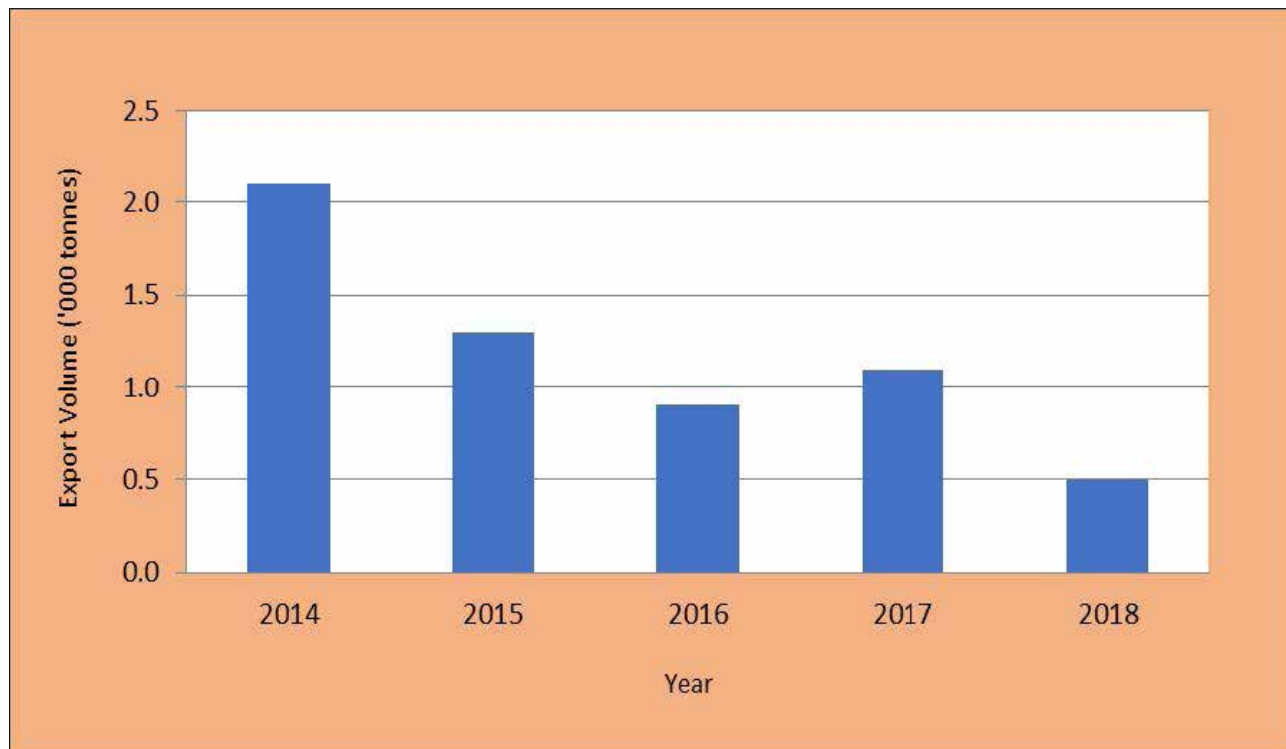


PNG's Total Spice Export Value, 2014-2018



g) TEA

PNG's Tea Export Volume ('000 tonnes)

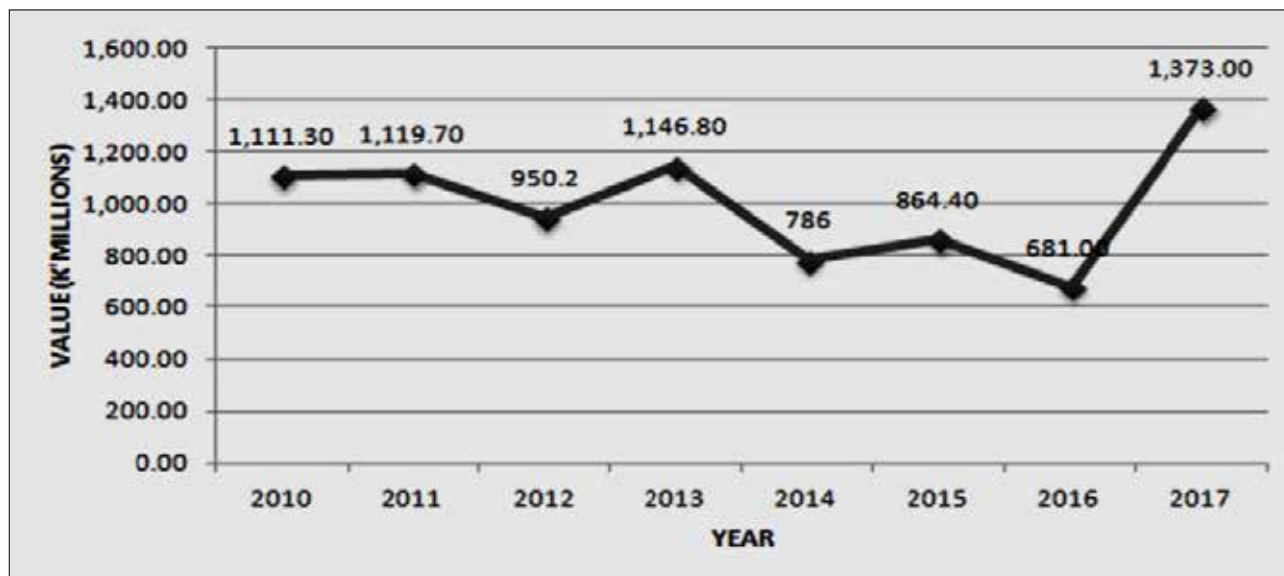


PNG's Tea Export Value (PGK' million)

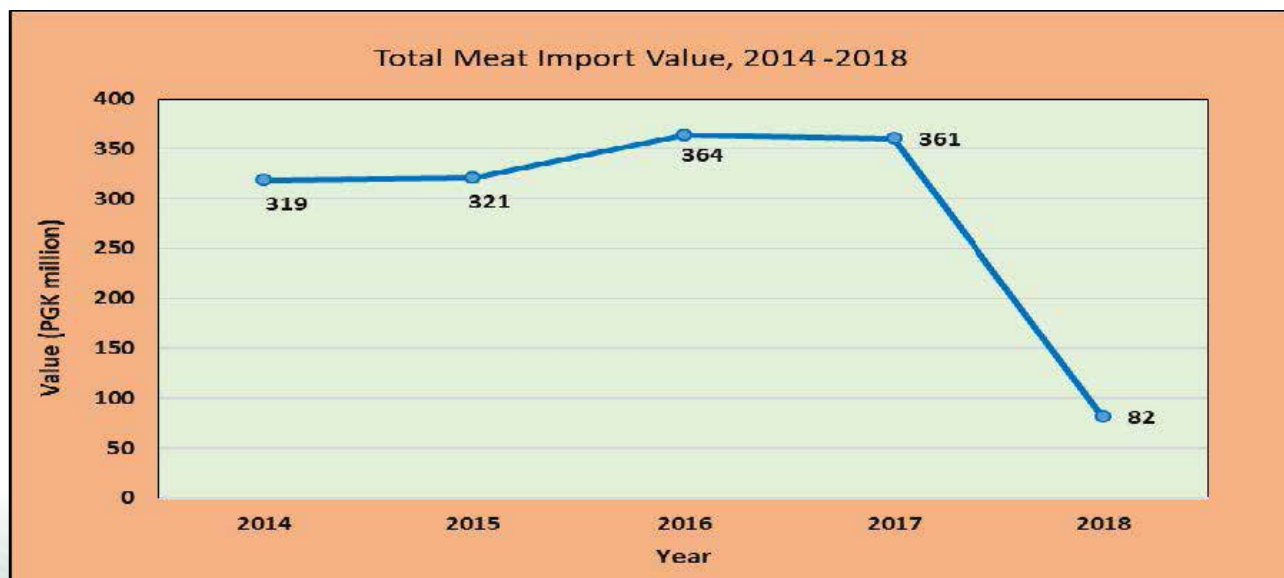
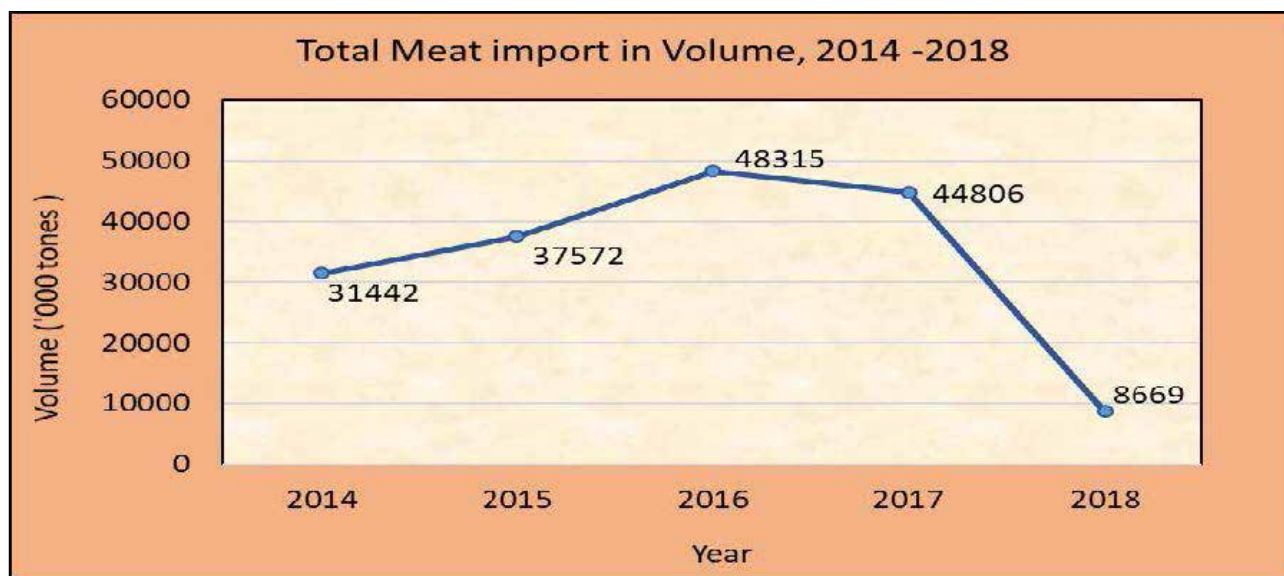


Appendix 2: PNG's Food Imports

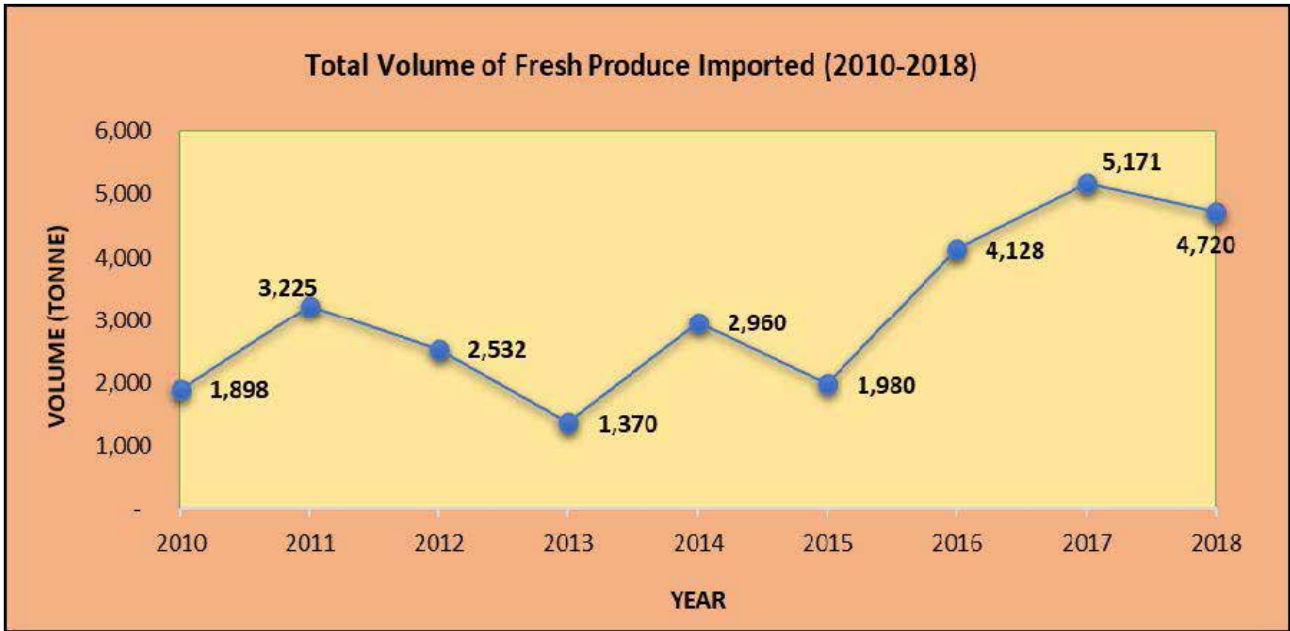
a) PNG's Value of Imported Food between 2010 and 2017



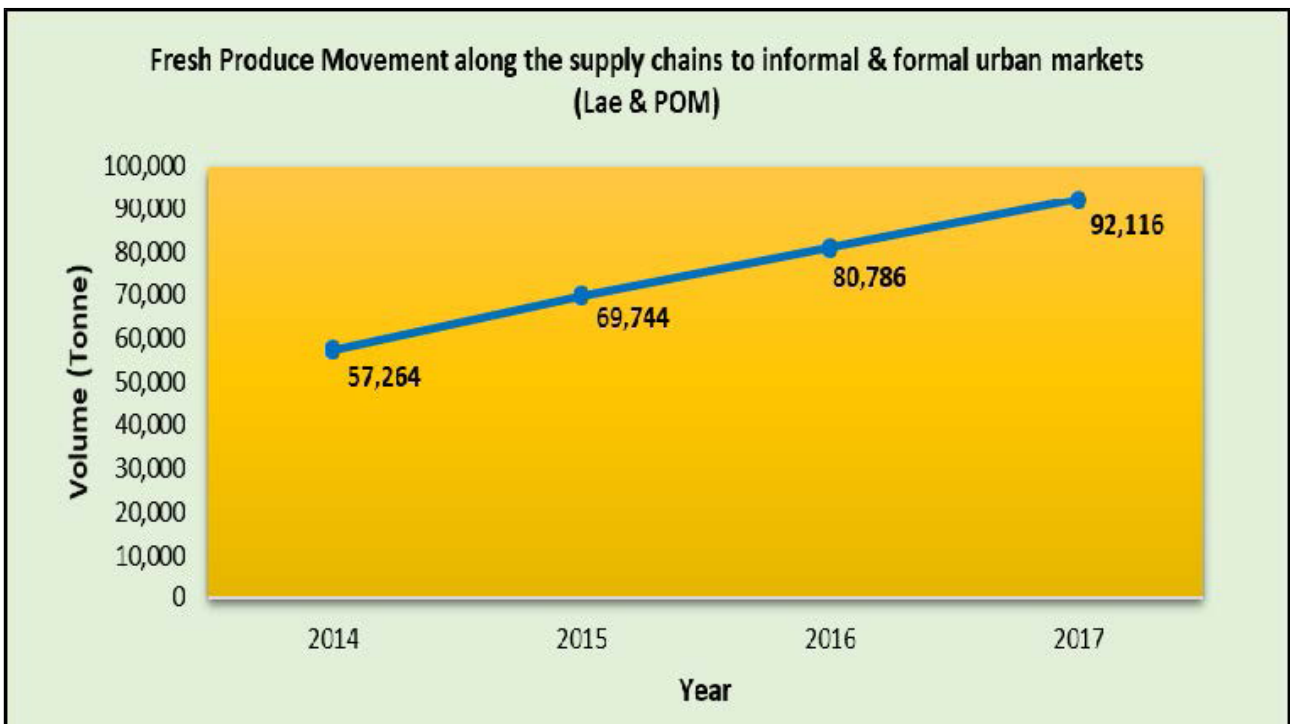
b) PNG's Meat Products Import Volume and Value



c) Fresh Produce Imports Volume



d) Fresh Produce Movement to markets



Appendix 3: Sector programs and responsible agencies and recommended reforms under FER.

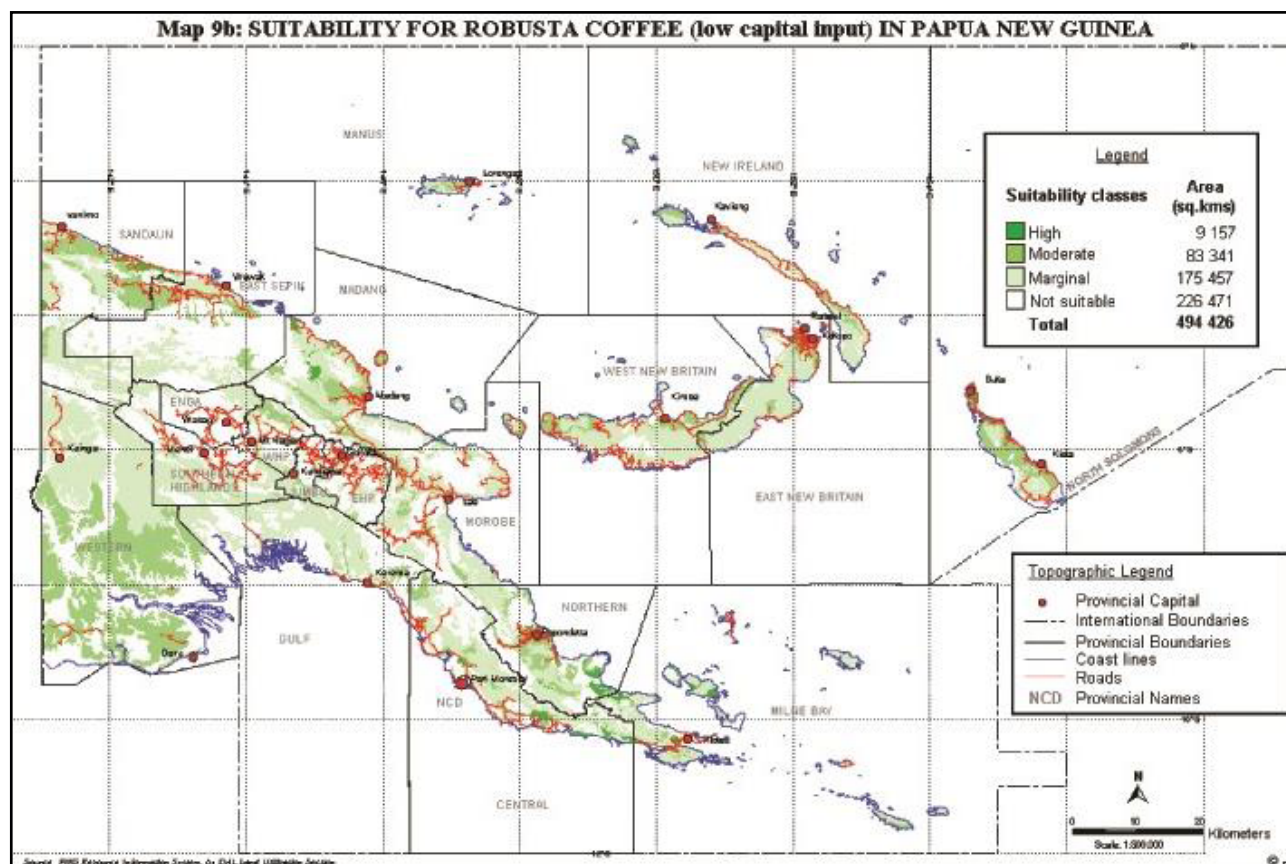
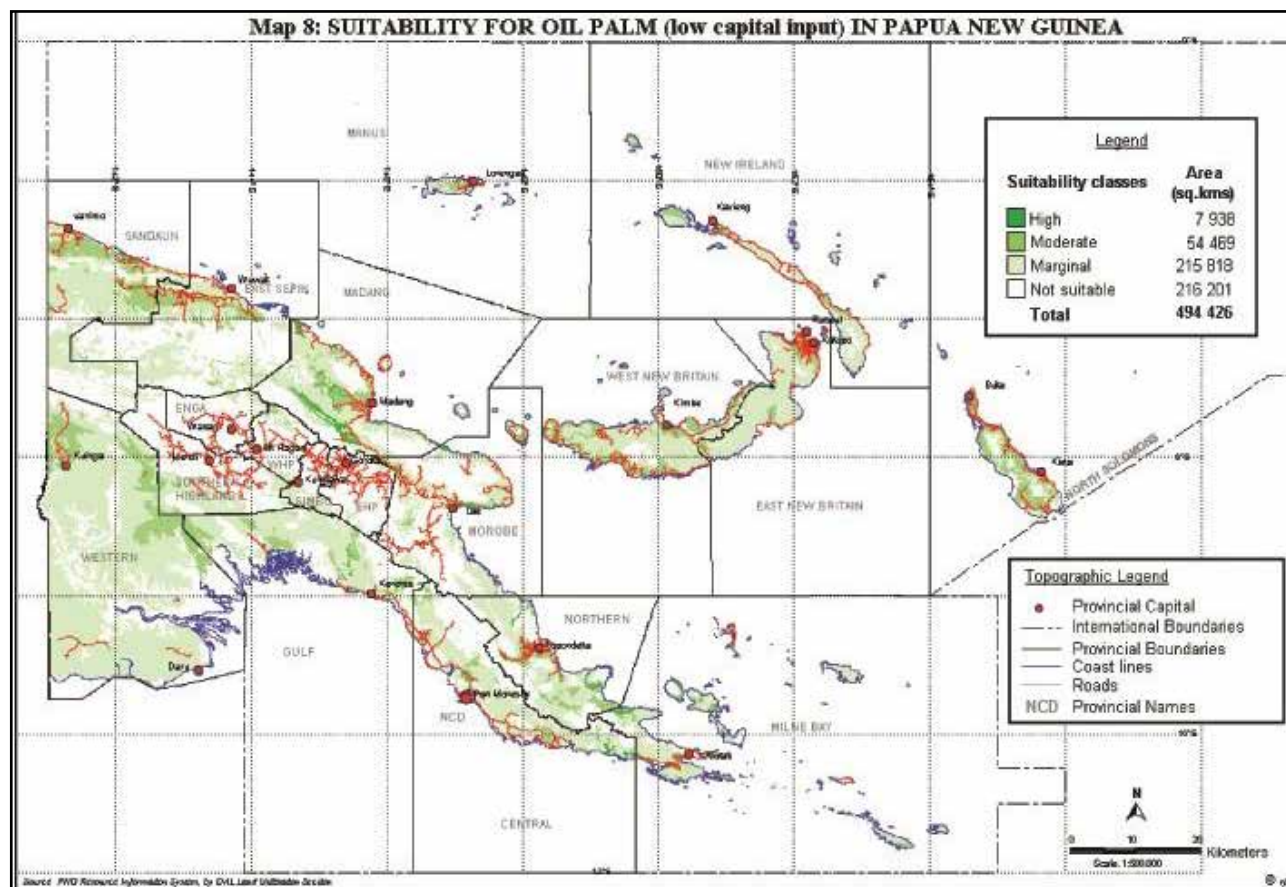
Agriculture & Livestock	Agency	Function	Recommended Reforms (FER)
Program 1 - Sector Coordination and Management	DAL	Coordinate and manage the sector	Fast-track the passage of the enabling legislation - AAA and AIC Acts. The legislative frameworks will elevate DAL's role to apex sectoral body, and redefine its core functional responsibilities.
Sub-sectors			
Program 2 - Palm Oil	OPIC	Palm Oil industry provides extension services	Repeal the OPIC Act, and transfer assets and the oil palm extension function to a new Oil Palm Board.
Program 3 – Coffee	CIC	Coffee industry provides regulatory, research & extension services	Undertake a reorganization review based on the new Industry Strategic Plan and CIC Strategic Business Plan. This should be followed by a complete review of the CIC (Statutory Functions & Powers) Act 1991. CIC is unique because it is a statutory corporation as well as a company registered under the Companies Act.
Program 4 – Cocoa	Cocoa Board	Cocoa industry provides regulatory services	Amendment of Cocoa Board Act has commenced awaiting Ministerial and NEC Approvals
Program 5 – Coconut	KIK	Coconut industry provides regulatory services	Amendment of the KIK Act and the review of the KIK Business Plan.
Program 6 – Rubber	Rubber Board	Rubber Industry Board provides extension services to smallholder rehabilitation & expansion program	The Rubber Board Act is obsolete and is to be repealed after a new Rubber Development Board Act is enacted
Program 7 – Rice	DAL	Coordinate training and extension for smallholder rice farmers. Also produce rice seeds and supply to farmers	Rice industry will come under Rice and Grain Board



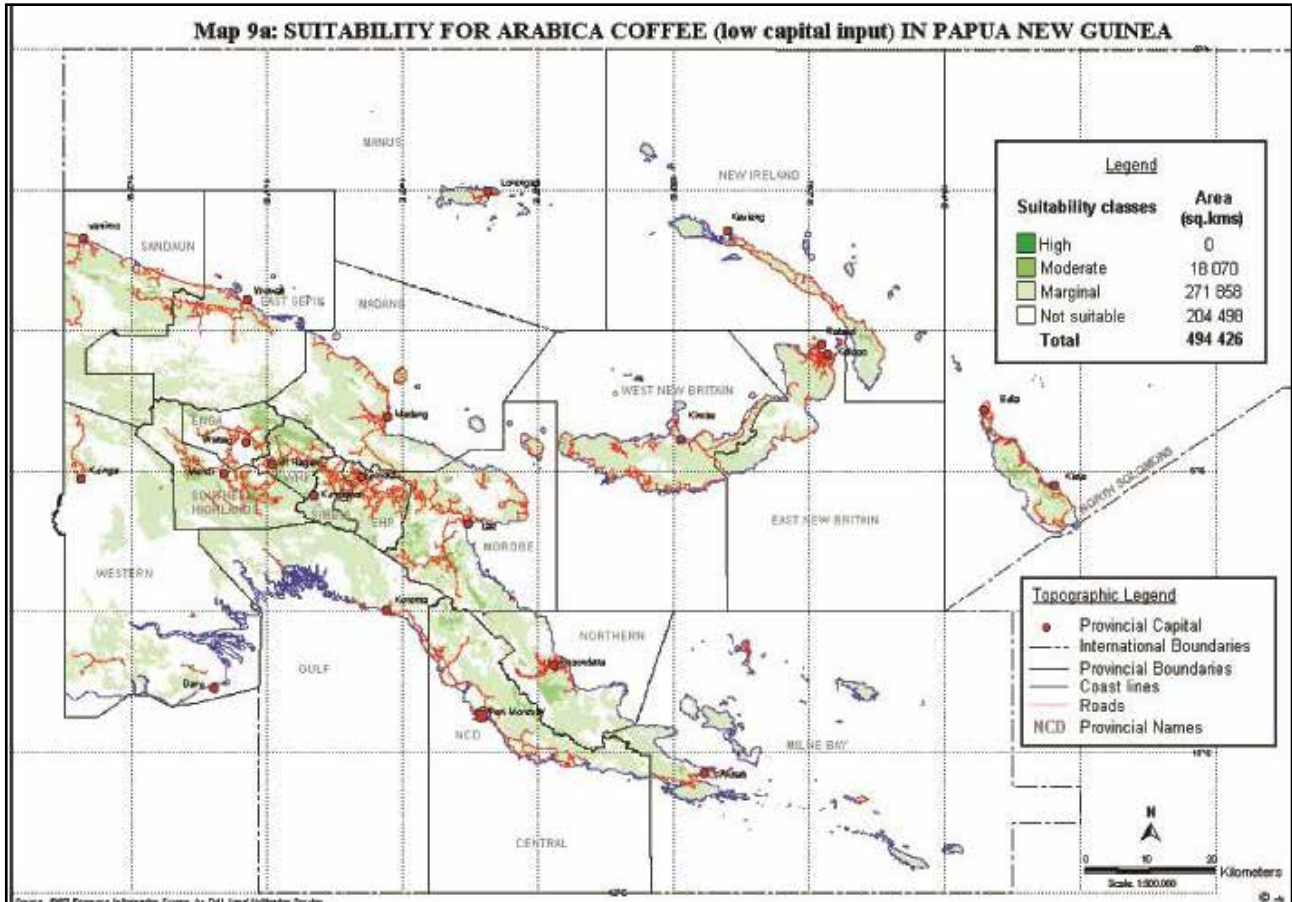
Program 8 – Livestock	LDC	Livestock facilities rehabilitation and provide training, and regulatory services	This company be liquidated and its assets and livestock production and marketing function be transferred to new corporate entity, Livestock Development Board, under a new legislative framework
Program 9 - Food Security	DAL	Coordinate food security programs at provinces/districts	
Program 10 - Fresh Fruits and Vegetables	FPDA	Training and extension support for Fresh Fruits, vegetables and horticultural industry and provide regulatory services	This company be liquidated and its assets and fresh food production, marketing and extension functions be transferred to a new corporate entity, Food and Grains Board, under a new legislative framework.
Program 11 - Spice	Spice Board	Coordination and management of spice programs in provinces/ districts and provide regulatory services	The Spice Industry Board Act be repealed and its assets and production, marketing and extension functions be transferred to a new corporate entity, Food and Grains Board, under a new legislative framework.
Program 12 - Agriculture and Livestock Research and Extension	NARI	Carryout agricultural research and extension for farmers in provinces/districts.	A new Prime Ministerial Determination be made to transfer NARI and its Act from the Ministry of Higher Education Research and Technology to the Ministry of Agriculture. The NARI Act be repealed, and its assets research and development functions be transferred to a Food and Grains Board, under a new legislative framework.
Program 13 - Agriculture and Livestock Quarantine inspection	NAQIA	Carryout quarantine and bio-security on agricultural and livestock imports and exports & provide regulatory services on food safety and standards	Finalize and enact a new Biosecurity Act.



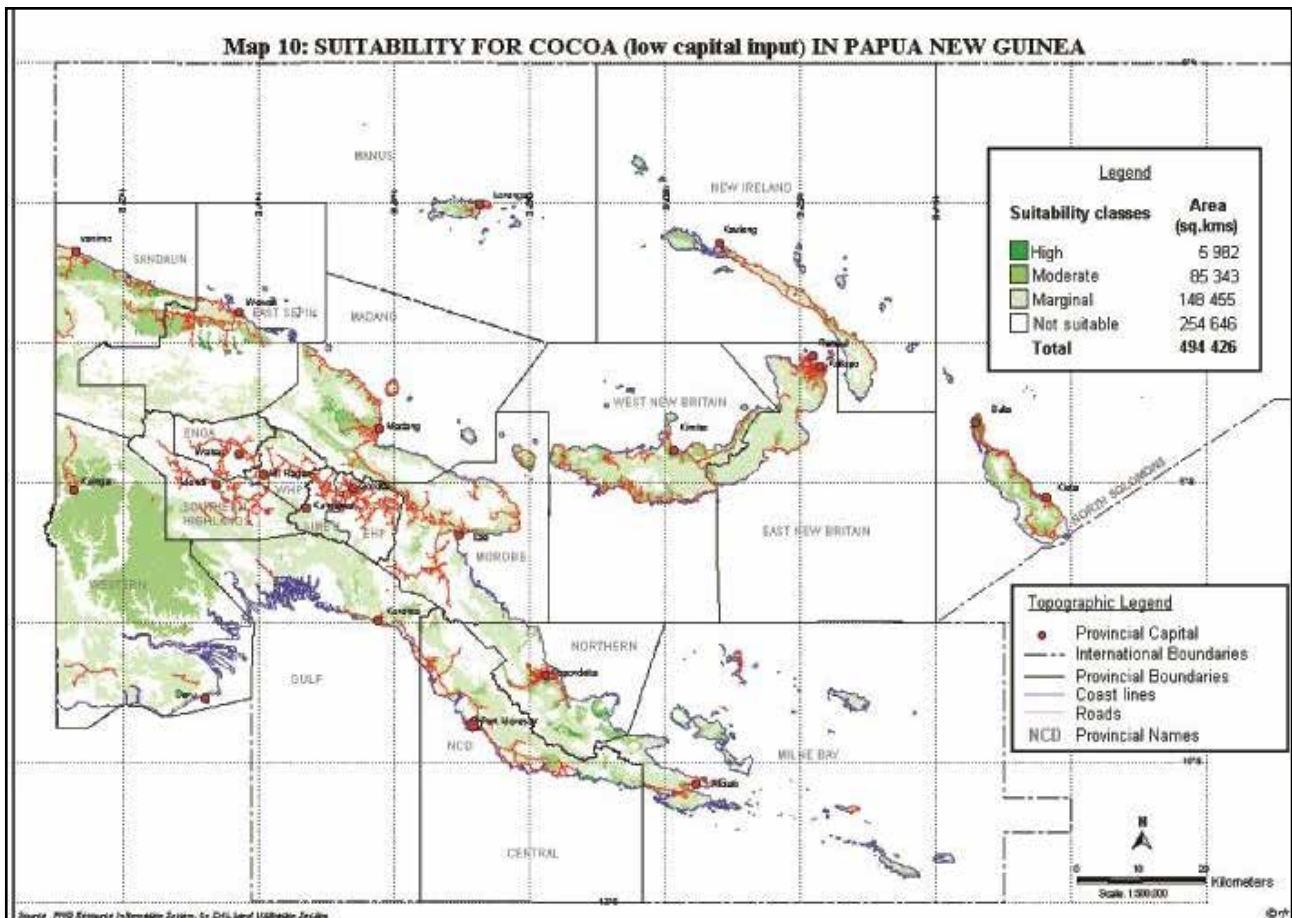
Appendix 4: Suitability Maps of Major Cash Crops, Food Crops, Livestock and Spices in PNG



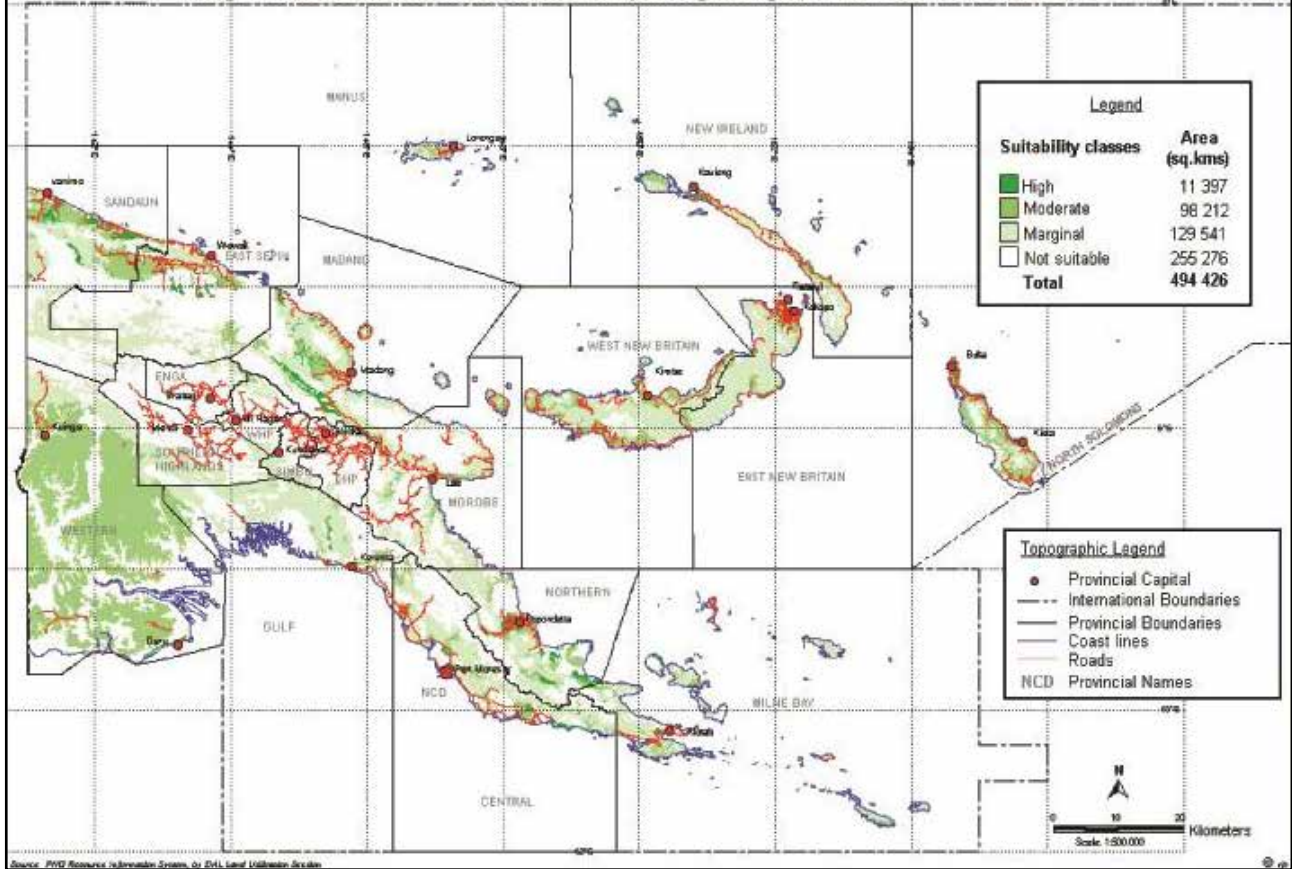
Map 9a: SUITABILITY FOR ARABICA COFFEE (low capital input) IN PAPUA NEW GUINEA



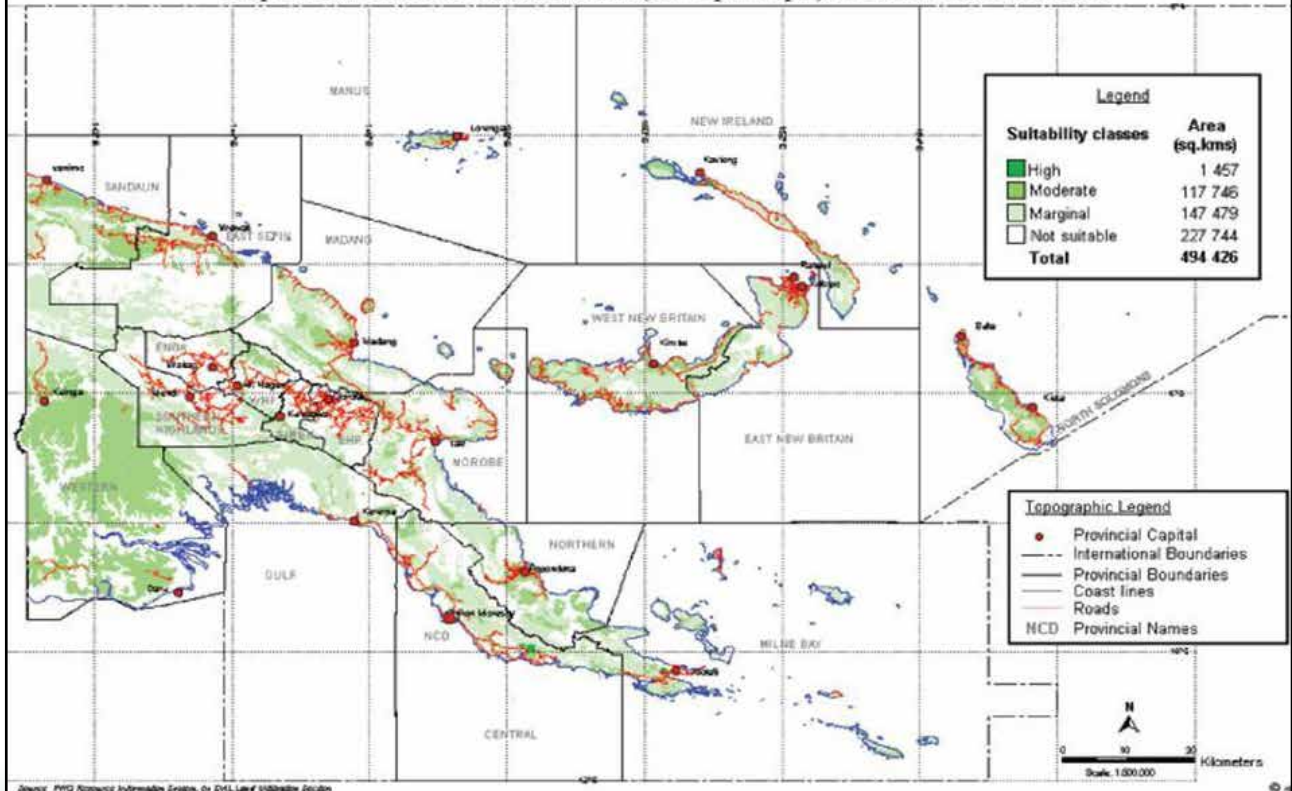
Map 10: SUITABILITY FOR COCOA (low capital input) IN PAPUA NEW GUINEA



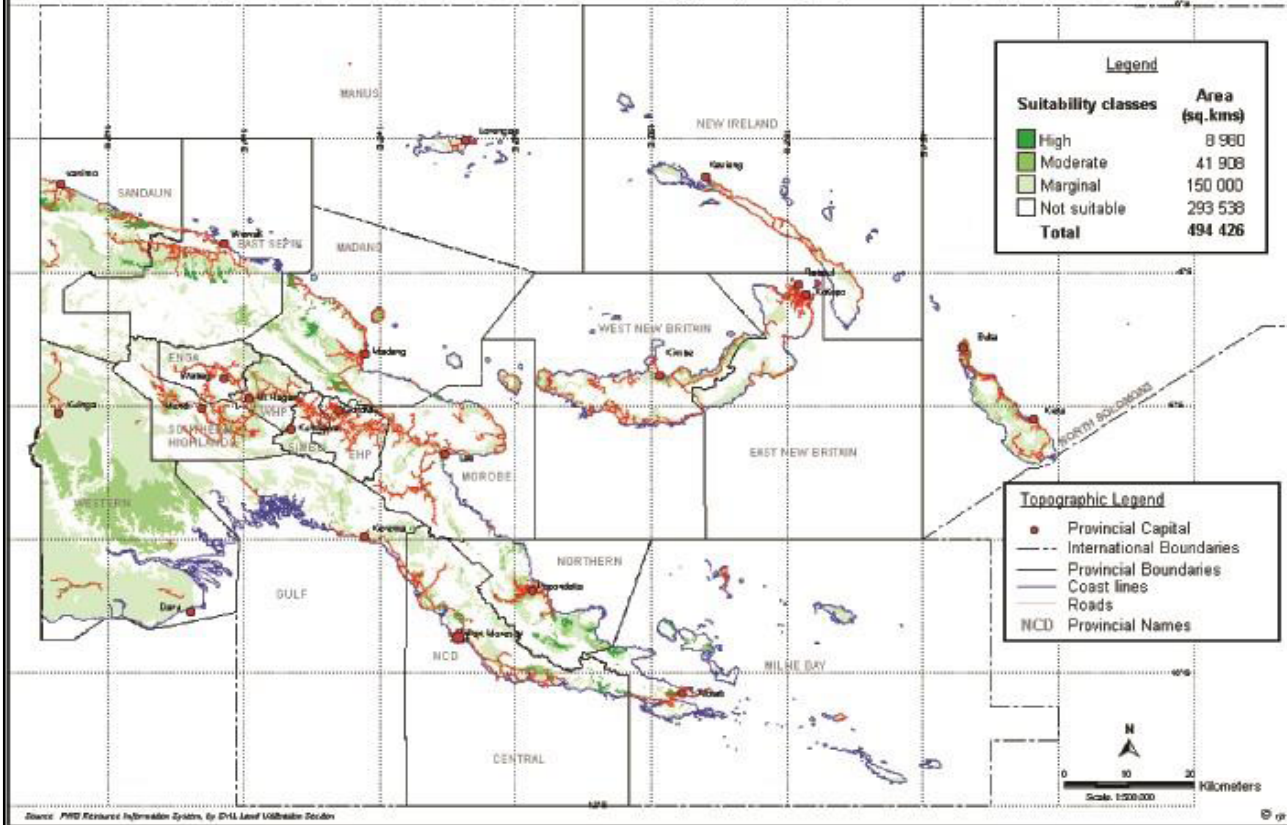
Map 11: SUITABILITY FOR COCONUT (low capital input) IN PAPUA NEW GUINEA



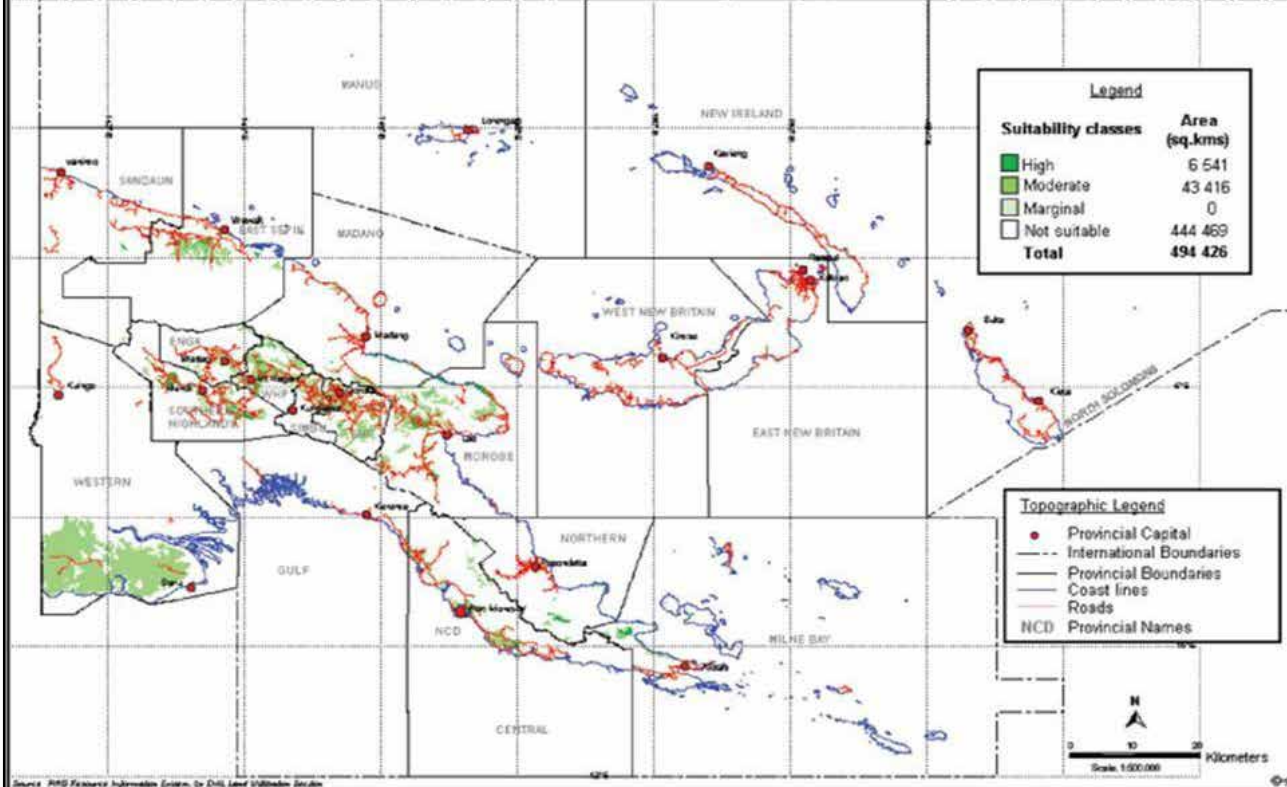
Map 12: SUITABILITY FOR RUBBER (low capital input) IN PAPUA NEW GUINEA



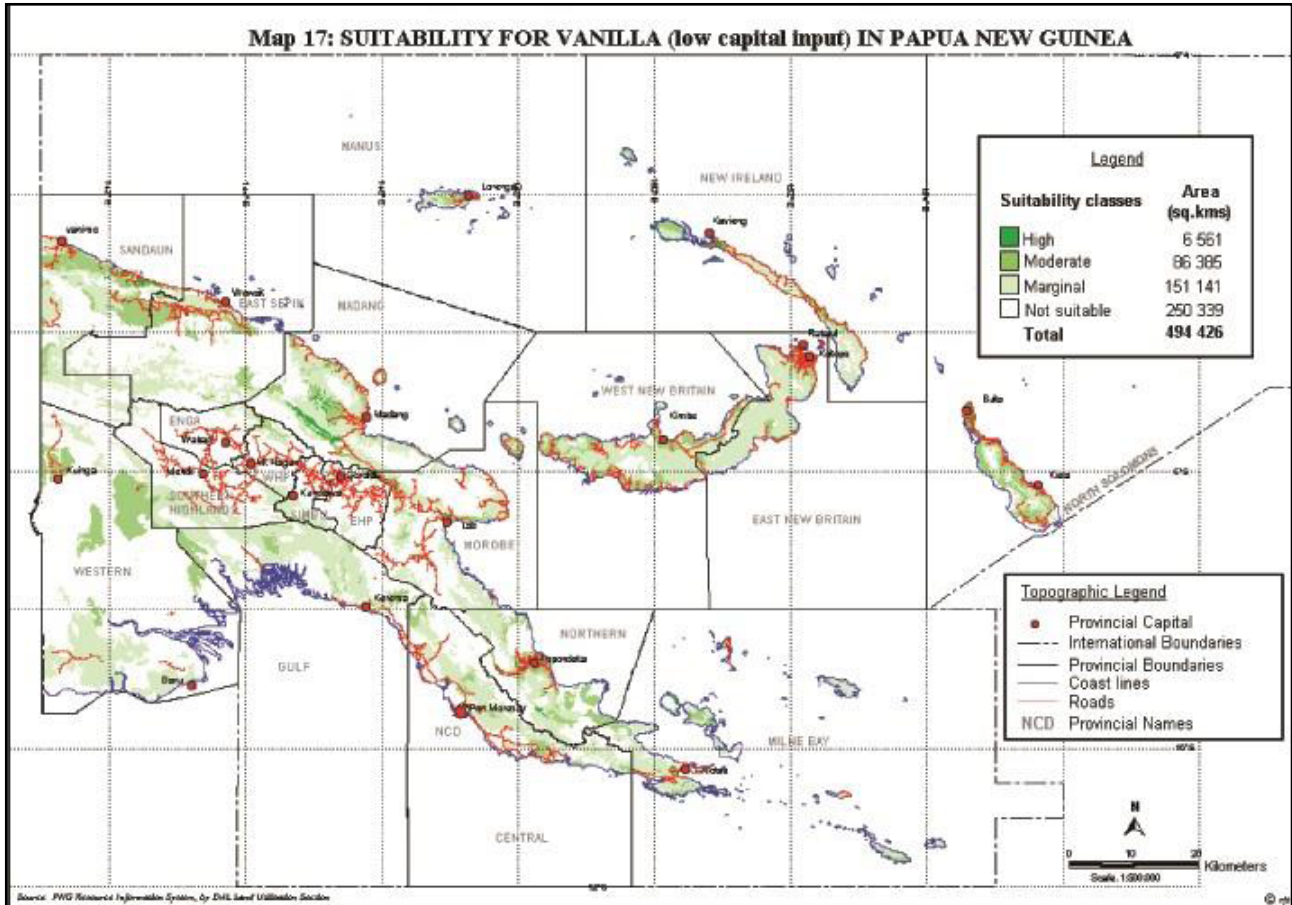
Map 1: SUITABILITY FOR UPLAND RICE (high capital input) IN PAPUA NEW GUINEA



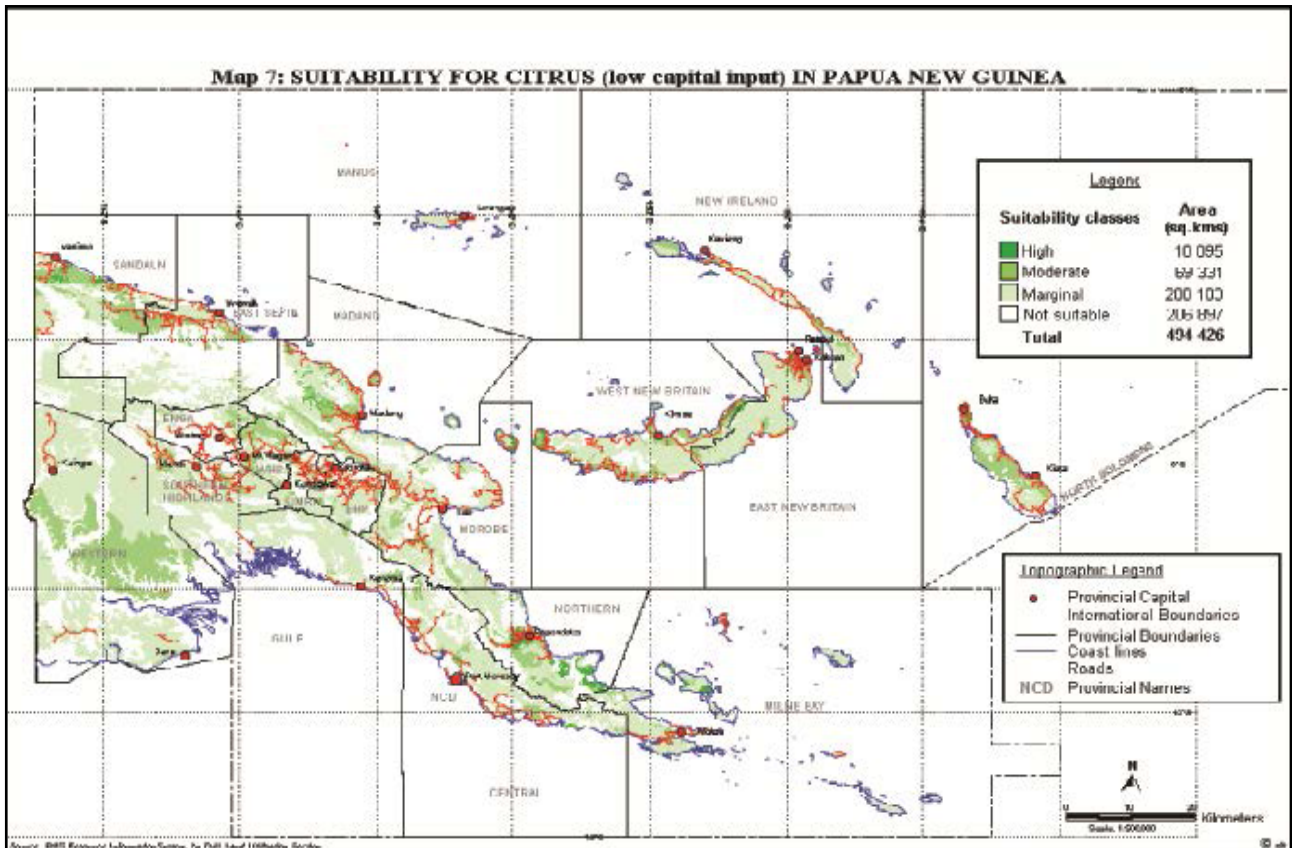
Map 18: SUITABILITY FOR PASTURE (low capital input) IN PAPUA NEW GUINEA



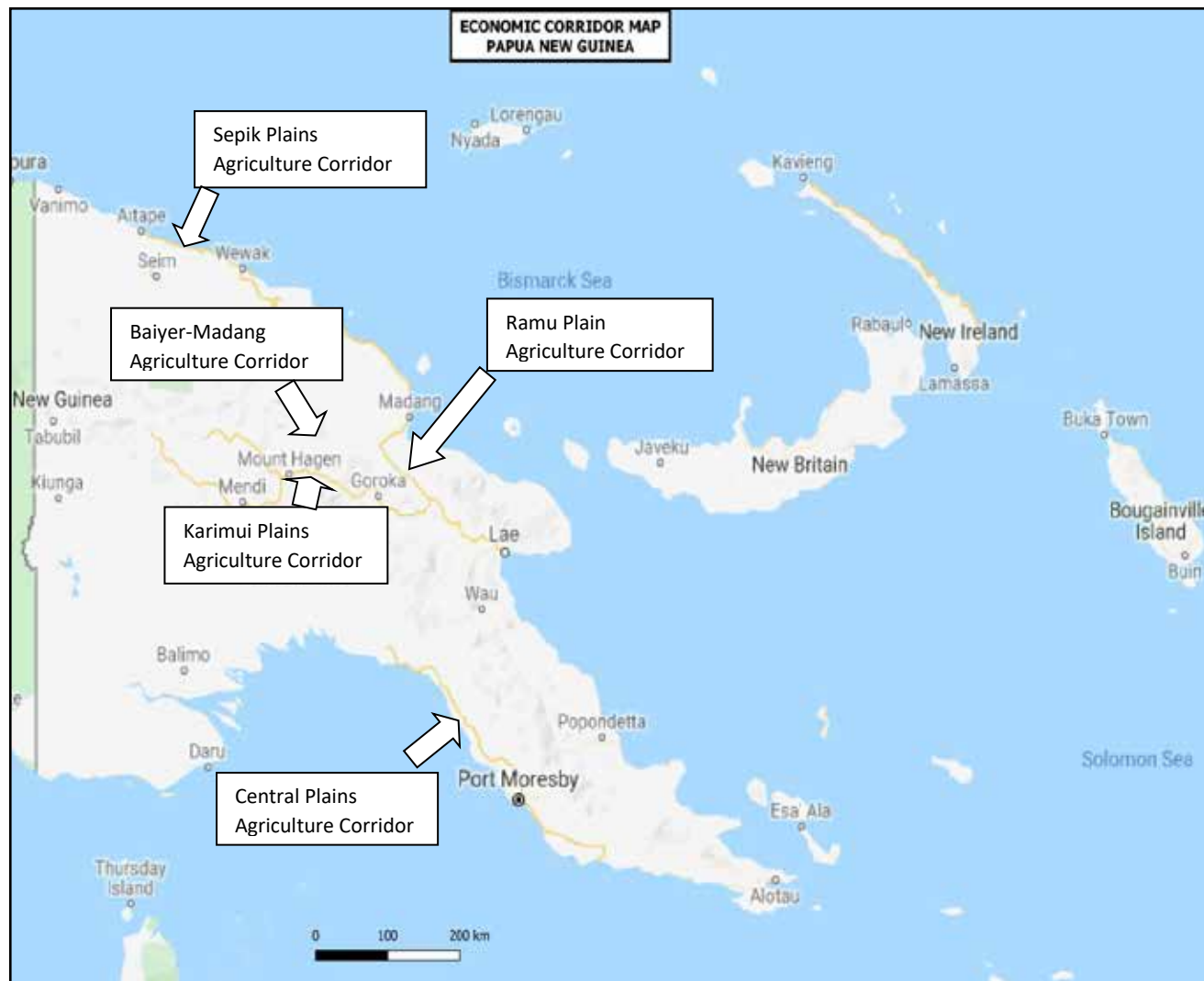
Map 17: SUITABILITY FOR VANILLA (low capital input) IN PAPUA NEW GUINEA



Map 7: SUITABILITY FOR CITRUS (low capital input) IN PAPUA NEW GUINEA



Appendix 5: PNG Economic Corridor Map



Appendix 6: Monitoring and Evaluation

a) GoPNG M&E and Annual Budget Process

Table 7.2 MTDP III M&E and Annual Budget Process

Steps	M&E Process	Annual Budget Process	Requirements and appropriate format	Target group
Step 1:	Setting Goals for the Agency annual M&E plan & establishment of the M&E unit/team	Agencies prepare budget submissions and annual priorities. Agencies submit annual work plan and cash flow plan (AWPCF). Due: 31 January of each year	All State agencies must set goals or purpose for their annual M&E plan (to meet both internal and MTDP III information needs); M&E unit established with designated technical and data management staff and budget for M&E and linked to Sector M&E working group.	Heads of Departments & Agencies (HDAs), and heads of executing organisations.
Step 2:	Deciding what to Monitor, Evaluate and Report	DNPM's AWPCF appraisal Due: Feb -March of each year DNPM recommendation on Sector priorities & Capital estimates Due: April - June of each year	Well-defined PIP project plans with clear goals, targets and operational plans outlined in Project Formulation Document. Once validated by DNPM, the project is ready for funding. Articulating the agency/sector result framework or logical framework (logframe) that supports MTDP III's priority programmes and projects with clear: Goal/Outcome, Indicator Baseline and Targets	DNPM, HDAs, Planners, Development Partners, executing units and other stakeholders
Step 3:	Conducting Monitoring	Quarterly budget reviews Mid-year Economic and Fiscal Outlook - Reports on outcomes of major projects Due: April – November of each year	Agencies should monitor MTDP III through: Quarter reviews/evaluations of the progress of the implementation of the PIP projects and MTDP III plans (see annexes for M&E templates) Capital Investment Project Report (CIPR) - Annex 2 Capital Investment Sector Summary Report - Annex 3 MTDP3 Sector Quarter Progress Report – Annex 4 Development partners aid monitoring	DNPM, DOT, DOF, HSAs, Planners, Development Partners, executing units, M&E teams and other stakeholders
Step 4:	Collecting and analysing Information	Budget Strategy Paper formulation (Setting of MTDP & sectoral priorities) Due: End of July of each year	Making sense of agency/sector information which provide progress of and clues to problems that arise during PIP project and MTDP III implementation and create opportunities for improvement.	DNPM, DOT, DOF, Sector Lead Agencies, executing units, M&E teams and other stakeholders



Step 5:	Taking Action	<p>Technical discussion between agencies and DNPM/DOT</p> <p>Project selection based on criteria and agency performance</p> <p>Cabinet Budget committees</p> <p>Project selection based on criteria and agency/sector performance</p> <p>Due: July – October of each year</p>	<p>This involves:</p> <p>Recommendations to the Strategic Budget Committee;</p> <p>Intensive discussions with agencies;</p> <p>Funding suspension/termination of non-performing programmes or projects;</p> <p>Up scaling of promising projects;</p> <p>Building on the strengths of the planning and budgeting process; and</p> <p>Making necessary changes on MTDP III priorities and targets.</p>	<p>DNPM, DOT, DOF, Sector Lead Agencies, HSBs, executing organisations, M&E teams and other stakeholders</p>
Step 6:	Undertaking Evaluation	<p>Lock-up Summary & Highlights of Current Budget achievements</p> <p>Due: November – December of each year</p>	<p>Annual PIP Project Review/Evaluation</p> <p>Annual, mid-term and final (summative) review/evaluation of the MTDP III to inform the annual planning and budgeting process and build on the next MTDP formulation.</p> <p>An overall national level MTDP III and PIP projects data dissemination plan developed and implemented.</p>	<p>DNPM, DOT, DOF, Sector Lead Agencies, implementing organisations, M&E teams and other stakeholders</p>



b) Quarterly Program/Project Review Forms

Table 1: Agency Summary

For Departments, Statutory Authorities and Provinces		Table 1		
2020 NATIONAL BUDGET - AGENCY SUMMARY				
Agency:				
SECTOR/AGENCY FIRST QUARTERLY PROGRESS REPORT (ASSOCIATED WITH MTDP IMPLEMENTATION)				
Sector Agency's programs, projects and activities alignment to MTDP II and Agency's Vision Statement Sector Lead Agency Sector Goal Supporting Sector Departments/Agencies Contact Person - Designation Quarter - Reporting Period				
Details	2019	2020	2021	2022
Total Annual Appropriation (K) Capital Investment Expenditure (K) Operational Expenditure (K)				
Actual Warrant released to date against Annual Appropriation (Amount (K) & Percentage) Capital Investment Expenditure (K) Operational Expenditure (K)		Comments		
Previous Quarter Roll Over (K)				
Total Current Quarter Budget Capital Investment Expenditure (K) Operational Expenditure (K)				
Actual Expenditure against Quarter warrant released (Amount (K) & Percentage) Capital Investment Expenditure (K) Operational Expenditure (K)				
Progress Report in regard to Non Financial Instructions		Yes/No		
Budgetary Issues				
I hereby certify that all the information provided in this report is correct				
Name of Accounting officer:		Signature:		

Note: All agriculture sector agencies who receive investment funding from the GoPNG should complete the 10 Quarterly Review Forms (Tables) including Table 1 above as Agency Summary and submit to the National Project Steering Committee (NPSC) in DAL during the quarterly project reviews.



