Coconut Industry
Strategic Plan
2016 – 2025

Coconut for Life and Wealth...
Coconut Industry Strategic Plan
2016 – 2025

Kokonas Indastri Koporesen of Papua New Guinea
PORT MORESBY

July 2016
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ACKNOWLEDGEMENTS

The Kokonas Indastri Koporesen (KIK) of Papua New Guinea (PNG) Board of Directors and Management take this opportunity to express their sincere gratitude to all those who contributed and participated in crafting this coconut industry strategic plan (Coconut-ISP) 2016–2025. The Coconut-ISP 2016–2025 is the culmination of the consultation and collaboration between KIK management with the coconut industry stockholders and stakeholders.

Specifically, we wish to express our deepest appreciation to the coconut industry stockholders and stakeholders for their participation and contributions at the gap analysis workshop. The willingness of farmers, processors, traders, researchers, and others along the coconut industry value chain in sharing their ideas and experiences on the industry added much value to the final Coconut-ISP 2016-2025. Without their support we would not have been able to reconcile some of the gaps and deficiencies we overlooked during the planning and drafting process.

KIK appreciates the efforts of the lead facilitator of the strategic planning process, Dr Eric Omuru for his technical guidance in adopting the agriculture research for development (AR4D) conceptual framework to anchor the Coconut-ISP 2016-2025 and the industry planning team for their contributions. The planning team was set up to: conduct a subsector review of the current state of the coconut industry; scope and establish the Vision, Mission, Organizational Goal and Purpose, Core Values, Thematic Programs and Key Strategies; establish a Results Framework, prepare a Draft Strategic Plan and finalise the strategic plan after a stockholder and stakeholder gap analysis workshop.

In addition, the draft Coconut-ISP was critically reviewed by three external reviewers, namely: Ted S Sitapai, Jane Ravusiro and Uron Salum. The KIK extends its appreciation for their insightful comments and inputs that contributed to improving the final product.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAA</td>
<td>Agriculture Administration Adjustment Bill</td>
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<tr>
<td>AIC</td>
<td>Agriculture Investment Corporation Bill</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
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<td>AIS</td>
<td>Agricultural Innovation System</td>
</tr>
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<td>APCC</td>
<td>Asian Pacific Coconut Community</td>
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<td>AR4D</td>
<td>Agricultural Research for Development</td>
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<td>ARoB</td>
<td>Autonomous Region of Bougainville</td>
</tr>
<tr>
<td>BPNG</td>
<td>Bank of Papua New Guinea</td>
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<tr>
<td>CB</td>
<td>Cocoa Board of Papua New Guinea</td>
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<tr>
<td>CCEA</td>
<td>Cocoa and Coconut Extension Agency</td>
</tr>
<tr>
<td>CCIL</td>
<td>Papua New Guinea Cocoa Coconut Institute Limited</td>
</tr>
<tr>
<td>CCRI</td>
<td>Papua New Guinea Cocoa and Coconut Research Institute</td>
</tr>
<tr>
<td>CIC</td>
<td>Coffee Industry Corporation</td>
</tr>
<tr>
<td>CIRAD</td>
<td>La recherche agronomique pour le developpement</td>
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<tr>
<td>Coconut-ISP</td>
<td>Coconut Industry Strategic Plan</td>
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<td>COGENT</td>
<td>The International Coconut Genetic Resources Network</td>
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<tr>
<td>COP</td>
<td>Cost of Production</td>
</tr>
<tr>
<td>DAL</td>
<td>Department of Agriculture and Livestock</td>
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<tr>
<td>DDA</td>
<td>District Development Authorities</td>
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<tr>
<td>DLPP</td>
<td>Department of Lands and Physical Planning</td>
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<tr>
<td>DSP</td>
<td>Development Strategic Plan</td>
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<tr>
<td>ENBP</td>
<td>East New Britain Province</td>
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<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<tr>
<td>FAD</td>
<td>Finance and Administration Division</td>
</tr>
<tr>
<td>FER</td>
<td>Functional and Expenditure Review</td>
</tr>
<tr>
<td>FOB</td>
<td>Free-on-board price</td>
</tr>
<tr>
<td>FOSFA</td>
<td>Federation of Oils, Seeds and Fats Associations Ltd</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GoPNG</td>
<td>Government of Papua New Guinea</td>
</tr>
<tr>
<td>HACC</td>
<td>Hazard Analysis and Critical Control Point</td>
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<td>HDI</td>
<td>Human Development Index</td>
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Coconut for Life and Wealth

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HVCP</td>
<td>High Value Coconut Product</td>
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<tr>
<td>IAD</td>
<td>Industry Affairs Division</td>
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<tr>
<td>ICCC</td>
<td>Independent Consumer &amp; Competition Commission</td>
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<tr>
<td>ICG-SP</td>
<td>International Coconut Genebank for South Pacific</td>
</tr>
<tr>
<td>KIK</td>
<td>Kokonas Indastri Koporesen</td>
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<tr>
<td>LLG(s)</td>
<td>Local Level Government(s)</td>
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<tr>
<td>LNG</td>
<td>Liquefied Natural Gas</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<tr>
<td>MEAC</td>
<td>Ministerial Executive Appointments Committee</td>
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<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MOV</td>
<td>Means of Verification</td>
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<tr>
<td>MSME</td>
<td>Micro, Small and Medium Enterprises</td>
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<tr>
<td>MTDP</td>
<td>Medium Term Development Plan</td>
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<tr>
<td>NADP</td>
<td>National Agriculture Development Plan</td>
</tr>
<tr>
<td>NAQIA</td>
<td>National Agriculture Quarantine &amp; Inspection Authority</td>
</tr>
<tr>
<td>NARI</td>
<td>National Agriculture Research Institute</td>
</tr>
<tr>
<td>NARS</td>
<td>National Agriculture Research System</td>
</tr>
<tr>
<td>NEC</td>
<td>National Executive Council</td>
</tr>
<tr>
<td>NISIT</td>
<td>National Institute of Standards and Industrial Technology</td>
</tr>
<tr>
<td>NLO</td>
<td>National Liaison Officer</td>
</tr>
<tr>
<td>NSO</td>
<td>National Statistics Office</td>
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<tr>
<td>OVI</td>
<td>Objectively Verifiable Indicator</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>PG(s)</td>
<td>Provincial Government(s)</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnerships</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RSA</td>
<td>Regulated Statutory Authority</td>
</tr>
<tr>
<td>SME</td>
<td>Small to Medium Enterprise</td>
</tr>
<tr>
<td>SRS</td>
<td>Stewart Research Station</td>
</tr>
<tr>
<td>TPC</td>
<td>Technical Planning Committee</td>
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<tr>
<td>UN-ESCAP</td>
<td>United Nations Economic and Social Commission for Asia Pacific</td>
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FOREWORD

The coconut industry is the fourth most significant agriculture cash crop in terms of its economic importance to PNG. According to the most recent national census figures, a total of 464,328 households (35% of the total households in PNG or an estimated 2.6 million people) are engaged in coconut activities in PNG to either generate income and/or as food to supplement their livelihoods. From this sum, 134,655 (29%) were engaged in cash generating activities whilst 329,673 (71%) were engaged for their own use. The latter reflects the importance of the coconut as a food item throughout the country, from the coastal regions where it is predominantly grown to the highlands of PNG where it has become an important food item in the daily diets. On average, the industry contributes over K126.5 million per year to the PNG economy through the export revenue it generates. The KIK estimates that over 70% of this is usually transmitted directly to copra producers. Therefore, this Coconut Industry Strategic Plan (Coconut-ISP) 2016–2025 that provides the strategic direction of the industry is vital and extremely important considering its significance to the rural peoples’ welfare and the national economy.

The coconut industry played a significant part in the colonial days and in the lead up to Independence in terms of its contribution to the national economy in generating revenue and providing employment for a colony contemplating self-government and eventual independence. As other cash crops grew in economic importance and the mineral sector boomed the coconut industry has been displaced in economic importance but has maintained its social importance as a ‘must use’ ingredient in every PNG families’ food preparation and will remain so for many years to come.

The coconut industry has some major challenges to address and these are reflected in the conceptualization of this industry strategic plan, and the way forward for the next decade. Amongst the most defining challenges are the implications of the Government commissioned Functional and Expenditure Review (FER), giving rise to the emergence of the two key pieces of legislations, namely: the PNG Agriculture Administrative Adjustment (AAA) Bill and the Agriculture Investment Cooperation of PNG (AIC) Bill. The Final FER Report and the emergence of the AAA and the AIC legislations are important to direct and define the roles of the agriculture sector and the coconut industry in PNG.

When the Final FER Report was approved by the National Government in 2014, it also paved the way for the transfer and subsuming of the coconut R&D component at the Cocoa Coconut Institute Limited (CCIL) to the KIK, which has the mandated responsibility on policy and regulatory functions of the coconut industry. The subsuming of the CCIL coconut R&D functions has been considered carefully in this strategic plan and is reflected in the thematic program areas. An added dimension to this alignment is the move toward orientating the thinking of the KIK toward promoting and facilitating the adoption and utilization of research-induced technologies by farmers, existing and potential processors and traders and developing these into business opportunities for investment in the coconut industry.

The vision, mission, organisational goal and purpose, core values, thematic programs areas and their functionalities are now in place to steer the coconut industry forward as we progress to

I now commend the Coconut-ISP 2016-2025 to the coconut industry and urge the Managing Director and his management team to be focused and result oriented in working towards achieving the aspirations of this strategic plan for a dynamic, prosperous and sustainable coconut industry in PNG.

**Kili Tambua**  
Chairman – KIK Board of Directors
Coconut for Life and Wealth

MANAGING DIRECTOR’S OVERVIEW

“The best way to predict the future is to create it” – Abraham Lincoln

Kokonas Industri Koporesen (KIK) has adopted the AR4D approach to scope this Coconut-ISP 2016 – 2025 as a way forward for addressing the important industry challenges from an innovative perspective over the next ten years. The unique aspect of AR4D approach is that it demands a collective focus on key priorities, as determined and shaped by the application of science principles in addressing the needs of the wider society. There are two important advantages for the coconut industry in adopting the AR4D approach, which are highlighted below.

Firstly, the adoption of the AR4D approach makes it imperative that the transfer of coconut R&D functions and their programs from the Cocoa Coconut Institute Limited to KIK is a must under the FER initiated agriculture reforms. Thus, KIK will position itself not only as a niche regulatory agency but also focus on its core coconut Research and Development (R&D) functions to provide solutions for growing the coconut based enterprises and thereby ensuring the viability of the industry in the long term.

Secondly, this approach shall ensure that the industry focus on coconut innovations is not diminished and there is true and effective partnership between coconut research and those it serves. This is critical for the coconut industry today, as KIK strives to access new knowledge and technologies on coconut production and processing, marketing and addressing the emerging biosecurity threats to the industry such as from Bogia Coconut Syndrome.

The five (5) thematic program areas identified in the Coconut-ISP have been scoped with the conviction that they will contribute towards addressing the current coconut industry challenges that have been affecting the performance of the industry in the last four decades since independence.

The effective implementation and management of the Coconut-ISP should result in the thematic program areas impacting positively on the livelihoods of stockholders and other partners along the coconut industry value chain. KIK as the custodian of the industry will ensure that an enabling environment and policy change through advocacy is maintained.

KIK needs to be adequately resourced in order to successfully implement the Coconut-ISP and for it to have a positive impact on the appropriate segments of the coconut industry in the next decade. The funding support from National Government, Provincial Governments, District Development Authorities and Donors will be required to successfully develop the industry in the provinces and districts.

The Coconut-ISP lays the foundation for ensuring that KIK and its stakeholders will be focused and result oriented in creating a better and a prosperous future for the coconut industry for the benefit of everyone along the industry value chain.

Dr James V Kaiulo (PhD)
Managing Director
EXECUTIVE SUMMARY

The Kokonas Ind stri Koporesen (KIK) initiated the development of this new coconut industry strategic plan partly in response to the FER of Commodity Boards and Agencies (CBAs) in PNG recommendation that the coconut research and development (R&D) functions currently conducted by the PNG Cocoa Coconut Institute Limited (CCIL) be subsumed into the KIK. A major thrust of this new strategic plan amongst others is to accommodate that integration, and orientate the thinking of the KIK towards adoption and utilization of research-induced technologies and develop these into business opportunities for investment in the coconut industry.

The Strategic Planning Process

The KIK engaged an external consultant who provided advice and facilitated the strategic planning process and drafting of a new strategic plan for the industry. The new strategic plan will become the guiding document for formulating and implementing coconut industry policies and amending the legislative framework that will govern the new look coconut industry board.

Two iterative and participatory plenary workshops were conducted. These were used to define and develop the vision, mission, core values, industry goal and purpose and the results framework necessary to achieve the mission in pursuit of the vision.

In addition, the Coconut Industry Strategic Plan 2012 – 2021 was reviewed and highlighted the achievements and challenges that were encountered in first four years of its implementation.

Following the above, a major stockholder and stakeholder gap analysis workshop was facilitated to review the draft coconut-ISP 2016 – 2025 and generate inputs to improve and clarify any existing gaps. In addition, three external reviewers were engaged to review and provide critical comments and inputs. These have added much value to the final draft of the strategic plan.

Development Context

National and Sectoral Policies and Development

Understanding the national and sectoral policies and development contexts in which the coconut industry pursues its development and growth initiatives is critical as the KIK considered a strategic plan for the coconut industry. Specifically, understanding of the major issues is pertinent and critical as it examines the issues and then considers policy and development responses or interventions that will go towards realising the potential of the PNG coconut industry and make it a significant player in the agriculture sector of PNG.

Agriculture sector reforms and implications for the PNG coconut industry

The FER recommendations will have a direct bearing on the commodity boards and agencies in PNG. The coconut industry is no exception. Specifically, the proposed new legislations for the PNG agriculture sector, namely: AAA Bill and AIC Bill and their implications for the KIK Act 2002 and the coconut industry at large are outlined.
Internal and External Operating Environment of the Coconut Industry

The PNG coconut industry does not operate in a confined space therefore a review of the state of the internal and external operating environments has been done. Specifically, the review assessed the current coconut industry trends and highlights the international collaborations and their implications for the PNG coconut industry.

Major Issues and Key Strategies

The review and assessments of the development contexts and the internal and external operating environments were then used to outline the major industry issues and the key strategies that are necessary to resolve them. This is tended to provide the necessary backdrop to scope and define the way forward as reflected in the industry goal, purpose and the thematic program areas.

Industry Vision, Mission, and Core Values

Vision
Entrepreneurial, prosperous, and healthy communities; a dynamic, innovative and sustainable coconut industry.

Mission
Improve productivity, production, product quality and market access of coconut products. These will be achieved through innovative research, extension services, entrepreneurial empowerment, supportive policies and regulations, and the effective utilization of information with adequate, competent, motivated and continuously learning staff and other stakeholders along the value chain, working in effective and efficient partnerships.

Core values
The KIK, as the major stakeholder and custodian of the coconut industry that will implement this coconut industry strategic plan will be guided by six core values of integrity, stewardship, service, respect, teamwork, innovation, and environmentally accountable in the discharge of its mandate. In doing so the KIK also would like to encourage its stockholders and stakeholders to also embrace these core values so they become the coconut industry’s shared values in the conduct of their roles in developing the coconut industry in PNG.

<table>
<thead>
<tr>
<th>Core value</th>
<th>Our commitment</th>
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<tbody>
<tr>
<td>Integrity</td>
<td>We provide our services to the coconut industry including farmers, processors, traders and other industry players along the value chain with honesty, transparency and consistency based on trust.</td>
</tr>
<tr>
<td>Stewardship</td>
<td>We uphold and be responsible for information dissemination and resource sharing, ensuring policies and regulations, and commercial dealings are implemented and applied with competence, responsibility and utmost care for their intended and agreed purposes.</td>
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**Service**  
We consistently strive to be responsive and customer-oriented in providing enabling business environment, adaptive research, regulatory and advisory services to the coconut growers, processors, traders and other industry players along the coconut industry value chain.

**Respect**  
We uphold the rights of all participants along the coconut industry value chain to have equal access to the opportunities (entrepreneurship) and enjoy the benefits emanating from them through the development of the coconut industry in its diversity regardless of their social (gender and HIV/AIDS, disabilities, and etc.) and economic (poverty) status.

**Team work**  
We promote and develop team spirit and cohesiveness with all our stockholders and stakeholders in the coconut industry, fostering effective institutional arrangements and productive partnerships for all parties or key players in the coconut industry value chain.

**Innovation**  
We strive for excellence through the facilitation and application of innovative solutions at all levels in addressing the challenges of the coconut industry.

**Environmentally accountable**  
We commit ourselves to be environmentally conscious in our actions, taking into consideration the damage to the environment, mitigation of pollution and other environmentally degrading activities that occurs along production, processing and marketing systems in the coconut industry.

### Industry Goal, Purpose, and Thematic Program Areas

**Industry Goal**  
*Improved livelihoods of families and enterprises engaged in the coconut industry.*

**Industry Purpose**  
*Improved productivity, product quality and diversification; optimal and sustainable scale of production; viable enterprises with accessible marketing systems and productive partnerships along the coconut value chain.*

### Thematic Programs Areas, Objectives and Strategies

**Thematic Program Area 1: Agribusiness Development and Marketing**

**Objective**  
*Coconut agribusinesses and effective marketing systems improved and established.*

**Indicators of Success**
Coconut for Life and Wealth

Improved capacity to access financial products and facilities from current levels (advocacy and training for an enabling financial environment); improved market accessibility (transport and new markets);

increased viable coconut agribusiness and marketing enterprises from current levels; and accreditations and high quality industry standards (includes proper processing, packaging and labelling of high value coconut products (HVCPs)) established.

Strategies
Advocate and build capacity of coconut farmers, processors, and traders to access relevant financial products and facilities; establishment of an effective quality control system for processing facilities; research and development of coconut based agribusiness models for micro, small and medium size enterprises; facilitate the establishment of marketing systems; develop and promote agribusiness incentives; incubate start-ups and subsequently graduate coconut micro and small agribusinesses to access additional resources at the medium enterprise level; and collaborate with industry partners (e.g. NISIT, APCC and FOSFA) and establish accreditations of coconut products processing facilities and laboratories and develop and adopt high quality standards for the coconut industry.

Thematic Program Area 2: Scale of Production and Diversification

Objective:
Optimal and sustainable production of coconuts, copra and other diversified high value coconut products and services through farmer mobilization, rehabilitation and planting, and downstream processing.

Indicators of Success
Increased production by 7% from current production of 273,873 tonnes of copra equivalent towards reaching the target of 440,000 tonnes of copra equivalent by 2030; increased use of quality coconut products locally from current levels; economies of scale; resilient smallholder coconut farmers, processors and traders; mobilized production groups; land unlocked and utilized in non-traditional coconut growing areas; increased range of commercially viable coconut products produced for domestic and export markets; and adoption and utilization of improved technologies.

Strategies
Increase the volume of production by smallholders through mobilization of production groups based on market requirements; unlock land beyond traditional coconut growing areas; mobilization of land for planting and rehabilitation of existing coconut plantings; research, development and adoption of new and improved technologies and HVCPs; production of HVCPs with high quality standards; support resilient smallholder farmers, processors and traders.

Thematic Program Area 3: Productivity Improvement

Objective
Market-driven, enhanced and sustainable productivity of coconut farmers, processors, traders and other stakeholders along the coconut industry value chain.

Indicators of success

1 This means that the volume of coconuts used for daily food and other coconut products that are currently produced must be converted to their copra equivalent to derive only ‘one product’ for ease of measuring total coconut production when many products are involved. Thus the product chosen is copra.
Coconut for Life and Wealth

Increased demand and sale of coconut products in domestic and export markets from current levels; improved farm management practices by coconut producing entities; reduced production costs for copra and other HVCPs from the current baseline; enhanced natural resource base (soil fertility, improved coconut varieties); resilient coconut farmers; resilient labour markets; climate-smart, biosecurity conscious and environmentally friendly coconut production systems with food and other cash crops; and competent and continuously learning farmers and others along the coconut industry value chain; new HVCPs produced and marketed; and increased volumes of improved quality of coconut products delivered to the market.

Strategies

Market research; cost of production studies to determine cost structures and trends; establish information database; optimal and sustainable use of resources; research and establish environmentally sustainable coconut production systems with food and other cash crops; establish biosecurity standards, protocols and certification; and targeted and adaptive technological research and utilization.

Thematic Program Area 4 – Industry Capacity Building and Strengthening

Objective

Competencies and capabilities of farmers, processors, traders and other key stakeholders along the value chain are enhanced and strengthened.

Indicators of Success

Increased number of skilled and progressive coconut farmers, processors, and traders from current baseline; functioning and effective communication and networking; relevant information packaged and widely disseminated from current levels; enhanced responsiveness to the industry and stockholder needs, adoption and application of new innovative production and processing methods; improved access to usable technologies, affordable training and markets, and credit (relevant financial products) from current levels.

Strategies

Facilitate innovative capacity building and strengthening (action research and pluralistic extension models) approaches; broker industry learning, collaboration, networking and productive partnerships; build capacity of coconut farmers, processors and traders and facilitate for them to have equal access to usable technologies, affordable training and markets, and credit.

Thematic Program Area 5 – Effective Corporate Governance and Management

Objective

Improved governance, management, competencies and capabilities of KIK to support its mandated functions.

Indicators of Success

KIK Act 2002 and Regulations reviewed and amended in line with the AAA and AIC Acts; KIK Board established, new management systems (finance and audits, HR (human talent management, training and development), administration, logistics, ICT; legal) established; systems and processes aligned to new industry objectives; business development initiatives and projects established; enabling operating environment and policy change through advocacy; managing partnerships and collaboration; and M&E systems established.

Strategies
Coconut for Life and Wealth

Review and amend KIK Act 2002 and Regulations; facilitate the establishment of the KIK Board; establish new and/or improved management systems; improved and upgraded systems and processes developed from the current practices; initiate establishment of an inter-industry dialogue for informed policy formulation and implementation; formulate and conduct regular performance appraisals; conduct finance and management audits; functional organizational structure reviews; conduct M&E; establish conducive policy, regulatory and business environment; brokering relationships and improve resource allocation.

Implementation and Management of the Strategic Plan

Institutional Arrangements

The Managing Director (MD) of KIK will be responsible for implementing this strategic plan, with oversight from the Board of Directors. The MD will implement the strategic plan through thematic program area leaders who will be responsible for planning and developing business plans for each thematic program area to identify projects. In turn, project leaders will prepare detailed projects under each thematic program area. In addition to its oversight role, the Board of Directors will be expected to make a significant input to the Effective Corporate Governance and Management Thematic Program Area in terms of creating an enabling environment and policy change through advocacy.

Resourcing the Strategic Plan

KIK and its partners will have to be adequately resourced to implement this strategic plan. The funding requirements of the strategic plan will be determined after the formulation of business plans of the thematic program areas (business units) and their respective projects. Resource mobilization will be through its traditional areas of core funding, specific program/project funding, particularly from the National Government, other external sources, and internal income generating businesses. These funding approaches are facilitated not only by the innovation systems paradigm, which requires that many stockholders and stakeholders participate in delivering people-level impact; but also from the need to be self-sufficient in generating own income to sustain its operations.

Monitoring and Evaluation Plan

KIK will develop a set of performance indicators based on the generic indicators of success identified for the industry goal, purpose and thematic program area objectives. These require that KIK conducts baseline studies and trend analysis in order to formulate quantitative, qualitative and time-bound performance indicators, to monitor progress towards achievement of the purpose and thematic program area objectives and, eventually, assess people-level impact. The performance indicators will be used to design an impact assessment framework for the goal and a M&E framework that the MD will use to track indicators of success for the purpose and delivery of thematic program area outputs necessary and sufficient to deliver the purpose.
1. INTRODUCTION

The Kokonas Indastri Koporesen of PNG initiated the development of this new coconut industry strategic plan partly in response to the FER of CBAs in PNG recommendation that the coconut R&D\(^2\) functions currently conducted by the CCIL be subsumed into the KIK. A major thrust of this new strategic plan amongst others is to accommodate that integration, and orientate the thinking of the KIK toward adoption and utilization of research-induced technologies and develop these into business opportunities for investment in the coconut industry.

1.1 History and Functions of Kokonas Indastri Koporesen

The Kokonas Indastri Koporesen of PNG is a statutory regulatory institution for the coconut industry in PNG. Prior to the establishment of the KIK, the Copra Marketing Board (CMB) of PNG controlled all copra trading from 1957 to 2001.

The passage of the Kokonas Indastri Koporesen Act 2002 (KIK Act 2002) led to the establishment of KIK to:

\(^2\) The development component in the R&D as used in this strategic plan includes extension and capacity building of industry participants that adopt and utilize the research-induced technologies.
1. Control and regulate the production, processing, marketing and export of coconut products; and
2. Promote the investment in and consumption and export of coconut products; and
3. By itself or in co-operation with other persons or bodies, to promote or engage in research and development programmes for the benefit of the coconut industry; and
4. Promote or engage in downstream processing of coconut products by itself or in co-operation with other persons or bodies for the benefit of the coconut industry; and
5. Engage in extension services and related programmes by itself or in co-operation with other persons or bodies for the benefit of the coconut industry; and
6. Compile statistical data on production, imports and exports of coconut products and to be familiar with production trends throughout the country and provinces and internationally; and
7. Grant licences and registrations; and
8. Keep a register of licences and registrations; and
9. Formulate a register of coconut products grading systems for each of the coconut products; and
10. When required by the Minister, to act as an agent for. And to carry out the obligations of the State in international forums or agreements relating to coconut or coconut products; and
11. Provide policy advice to the Government concerning coconut industry matters.

Legislative changes as stipulated in the KIK Act 2002 enabled the deregulation of copra marketing and promotion of downstream processing of other HCVPs in PNG. The deregulation of copra marketing allowed for more private buyers and exporters to enter the market thus providing more competition and relatively better prices than the CMB of the past.

1.2 The KIK Board

The KIK Act 2002 Part III Section 6 prescribes the composition and membership of The Board. The manner of their appointment is accordance with the Regulated Statutory Authorities (Appointment to Certain Office) (R.S.A) Act 2004.

Since 2002 KIK has only appointed Interim Boards as provided for under Part XIV (Transitional Management). This is due mainly to the difficulty of organising coconut-based associations in the major coconut producing provinces. The KIK Act 2002 Section 71 states that until the Board is appointed accordance with Section 6, there shall be an Interim Board of Directors established to govern and administer the affairs of the Koporesen.

1.3 KIK Management

The KIK head office is located in Port Moresby in the National Capital District. There are three regional offices, and these are located in Port Moresby, Kokopo and Madang.

The current management of the KIK comprises of the Office of the Managing Director, and two divisions, namely: Industry Affairs Division (IAD) and Finance and Administration Division (FAD) with oversight from the Board of Directors.

The KIK management is led by a Managing Director who is responsible for overall leadership of the organisation; responsible for realising the vision and mission of the organisation and ensures that the organisation achieves its corporate objectives.

The IAD performs the core functions of KIK. Specifically, it provides technical services in areas including: export inspections, licence inspections, economics and market analysis,
statistical compilation and dissemination and copra quality training, project development and implementation, and compliance and quality control.

The FAD is responsible for the management of accounting and finance, risk management, payroll and asset management, recurrent accounts, project accounts, human resources, logistics and registry and printing support functions.

1.4 Coconut R&D and extension

The R&D and extension services of the coconut industry are provided by the CCIL. The Institute was established following the amalgamation of then Cocoa and Coconut Research Institute (CCRI) and Cocoa and Coconut Extension Agency (CCEA) in August 2003. The Cocoa Board and the KIK are the shareholding boards, each with equal shares of the Institute. CCIL’s mandate is R&D and extension in cocoa and coconut production, processing and marketing. Most of the coconut research work is based at the Stewart Research Stations (SRS) at Murnas in Madang Province.

The coconut R&D programs at SRS include: breeding (including maintenance of coconut seed gardens & South Pacific Coconut Genebank); agronomy & farming systems; plant protection (pests and diseases) and postharvest (processing & quality assurance) & marketing systems.
Coconut for Life and Wealth

As discussed earlier, and as recommended by the FER of CBAs, the Institute will be voluntary liquidated and its current coconut R&D and extension functions will be transferred to the KIK. This would entail these functions to be housed under one organisation to rationalise and effectively coordinate its mandated R&D and extension functions.

2. STRATEGIC PLANNING FRAMEWORK AND PROCESS

2.1 The Strategic Planning Framework

The strategic planning framework used in this strategic planning process drew much of its conceptual basis from the Agriculture Research for Development (AR4D) concept (Mbabu and Ochieng, 2006) that was derived from the Agriculture Innovation Systems (AIS) paradigm (Rajalahti et al 2008). The AR4D concept provides a framework for a holistic approach to achieving people-level impact on farmers and others along the value chain.
Coconut for Life and Wealth

It recognizes the need for diverse inputs from different levels of cascading tiers of the delivery system, working to achieve outcomes at each tier that together achieve higher, system level goals.

In addition, the planning process also took into consideration the current emphasis on commodity boards and agencies to move towards commercialization of research-induced technologies and business investments that contributes towards self-financing and/or subsidization of their activities against a history of uncertain public funding support in recent years. A major aspect of this is the treatment of thematic program areas as business units that will have their own business plans to contribute towards achieving the industry purpose.

2.2 The Planning Process

The KIK engaged an external consultant, familiar with the FER recommended reforms and has in-depth knowledge and experience in the PNG coconut industry, to provide advice and facilitate the strategic planning process and drafting of a new strategic plan for the industry. The consultant worked with a Coconut-ISP Technical Planning Committee (TPC) within the KIK, comprising of staff from the KIK and the CCIL, based in SRS, in Madang.

The consultant facilitated a total of two iterative and participatory plenary workshops with the TPC that defined and developed the vision, mission, core values, industry goal and purpose and the results framework necessary to achieve the mission in pursuit of the vision.

The results framework as outlined in Annex I comprises the industry goal and industry purpose, thematic program areas and their objectives, and the key indicators of success that will be used to assess system-level impact and achievement of purpose and monitor implementation of the strategic plan.

The next phase of the planning process will be the Thematic Program Areas planning. The thematic program area leaders will be involved in planning and developing business plans for each thematic program that will identify projects, activities and the resourcing arrangements. The development of the thematic program business plans is a necessary and essential part of the planning process, because when they are prepared, they will articulate and outline the operationalization of this strategic plan to achieve the coconut industry purpose and goal.

2.3 Review of the Coconut Industry Strategic Plan 2012 – 2021

The Coconut Industry Strategic Plan (Coconut-ISP) 2012 – 2021 was launched in March 2012 for implementation. The strategic plan stated that two mid-term reviews would be conducted every four years during the life of the plan. The first four years of the Coconut-ISP was reached in 2015 therefore a review at this time as part of developing a new strategic plan is timely.

The approach taken in this review of the Coconut-ISP has been to assess the results framework. Specifically, the goal, purpose and the thematic program area objectives have been assessed against the objectively verifiable indicators (OVIs) to determine to what extent has KIK been able to implement and achieve the outcomes (refer to Table 1).
Table 1: Review and assessment of Coconut Industry Strategic Plan 2012 – 2021 results framework.

Table 1a: Organisational goal.

<table>
<thead>
<tr>
<th>Organisational Goal</th>
<th>Review of Achievements and Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Improved livelihoods of PNG families and communities dependent on the coconut industry</em></td>
<td></td>
</tr>
<tr>
<td><strong>Objectively Verifiable Indicators (OVI)</strong></td>
<td><strong>Review of Achievements and Comments</strong></td>
</tr>
<tr>
<td>1. Improved income per capita</td>
<td>- The OVI is too general and not specific enough for coconut farm incomes.</td>
</tr>
<tr>
<td></td>
<td>- KIK lacked capacity to determine the improvements (if any) in income per capita.</td>
</tr>
<tr>
<td></td>
<td>- Assumptions are also not industry specific and are on entities for which KIK has no powers to influence.</td>
</tr>
<tr>
<td></td>
<td>These should be taken into consideration in developing the new Coconut-ISP.</td>
</tr>
<tr>
<td>2. Healthy communities</td>
<td>- OVI is too broad and lacks specific baselines from which measurements can be done.</td>
</tr>
<tr>
<td></td>
<td>- KIK lacked a collaborative partnership with the National Health Department to monitor “healthy communities”.</td>
</tr>
<tr>
<td></td>
<td>These should be taken into consideration in developing the new Coconut-ISP.</td>
</tr>
<tr>
<td>3. Improved educational opportunities</td>
<td>- The OVI or the assumptions do not indicate how the coconut industry was to contribute to these outcomes and therefore its measurement is difficult.</td>
</tr>
<tr>
<td></td>
<td>- The assumption implies collaborative partnership with the National Education Department, which did not happen.</td>
</tr>
<tr>
<td></td>
<td>- Development of a coconut curriculum could be a good point of departure for this.</td>
</tr>
<tr>
<td>4. Improved food security and nutrition</td>
<td>- KIK lacked capacity to determine the improvements (if any) in food security and nutrition.</td>
</tr>
<tr>
<td></td>
<td>- Lack of collaboration between KIK and CCIL to survey the extent of farmers practicing intercropping coconut with food and other cash crops.</td>
</tr>
<tr>
<td>5. Improved housing, water supply and energy sources</td>
<td>- KIK lacked capacity to determine the improvements (if any) in housing, water supply and energy sources.</td>
</tr>
<tr>
<td>6. Reduced crime rates</td>
<td>- No effort has been made to work with the Police Department or Justice Department to monitor level of crime.</td>
</tr>
<tr>
<td></td>
<td>- It would have been appropriate if the OVI was focused on coconut growing areas.</td>
</tr>
</tbody>
</table>
Coconut for Life and Wealth

Table 1b: Organisational Purpose.

<table>
<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
<th>Review of Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increased demand and utilization of coconuts and/or coconut products</td>
<td>▶ No specific study has been done to determine if there have been increases in demand and utilization of coconuts and/or coconut products. ▶ If export figures for copra, CNO and meal are used as proxy measures then, in general demand has been stagnant compared to the four years prior to 2012. ▶ [However] There has been an increase in the number of SMEs producing VCO and its derivatives like soap, which implies that there has been an increase in the use of VCO and its derivatives and biodiesel. ▶ KIK should consider building its capacity to conduct these or outsource to others that have the requisite expertise to do it.</td>
</tr>
<tr>
<td>2. New high value coconut products</td>
<td>▶ There has been an increase in the number of SMEs producing VCO and its derivatives like soap, which implies that there has new high value products being added to the market.</td>
</tr>
<tr>
<td>3. Market entry for new coconut products</td>
<td></td>
</tr>
<tr>
<td>4. Increased volumes of coconuts and coconut products delivered to domestic and export markets</td>
<td>▶ No specific study has been done to determine if there have been increases in volumes of coconuts and coconut products have been delivered to domestic and export markets. ▶ If export figures for copra, CNO and meal are used as proxy measures then, in general demand has been stagnant compared to the four years prior to 2012. ▶ KIK should consider building its capacity to conduct these or outsource to others that have the requisite expertise to do it.</td>
</tr>
</tbody>
</table>

Table 1c: Regulation and Policy.

<table>
<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
<th>Review of Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active inter-industry dialogue for coconut industry</td>
<td>▶ No formal progress has been achieved in this OVI. ▶ KIK should have been a bit more proactive in facilitating and progressing this outcome.</td>
</tr>
<tr>
<td>2. Number and type of issues addressed</td>
<td>▶ The number and type of issues addressed can be assessed in terms of the projects that KIK is currently implementing on its own or in partnerships with others. These may include: Hazard Analysis and Critical Control Point (HACCP, Climate resilient, and BCS projects.</td>
</tr>
</tbody>
</table>
3. Informed decision making
   - The KIK Board has conducted its meetings and made decisions in compliance with the relevant statutory requirements.

4. Equitable participation in coconut industry (gender, HIV/AIDS)
   - No specific studies have been done to determine the extent of equitable participation in the coconut industry.

5. Active participation in international coconut policy and development fora.
   - PNG has actively participated in APCC and COGENT related forums.

Table 1d: Compliance

**Thematic Program 2 – Compliance**

*Improved standards of inspection and monitoring and coconut product quality*

<table>
<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
<th>Review of Achievements</th>
</tr>
</thead>
</table>
| 1. Effective inspection and monitoring system for coconut products | - An additional inspection and compliance officer was recruited and stationed in the ARoB.  
- Co-opting CCIL extension officers as Coconut Product Inspectors in provinces did not eventuate due to leadership and management issues at CCIL.  
- There is a need for KIK to build and develop capacity in monitoring and evaluation. |
| 2. Acceptable edible and non-edible coconut products | - Adopted the APCC coconut product quality standards in 2012 as an interim measure to ensure acceptable quality standards of edible and non-edible coconut products produced in PNG. |
| 3. Increased demand and utilization of coconut products. | - There has been an increase in the number of SMEs producing VCO and its derivatives like soap, which implies that there has been an increase in their use.  
- Biodiesel is being produced and utilized at a throughput of 60,000 litres per month or 720,000 litres per year. |
| 4. Active quality training workshops in provinces and districts | - More than five copra quality assessors training workshops have been conducted in the provinces and/or districts since 2013.  
- A Copra Quality Assessors Training Manuel was revised and produced in 2014. |

Table 1e: Market Development and Trade

**Thematic Program 3 – Market Development & Trade**

*Investments and development of various coconut products and their utilization facilitated.*

<table>
<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
<th>Review of Achievements and Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increased number of licences.</td>
<td>- Licences issued to trading in traditional coconut products like copra, CNO and copra meal been stagnant or fluctuated in the review period.</td>
</tr>
</tbody>
</table>
2. Commercially viable coconut products released to the industry.

- Industry is taking the lead in investing in producing high value coconut products.
- Government has provided funding to KIK in the past two years to assist the development and expansion of micro, small and medium coconut enterprises in PNG.
- KIK has applied some of the funds to subsidise the operating costs of some of these entities since 2014.
- There has been growth in this area since 2014.

3. New types of licences developed for coconut products

- This is pending and will be progressed as soon as the new strategic plan is developed.

4. Price monitoring system developed

- This is pending and will be progressed as soon as the new strategic plan is developed.

5. Provision of real time market information

- This is been done through information provided through the APCC website. KIK is developing its own website which will provide a link to the APCC website.

Table 1f: Organisational Capacity.

<table>
<thead>
<tr>
<th>Thematic Program 4 – Organizational Capacity Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improved governance, management and capacity of KIK and other stakeholders in the value chain</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
<th>Review of Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Core values upheld</td>
<td>KIK has worked towards upholding and operating within the spirit of its core values.</td>
</tr>
<tr>
<td>2. Responsiveness to stakeholder needs</td>
<td>No formal survey has been conducted but responses to stakeholder needs are on an ad hoc basis as and when the need arises.</td>
</tr>
<tr>
<td>3. Performance-based culture</td>
<td>KPIs have been developed and the implementation is in progress.</td>
</tr>
<tr>
<td>4. Resource allocation aligned to organisational objectives</td>
<td>This has been done.</td>
</tr>
<tr>
<td>5. Systems and processes aligned to organisational objectives</td>
<td>This has been done.</td>
</tr>
<tr>
<td>6. Timely provision of statutory requirements</td>
<td>This has been done.</td>
</tr>
</tbody>
</table>

The thematic program areas, which were proposed in the Coconut-ISP 2012–2021 and against which the results framework has been prepared were not adjusted or implemented. The Coconut-ISP proposed four thematic program areas to contribute towards achieving the Coconut-ISP goal and purpose, however this was not done yet at the time of this review and assessment. KIK opted to continue operating on the two divisions, namely: Industry Affairs and Finance and Administration. However, in the past four years the actual operations of the Industry Affairs Division adopted elements of the Market Development and Trade thematic program area in addition to its traditional responsibilities of Regulation and Policy and Compliance, which were thematic program areas 1 and 2, respectively. Therefore it is fair to conclude that although KIK did not create the three thematic programs, the IAD implemented the strategies outlined for these thematic areas as outlined in the Coconut-ISP 2012–2021.
A major stockholder and stakeholder gap analysis workshop was facilitated to review the draft Coconut-ISp 2016–2025 and generate inputs to improve and clarify any existing gaps. In addition, three external reviewers were engaged to review and provide critical comments and inputs. These have added much value to the final draft of the strategic plan.

Network Partnerships: The coconut industry in PNG is driven by stakeholders including Government Departments and Agencies, Provincial Governments, District Development Authorities and international Development Partners adding value along the supply chain.
3. DEVELOPMENT CONTEXT

3.1 National and Sectoral Policies and Development Plans

The strategic vision of the PNG Vision 2050 is that “PNG will develop and grow the manufacturing services, agriculture, forestry, fisheries and eco-tourism sectors from 2010 to 2050” (GoPNG, 2009: p. 3). The second pillar of the 7 pillars in the PNG Vision 2050 is Wealth Creation, and agriculture features highly in this pillar. For example, the PNG Vision 2050 envisions that by the year 2050, the agriculture sector would have:

(a) Established two major economic projects in all 89 districts;
(b) Expand production volume of all major cash crops to enable downstream processing;
(c) Provide two agriculture extension officers per district;
(d) Improve the terms and conditions of employment of agricultural officers; and
(e) Establish a unified agriculture plan by 2015.

According to the PNG Development Strategic Plan 2010-2030 (hereafter DSP 2030) the goal of the development of the agriculture sector is to develop a “World-class agricultural sector that is responsive to international and domestic markets for a diverse range of products and provides the best available income and job opportunities”.

The agriculture development strategy under the DSP 2030 is projected to support a five-fold increase in agricultural production in PNG between 2010 and 2030, creating an estimated 267,400 additional jobs and K7.2 billion in additional national income. This is reiterated in the Medium Term Development Plan 2011-2015 (MTDP I), which recognises agriculture and livestock as one of the key economic sectors to contribute to the fivefold increase with focus on addressing supply-side constraints.

Specifically, the DSP 2030 tasks the coconut industry sub-sector to produce 440,000 tonnes of copra exports by the year 2030. This translates roughly to a five-fold increase from the current average production of copra (86,873 metric tonnes in 2015) in the country. This target of production requires effective industry leadership, forging of productive partnerships and collaboration from all stockholders including farmers, processors, traders and other actors along the value chain and key stakeholders to enable the coconut industry to grow and meet the projected target.

Understanding the national and sectoral policies and development contexts in which the coconut industry pursues its development and growth initiatives is critical as the KIK considered a strategic plan for the coconut industry. Specifically, understanding of the major issues is pertinent and critical as it examines the operating environments and the issues therein and then considers policy and development responses or interventions that will go towards realising the potential of the PNG coconut industry and make it a significant player in the agriculture sector of PNG.
3.2 Agriculture sector reforms and implications for the PNG coconut industry

In March 2013, the National Executive Council (NEC) approved the FER of CBAs (NEC Decision No. 99/2013). Following this a team of resource persons with the requisite sector knowledge and expertise were appointed by the FER Technical Steering Committee and approved by the Minister for Agriculture & Livestock to conduct the review.

The review team was tasked to look at how a process of rationalization of the current agriculture sector commodity boards and agencies can contribute to the following three key outcomes:

(a) Increased domestic and export production and revenue from agriculture activities and businesses;
(b) Increased numbers of indigenous men and women in small, medium and corporate businesses in agriculture; and
(c) Increased number and volume of new investments in the agriculture sector.

The review covered the existing CBAs, as well as the Department of Agriculture and Livestock (DAL). This exercise was conducted from late October 2013 to March 2014, and the FER Final Report was presented to the NEC in May 2014.

The NEC approved all the Thirty-three (33) recommendations from the FER Final Report, and appointed an FER Implementation and Advisory Unit (FIAU) or Secretariat to manage and oversee the implementation of the reforms over the 2014/2015 periods (NEC Decision No. 124/2014).

The recommendations for the rationalization of the commodity boards and agencies included the following, that:

The Cocoa and KIK Boards should remain separate entities, and their R&D functions currently carried out by CCI should also be separated and subsumed into the two boards. CCI should be abolished.

The major implications from this recommendation include:

(a) Cocoa Board and KIK to develop new strategic plans to accommodate their expanded mandates;
(b) Cocoa Board and KIK are to review and amend their current organisational structures in order to subsume the R&D functions;
(c) The cocoa and coconut R&D functions are to be transferred from CCI to Cocoa Board and KIK, respectively;
(d) Cocoa Board and Kokonas Indastri Koporesen (KIK) to agree on how to share the current CCI assets and liabilities before CCI is liquidated; and
(e) Cocoa Board and KIK are to review and amend their current Acts.

In the interim, the implementation of FER recommendations in general and specifically for the above recommendation began in 2015 and has included the following:
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3.2.1 New legislations for PNG Agriculture

The FER of CBAs observed that the PNG agriculture sector has been operating without an overarching legislative framework. Off the 33 FER recommendations, 22 or two-thirds were directly related to lack of a legal framework to guide the sector. In other words, there was no legislation framework since Independence in 1975 to manage the affairs of agriculture sector or the DAL or its predecessors. To arrest this deficiency the FIAU has drafted two Bills, namely:

- The PNG Agriculture Administration Adjustment (AAA) Bill 2015, and
- The Agriculture Investment Cooperation of PNG (AIC) Bill 2015.

The PNG Agriculture Administration Adjustment Bill 2015

The PNG AAA Bill has been prepared primarily to redefine the role of the National DAL, so it can play an effective role as the agricultural sector apex body responsible for (a) development of policy and legislation, (b) coordination and monitoring of government policy implementation by commodity boards and agencies and provincial agencies, and (c) facilitation and linking of sector programs and resourcing requirements with government central agencies and external donors.

The expected changes that would occur as a result of enacting the PNG AAA Bill are both positive and transformative. It shall clearly define the functions of the DAL, all agriculture CBAs, and provincial agencies and the manner in which they are intended to inter-act with each other. The closer cooperation between agencies will enhance productivity, effectiveness and efficiency within the agriculture sector in addressing the developmental and livelihood needs of the rural population.

In addition, the PNG AAA Bill is intended to rationalise as well as to adjust the agriculture sector for a better-coordinated and effective sector to provide for the rural sector of the country that addresses the welfare and needs of about 85% of the people.

The Agriculture Investment Cooperation of PNG Bill 2015

The AIC of PNG Bill has been prepared primarily to (a) provide for the establishment and management of the Agriculture Investment Corporation; and (b) secure funding and manages investments in the agriculture sector.
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Against a backdrop of deficiencies in existing funding and governance arrangements, amongst other things the FER of CBAs recommended that an investment vehicle be established in the agriculture sector to promote and encourage new funding arrangements for innovation, growth of micro, small and medium agribusiness enterprises, large commercial investments and farm input subsidies policy support.

The two Bills were reviewed and cleared by the State Solicitor on the 27 October 2015. The Certificates of Necessity have been issued and the Bills were submitted to NEC for approval. NEC approved the PNG AAA Bill on 12 November 2015, whilst the AIC of PNG Bill was considered by NEC in March 2015 and was referred to the Ministerial Economic Committee (MEC) for vetting.

3.2.2 Implications for the KIK Act 2002

When the PNG AAA Bill and AIC of PNG Bill are enacted into law, the current KIK Act 2002 and Regulations will be reviewed and amended to reflect the changes as (a) stipulated in these two overarching legislations, and (b) accommodate the additional mandate of coconut R&D and extension services amongst others.

3.2.3 Voluntary liquidation of Cocoa Coconut Institute Limited and transfer of Coconut R&D and extension functions to KIK

The FER of CBAs Final Report recommended that R&D and extension functions of cocoa and coconut industries which are currently undertaken by the CCIL should be separated so that the cocoa and coconut R&D and extension functions are transferred to the CB and KIK, respectively. The cocoa R&D and extension component will be transferred to CB, and will continue to operate out of Tavilo Research Station, in East New Britain Province while the coconut R&D and extension component will be transferred to KIK and will be based at the SRS at Murnas, in Madang Province.

A Special CCIL shareholders meeting of 4 June 2015 passed the following resolutions, amongst others:

(a) A Liquidation Committee (LC) be set up to guide the voluntary liquidation process; and
(b) A Working Group (WG) be established to assist the Liquidation Committee.

The LC is chaired by the DAL Secretary Dr Vele Ila’ava and comprises the two industry Chief Executive Officers (CEOs), namely: Boto Gaupu from the CB and Dr James Kaiulo from the KIK; and the FIAU Team Leader, Dr Eric Omuru.

The WG comprise the following people:

(a) Desmond Nambri – CCIL Administrator
(b) Chris Magaya – KIK Finance and Administration Manager
(c) Ms Ellina Iamu – CCIL Financial Controller
(d) Ms Alison Tewe – CCIL Human Talents Manageress

The Shareholder co-opted Mr. Allan Baniyamai from Baniyamai Lawyers to provide legal oversight to the WG and LC.
The principal responsibilities of the WG include:

(a) Calculation of the Total Staff Entitlements excluding the plantation labourers;
(b) Conduct an audit into all donors funded and PIP projects;
(c) Assess and advise on all current cocoa and coconut R&D and extension programs;
(d) Assess and advise on the financial system of CCIL;
(e) Conduct a complete physical check on all fixed assets;
(f) Divide the assets appropriately between CB and KIK; and
(g) Ensure everything done is within the laws of the State of PNG.

Transfer of the coconut R&D and extension functions to the KIK would entail this function to be housed under one organisation to rationalise and effectively coordinate its mandated functions. In addition, integrating R&D and extension functions under one entity would be similar to the model currently embodied in the Coffee Industry Corporation (CIC) in terms of the structure and functionality as an organisation.

Coconut potential: Coconut biodiesel, which fuels most if not all engines on Karkar Island, Sumakr District of Madang Province, coconut lumber, coconut art and craft from husks, coils and shells are some of more potential ventures from this proverbial tree of life.
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4. INTERNAL AND EXTERNAL OPERATING ENVIRONMENTS OF THE COCONUT INDUSTRY

4.1 Contributions to the National Economy

The coconut industry contributes to the PNG national economy through provision of employment and income for rural households and generation of revenue from exporting copra, crude coconut oil (CNO), copra meal and virgin coconut oil (VCO) to overseas markets.

4.1.1 Employment and income

According to the 2011 National Population Census, 464,328 households are engaged in coconut activities in PNG to either generate income and as food to sustain their livelihoods. This represents 35% of the total households in PNG or an estimated 2.6 million people of the total population of the country. From the above sum, 134,655 (29%) were engaged in cash generating activities whilst 329,673 (71%) were engaged for their own use. In addition, the industry also comprises about handful of plantations of varying sizes, 18 registered exporters, three CNO mills, one biodiesel plant producing about 720 tonnes per year and 9 VCO mini mills.

The industry employs an estimated 20,000 people either on full time or part time basis and is associated with other service industries such as transportation, construction, manufacturing and banking services. These estimates are likely to have changed in the past 10 years.

4.1.2 Export revenue

On average, the industry contributes over K126.5 million per year to the PNG economy through the export revenue it generates. The KIK estimates that over 70% of this is usually transmitted directly to smallholder copra producers.

In 2015, the coconut industry ranked fourth in terms of revenue generated by major agricultural exports after palm oil, coffee and cocoa by contributing about 5% (K101 million), while oil palm contributed 57% (K1.086 billion) and coffee contributed 24% (K450.3 million) and cocoa contributed 13% (K243 million). In terms of world coconut product trade, PNGs production and exports remain at an average of about 1.1% of the world market share.

4.2 Industry Trends

4.2.1 Total production

The copra production trend in PNG in the past 10 years is depicted by Figure 1. The graph shows that production continues to fluctuate. Production peaked in 2011 and declined sharply after that reaching its lowest level in 2013 but has recovered in the past two years to stabilise at over 80,000 tonnes.

It is likely that most of the production is from the smallholder sector due to the decline in plantation production over the years. The demise of the plantation sector
Coconut for Life and Wealth

led to a loss of about 19% of production, which the sector used to produce prior to deregulation of the CMB.

Figure 1. Copra Production in PNG from 2006 - 2015

Source: Kokonas Indastri Koporesen

The National Government’s long-term production target is to achieve 440,000 tonnes of copra by the year 2030 (GoPNG, 2010). This target may be too ambitious; however is technically possible and depends largely on improving the productivity of the smallholder sector, adoption and utilization of new high yielding coconut varieties and management technologies, large-scale investment which can lead to expansion of new areas planted to coconut and revival of run down coconut plantation that are willing and are without land disputes. This calls for a renewed commitment, both by the industry and Government, in addressing current constraints being faced by small farmers in accessing appropriate technological innovations, provision of adequate level of farm credit to facilitate the purchase of desired inputs, and extension support in improving their farm productivity levels. Land mobilization and large-scale investment in the coconut industry and revival of the plantation sector are desirable to rebuild the coconut for the future and seriously pursue the DSP 2030 export target as well.

4.2.2 Production by province

Table 2 depicts cocoa production by province since 2006. Copra production has fluctuated between 60,000 tonnes and 146,500 tonnes in the past ten years.

Off the 13 provinces that are listed in Table 2 below, only 6 provinces have actively produced copra in the past five years. These provinces in order of the volume of production share are: East New Britain (38.7%), Madang (25%), ARoB (22.1%), West New Britain (8.5%), Milne Bay (3.2%) and New Ireland (2.6%).
Coconut for Life and Wealth

Table 2: Copra Production by Province (tonnes).

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ENB</td>
<td>35,243</td>
<td>43,756</td>
<td>43,873</td>
<td>38,667</td>
<td>50,895</td>
<td>50,529</td>
<td>36,294</td>
<td>27,514</td>
<td>33,089</td>
<td>33,620</td>
</tr>
<tr>
<td>New Ireland</td>
<td>6,228</td>
<td>11,568</td>
<td>11,514</td>
<td>5,622</td>
<td>8,374</td>
<td>8,262</td>
<td>2,327</td>
<td>331</td>
<td>972</td>
<td>2,240</td>
</tr>
<tr>
<td>WNB</td>
<td>7,094</td>
<td>7,230</td>
<td>8,388</td>
<td>6,525</td>
<td>10,825</td>
<td>12,063</td>
<td>7,504</td>
<td>4,036</td>
<td>4,545</td>
<td>7,344</td>
</tr>
<tr>
<td>AROB</td>
<td>12,427</td>
<td>19,145</td>
<td>23,802</td>
<td>20,448</td>
<td>30,445</td>
<td>40,186</td>
<td>27,714</td>
<td>10,418</td>
<td>21,017</td>
<td>19,193</td>
</tr>
<tr>
<td>Manus</td>
<td>101</td>
<td>250</td>
<td>519</td>
<td>207</td>
<td>421</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Milne Bay</td>
<td>1,900</td>
<td>2,433</td>
<td>4,663</td>
<td>2,291</td>
<td>2,717</td>
<td>8,797</td>
<td>8,936</td>
<td>3,223</td>
<td>3,252</td>
<td>2,767</td>
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<tr>
<td>Central</td>
<td>0</td>
<td>30</td>
<td>496</td>
<td>118</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>Gulf</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Oro</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Madang</td>
<td>22,160</td>
<td>27,760</td>
<td>37,581</td>
<td>22,308</td>
<td>35,059</td>
<td>26,689</td>
<td>5,780</td>
<td>16,014</td>
<td>22,406</td>
<td>21,709</td>
</tr>
<tr>
<td>Morobe</td>
<td>146</td>
<td>255</td>
<td>549</td>
<td>272</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>East Sepik</td>
<td>270</td>
<td>41</td>
<td>648</td>
<td>218</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sandaun</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>85,569</td>
<td>112,468</td>
<td>132,045</td>
<td>96,676</td>
<td>138,736</td>
<td>146,526</td>
<td>88,555</td>
<td>61,536</td>
<td>85,281</td>
<td>86,873</td>
</tr>
</tbody>
</table>

Source: Kokonas Industri Koporesen

4.2.3 Yield and productivity

Several socioeconomic studies have been done by CCIL in collaboration with universities in Australia since 1998. These studies have been focussed mostly on the smallholder sector to understand their social, economic and cultural context in which they farm a cash crop like coconut.

Some of the surveyed data is set against the genetic potential yields of the latest planting material available can produce are summarized in Table 3 below.

Table 3: Smallholder copra productivity.

<table>
<thead>
<tr>
<th>Year</th>
<th>Current yield (Kg/ha)</th>
<th>Genetic potential yield (Kg/ha)</th>
<th>Type of material</th>
<th>Source of Planting material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>900 (a)</td>
<td>1,200</td>
<td>Local Talls and Hybrids Varieties</td>
<td>Villages/ CCIL</td>
</tr>
</tbody>
</table>

Sources: (a) Omuru (2001)

The average crop yield and the genetic potential yield of the improved planting materials indicate that productivity by smallholder farms is significantly below the genetic potential yield levels. For example, current average yield is 900 kilograms per hectare, which is 300 kilograms per hectare or 33% below the genetic potential yield.

Despite having high yielding planting materials, good soils and climate; low adoption and utilization of technology by farmers and low productivity levels poses a dilemma for the industry today.

The challenge is to determine how the productivity levels can be increased to narrow the divergence between the current average yield and the genetic potential yield levels. An increase of 50% from the current levels can contribute significantly to increasing the gross returns of farmers by a similar magnitude.
4.2.4 Cost of production

There is a lack of recent studies that have been done to estimate the cost of production (COP) of either plantation or smallholder sector. The last COP studies that did were by Omuru and Lummani (2001) for plantations and Omuru (2001) for smallholders. Despite several studies been done in the past 15 years, most of these have been silent on estimating the COP.

With increasing emphasis on the use of farm inputs and rising transport costs, it would be useful to also know the COP trends and income levels to estimate the profitability of smallholder farms.

4.2.5 Coconut product exports

Volumes

Total coconut product exports in the past 10 years are depicted in Figure 2. Copra export volumes averaged at 24,580 tonnes per year from 2006 to 2011 and CNO was 49,497 tonnes per year during the same period. The highest copra export figure was 46,500 tonnes recorded in 2011, and for CNO the highest figure was 64,524 in 2008. There were more CNO exports compared to copra from 2005 to 2011. However, after 2011 copra exports have been higher compared to CNO. The major reason for this has been attributed to the destruction by fire of the Coconut Products Toboi mill in Rabaul in 2011. The mill ceased production of CNO since then.

![Figure 2: Coconut products exports; 2006 - 2015](image)

Source: Kokonas Indastri Koporesen.

Exporters

There are more than fifteen registered coconut product exporters in PNG, however only 8 have been actively exporting copra on a regular basis in the past six years. The major copra exporters between 2010 and 2015 are depicted in Table 4.
Table 4: Major copra exporters and volume of export.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ENB Development Co-operative</td>
<td>9,976</td>
<td>16,819</td>
<td>9,514</td>
<td>2,008</td>
<td>13,533</td>
<td>5,730</td>
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<tr>
<td>Kimbe Bay Shipping Agency Ltd</td>
<td>6,164</td>
<td>6,231</td>
<td>3,977</td>
<td>3,109</td>
<td>3,710</td>
<td>9,226</td>
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<tr>
<td>Pacific Lama Traders Ltd</td>
<td>3,058</td>
<td>5,866</td>
<td>2,705</td>
<td>0</td>
<td>8,401</td>
<td>5,559</td>
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<tr>
<td>Kieta Commodities Exporters Ltd</td>
<td>1,919</td>
<td>2,724</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Coconut Products Ltd</td>
<td>0</td>
<td>4,255</td>
<td>1,494</td>
<td>4,484</td>
<td>12,112</td>
<td>8,710</td>
</tr>
<tr>
<td>Samarai Murua Exporters Ltd</td>
<td>0</td>
<td>4,154</td>
<td>3,860</td>
<td>3,543</td>
<td>2,637</td>
<td>2,782</td>
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<td>Globe Manufacturing Ltd</td>
<td>0</td>
<td>977</td>
<td>10,658</td>
<td>1,171</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Autonomous BC Ltd</td>
<td>637</td>
<td>4,452</td>
<td>1,182</td>
<td>284</td>
<td>2,014</td>
<td>1,425</td>
</tr>
<tr>
<td>Sankamap Exports Ltd</td>
<td>0</td>
<td>516</td>
<td>959</td>
<td>1,074</td>
<td>5,822</td>
<td>3,706</td>
</tr>
<tr>
<td>RD Tuna Fishing Ltd</td>
<td>306</td>
<td>506</td>
<td>376</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Kokonas Industri Koporesen

In 2015, the major copra exporters were: Kimbe Bay Shipping, Coconut Products Ltd, ENBDC, Pacific Lama, Sankamap Exports, Samarai Murua Exporters and Autonomous BC Ltd. Kieta Commodities Exporters Ltd and RD Tuna Fishing Ltd ceased exporting copra since 2012 and 2013, respectively.

**Export destinations**

The two major traditional copra export destinations for PNG copra has been the Philippines and Australia. However, in 2015, the major export destinations for PNG copra were Philippines 63%, Bangladesh 20%, Australia 14%, and Malaysia 3% as depicted in Figure 3.

### Figure 3: Copra exports market share (%) by destination, 2015

**Export values**

Between 2005 and 2015, coconut products export generated an average of K126.5 million per year. In the past five years, revenue peaked at K262 million in 2011 but declined thereafter reaching its lowest level at K39.8 million but recovered to K101 million in 2015.
Despite the lower export volumes in 2014 compared to 2015, export earnings were higher at K101 million compared to K94.2 million recorded in 2014. The higher export revenue was directly due to the higher copra and CNO prices on the world market and the lower kina exchange rate over the period, which was conducive for copra exports.

4.2.6 Coconut product prices

Export and producer prices

Figure 4 shows the free-on-board (FOB) or export prices for copra, CNO and copra meal. The FOB price is the price received by exporters of the three products. Prices steadily increased in 2006 and peaked in 2008 and declined sharply in 2009 and increased steadily from 2010 to 2011 and declined till 2013. Prices have shown signs of recovering since 2014 and continued in 2015.

The fair merchantable standard (FMS) price is the average price received by the farmers at the exporters or factory gate. The FOB price and FMS price are compared in Figure 5, with an estimate of the exporter margin. The exporter margin is what the export retains to cover their operating cost and profit margin. Between 2005 and 2015, the export margin has fluctuated significantly. On average, the export margin is 27% for the period 2005 to 2015, which means that the average FMS price transmitted to producer is 73% of the export price. The export margins have been unusually high in 2014 and 2015, capturing 44% to 47% of the FOB prices. This means that only 56% and 53% of the FOB price have been transmitted to producers. Without knowledge of the operating costs, it is difficult to justify the retention of margins in excess of 40% of the FOB prices by exporters.
4.3. Bogia Coconut Syndrome

The Bogia Coconut Syndrome (BCS) is a plant disease reported to have been causing increasingly severe losses to coconut palms in the Bogia region of Madang, in PNG since 2007. Many hundreds of palms have been killed and two coconut plantations (constituting ca. 200ha) at Yaro Village, Madang Province have been abandoned due to BCS.

The symptoms of BCS are apparent first on the lower fronds of the affected coconut palms, which become pale yellow and start drooping. As foliar symptoms progress to upper leaves, the immature nuts begin to drop prematurely. Stage three of the disease involves the death and progressive drop of all but the uppermost, ‘spear’ leaves. Typically the palm dies 3-4 months from the time of first symptoms being evident, leaving behind a bare trunk.

BCS was so named by the BCS technical committee established to investigate the cause of yellowing and death of coconuts in the Bogia District of Madang Province in PNG. The committee consists of members from The National Agriculture Quarantine and Investigation Authority (NAQIA), CCIL, KIK, Oil Palm Research Association (OPRA), Ramu Agri Industries (RAI) and National Agricultural Research Institute (NARI). This was established in 2008 and is responsible for all BCS matters in PNG.

An additional dimension to the threat of BCS is that a wide range of additional species are anecdotally affected. Banana and Areca palm (betel nut) have also been reported by villagers in this area to exhibit yellowing and necrosis of leaves and fronds resulting in early death. Coconuts and bananas are staple food plants for most people in the coastal regions of PNG whilst betel nut is important in smallholder community trade. A recent molecular study has shown that some symptomatic banana plants contain phytoplasma DNA very closely related to that previously reported from BCS-affected coconut (Davis et al., 2010).
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The area affected by BCS, though still confined within Madang Province, has expanded in recent years. This spread indicates huge potential economic and social losses if BCS extends more widely in PNG and especially if its host range is found to also include oil palm, PNG’s highest revenue earning cash crop and crucial to the economic wellbeing of many groups of smallholders. This is a real risk because all the major pests and diseases of oil palm in PNG have spread from coconut.

A containment program is now in place; based on a road block preventing the movement of whole coconuts and other planting materials but there is need to provide a knowledge base to guide the nature and scope of longer term containment and control measures.

In mid-2012 the issue of the threat of BCS to the Coconut Seed Garden and South Pacific Regional Genebank at SRS was brought to the attention of the 16th COGENT Steering Committee by the former CEO of CCIL Dr Eric Omuru in his capacity as the official PNG and South Pacific representative in COGENT. One of the recommendations from that meeting was: *Understanding and addressing the constraint of the new lethal disease threatening the International Coconut Genebank for the South Pacific (ICG-SP) based in Papua New Guinea.* This recommendation led to visits by a Lethal Yellowing expert from CIRAD, Dr Michel Dorleff and the COGENT Coordinator, Dr Roland Bourdeix in November and December 2012, funded by Bioversity International. These visits recommended the relocation of the ICG-SP to another province.

Despite delays in implementing the re-location of the genebank due to funding constraints, KIK has revived the logistical arrangements to re-locate the existing germplasm from SRS to Misima Island for quarantine and then to Punipuni on the mainland near Alotau, in Milne Bay Province. Specifically, in March 2016 the KIK senior management and technical staff from CCIL visited Misima Island and inspected the proposed site to house the germplasm for 12 months. They also met with the Governor of Milne Bay Province and discussed the relocation initiative and visited the run-down Punipuni Plantation where the germplasm will eventually be planted.

Farming Systems: Research to maximise land use through farming systems like intercropping where garden produce and/or tree crops are planted between coconut trees is looking at how to address food security
and nutrition with cash income generation.
5. INTERNATIONAL AND REGIONAL COLLABORATIONS AND OBLIGATIONS

Coconut is an internationally traded commodity crop. Coconut products prices are determined by the supply and demand factors on the international level. PNG has less than 2% share in the world supply domain therefore is a small player in the global coconut trade and is categorised as a “price taker” under these circumstances. However, PNG is a member of the international coconut community and collaborates with international and/or regional organisations on various matters of common interest on coconut. These associations are important in that PNG can draw from the experiences of other member countries and access technical expertise and funding support for coconut development in PNG. Two of such organisations are: (a) the Asian Pacific Coconut Community (APCC) and (b) the International Coconut Genetic Resources Network (COGENT).

5.1 Asian Pacific Coconut Community

PNG is a member of the APCC. The APCC is an intergovernmental organisation established in 1969 under the auspicious of the United Nations Economic and Social Commission for the Asia Pacific (UN-ESCAP). The APCC currently has 18 coconut-producing members accounting for 90% of total coconut production and exports globally.

The current National Liaison Officer (NLO) for PNG is the Secretary for Trade, Commerce and Industry. However, on most occasions, the KIK represents PNG at APCC meeting. Discussions have been afoot lately to make the Managing Director of KIK the NLO.

The PNG Government currently pays an annual subscription of about US$21,000 to APCC as part of its membership.

5.2 The International Coconut Genetic Resources Network (COGENT)

According to the COGENT website, the “the International Coconut Genetic Resources Network aims to promote national, regional and global collaboration among coconut-producing countries and partner institutions in the conservation and use of coconut genetic resources for enhanced livelihoods”.3

PNG is a member of COGENT and is represented by the Chief Executive Officer (CEO) of CCIL on its Steering Committee.

PNG is the host of the ICG-SP, which is located at the CCIL’s Stewart Research Station, in the Madang Province.

The major role of the genebank includes collection, conservation, characterization and utilization of selected and desirable coconut germplasm for breeding purposes. In addition, the regional genebank site will eventually become a service centre to facilitate germplasm exchange and utilization amongst the COGENT network countries with priority given to the Pacific Island Countries.

3 Source: https://facebook.com/cogentnetwork/info/?tab=page_infor
Coconut for Life and Wealth

Some of the ICG-SP main objectives include:

(a) To introduce selected accessions from Pacific Regional member countries;
(b) Provision of genetic diversity for the national breeding program;
(c) Exchange of germplasm with other COGENT member countries; and
(d) Conserve germplasm for future breeding purposes.

Since its establishment, successful exchanges have been carried out within the South Pacific Region (SPR) and between a member country (Sri Lanka) of South Asia Region (SAR) while the exchange with other member countries within SAR and other genebanks is pending.

Since 1994 COGENT have been providing financial and technical support to build capacity at SRS. This is to fulfill its obligation as a host on behalf of the Government of PNG and also to support the National Coconut Breeding Program through exchange and utilization of selected accessions from other genebanks. The national counterpart budget supports overheads and operational cost. More funds are required to collect accessions from member countries for conservation in the Genebank.

The Coconut Embryo Culture Unit at SRS is responsible for importation of the designated varieties and selected germplasm for conservation at the ICG-SP.

Genebank Security: The coconut genebank in Murnas, Sumkar outside of Madang Town is a Pacific treasure site of different varieties of coconut for breeding. It will be replicated at several selected sites domestically in PNG.
6. KEY PRIORITY ISSUES, OPPORTUNITIES AND STRENGTHS, AND STRATEGIES AND INTERVENTIONS

Having described the internal and external operating environment of the KIK and the coconut industry in PNG, this section presents the key priority issues, opportunities and strengths, and strategies and interventions. There are nine (9) key priority issues that have been identified that are affecting the performance of the coconut industry and these include:

- Key priority issue 1: Age and senility of current coconut palms
- Key priority issue 2: Stagnant and low smallholder productivity
- Key priority issue 3: Invasive Pests & Diseases
- Key priority issue 4: Standards and certification of facilities and quality control
- Key priority issue 5: Lack of business opportunities for high value coconut products
- Key priority issue 6: Lack of knowledge and information on HVCPs
- Key priority issue 7: Constraints in accessing financing support and credit facilities
- Key priority issue 8: Limited awareness, training and extension
- Key priority issue 9: Poor transportation and market infrastructure and deficient port and shipping facilities

The details of the key priority issues are summarised in Table 5.

Despite the key priority issues that pose challenges for the coconut industry in PNG, there are opportunities and strengths the KIK and its industry partners have to build the necessary foundations to move the industry forward as outlined in the table above.

The scoping of industry goal and purpose and the thematic program areas and their objectives and strategies have been defined to contribute towards mitigating some of the key priority issues as highlighted above. These are elaborated and described below.
Table 5: Key priority issues, opportunities and strengths, and strategies and interventions.

<table>
<thead>
<tr>
<th>Key priority issue 1: Age and senility of current coconut palms</th>
<th>Summary of the issue</th>
<th>Strengths and opportunities</th>
<th>Strategies and interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>❖ The last Agriculture Crop Census was undertaken in late 1980s. There have not been any surveys done to determine the age profile of coconut palms in PNG in the last decade. However, KIK estimates that over 75% of current coconut plantings in the country have gone past the economic life span of the crop resulting in low yields. A massive planting or replanting program would be a valuable investment towards the rejuvenation of the industry.</td>
<td>❖ There are two (2) existing coconut seed gardens (Omuru, in Madang Province &amp; Manabo, in Central Province). ❖ A total of thirteen (13) coconut seedling nurseries were established in strategic locations in PNG by CCIL under the National Seed Garden Project funded by the National Government between 2007 and 2011. ❖ From 2006 – 2014, a total of 192,486 seedlings were planted. This translates to 1,563.9 hectare (ha) planted to new coconuts. ❖ LNG project in Central province conducted a coconut replanting program in areas affected by the project. ❖ Potential for increased planted area ➢ Potential for Large Scale Commercial Investments as stipulated and facilitated by the PNG AAA and AIC of PNG legislations. ➢ Increased planted areas and expansion of production and exports through the Economic Corridors Concept.</td>
<td>❖ A National Coconut Replanting Program ➢ KIK may have already started this somewhat, by initiating a coconut replanting or planting program in Gulf and Central provinces through an initial National Government funding of K2.0 million in 2016. ➢ In the interim, a national strategy on how KIK and its industry partners can roll out this program to other coconut growing provinces in PNG should be crafted. ❖ Integrated coconut farming systems ➢ The national coconut replanting or planting program should be conducted with an integrated coconut farming systems approach. In this way, other cash and food crops can be grown together with coconut thus generating additional income and contribute to food security and nutrition needs of coconut farmers and optimize land use.</td>
<td></td>
</tr>
</tbody>
</table>
## Key priority issue 2: Stagnant and low smallholder productivity

<table>
<thead>
<tr>
<th>Summary of the issue</th>
<th>Strengths and opportunities</th>
<th>Strategies and interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A major constraint hindering production expansion is the stagnant and low smallholder productivity. There is an urgent need for comprehensive farmer capacity building and strengthening programs to address this important issue. The current national smallholder productivity has been estimated at below 900 kilograms (less than 0.9 tonnes per hectare). The plantation yields are relatively higher due to high management practices. However, the plantation sector’s overall influence in the industry is low due to the shrinking of the land areas in active production, high costs and land disputes over plantations. Many of these have been abandoned.</td>
<td><strong>Well established coconut R&amp;D facilities under CCIL.</strong>  &gt; The CCIL currently provides coconut R&amp;D and extension support on behalf of the KIK and/or the coconut industry in PNG. The Institute has been in existence since 1986 from what used to be known as the Cocoa Research Company to CCRI in 1986 to CCIL in 2003. The FER of CBAs recommended that the R&amp;D and extension functions to be subsumed into the current KIK operations and realign its current operations so it focus on the industry needs and less on research per se. Most of the current R&amp;D and extension programs will continue but under different governance and management arrangements.</td>
<td><strong>Adoption and utilisation of high yielding coconut Hybrid, LT and Dwarf seedlings</strong>  &gt; Identify what the critical impediments are and find interventions that will improve adoption and utilisation of high yielding LT and hybrid coconuts.  &gt; <strong>Adoption of good farm management practices</strong>  &gt; Adoption and utilisation of recommended agronomic and farm management practices can also contribute to increased productivity. However, these must be based on sound CCIL/KIK research recommendations.</td>
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<td><strong>Availability of high yielding Hybrid, Local Talls (LT) and Dwarfs</strong>  &gt; There are hybrids, and selected LT and dwarfs that are high yielding, which may contribute to high yields if they are planted in coconut farmers’ fields; and  &gt; The establishment of the new coconut genebank will effectively manage and characteristic all coconut accessions in PNG and out of these high yielding varieties will be recommended for cultivation.</td>
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### Key priority issue 3: Invasive Pests & Diseases

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<th>Summary of the issue</th>
<th>Strengths and opportunities</th>
<th>Strategies and interventions</th>
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| Invasive pests and diseases pose major threats to the coconut industry in PNG. Some of these include: | **Well established coconut R&D facilities under CCIL.**  
- The CCIL currently provides coconut R&D and extension support on behalf of the KIK and/or the coconut industry in PNG. The Institute has been in existence since 1986 from what used to be known as the Cocoa Research Company to CCRI in 1986 to CCIL in 2003. The FER of commodity boards and agencies recommended that the R&D and extension functions to be subsumed into the current KIK operations and realign its current operations so it focus on the industry needs and less on research per se. Most of the current research, development and extension programs will continue but under different governance and management arrangements.  
- CCIL has been applying pheromone to control Rhinoceros beetle. | **Relocation of the International Coconut Genbank.**  
- Despite delays in implementing the re-location of the genebank due to funding constraints, KIK has revived the logistical arrangements to re-locate the existing germplasm from SRS to Misima Island for quarantine and then to Punipuni on the mainland near Alotau, in Milne Bay Province. Specifically, the KIK senior management and technical staff from CCIL visited Misima Island and inspected the proposed site to establish the pre-entry quarantine nursery for 12 months. They also visited the Governor of Milne Bay Province and discussed the relocation initiative and visited the run-down Punipuni Plantation where the germplasm will eventually be planted. |

- **Bogia Coconut Syndrome**  
The BCS presents the biggest biosecurity threat to the PNG coconut and oil palm industries. It is nine years since BCS was detected in the Madang Province. Controlling the spread and mitigating the impact from BCS should remain a priority. R&D and extension services agenda for the coconut industry in the medium to long term. The KIK is equally aware that it must chart a new course for the industry, with support and commitment of all stockholders and stakeholders in meeting the new biosecurity challenges.

- **Rhinoceros beetle**  
  - Rhinoceros beetle has been a major pest of coconuts in PNG for many years. The New Guinea Islands region has been the most affected by this beetle pest.  
  - The arrival recently of the Guam species in the southern region has led to destruction of coconuts.  
  - CCIL has been applying pheromone to control Rhinoceros beetle.
### Summary of the issue

- **Processing equipment and facilities**
  Processing of HVCP require good processing facilities: tiling of processing floors; cleanliness of the processing area; waste drainage systems, and fencing of processing facilities.

- **Standards and certification of machinery and technology**
  Machinery and equipment to be used by all MSMEs need to be certified by the industry. The standard of machines need to meet the relevant criteria such as the grading of metals used in manufacturing food processing machines. In this case machinery manufactured for production of HVCP consumed as food such as VCO, coconut milk, and coconut flour must use food grade metal. These standards must comply with standards set by National Institute of Standards and Industrial Technology (NISIT).

- **Dioxin**
  Smoke-tainted copra oil leading to the presence of dioxin, which has become an issue with the European Union (EU). Tests are usually done to ascertain dioxin levels.

- **Aflatoxin**
  Aflatoxin is a potent human carcinogen. It is a naturally occurring toxic metabolite by a certain fungi (Aspergillus flavis), a mould found on food products such as corn and peanuts and on copra as well during storage, which becomes a health issue. Although absolute safety can never be achieved, many countries including the EU have attempted to limit exposure to aflatoxins by imposing regulatory limits on commodities intended for use as food and feed.\(^4\)

### Strengths and opportunities

- **Availability of Good Management Practices**
  - Processing of HVCPs require good management practices that include: health and sanitation; good record keeping; employee protection; and efficient risk management.
  - Quality standards for coconut products have been set by the APCC.

### Strategies and interventions

- **Establishing coconut industry standards**
  - KIK is taking the lead in addressing some of these industry issues by developing a HACCP system. This is aimed at improving supply chain efficiencies, productivity and product quality. In order to facilitate this, there is a need for the establishment of a demonstration processing facility (including processing machinery and equipment for processing, packaging and labeling, product quality testing laboratories, and training) to test and demonstrate the advancements in the processing of the different HVCP. This will act as a resource and information centre for all coconut entrepreneurs.

- **Collaboration with NISIT**
  - KIK must collaborate with NISIT to help in maintaining standards and certification of machinery and technologies.

- **Capacity building**
  - Relevant training in these areas will be provided to all processors of coconut products.
  - Manuals on product quality of all coconut products will be developed.
  - All quality standards of coconut products will be circulated.

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\(^4\) Source: http://www.ehso.com/ehshome/aflatoxin.php
## Key priority issue 5: Lack of business opportunities for coconut HVCPs

**Summary of the issue**

- **Slow transition from copra to HVCPs:**
  
  KIK was created because the stockholders demanded deregulation of the copra industry, and the State and other stakeholders called for the immediate diversification of the industry through the promotion and development of HVCPs other than copra. It is now almost a decade and the half post-deregulation, yet the industry is still dependent very much on the copra trade. However, the current level of copra production is derived only from those areas with good access to the market.

**Strengths and opportunities**

- **Promotion and funding of small to medium enterprises (SMEs) by the National Government**
  
  - The promotion and allocation of funding for SMEs by the National Government provides opportunities for coconut-based agribusinesses to be developed in the coconut industry.

**Strategies and interventions**

- **Funding support by the National Government**
  
  - GoPNG approved K3.0m for downstream processing of coconut products.
  
  - KIK used the funding to subsidize the project partners to refurbish processing facilities and up-graded the packaging and labelling of products.
  
  - The partners in this project include: Amruqa & Rabaul Virgin Coconut Oil (RVCO, ENBP); Rubio & Emirau Marine Products (NIP); Aroma Cooperative, Niu Innovations & Maxtone Haus (CP); FOWIAD & Weni and Mendol (ESP).

## Key priority issue 6: Lack of knowledge and information on HVCPs

**Summary of the issue**

- **Deficiencies in research and generation of information on HVCPs**
  
  The capacity to research, generate, compile and disseminate information for use by potential investors and micro and small coconut agribusiness enterprises have been lacking in the industry.

**Strengths and opportunities**

- **Well-established facilities at KIK and CCIL**
  
  - KIK and CCIL have well-established facilities to conduct research and generate information on HVCPs and make it available to the industry.

**Strategies and interventions**

- **Thematic program areas to support compilation of knowledge and information on HVCPs**
  
  - Two thematic program areas, namely: (a) Industry Capacity Building and Strengthening and (b) Agribusiness development and Marketing have been scoped in this strategic plan, which will be responsible for improved information research, packaging, and effective communication and utilisation of information and technologies through stakeholder collaboration and networking and development of coconut agribusinesses, respectively.
### Key priority issue 7: Constraints in accessing financing support and credit facilities

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<tr>
<th>Summary of the issue</th>
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<tr>
<td><strong>Poor credit access</strong>&lt;br&gt;Agriculture investments, particularly that of smallholder producers continues to be given low priority by the commercial banking and financial sector. The support of affordable credit schemes under agriculture and commodity-based savings and credit schemes needs to be developed and supported through initial capital outlay.</td>
<td><strong>Advocacy for enabling environments</strong>&lt;br&gt;Advocacy for an enabling environment will be done under the auspices of the Effective Governance and Management Thematic Program Area in the Coconut Industry Strategic Plan, which will be mandated to advocate and influence issues outside of the industry and work in partnership with financial institutions to derive resolution of the financial needs of the coconut farmers and agribusiness.</td>
<td><strong>Capacity building and strengthening</strong>&lt;br&gt;KIK to build capacity to strengthen its advocacy and policy analysis capabilities in order to better influence policies of financial institutions to derive resolution of the credit needs of coconut farmers and agribusinesses.</td>
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<td>Capacity and knowledge for accessing financial products and credit facilities to agribusiness enterprises including coconut is limited in PNG. There are at least three major impediments in entrepreneurial financing:&lt;br&gt;(a) Complicated loan application procedures and farmers and MSMEs lack of capacity and knowledge to apply and access available financial products.&lt;br&gt;(b) High interest rates&lt;br&gt;(c) Burdensome collateral requirements</td>
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<td><strong>Explore collaborative opportunities with existing commercial financial institutions to resource agribusiness ventures in the coconut industry.</strong></td>
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<td>Due to the nature and the size of business, the lending agencies are unable to address the credit availability of the coconut sector. Lending agencies need to understand the sector in order to establish necessary credit structure and evaluation skills in order to establish adequate credit risk-mitigating strategies. These challenges are compounded by the MSMEs lack of capacity and knowledge to access such financial products and credit facilities.</td>
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Key priority issue 8: Limited awareness, training and extension

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| Decline in Government funded extension services | **Availability of extension teams in almost all coconut growing provinces.**  
- CCIL currently has extension officers that are based in almost all coconut growing provinces.  
- New skills and industry capacity building and resourcing arrangements under the auspices of the AIC. | **Pluralistic and innovative extension model**  
- A home grown innovative extension model is being discussed in partnership with EDTC utilizing the personal viability approach. This will go towards strengthening partnerships with farmers and working towards adoption of a participatory and business oriented extension approach. |
| Depletion in human resources at the provincial extension services has completely prevented extension services from disseminating up to date information. | **Resilient farmers**  
- The resilience of PNG coconut farmers has been tested by different challenges in the past two decades. These have ranged from prolonged depressed prices in the mid-1980s to mid-1990s through to the deregulation of the industry, which saw a major disruption in the production and buying of copra and their movement from remote locations in PNG.  
- This is an important attribute for the industry and requires adequate support to ensure these farmers are supported to sustain the coconut industry. | **Thematic program area**  
- An Industry Capacity Building and Strengthening thematic program area has been scoped in this strategic plan, which will be responsible for improved information research, packaging, and effective communication and utilisation of information and technologies through stakeholder collaboration and networking.  
- An industry working group consisting all MSMEs processing HVCPs has been established to share ideas and discuss issues in all areas of production, processing and marketing of HVCPs. |
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### Key priority issue 9: Poor transportation and market infrastructure and deficient port and shipping facilities

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<td><strong>Poor transport and market infrastructure</strong>&lt;br&gt;Poor infrastructure like roads and bridges are factors that limits market access for coconut producers to move their produce to market in rural areas of PNG. This is coupled with the high cost of freight to bring coconut products to the market. It is critical for the growth of the coconut industry and the agriculture sector that roads and market infrastructure is given priority by government.</td>
<td><strong>Advocacy for enabling environments</strong>&lt;br&gt;- Advocacy for an enabling environment will be done under the auspices of the Effective Governance and Management Thematic Program Area in the Coconut Industry Strategic Plan, which will be mandated to advocate and influence issues outside of the industry and work in partnership with relevant public and private sector entities to derive resolution of the transport, shipping and marketing infrastructure constraints.</td>
<td><strong>Capacity building and strengthening</strong>&lt;br&gt;- KIK to build capacity to strengthen its advocacy and policy analysis capabilities in order to better influence regulations, laws and policies to derive resolution of the transport, shipping and marketing infrastructure constraints.</td>
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<td><strong>Deficient port and shipping facilities, resulting in high freight costs.</strong>&lt;br&gt;Deficient port and shipping facilities and high fuel costs contributes to high freight costs.</td>
<td></td>
<td><strong>Farmer mobilisation and establishment of cooperatives and grower groups.</strong>&lt;br&gt;- The transport and market infrastructure challenges contributes to high freight costs. Mobilisation of farmers into co-operative marketing arrangements will contribute towards creating economies of scale and reduction in per unit costs.</td>
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These are issues that are not within the remit of responsibilities of neither the KIK nor its industry partners to arrest. Infrastructure such as roads, bridges, and jetties are important for market access to move copra and other coconut products along the value chain and also to access goods and services.
7. **INDUSTRY VISION, MISSION, AND CORE VALUES**

7.1 **Vision**

The vision of the coconut industry is:

*Entrepreneurial, prosperous, and healthy communities; a dynamic, innovative and sustainable coconut industry.*

7.2 **Mission**

The mission of the coconut industry is to:

*Improve productivity, production, product quality and market accessibility of coconut products. These will be achieved through innovative research, extension services, entrepreneurial empowerment, supportive policies and regulations, and the effective utilization of information with adequate, competent, motivated and continuously learning staff and other stakeholders along the value chain, working in effective and efficient partnerships.*

7.3 **Core Values**

The KIK, as the major stakeholder and custodian of the coconut industry that will implement this coconut industry strategic plan will be guided by six core values of **integrity, stewardship, service, respect, teamwork, innovation, and environmentally accountable** in the discharge of its mandate. In doing so the KIK also would like to encourage its stockholders and stakeholders to also embrace these core values so they become the coconut industry's shared values in the conduct of their roles in developing the coconut industry. The six core values are described in **Table 6** below.

**Table 6: Core values.**

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<tr>
<th>Core Value</th>
<th>Our Commitment</th>
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<tr>
<td><strong>Integrity</strong></td>
<td>We provide our services to the coconut industry including farmers, processors, traders and other industry along the value chain with honesty, transparency and consistency based on trust.</td>
</tr>
<tr>
<td><strong>Stewardship</strong></td>
<td>We uphold and be responsible for information dissemination and resource sharing, ensuring policies and regulations, and commercial dealings are implemented and applied with competence, responsibility and utmost care for their intended and agreed purposes.</td>
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<tr>
<td><strong>Service</strong></td>
<td>We consistently strive to be responsive and customer-oriented in providing enabling business environment, adaptive research, regulatory and advisory services to the coconut growers, processors, traders and other industry players along the coconut industry value chain.</td>
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</table>
Respect  We uphold the rights of all participants along the coconut industry value chain to have equal access to the opportunities (entrepreneur) and enjoy the benefits emanating from them through the development of the coconut industry in its diversity regardless of their social (gender and HIV/AIDS, disabilities, and etc.) and economic (poverty) status.

Team work  We promote and develop team spirit and cohesiveness with all our stockholders and stakeholders in the coconut industry, fostering effective institutional arrangements and productive partnerships for all parties/actors/key players in the coconut industry value chain.

Innovation  We strive for excellence through the facilitation and application of innovative solutions at all levels in addressing the challenges of the coconut industry.

Environmentally accountable  We commit ourselves to be environmentally conscious in our actions, taking into consideration the damage to the environment, mitigation of pollution and other environmentally degrading activities that occurs along production, processing and marketing systems in the coconut industry.

KIK Staff: Every initiative requires a good team: some of the KIK staff who will drive the implementation of the Coconut Strategic Plan over the next ten years.
8. INDUSTRY GOAL, PURPOSE, AND THEMATIC PROGRAM AREAS

8.1 Industry Goal
This Coconut Industry Strategic Plan sets out to achieve the following coconut industry Goal:

*Improved livelihoods of families and enterprises engaged in the coconut industry.*

The indicators of success for the goal are: improved income per capita of coconut farming households by 10% per year from current average baseline farm income levels; increased net profit of coconut farmers, and/or enterprises involved in processing, trading and transporting coconut products by 10% per year from current levels; healthy coconut-based rural communities supported by income from production, processing and trading of coconut products and food and additional income from coconut-based farming systems with food and other cash crops contributing to improved food security and nutrition from current levels; improved housing, access to quality water supply and energy sources by coconut-based farming households from current levels; and increase in downstream processing of HVCPs from current levels.

8.2 Industry Purpose
This Coconut Industry Strategic Plan aims to achieve the following coconut industry Purpose:

*Improved productivity, product quality and diversification; optimal and sustainable scale of production; viable enterprises with accessible marketing systems and productive partnerships along the coconut industry value chain.*

The indicators of success for the purpose are a coconut industry that is able to increase total factor productivity\(^5\) to levels that are comparable to current international standards; enhanced quality standards of copra and other HVCP from current levels; increased volumes of coconut products delivered to the market compared to current levels; increased number of viable MSMEs established with effective and efficient marketing systems; and forging of productive partnerships along the coconut industry value chain.

8.3 Thematic Programs Areas, Objectives, and Strategies

8.3.1 Thematic Program Area 1: Agribusiness Development and Marketing

Thematic Objective 1: *Coconut agribusinesses and effective marketing systems improved and established.*

The coconut industry in PNG has been a plantation crop until the 1980s. The production and exports of copra, CNO and copra meal are mainly done by large industry players.

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\(^5\) This is a measure of the efficiency of all inputs to a production process. Increases in TFP result from technological innovations or improvements such as those produced through research conducted by CCIL.
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Small-scale production is not competitive with the large-scale production because of the lower investment in labour and use of less sophisticated technology adapted to the skills of untrained and inexperienced labour.

Only about two years ago the National Government of PNG recognized the importance of small to medium enterprises (SMEs) to empower the local people to go into business. These have opened opportunities for smallholder coconut farmers to advance into processing of HVCP through a cottage industry approach. Specifically, with the funding support of the National Government, KIK started promoting the downstream processing of HVCP commencing with VCO and its derivatives like soap, body lotions, and cooking oil. All of these developments have been undertaken by MSMEs. When the program of support by the National Government started in 2014, the number of coconut MSMEs operating in PNG was five (5). The number of MSMEs has increased to nine (9) in 2015. The KIK projects the number of MSMEs to increase further to 15 or more in 2016. KIK is partnering with the private sector thus enforcing the government’s policy on Public Private Partnership (PPP) to create employment so that families can be employed to generate income and afford basic needs. Under the current partnership arrangements, different models of MSMEs were supported in order to observe their efficiency of production and marketing of products.

The KIK’s experience working with the existing MSMEs in the past two years reveal certain challenges that limit the development of MSMEs in PNG as were outlined in the key priority issues for the coconut industry earlier. Specifically for this thematic program area, the challenges include: financing support; good management practices; improved processing facilities; improved machinery and technology; improved packaging and labeling; transport and freight; and improved marketing network. The indicators of success and the strategies to arrest these issues are outlined below.

**Indicators of Success:** The indicators of success for Agribusiness Development and Marketing include: Improved capacity to access financial products and facilities from current levels (advocacy and training for an enabling financial environment), improved market accessibility (transport and new markets), increased viable coconut agribusiness and marketing enterprises from current levels; and accreditations and high quality industry standards (includes proper processing, packaging and labeling of high value coconut products (HVCPs)) established.

**Strategies:** Advocate and build capacity of coconut farmers, processors, and traders to access relevant financial products and facilities; establishment of an effective quality control system for processing facilities; research and development of coconut based agribusiness models for micro, small and medium size enterprises; facilitate the establishment of marketing systems; develop and promote agribusiness incentives; incubate start-ups and subsequently graduate coconut micro and small agribusinesses to access additional resources at the medium enterprise level; and collaborate with industry partners (e.g. NISIT, APCC and FOSFA) and establish accreditations of coconut products processing facilities and laboratories and develop and adopt high quality standards for the coconut industry.
8.3.2 Thematic Program Area 2: Scale of Production and Diversification

Thematic Objective 2: Optimal and sustainable production of coconuts, copra and other diversified high value coconut products and services through farmer mobilization, rehabilitation and planting, and downstream processing.

The copra production trends, related issues and expectations of the National Government were described in section 4. KIK and its industry partners are mindful that copra production by the coconut farmers will remain a challenge due to low price forecasts and price volatility and may become unsustainable in the medium to long term. Thus it is imperative that the PNG coconut industry strategically shifts to the production and marketing of HVCP. Increasing the production of HVCP will also contribute to achieving the National Government’s production target in copra equivalent terms.

The demand for HVCP both domestic and global markets have just been realized in the last few years due to its benefits in the food and non-food, nutraceutical, cosmeceutical, pharmaceutical and biofuel industries. For example, packaged coconut water has become a lucrative industry in the last few years, competing against carbonated drinks, thus luring owners and manufacturing of Coca cola and Pepsi to enter into packaging coconut water.

Demand now exceeds supply and the production is lagging behind due to shortage of coconuts to process. In PNG this should be signal for the industry to replant old and abandoned coconut plantations and plant new areas, in order to increase production for the future.

There are numerous opportunities within the coconut sub-sector in which small producers can value add through diversification, adoption and utilization of improved technologies and enhanced market access.

The coconut industry in the last two years has taken a proactive approach in promoting the production and processing of HVCP beginning with virgin coconut oil and its derivatives such as coconut soap, body lotions, and cooking oil. The production of some of these products have been subsidised by funding support from the National Government through KIK in partnership with coconut MSMEs who have taken the initiative in processing HVCP. Some of these HVCP are already sold in the domestic market or exported to niche markets overseas.

The other product is the processing of copra into coconut biofuels. At present, Kulili Estates on Karkar Island in Madang Province produces biodiesel blended with copra oil for use in motor vehicles and generators to generate energy for electricity.

Indicators of Success: The indicators of success for the Scale of Production and Diversification include: Increased production by 7% from current production of 273,873 tonnes of copra equivalent towards reaching the target of 440,000 tonnes of copra equivalent6 by 2030; increased use of quality coconut products locally from current levels;

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6 This means that the volume of coconuts used for daily food and other coconut products that are currently produced must be converted to their copra equivalent to derive only ‘one product’ for ease of measuring total coconut production when many products are involved. Thus the product chosen is copra.
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economies of scale; resilient smallholder coconut farmers, processors and traders; mobilized production groups; land unlocked and utilized in non-traditional coconut growing areas; increased range of commercially viable coconut products produced for domestic and export markets; and adoption and utilization of improved technologies.

**Strategies:** Increase the volume of production by smallholders through mobilization of production groups based on market requirements; unlock land beyond traditional coconut growing areas; mobilization of land for planting and rehabilitation of existing coconut plantings; research, development and adoption of new and improved technologies and high value coconut products; production of high value coconut products with high quality standards, support resilient smallholder farmers, processors and traders.

8.3.3 Thematic Program Area 3: Productivity Improvement

**Thematic Objective 3:** Market-driven, enhanced and sustainable productivity of coconut farmers, processors, traders and other stakeholders along the coconut industry value chain.

Productivity is the measure of output per given input or factor efficiency. In the coconut industry, it applies to all actors along the value chain from the farm level through to the market. There is a great need for the ‘new’ KIK to review its current R&D activities as implemented by CCIL to establish how the different research disciplines can progress their R&D activities in a holistic way where all competences in coconut breeding, agronomy and farming systems, plant protection (entomology and pathology), downstream processing and socioeconomics can collaborate to produce research outputs that improves productivity along the coconut industry value chain from farm level through to processing and marketing.

The different coconut varieties, including Local Talls, Dwarfs and Hybrids can produce in excess of 1,200 kilograms of copra per hectare. Omuru (2001) estimated the smallholder copra yield per hectare to be 900 kg per hectare. Improving the productivity of the above coconut varieties can contribute to increasing the production of HVCPs to facilitate business activities for farmers and other actors in the industry.

It may be overly ambitious to suggest that coconut farmers will use the income they generate from producing coconut products to improve the health and wellbeing of their households. Therefore it is highly recommended that the agronomy and farming systems research work towards establishing environmentally sustainable coconut production systems with food and other cash crops. In this way, the coconut-farming households can adopt and utilize these cropping arrangements or farming practices to produce food crops for food security and nutrition and widen their scope for cash income from other cash crops.

There is a lot of room for improved productivity from the farm level through to the market. This applies to farmers, processors, traders and other actors along the value chain. The factors affecting productivity improvement include poor packaging and delivery of technologies, lack of resources including finance, poor biosecurity policy implementation, environmental risks and climate change. Productivity can be improved through effective packaging and delivery of information and technology, adequate funding for reliable programs, improved capacity to access to credit facilities, strong emphasis in changing
mind-sets and addressing other socio-economic issues, biosecurity measures, environmental risk management and climate-smart production systems combined with food crops and other cash crops that influence production decisions.

**Indicators of success:** The indicators of success for Productivity Improvement include: increased demand and sale of coconut products in domestic and export market from current levels; improved farm management practices by coconut producing entities; reduced production costs for copra and other HVCPs from the current baseline; enhanced natural resource base (soil fertility, improved coconut varieties); resilient coconut farmers; resilient labour markets; climate-smart, biosecurity conscious and environmentally friendly coconut production systems with food and other cash crops; competent and continuously learning farmers and others along the coconut industry value chain; new high value coconut products produced and marketed; and increased volumes of improved quality coconut products delivered to the market.

**Strategies:** Market research, cost of production studies to determine cost structures and trends, establish information database; optimal and sustainable use of resources, research and establish environmentally sustainable coconut production systems with food and other cash crops; establish biosecurity standards, protocols and certification; targeted and adaptive technological research and utilization.

8.3.4 Thematic Program Area 4 – Industry Capacity Building and Strengthening

**Thematic Objective 4:** Compe**nt**cies and capabilities of farmers, processors, traders and other key stakeholders along the value chain are enhanced and strengthened.

The role of industry capacity building and strengthening in information management and communication are of crucial importance for ensuring that all the stockholders in the coconut industry value chains operate efficiently. Information is the major “commodity” that KIK and its stockholders require of each other.

Better and improved communication is needed between all stockholder and stakeholder groups in the coconut industry. This communication has a number of components: (a) it must ensure that KIK is adequately informed about all aspects of the environment in which its research outputs, provision of market information and capacity building and strengthening interventions are expected to deliver results; (b) it must disseminate information about appropriate coconut technologies to farmers and others who can benefit from it; and (c) it must inform stockholders and stakeholders about what KIK is doing.

Producing the results required to achieve the coconut industries strategic purpose depends on enhancing the competencies and capabilities of farmers, processors, traders and other key stakeholders along the coconut value chain. Specifically, these will entail effective industry capacity building and strengthening efforts at all levels of the industry. It may be necessary to determine the different categories of farmers and enterprises and tailor capacity building and strengthening efforts towards addressing their different needs.

**Indicators of Success:** The indicators of success for Industry Capacity Building and Strengthening include: Increased number of skilled and progressive coconut farmers, processors and traders from current baseline; functioning and effective communication and networking; relevant information packaged and widely disseminated from current levels;
enhanced responsiveness to the industry and stockholder needs, adaption and application of new innovative production and processing methods; improved access to useable technologies, affordable training and markets, and credit (relevant financial products) from current levels.

**Strategies:** Facilitate innovative capacity building and strengthening (action research and pluralistic extension models) approaches; broker industry learning, collaboration, networking and productive partnerships; build capacity of coconut farmers, processors and traders and facilitate for them to have access to useable technologies, affordable training and markets, and credit.

8.3.5 Thematic Program Area 5 – Effective Corporate Governance and Management

**Thematic Objective 5:** Improved governance, management, competencies and capabilities of KIK to support its mandated functions.

Producing the outputs necessary for KIK to achieve the coconut industry purpose depends on enhancing its governance and management competences and capabilities. Enhancing the capacity and capabilities relates to almost all aspects of KIK’s work and as such should improve its governance systems, leadership, administration, program development and implementation, fundraising and income generation, brokering and managing partnerships and collaboration, advocacy and policy change that leads to creating an enabling environment and planning, monitoring and evaluation (PM&E).

**Indicators of Success:** The indicators of success for Effective Corporate Governance and Management include: KIK Act 2002 and Regulations reviewed and amended in line with the AAA and AIC Acts; KIK Board established, new management systems (finance and audits, HR (human talent management, training and development), administration, logistics, ICT, legal) established; systems and processes aligned to new industry objectives; business development initiatives and projects established; enabling operating environment and policy change through advocacy; managing partnerships and collaboration; and PM&E systems established.

**Strategies:** Review and amend KIK Act 2002 and Regulations; facilitate the establishment of the KIK Board; establish new and/or improved management systems; improved and upgraded systems and processes developed from the current practices; initiate establishment of an inter-industry dialogue for informed policy formulation and implementation; formulate and conduct regular performance appraisals; conduct finance and management audits; functional organizational structure reviews; conduct M&E; establish conducive policy, regulatory and business environment; brokering relationships and improve resource allocation.
9. IMPLEMENTATION AND MANAGEMENT OF THE STRATEGIC PLAN

9.1 Institutional Arrangements

The Managing Director (MD) of KIK will be responsible for implementing this strategic plan, with oversight from the Board of Directors. The MD will implement the strategic plan through thematic program area leaders who will be responsible for planning and developing business plans for each thematic program area to identify projects. In turn, project leaders will prepare detailed projects under each program. In addition to its oversight role, the Board of Directors will be expected to make a significant input to the Effective Corporate Governance and Management Thematic Program Area in terms of creating an enabling environment and policy change through advocacy.

The AR4D paradigm from which this strategic plan has been crafted recognises that the people-level impact implied by the purpose and its thematic program area objectives cannot be delivered by KIK alone. Therefore, the MD and the thematic program area leaders will work with a range of partners along coconut industry value chains as appropriate. This means that, as the program area leaders formulate their respective business plans, they will identify and involve relevant partner institutions, stockholders and stakeholders.

By subsuming the R&D and extension functions from CCIL, a pool of highly qualified and experienced staff will be added to KIK’s existing human talent pool to deliver quality outcomes for its stockholders. The effectiveness of staff will be facilitated by aligning the organisational structure of KIK with the purpose and thematic program area objectives. This will facilitate interdisciplinary collaboration, teamwork and action learning within the organisation and among industry partners.

9.2 Resourcing the Strategic Plan

KIK and its partners will have to be adequately resourced to implement this strategic plan. The funding requirements of the strategic plan will be determined after the formulation of business plans of the thematic program areas (business units) and their respective projects. Resource mobilization will be through its traditional areas of core funding, specific program/project funding, particularly from the National Government, effective partnerships across industries, private sector, other external sources, and internal income generating businesses. These funding approaches are facilitated not only by the innovation systems paradigm, which requires that many stockholders and stakeholders participate in delivering people-level impact; but also from the need to be self-sufficient in generating own income to sustain its operations.

Currently, KIK receives funding mostly from the National Government to sustain its regulatory and development functions. These include Government of PNG (GoPNG) in the form of annual grants for recurrent (salaries and wages) and development project expenses; and variable management levies from exporters. Management levies are received through deductions from the prices paid to exporters at the point of export. There are three products from which KIK collects levies at present.
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These and the current rates are: (a) copra – K30.60 per tonne; (b) crude coconut oil – K33 per tonne and (c) copra meal – K10 per tonne. These funding sources will be maintained and improved where appropriate.

The thematic program area leaders will formulate and mobilize specific funding for programs and projects from national, regional and international development partners. Sources of funding will include the GoPNG public sector investment programs, private-public sector partnerships, regional and international bilateral and multilateral donors, private foundations, response to requests for proposals from donors and the national private sector. Some of these funds may be used by KIK through competitive grant systems.

Partner institutions will share resources by making financial and in-kind contributions for joint projects. In-kind contributions will include technical expertise, staff time, research and training facilities at either reduced cost or no cost. Arrangements may be made with partner institutions that may share common interests and goals to use their own resources to independently implement projects and share results with KIK.

9.3 Monitoring and Evaluation Plan

KIK will develop a set of performance indicators based on the generic indicators of success identified for the industry goal, purpose and thematic program area objectives. This requires that KIK conduct baseline studies and trend analysis in order to formulate quantitative, qualitative and time-bound performance indicators, to monitor progress towards achievement of the purpose and thematic program area objectives and, eventually, assess people-level impact. The performance indicators will be used to design an impact assessment framework for the goal and a monitoring and evaluation framework that the MD will use to track indicators of success for the purpose and delivery of thematic program area outputs necessary and sufficient to deliver the purpose.

A participatory internal M&E system will be used to generate information to monitor implementation, results indicators and action learning by KIK and its partners. External evaluation and review of the strategic plan will be carried out every three years, while an impact assessment will be conducted every five years.

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These rates are inclusive of 10% GST.
### ANNEX I: COCONUT INDUSTRY STRATEGIC PLAN – RESULTS FRAMEWORK

#### Industry Goal

*Improved livelihoods of families and enterprises engaged in the coconut industry*

<table>
<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
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</table>
| **1. Improved income per capita of coconut farming households by 10% per year from current average baseline farm income levels.** | ▪ KIK coconut farm household and socioeconomic survey reports.  
▪ DAL and AIC annual reports. | ▪ Government and development partners continue to recognise the importance of the coconut industry as a driver of the rural economy.  
▪ KIK has capacity and capability to conduct coconut farm household and socioeconomic baseline and monitoring surveys.  
▪ Practically functioning KIK, DAL and AIC. |
| **2. Increased net profit for farmers, and/or enterprises involved in production, processing, trading and transporting coconut products by 10% per year from current levels.** | ▪ Profit and loss statements of relevant entities.  
▪ KIK coconut cost of production studies. | ▪ Coconut farms are operated as businesses.  
▪ Coconut farmers and coconut enterprises involved in production, processing, trading and transportation keep proper accounting records and timely reporting.  
▪ KIK conducts coconut cost of production studies on a regular basis. |
| **3. Healthy coconut-based rural communities supported by income from production, processing and trading of coconut products and additional income from coconut-based farming systems with food and other cash crops contributing to improved food security and nutrition from current levels.** | ▪ Provincial or district health reports and statistics.  
▪ National Health Department annual reports.  
▪ KIK coconut farm household and socioeconomic survey reports. | ▪ Coconut farmers adopt and utilise coconut-based farming systems intercropping with food and other cash crops for improved food security and nutrition.  
▪ Locally grown food is easily available and affordable at local markets.  
▪ Greater awareness and education on nutritional aspects of locally grown food and coconut as food.  
▪ Relevant government policies in place to ensure proper record keeping. |
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<tr>
<th>Coconut for Life and Wealth</th>
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<tbody>
<tr>
<td>KIK partner with the National Health Department to conduct occasional joint farm household food security and nutrition surveys.</td>
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<tr>
<td>NSO data is readily available.</td>
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</table>

| 4. Improved housing, access to quality water supply and energy sources by coconut-based farming households from current levels. |
| KIK coconut farm household and socioeconomic survey reports. |
| Affordable cost of materials, sources of good water and energy supply. |
| Income from coconut is used to improve livelihoods by building affordable houses, install water tanks and access electricity or solar power? |
| KIK conducts coconut farm household and socioeconomic survey regularly. |
### Industry Purpose

*Improved productivity, product quality and diversification; optimal and sustainable scale of production; viable enterprises with accessible marketing systems and effective and efficient partnerships along the coconut industry value chain*

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<thead>
<tr>
<th>Objectively Verifiable Indicators</th>
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</tr>
</thead>
</table>
| **1. Increased factor productivity, comparable to current international standards.** | International agriculture R&D reports.  
Annual APCC reports.  
FAO reports.  
KIK coconut R&D reports. | Willingness of coconut farmers to adopt and utilize new coconut production technologies.  
Comparative advantage of coconut industry maintained.  
New investments in coconut industry development.  
KIK conducts coconut farm household and socioeconomic survey regularly.  
KIK conducts annual coconut R&D reviews. |
| **2. Enhanced quality standards of copra and other high value coconut products (HVCP) from current levels.** | KIK quarterly market reports.  
KIK coconut R&D and capacity building & strengthening reports.  
Coconut based MSMEs reports. | Viability of the coconut based agribusinesses along the coconut industry value chain encourages continued investment and attracts new investment.  
KIK conducts annual coconut R&D reviews.  
KIK prepares market reports on a timely basis. |
| **3. Increased volumes of coconut products delivered to the market compared to current levels.** | KIK quarterly market reports.  
Coconut based MSMEs reports. | Willingness of coconut farmers to work in clusters or commercial groups to address optimal scaling issues in the districts.  
Viability of the coconut based agribusinesses along the coconut industry value chain encourages continued investment and attracts new investment.  
KIK prepares market reports on a timely basis. |
4. Increased downstream processing of HVCPs from current levels.

- KIK annual reports.
- KIK quarterly market reports.
- Coconut based MSMEs reports.
- There is demand for new HVCPs locally and globally.
- Viability of the coconut based agribusinesses along the coconut industry value chain encourages continued investment and attracts new investment.
- KIK prepares annual report and market reports on a timely basis.
- Incentives are attractive to induce new investments in coconut downstream processing.

5. Increased number of viable MSMEs established with effective and efficient marketing systems.

- KIK annual reports.
- KIK quarterly market reports.
- Willingness of coconut farmers to adopt new coconut production technologies and form new MSMEs.
- Viability of the coconut based agribusinesses along the coconut industry value chain encourages continued investment and attracts new investment.
- KIK prepares annual report and market reports on a timely basis.

6. Forging of productive partnerships along the coconut industry value chain.

- KIK annual reports.
- Facilitate and promote productive partnership arrangements along the coconut industry value chain.
- Coconut industry value chain enterprises willing to form productive partnerships.
# Thematic Program Area 1: Agribusiness Development and Marketing

**Coconut agribusinesses and effective marketing systems improved and established**

<table>
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<tr>
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<th>Important Assumptions</th>
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<tbody>
<tr>
<td>1. Improved capacity to access financial products and facilities from current levels (advocacy and training for an enabling financial environment).</td>
<td>▪ KIK annual reports.</td>
<td>▪ KIK advocates and builds capacity of coconut farmers, processors, and traders to enable them to access relevant financial products and facilities.</td>
</tr>
<tr>
<td></td>
<td>▪ Thematic program area 1 reports</td>
<td>▪ Willingness of financial institutions to utilize their financial products in coconut based MSMEs.</td>
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<tr>
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<td>▪ KIK and its industry partners to advocate and liaise with financial institutions to invest in the coconut industry.</td>
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<td></td>
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<td>▪ New investments in coconut development in the provinces and districts.</td>
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<td>▪ KIK prepares relevant reports on a timely basis.</td>
</tr>
<tr>
<td>2. Improved market accessibility (transport and new markets) from current levels.</td>
<td>▪ KIK annual reports.</td>
<td>▪ Viability of the coconut industry along the value chain encourages continued investment and attracts new investment.</td>
</tr>
<tr>
<td></td>
<td>▪ KIK quarterly market reports.</td>
<td>▪ KIK and partners to establish an effective and efficient marketing system.</td>
</tr>
<tr>
<td></td>
<td>▪ Coconut MSMEs reports.</td>
<td>▪ Transport and market infrastructure to coconut communities is improved by DDAs.</td>
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<td></td>
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<td>▪ KIK prepares annual report and market reports on a timely basis.</td>
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<td>▪ Willingness of coconut MSMEs to share their information with KIK.</td>
</tr>
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</table>
### Coconut for Life and Wealth

| 3. Increased commercially viable coconut agribusiness and marketing enterprises from current levels. |  - KIK annual reports.  
- DAL and AIC reports  
- Coconut based MSMEs reports. |  - Government approved smallholder and agribusiness incentives from stimulus policy package are adopted and utilized by coconut farmers and coconut based MSMEs.  
- Viability of the coconut based agribusinesses along the coconut industry value chain encourages continued investment and attracts new investment.  
- Willingness of coconut MSMEs to share their information with KIK. |
|---|---|---|
| 4. Accreditations and high quality industry standards (includes proper processing, packaging and labelling of HVCPs) established. |  - KIK annual reports.  
- KIK quality standards manual. |  - KIK and its industry partners (NISIT, APCC, FOSFA) have capacity to facilitate and/or foster accreditations of coconut products processing facilities and laboratories and develop and adopt high quality standards for the coconut industry.  
- KIK prepares annual report on a timely basis. |
### Thematic Program Area 2: Scale of Production and Diversification

*Optimal and sustainable production of coconuts, copra and other diversified high value coconut products and services through farmer mobilization, rehabilitation and planting, and downstream processing*

<table>
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<tbody>
<tr>
<td>1. Increased production by 7% from current production of 273,873 tonnes of copra equivalent tonnes towards reaching the target of 440,000 tonnes of copra equivalent by 2030.</td>
<td>KIK annual reports.</td>
<td>KIK develops strategies and production models on how it plans for the industry to achieve 7% increase in production per year towards achieving the National Government’s production target of 440,000 tonnes of copra equivalent by 2030.</td>
</tr>
<tr>
<td></td>
<td>Thematic program area 2 reports.</td>
<td>KIK annual reports and quarterly reports are prepared on a timely basis.</td>
</tr>
<tr>
<td></td>
<td>KIK quarterly market reports.</td>
<td></td>
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<tr>
<td>2. Increased use of quality coconut products locally from current levels.</td>
<td>KIK annual reports</td>
<td>Positive attributes of coconut products are promoted by KIK and its industry partners.</td>
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<tr>
<td></td>
<td>KIK occasional demand and supply studies reports.</td>
<td>KIK to conduct occasional demand and supply studies.</td>
</tr>
<tr>
<td></td>
<td>Coconut based MSMEs reports.</td>
<td>Willingness of coconut MSMEs to share their information with KIK.</td>
</tr>
<tr>
<td>3. Economies of scale achieved by coconut producers.</td>
<td>KIK annual reports.</td>
<td>Coconut farmers are mobilized to market their produce as a group in districts.</td>
</tr>
<tr>
<td></td>
<td>KIK quarterly market reports.</td>
<td>KIK annual reports and quarterly reports are prepared on a timely basis.</td>
</tr>
<tr>
<td>4. Resilient smallholder coconut farmers, processors and traders.</td>
<td>KIK farm household and socio-economic reports.</td>
<td>KIK has capacity to conduct farm household and socio-economic studies.</td>
</tr>
<tr>
<td></td>
<td>Coconut based MSMEs Reports</td>
<td>Willingness of coconut based MSMEs and traders to share their information with KIK.</td>
</tr>
</tbody>
</table>
### Coconut for Life and Wealth

| 5. Mobilized production groups. | KIK annual reports. | Willingness of production groups to cooperate and work together. KIK annual reports are prepared on a timely basis. |
| 6. Land unlocked and utilized in non-traditional coconut growing areas. | KIK annual reports. AIC annual reports. Department of Lands and Physical Planning (DLPP) reports. DDA reports. | Willingness of landowning farmers to unlock and utilize their land for coconut development and investment. KIK, DDAs and DLPP enter into new collaborative partnerships for coconut development projects. Investors interested in investing in coconut industry. |
| 7. Increased range of commercially viable coconut products produced for domestic and export markets. | KIK annual reports. Coconut based MSMEs reports. | KIK annual reports are prepared on a timely basis. KIK develops appropriate licencing system for coconut based MSMEs and others producing HVCPs. Willingness of coconut based MSMEs and traders to share their information with KIK. |
| 8. Adoption and utilization of improved coconut technologies. | KIK coconut R&D and capacity building & strengthening reports. | KIK has capacity to provide effective farmer capacity building and strengthening services. Appropriate technologies are available and assembled by KIK for adoption by farmers. |
## Thematic Program Area 3: Productivity Improvement

*Market-driven, enhanced and sustainable productivity of coconut farmers, processors, traders and other stakeholders along the coconut industry value chain*

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</table>
| 1. Increased demand and sale of coconut products in domestic and export markets from current levels. | - KIK quarterly market reports.  
- Coconut based MSMEs reports.  
- BPNG Quarterly Economic Bulletin. | - Willingness of coconut based MSMEs and traders to share their information with KIK and other stakeholders.  
- Willingness and responsiveness of KIK to facilitate establishment of market networks for coconut products.  
- Effective advocacy and promotion of coconut products.  
- Demand for coconut products remain high.  
- Viability of coconut businesses along the industry value chain encourages continued investment.  
- Respective reports are prepared on a timely basis. |
| 2. Improved farm management practices adopted by coconut producing entities. | - KIK coconut R&D and capacity building & strengthening reports.  
- KIK farm household and socio-economic reports. | - Effective farmer capacity building and strengthening services provided by KIK and its partners.  
- Information on farm management practices are available and adopted by coconut farmers.  
- Create appropriate farm incentives and conduct of field days for farmer education and awareness.  
- Create partnerships with communication networks, (e.g. radio stations) to disseminate information.  
Funding made available by provincial governments and DDAs for farmer capacity building and strengthening services. |
### 3. Reduced production costs for copra and other HVCPs from the current baseline.
- KIK coconut cost of production studies reports.
- Coconut based MSMEs reports.
- KIK has capacity to conduct cost of production studies.
- Willingness of coconut MSME and traders to share their information and data with KIK and other stakeholders.

### 4. Enhanced natural resource base (soil fertility, improved coconut varieties)
- KIK coconut R&D and capacity building & strengthening reports.
- Information on farm management practices to enhance the natural resource base is available and adopted by coconut farmers.
- KIK conducts coconut R&D and capacity building & strengthening reviews.

### 5. Resilient coconut farmers.
- KIK farm household and socio-economic study reports.
- Willingness of farmers to continue to be engaged in the coconut industry in the midst of low prices and other adverse farming constraints.
- KIK to identify commercially viable mix of coconut products for MSMEs to select from and invest in their respective districts.
- KIK has capacity to conduct farm household and socioeconomic studies.

### 6. Resilient labour markets.
- KIK farm household and socio-economic study reports.
- Willingness of skilled and semi-skilled labour units to be engaged in the coconut industry in the midst of low prices and other adverse farming constraints.
- KIK to identify commercially viable mix of coconut products for MSMEs to select from and invest in their respective districts and create employment opportunities.
- KIK has capacity to conduct farm household and socioeconomic studies.

### 7. Climate-smart, biosecurity conscious and environmentally friendly coconut production systems with food and other cash crops.
- KIK farm household and socio-economic study reports.
- KIK annual reports.
- KIK demonstrates the benefits of integrated environmentally sustainable coconut based farming systems in comparison to traditional farming systems.
- Coconut farmers are willing to intercrop coconut with food and other cash crops.
### 8. Competent and continuously learning farmers and others along the coconut industry value chain.

- KIK annual reports.
- KIK coconut R&D and capacity building & strengthening reports.

- Willingness of farmers, processors, traders and others along the coconut industry value chain to learn new farming, processing and trading practices.
- KIK facilitates and promotes appropriate learning environments.
- KIK conducts coconut R&D and capacity building & strengthening reviews on a timely basis.


- KIK coconut R&D and capacity building & strengthening reports.
- KIK quarterly market reports.
- Accreditation certificate awarded as a result of adherence to ISO standards.

- Farmers willingly adopt new coconut production technologies.
- Viability of coconut based agribusinesses along the coconut industry value chain encourages continued investment.

### 10. Increased volumes of improved quality coconut products delivered to market.

- KIK quarterly market reports
- KIK annual reports.

- Farmers willingly mobilize to form cooperatives to address volume of products
- Farmers to mobilise and form cooperatives with MSMEs to address volume and quality of coconut products.
### Thematic Program Area 4: Industry Capacity Building and Strengthening

**Competencies and capabilities of farmers, processors, traders and other key stakeholders along the value chain are enhanced and strengthened**

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</table>
| 1. Increased number of skilled and progressive farmers, processors and traders from current baseline. | - KIK annual reports.  
- KIK coconut R&D and capacity building & strengthening reports.  
- Thematic program area 4 reports. | - Willingness of farmers, processors, traders and others long the coconut industry value chain to learn new farming, processing and trading practices.  
- KIK has capacity to facilitate and promote appropriate learning environments. |
| 2. Functioning and effective communication and networking. | - KIK annual reports.  
- KIK coconut R&D and capacity building & strengthening reports.  
- Thematic program area 4 reports | - Effective farmer capacity building and strengthening services provided by KIK and partners.  
- Appropriate farm incentives are created and field days are conducted for farmer education and awareness on coconut technologies.  
- Create partnerships with communication networks (e.g. radio stations) to disseminate information.  
- KIK conducts coconut R&D and capacity building & strengthening reviews on a timely basis. |
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| 3. Relevant information packaged and widely disseminated from current levels. | ▪ KIK annual reports.  
▪ KIK coconut R&D and capacity building reports.  
▪ Thematic program area 4 reports. | ▪ Effective farmer capacity building and strengthening services provided by KIK and partners.  
▪ Appropriate farm incentives are created & field days are conducted for farmer education and awareness.  
▪ KIK conducts coconut R&D and capacity building & strengthening reviews on a timely basis.  
▪ Create partnerships with communication networks, e.g. radio stations to disseminate information. |
|---|---|---|
| 4. Enhanced responsiveness to the industry and stockholder needs, adaption and application of new innovative production and processing methods. | ▪ KIK annual reports.  
▪ KIK coconut R&D and capacity building & strengthening reports.  
▪ Thematic program area 4 reports. | ▪ Effective farmer capacity building and strengthening services.  
▪ Appropriate farm incentives are created and field days are conducted for farmer education and awareness.  
▪ Partnerships are created with communication networks (e.g. radio stations) to disseminate relevant industry information.  
▪ KIK conducts coconut R&D and capacity building & strengthening reviews on a timely basis.  
▪ The relevant reports are prepared on a timely basis. |
| 5. Improved access to useable technologies, affordable training and markets, and credit (relevant financial products) from current levels. | ▪ KIK annual reports.  
▪ KIK coconut R&D and capacity building & strengthening reports.  
▪ Thematic program area 4 reports. | ▪ An industry technology hub or resources centre is developed and established by KIK from which useable technologies, affordable training to access markets and financial products can be sourced by various industry players.  
▪ KIK works in partnership with financial institutions to develop financial products for coconut farmers, processors and traders.  
▪ KIK conducts coconut R&D and capacity building & strengthening reviews on a timely basis.  
▪ The relevant reports are prepared on a timely basis. |
**Thematic Objective 5: Effective Corporate Governance and Management**

*Improved governance, management, competencies and capabilities of KIK to support its mandated functions*

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</table>
| 1. KIK Act 2002 and Regulations reviewed and amended in line with the AAA and AIC Acts. | ▪ Revised and amended KIK Act and KIK Regulation.  
▪ AAA Bill (or Act when enacted).  
▪ AIC Bill (or Act when enacted). | ▪ Resources available to engage expertise to review and amend the KIK Act 2002 and Regulations.  
▪ Parliament passes the AAA and AIC Bills. |
| 2. KIK Board established. | ▪ NEC Decision on appointment of new a Board of Directors.  
▪ KIK annual reports. | ▪ KIK facilitates the appointment of a new Board of Directors.  
▪ Ministerial Executive Appointments Committee (MEAC) and NEC approve the submission of the KIK to appoint a new Board.  
▪ NEC appoints the new KIK Board of Directors. |
▪ KIK Board of Directors Code of Conduct.  
▪ KIK Management Code of Conduct.  
▪ KIK annual reports. | ▪ Operational Manuals developed and utilized effectively.  
▪ Directors Code of Conduct developed and utilized effectively.  
▪ Management Code of Conduct developed and utilized effectively. |
| 4. Systems and processes aligned to new industry objectives. | ▪ KIK Operational Manuals  
▪ KIK annual reports. | ▪ Operational Manuals developed and utilized effectively.  
▪ Mid-term review of the Coconut-ISP 2016–2025 conducted. |
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### 5. Business development initiatives and projects established.
- Thematic Program Areas Business and Operational Plans.
- KIK annual reports.
- Guidelines for agribusiness and/or business conduct.
- KIK is adequately resourced.
- A functional business strategic planning unit is established in KIK.
- Reports done on timely basis.
- Guidelines for agribusiness and/or business conduct prepared and approved.

### 6. Enabling operating environment and policy change through advocacy.
- Revised and amended *KIK Act* and *Regulation*.
- AIC Bill (or Act when enacted).
- Guidelines for agribusiness and/or business conduct
- Functional Public-Private Partnerships (PPP) agreements.
- Resources available to engage expertise to review and amend the *KIK Act 2002* and *Regulations*.
- Parliament passes the AAA and AIC Bills.
- Guidelines for agribusiness and/or business conduct prepared and approved.
- PPP agreements signed with relevant partners and implemented.

### 7. Managing partnerships and collaboration.
- KIK annual reports
- Managing Director’s Briefs
- Annual APCC Session/Ministerial Meeting reports.
- Regular meetings between KIK senior management and industry partners and stockholders are established and maintained.
- Maintain regular meetings with other coconut growing countries under MOUs.

### 8. Monitoring and evaluation (M&E) systems established.
- KIK quarterly M&E system reports.
- KIK annual reports.
- KIK has capacity to develop an M&E system.
REFERENCES


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