

Vanilla Learning Paper

Sourcing from the Last Mile

The story of vanilla beans from remote regions of Papua New Guinea

Market Development Facility
Papua New Guinea

June 2023

Market Development Facility

Market Development Facility is an Australian Government funded multi-country initiative which promotes sustainable economic development, through higher incomes for women and men, in our partner countries.

We connect individuals, businesses, governments and NGOs with each other, and with markets at home and abroad. This enhances investment and coordination and allows partnerships to flourish, strengthening inclusive economic growth.

MDF is funded by the Australian Department of Foreign Affairs and implemented by Palladium in partnership with Swisscontact.





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Acknowledgements

MDF can only facilitate and de-risk the plans of others; the hard work of innovation and implementation to improve the livelihood of remote villagers is due to the efforts of these others including:

- The Kamapim management and implementation team as extraordinary valuable change partners
- The MiBank management and implementation team as risk-tolerant financial partners
- The GSMA team as innovative technology and implementation advisers; and finally
- All the vanilla producers located in remote PNG locations that have contributed through engaging with this innovative project
- Bikash Gubhaju, Susan Inu, Trish Kambanei, Jon Marlow, Mandy Whyte, Rob Hitchins and Angus Towart contributed to this paper's writing, review, and editing. The layout and design were by Stella Pongsitanan.



MDF reports annually on the activities of its sub-programs in Papua New Guinea, Fiji, Timor-Leste, Sri Lanka and Pacific Regional. Progress towards end-of-program outcomes and high-level objectives are captured according to the market system hierarchy designed for each country's market systems. The Vanilla Learning Paper readers are encouraged to read the 2022 MDF Annual Report [**here**](#). ✎

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Glossary and Abbreviations

APEP	Australia-PNG Economic Development Partnership is a new multi-sectoral investment to assist PNG create a stable and more prosperous country. The investment will be the main vehicle and coordination point from which Australia will deliver its economic development aid to PNG.
FAOSTAT	FAOSTAT is an on-line database provided by the Statistics Division of the Food and Agriculture Organization of the United Nations; Rome, Italy.
GSMA	Global System Mobile Association is a non-profit industry organisation that represents the interests of mobile network operators worldwide with the purpose of unifying the mobile ecosystem to discover, develop and deliver innovation that helps business and society thrive.
ITC Trademap	ITC – International Trade Centre maintains Trademap which provides an online database of trade statistics for international business development using monthly, quarterly and yearly trade data, import and export values, volumes, growth rates and market shares.
Kamapim Ltd	Kamapim develops high quality sustainable agricultural crops with remote tribal landowners that protect large tracks of primary rainforest and preserve traditional culture and is committed to high quality, organically grown, fairly traded vanilla products with customer satisfaction as a top priority.
MDF	Market Development Facility is an Australian Government-funded multi-country initiative that promotes sustainable economic development through higher incomes for women and men in Fiji, Pacific Regional, Papua New Guinea, Timor-Leste and Sri Lanka.
MiBank	Nationwide Microbank Ltd empowers women and grassroots communities through financial literacy training and access to its micro-finance products and services.
Provenance	Provenance refers to the origin or source from which vanilla comes and the history of subsequent operations (supply chain). It gives consumers an understanding of how vanilla has been produced and transported.
SMEs	Small-medium enterprises.
Trading house	Trading houses act as agents for foreign sellers or buyers seeking new markets for products and services. It may also refer to a firm that buys and sells commodity futures and physical commodities for customers and their accounts.
Traceability	Traceability is the ability to share information about and follow the movement of an agricultural product through all or part of its supply chain across the production, processing, and distribution stages.
VCA4D	Value Chain Analysis for Development measures key indicators that, when properly assessed and contextualised, provide fundamental information on value chain impact and sustainability.

Vanilla Sector Background

VANILLA TAKES A LONG, circuitous, sometimes dangerous path from remote regions of Papua New Guinea on foot, by small plane, by road and eventually to exporters and onto ships to international buyers. Australia's Market Development Facility joined the journey along the supply chain to find ways to help improve access to markets and that would bring prosperity to farmers who live at the 'last mile'.

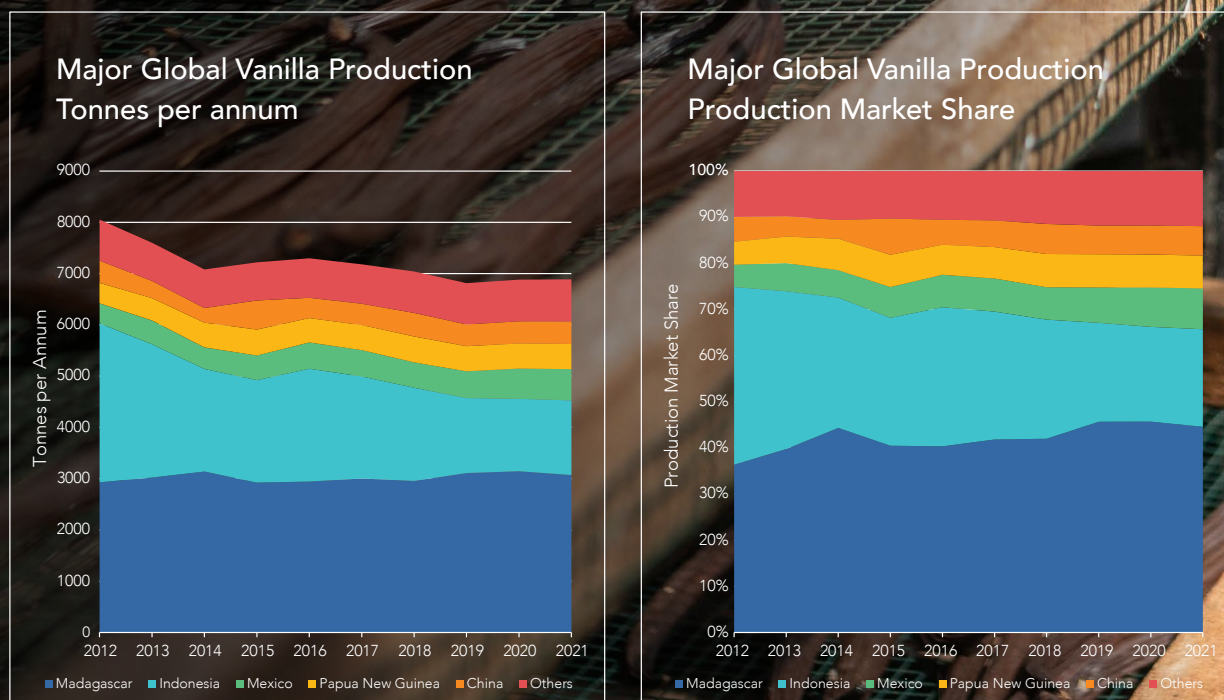
This paper reflects on the learning that occurred between 2019 and 2023 through working with Kamapim Ltd on productivity improvement and with Kamapim Ltd, MiBank (Nationwide Microbank Ltd) and GSMA (Global System Mobile Association) on financial inclusion.



The vanilla industry

Madagascar supplies around 68 per cent of the global vanilla supply making it the world's largest producer by value. Indonesia follows, then Mexico, Papua New Guinea, and China, as shown in Figure 1.

Figure 1: Global Vanilla Production¹



¹ FAOSTAT: Statistics Division; Food and Agriculture Organization of the United Nations; Rome, Italy

Disruptions in Madagascan production, even minor ones, can impact the global supply chain and cause price volatility. Figure 2 shows how a cyclone in 2017 in Madagascar created a mismatch between demand for vanilla and a shortage of quality supply that resulted in peak prices for Madagascan vanilla beans between 2017 and 2019.

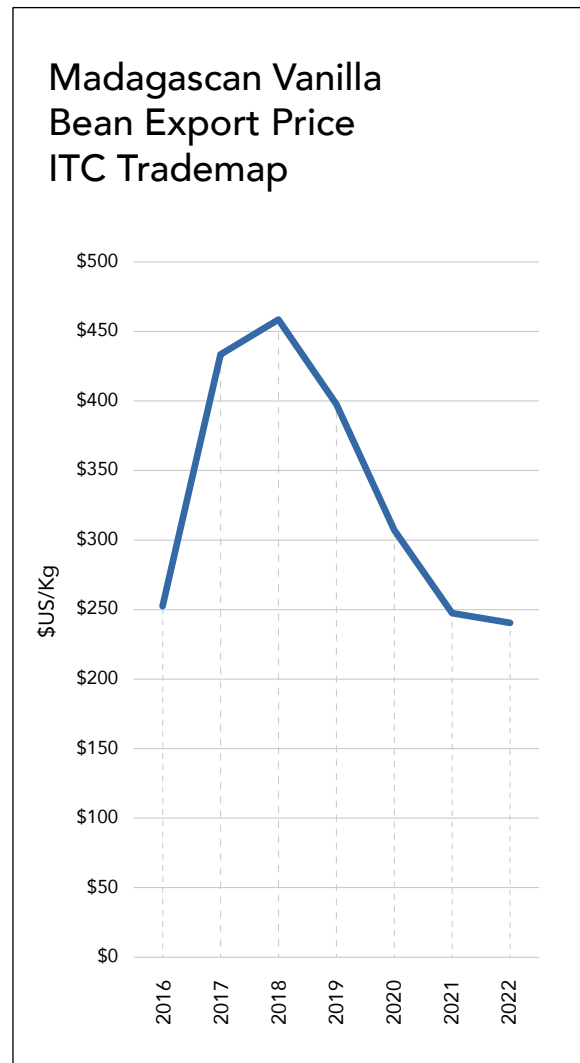
The Papua New Guinea vanilla sector is emerging as an important contributor to global vanilla bean production. It is the fourth largest exporter in the world exporting, in 2021, around 490 metric tons or seven per cent of global supply.

Traditionally vanilla has been produced by smallholders in forested regions and traded as a commodity in small volumes of poor and mixed quality beans mostly across the border to Indonesia, and some small volumes exported to other markets.

The high prices attained by Madagascan vanilla bean attracted traders and processors to scout other countries that could also produce quality beans. This has created an opportunity for PNG to tap into this demand. The challenge now is to improve the quality and quantity of PNG production to meet the needs of the market.

There is a limited supply of natural vanilla and an increasing distrust of the chemical vanillin used in imitation vanilla, so international customers are prepared to pay a premium for high grade certified products. There is also pressure to demonstrate the visibility of product value chains that assure a fair remuneration to growers and improved environmental conservation (product provenance).

Figure 2: Madagascan Vanilla Export Price²



There is great potential to improve returns to PNG vanilla producers by improving product quality and gaining certification to meet international market specifications and complement and compete with Madagascan production.



² ITC Trademap Data

The Situation When We Arrived



Vanilla production

The north-western part of PNG has a unique agro-ecological environment with the potential to cultivate a variety of valuable and high-priced agricultural products, such as vanilla. If grown, processed, and marketed in viable quantities to the required quality standards, vanilla – the world's second most expensive spice after saffron – can contribute significantly to the country's economy.

However, vanilla is mainly planted at the household level by subsistence farmers on small plots. Farmers are ill-equipped with knowledge of production methods, and curing, fermentation and drying practices to grow vanilla beans that could meet market expectations for quality and certification attributes.

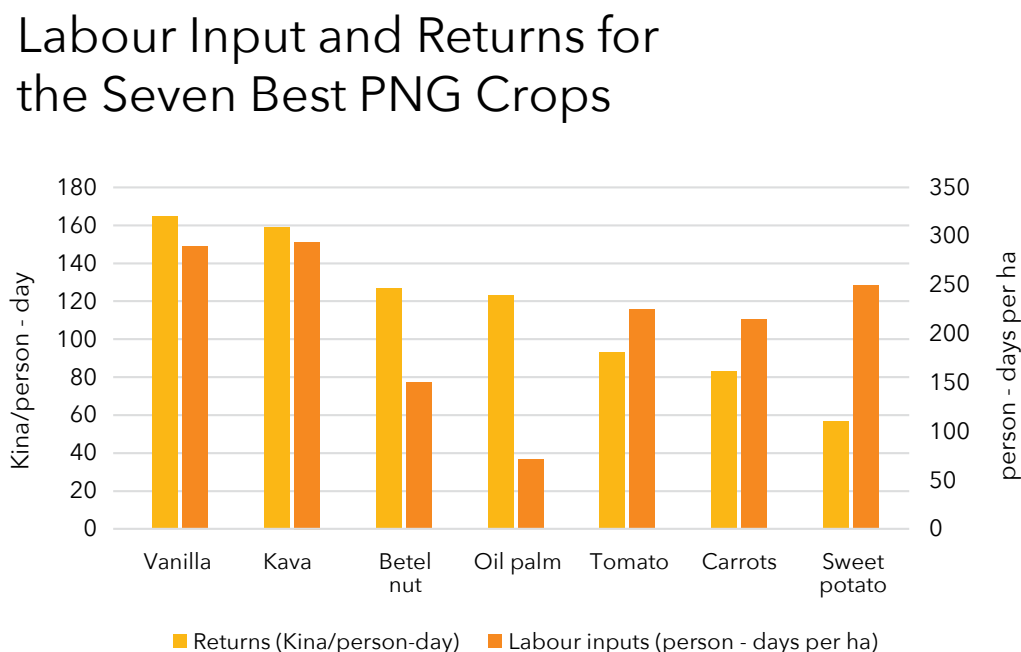
Vanilla has a low profile in the agriculture policy space and insufficient investment in capacity building and infrastructure has resulted in the region being less prepared to tap into the market potential and build a sustainable vanilla bean supply value chain.

The vanilla industry in PNG is largely unregulated and suffers from quality issues, principally due to a fragmented value chain. Vanilla buyers source from intermediate traders, who buy vanilla of all grades from smallholders without assessing the quality and grading of the vanilla beans. This mix of grades results in a commodity product that can only be sold into low-value markets, such as across the border to Indonesia. These intermediate traders are most active when global prices are high. They are interested in the trading margin and have little incentive to support farmers to improve the quality and quantity of vanilla. There were no signals in the value chain providing any incentives for smallholders to improve the quality of the vanilla beans to achieve premium prices and higher returns. As a result, PNG vanilla gained a reputation for being of low quality.

Vanilla is a labour-intensive crop due to it requiring a hand-pollination process. It grows well underneath forest with limited land preparation, needs few purchased inputs, and is cured using relatively simple equipment. While vanilla production is labour-intensive, a 2022 study³ by the Development Policy Centre showed that returns on labour inputs to smallholder farmers for vanilla production were similar to returns on kava, and better than other crops. Figure 3 shows the labour input requirement and returns on labour for seven of the best performing crops analysed in the study.



³ Returns on labour inputs to smallholder for cash crops in Papua New Guinea; Development Policy Centre Policy Brief 23; December 2022.

Figure 3: Labour Input and Returns for the Seven Best PNG Crops

In 2020, Value Chain Analysis for Development (VCA4D) analysed the vanilla value chain in PNG.⁴ This report indicated that vanilla was produced in cultivated areas of up to 5 ha per household, with the average being under 2 ha. The structure of the sector shows three scales of producers:



Small-scale households

Small-scale households produce 27 per cent of beans, their vines tend to be well looked after, and they produce a good average yield, but only 22 per cent are A- grade and the unit value for sales is the lowest.



Medium-scale households

Medium-scale households have an average of 600 vines and supply around 30 per cent of production. They have the lowest average yield, possibly due to the labour requirement to care for this higher number of vines, or not harvesting all the vines, or they may have less mulch available which is the main determinant of yield. However, their cured bean quality is very good; a high proportion are A-grade and the average price received is the highest.



Large-scale households

Large-scale households average 1700 vines but only 25 per cent of them may be actively managed. However, the cured bean quality is good, and a high proportion are A-grade. These farmers tend to be more experienced at growing and curing vanilla resulting in a high vanillin content which is a measure of quality.



Vanilla in PNG provides good returns on expended labour hours and there is significant potential for increased production, yield and post-harvest quality improvement.

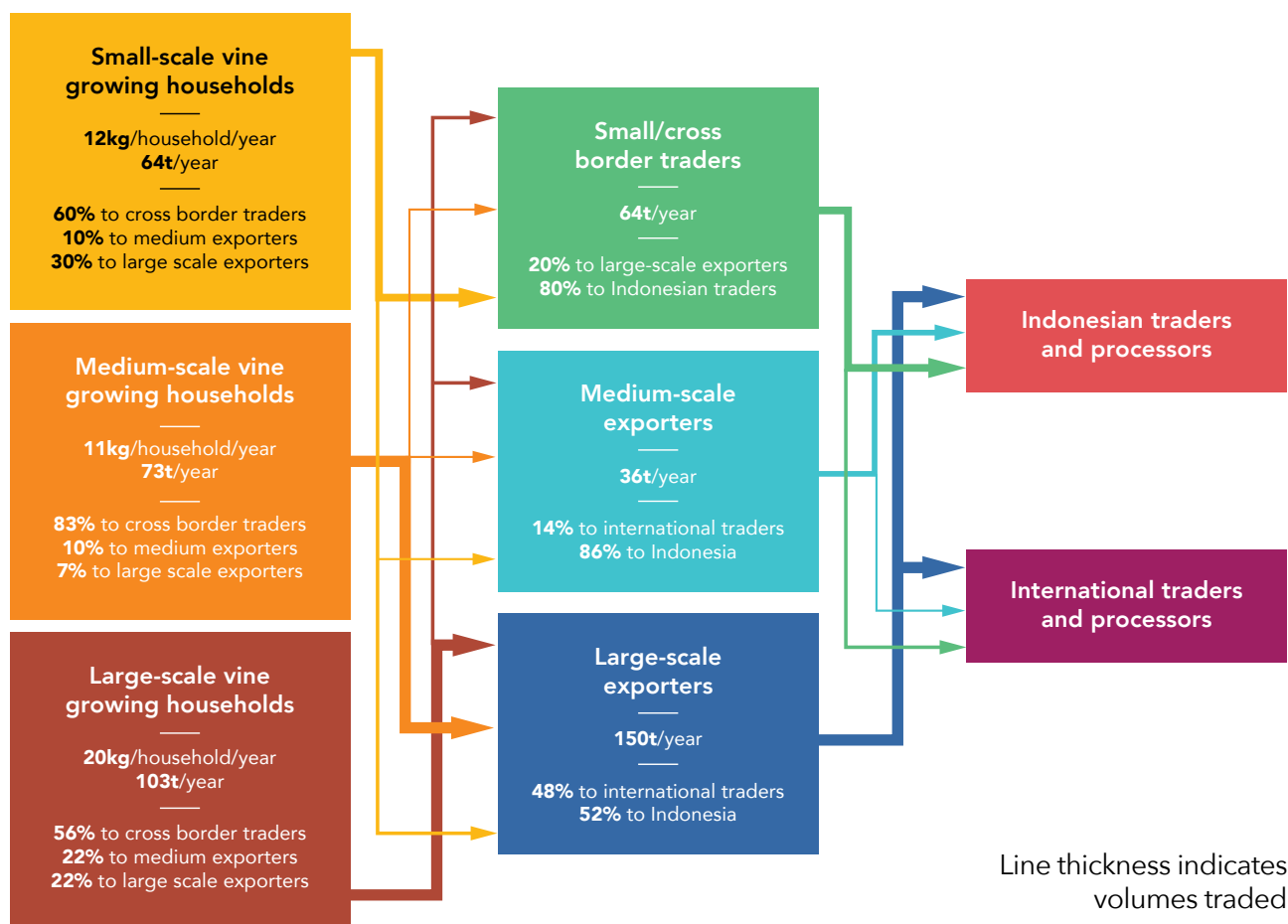
⁴ Vanilla value chain in Papua New Guinea; Value Chain Analysis for Development – VCA4D; Monograph 24, April 2020.



Vanilla trade channels

There are three categories of traders/exporters – cross border traders, medium-sized exporters, and large exporters. Figure 4 shows the relationships between these market actors, and the volumes of product they move.

Figure 4: VCA4D Mapping of the Vanilla Value Chain in Papua New Guinea



The value chain analysis for vanilla indicates that:



Some **33 per cent** of vanilla was exported directly into international markets, where A-grade beans are sold to buyers and processors. While some beans are purchased by exporters, around 20 per cent are purchased from farmers by traders and sold to exporters.



Around **67 per cent** of lower-quality beans were sold via cross-border trade to West Papua for trading and processing in Indonesia, with some of PNG's vanilla subsumed into Indonesia's vanilla exports. Initial trade is conducted by cross-border traders who buy beans from farmers at villages. The beans are transported by public motor vehicles to the provincial capital Wewak, then taken as accompanied airfreight to Vanimo, and then to the Wutung border crossing point by taxi.

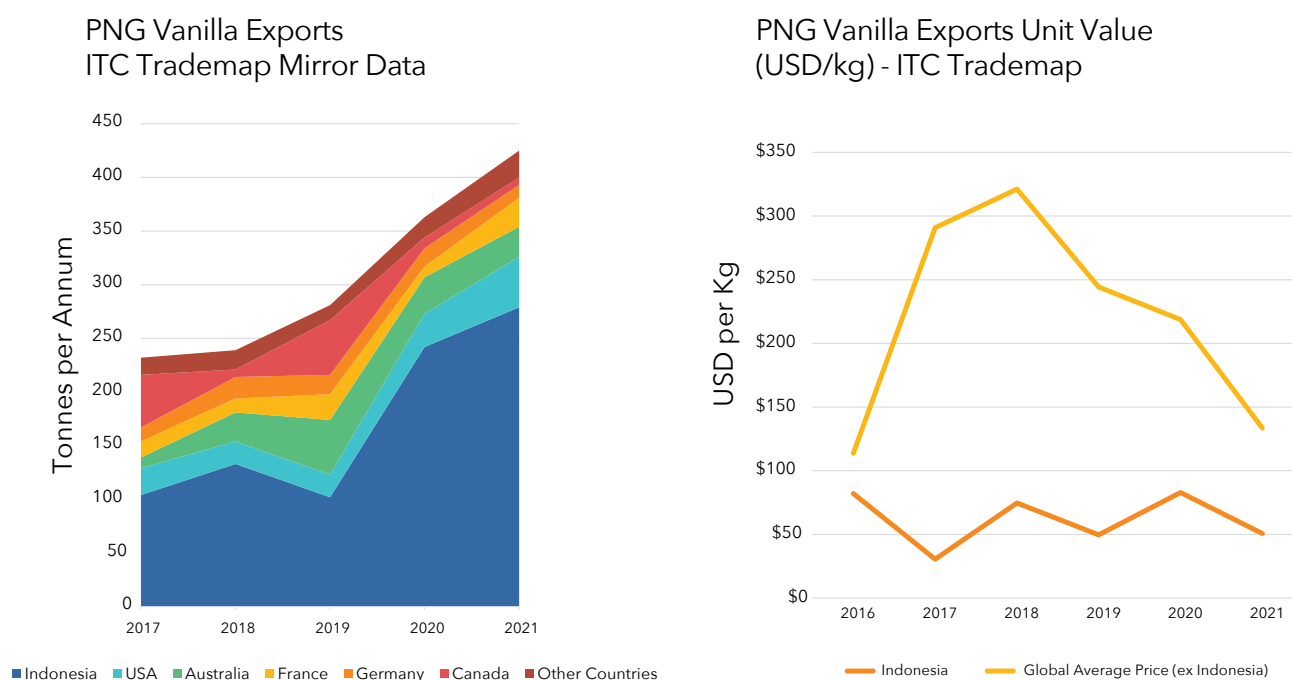


Vanilla price movement

The international price for vanilla can be volatile. The sector went through a development stage in the late 1990s when growers benefitted from prices of over US\$ 220/kg, and bust and rebirth stages in the space of 10 years. As a result of a global price crash in 2004, PNG production was severely curtailed between 2005 and 2015. The increase in international prices in recent years has reinvigorated opportunities for additional incomes from vanilla production.

The formal international market pays high prices for high quality, traceable, food safety-compliant products. The volumes traded and the difference in vanilla prices for PNG exports to formal export markets versus the Indonesian market for commodity beans are shown in Figure 5.

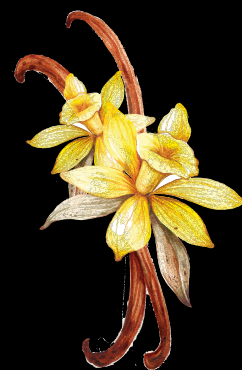
Figure 5: PNG Vanilla Exports and Price Comparison 2016-2021⁵



Increasing production and improving product quality through certification, provenance identification (traceability) and food safety compliance will shift PNG vanilla exports from the dominant Indonesian market to formal international export markets that pay higher prices for vanilla, even when the global reference price fluctuates.

Vanilla producers will benefit from the international market price margin over the Indonesian price and will be better placed to take advantage of high international market prices when they occur.

Improvements will be best delivered through the engagement of formal market export enterprises to influence the workings of the value chain to complement and compete with Madagascan production.



⁵ ITC Trademap Mirror Data

Strategy, Interventions and Outcomes



Challenges of sourcing from the last mile

The agriculture sector is an important part of PNG’s economy, providing the main source of income and employment for 80 per cent of the population, contributing to approximately a quarter of PNG’s GDP and providing an important source of export revenue and foreign exchange. Agribusinesses in PNG face challenges in competing in commodity markets, and difficulties re-investing in their supply chains due to the high cost of doing business and low margins.



PNG’s agriculture sector suffers from several structural weaknesses including the prevalence of a subsistence mindset among farmers, outdated infrastructure, a precarious law-and-order situation, limited social services, and a paucity of the goods and services essential to modern agriculture. The demise of the plantation sector and complex land titles has led to the majority of PNG’s agricultural produce now coming from small land holdings. Limited transportation infrastructure increases the cost of production and reduces market

access. Consequently, the agriculture sector in general has slid into a low-input, low-volume, low-value trap, with exports largely consisting of low-quality commodities at margins that offer little incentive to smallholder farmers or businesses. Pests and disease pose a severe threat, with notable outbreaks of African Swine Fever (affecting livestock), the fall army worm affecting maize, the cocoa pod borer affecting cocoa, and coffee berry borer impacting coffee.

A characteristic of the smallholder supply chain for vanilla is the lack of a group structure and organisation of growers in remote areas leading to difficulties in establishing robust supply chains and delivery of advisory services.

The agriculture sector in PNG is confronted by a wide variety of challenges associated with sourcing produce from the last mile. Table 1 provides a summary of the challenges and mitigation strategies relevant to remotely produced vanilla beans.

Table 1: Challenges and Mitigation Strategies Relevant to Remotely Produced Vanilla Beans

CHALLENGES	RELEVANCE TO SOURCING VANILLA BEANS FROM REMOTE AREAS IN PNG AND MITIGATION STRATEGIES
 Transport infrastructure	<p>Vanilla producers in remote areas of PNG can walk for many days to get from their village to a road head. The cost to transport from the road head to a buying point is expensive.</p> <p> <i>To overcome these constraints, focus change activities on high value products that provide good income from carriageable quantities of products that can also absorb expensive transport costs.</i></p>

 <p>Law and order</p>	<p>A high value commodity like vanilla can be subject to theft, either from the vine or during delivery to market. Similarly, the transfer of money from the market back to a remote village can be subject to robbery.</p> <p>Security during transport to market will require improvements in the PNG law and order environment.</p> <p> <i>To mitigate risk, vanilla beans are delivered to buying points by trusted members of the producing community. Security of funds transfers to remote communities can be greatly de-risked by using e-Banking applications. Innovative solutions could include mobile wallets, more secure private transport and storage facilities and surveillance drones.</i></p>
 <p>Producer knowledge of improved production and post harvesting practices</p>	<p>PNG vanilla producers have limited knowledge of best practices with respect to productivity and post harvesting practices and therefore produce a commodity with little opportunity to deliver products with quality and provenance characteristics that can access higher value markets. The main government organisations charged with facilitating the value chain lack the capacity to effectively support growers and ensure all interests are represented.</p> <p> <i>Improvement in vanilla bean producer knowledge is best when connected to the intended market. Production and post harvesting knowledge is best provided by trusted buyers connected to the value chain.</i></p>
 <p>Access to markets</p>	<p>Remote smallholder vanilla farmers in PNG have limited access to markets that will pay premium prices for quality differentiated products.</p> <p> <i>Buyers that are integrated into quality differentiated value chains should regularly visit smallholder farmers and build trust relationships through paying premium prices, technical advice and making reliable arrangements for payments.</i></p>
 <p>Delivery and outcome of extension service</p>	<p>Smallholder farmers operate complex businesses involving many activities; they are mixed farmers producing a variety of crops for both household use and market supply. They are unlikely to make wholesale changes in production practices.</p> <p> <i>Step-change technical advice on how to improve vanilla bean quality and productivity is more likely to be implemented by the farmer. Such advice can be provided by trusted buyers of quality products who have longer-term relationships with producers.</i></p>



Strategies to address challenges

Triggering a shift in PNG's vanilla supply chain

Due to the limited supply of natural vanilla and increasing distrust of chemical vanillin, international customers are prepared to pay a premium for high grade certified products. There is pressure to demonstrate the visibility of product value chains that assure a fair remuneration to growers and improved environmental conservation (product provenance).

PNG's vanilla market lacks a formally implemented grading system, there has been no traceability or premium pricing, and extension support to farmers has been negligible. PNG's vanilla has had a poor reputation for quality in global markets, with concerns about the use of illegal pesticides and mold due to poor drying practices. In spite of this reputation, buyers are showing interest in PNG vanilla as an alternative to Madagascar vanilla. This presents opportunities for agribusinesses that are willing to invest in supporting smallholders to improve their vanilla production.

The lack of group structure and organisation of growers in remote areas needs to be addressed through formalising arrangements through farmer villages, associations and cooperatives, and overcoming persistent mistrust amongst farmers on the overuse and/or misuse of customary land assets.

Change agent vanilla exporters looking to access high-quality vanilla to sell into high-value supply chains exist in PNG. However, providing extension services and supporting certification in remote locations requires considerable investment, and this inhibits exporters from developing their supply chains to achieve higher quality.

Vanilla bean production can be an important crop within an environmentally sustainable agroforestry system. The vanilla vine grows best when shadowed by forest cover and this characteristic can be used to encourage villagers to invest in vanilla which provides long-term income rather than accepting short-term gains, e.g., a one-off payment from a logging company

Communities can be encouraged to become involved in vanilla production in association with managing rainforest reserves to improve income opportunities

for producers through quality vanilla production. This has the potential to incentivise long-term protection of rainforests and ensure carbon sequestration.

Around 70 per cent of growers are illiterate therefore designing and delivering training is challenging, and the costs of training are high.

Vanilla growers live in very remote areas. It takes them days to reach the nearest market. These farmers traditionally have no form of formal identification, even a birth certificate, and no access to financial instruments to support their livelihoods. To overcome the challenges of working in remote communities viable models for product and financial transfers are needed. Mobile banking services and a loan product to facilitate the functioning of the value chain should be introduced.

Product certification associated with quality and environmental sustainability depend on well-developed supply chains that embed product traceability. Delivery of extension services to farmers and development of traceability and certification processes to identify high-quality, certified vanilla beans are required so that farmers and exporters can benefit from premium prices.

The establishment of a traceable value chain for vanilla production, including the implementation of mobile banking services to minimise the risk of cash being stolen, involved the development of a robust IT solution to trace vanilla bean supply to the end-market and financial transactions back to the individual producer. Identification and trading records for individual smallholder farmers supplying vanilla beans gave them creditworthiness. This then allowed for the development of a low administration cost loan product.

Kamapim, GMSA and MiBank were assisted to develop IT systems to keep trading records of individual farmers and to link these records to MiBank's loan and transaction systems. The support included the provision of a credit guarantee fund to MiBank for the establishment of the loan portfolio and to cover any loan default that may have occurred.





Actions and outcomes



Extension, traceability and sourcing activity

Kamapim Ltd is the exporting partner of a European business operating in traceable, high-quality vanilla.

It has struggled to source quality vanilla in PNG consistently. Between 2019 and 2021, MDF supported Kamapim to improve and expand its extension services to 'last mile' farmers and to develop a traceability system, certification processes, and a cashless payment system. This provided Kamapim with the supply of product it required and improved the returns for farmers.

Outcomes



Silim,
Vanilla farmer, PNG.

Investments in extension and best farming practices led to a 300 per cent increase in the export of high-grade vanilla in 2022. Over 40 per cent of interviewed farmers had switched from supplying low-grade vanilla beans to high-grade beans and received the associated premiums. This work in vanilla also contributed to women's economic empowerment, as Kamapim encouraged male farmers to support and recognise their female family members' contribution to vanilla production by retaining 30 per cent of income and sharing it only with female household heads. Upon understanding the income-generation opportunities from vanilla, 25 per cent of female farmers started their own small vanilla farms and are expected to harvest it in two years.

Kamapim expanded its sourcing network in Madang, increasing the volume of vanilla sourced by 300 per cent in 2022. The number of smallholder farmers in its network has increased enormously, evidenced by the number of aggregators supplying Kamapim, which has increased from 30 to 200 over three years.

To address sustainability, Kamapim has been working with communities that manage rainforest reserves to improve income opportunities for producers through quality vanilla production that also incentivises long-term protection of rainforests and ensures carbon sequestration.

Kamapim has plans to increase the volume of its exports to meet a growing demand from overseas buyers looking for consistent volumes of quality vanilla. Kamapim intends to establish buying points in other regions in PNG where vanilla growers don't have access to quality markets. Kamapim and APEP (Australia-PNG Economic Development Partnership) are exploring a partnership to continue this work in 2023.



Smallholder finance activity

In 2021, GSMA developed a data-driven credit scoring system to support microloans for vanilla farmers in Madang Province. A consortium of Kamapim Ltd, MiBank (a microbank), and GSMA implemented a loan product for smallholder vanilla farmers. The innovation uses exporter-collected farmer information to determine the creditworthiness of smallholders without a formal credit history. Creditworthy farmers then receive loans from MiBank. Kamapim raised awareness about the lending requirements and registered smallholders to access the service. MiBank was supported with a credit guarantee to test this innovative loan product.

Outcomes

Remote farmers, who had no prior knowledge of modern banking systems or telecommunications, received support to access mobile technology, digital banking and micro-loans. GSMA utilised digitised data from vanilla farms to screen farmers for loans and enabled payments for vanilla sales via online transaction, minimising the cash-handling risk for the private sector in these remote communities. This was the first time such an innovation was piloted in PNG's agriculture sector.

As at March 2023, MiBank had disbursed 355 loans, 33 percent of which were to women, for a total of PGK249,800 (USD69,000) and 180 of loans had been repaid in full. The loans disbursed to 125 women and 230 men, demonstrated women's financial inclusion, achievable through Kamapim's traceability and extension model, which provided digital identities and bank accounts to female farmers.

The farmers that accessed loans used them to invest and strengthen their micro businesses, such as village canteens or poultry farms, and to generate alternative income. A significant proportion also used the loans for household expenses, such as education fees.



MiBank

Taking savings and loans to the last mile through supply chain collaboration

Using Kamapim's established relationships with vanilla farmers and software developed by GSMA, MiBank could provide loans to farmers – a segment of the population formerly excluded from the banking system.

Kamapim's data on farmer plot size, vanilla vines numbers and sales, were used to establish farmers' creditworthiness allowing MiBank to disburse loans with limited contact with the loan recipients. Kamapim extension officers signed farmers up for bank accounts, distributed bank cards, and trained them in digital and financial literacy so they could operate their accounts and use MiBank's services. This reduced the costs of customer acquisition, account set-up, and loan assessment for the bank. MDF supported this collaboration by funding credit guarantees to reduce lending risks for MiBank.

Based on this success, MiBank better understands the risk profile of its new customers in Madang and now offers savings and mobile money platforms to other supply chains – fresh produce in New Ireland, fisheries in Western Province and coconuts in East New Britain and Milne Bay.



Kamapim's value chain in Madang has expanded, both in volume of vanilla and the number of farmers engaged. The number of aggregators in this value chain increased from 30 to over 200 in three years. Kamapim found the digital system to be an effective, reliable, and transparent way of procuring quality vanilla beans, and plans to increase its volume of exports to high-value markets. To achieve this, it will expand the model and establish buying points in new areas in Oro, Morobe and Eastern Highlands, with the potential to reach thousands more farmers.

After a successful pilot, MiBank is satisfied with the viability of working with remote farmers in this manner and intends to continue lending to smallholder vanilla farmers based on value chain trading records. MiBank is expanding the model into the fresh produce, coconut, and rubber value chains.

Lessons on Approach

Overview



The benefits of working with exporters to reach into value chains and deliver improved outcomes for smallholder vanilla bean producers in remote regions is irrefutable.



Extension services and the development of a traceable supply chain supported by innovative technology provides opportunities for financial inclusion for last mile smallholder producers.



Exporters need continuing support to deliver training and information to producers.



The competitiveness of PNG's vanilla exports lies in high quality products from last mile producers

The PNG agriculture sector, dominated by smallholder production and impeded by inadequate infrastructure making it a high-cost producer, cannot compete in commodity markets. The vanilla project has demonstrated that a shift to premium agricultural production in remote smallholder systems is best driven through the private sector, which has the incentives and capacity to invest in supply chains to produce higher quality and certified products.

Private sector firms have an incentive to provide essential functions such as extension, certification, traceability, and finance to support supply chains to access premium markets and generate higher returns across the supply chain. The private sector benefits from access to a reliable source of improved quality, certified raw material and is thus willing to invest in partner smallholders' in their supply chains to secure marketable products.



ICT can link smallholders to higher value markets

Private sector enterprises' interest in product quality and provenance is leveraged by development and implementation of innovative ICT solutions that provide traceability links between smallholders and end markets.

This was demonstrated by the credit scoring tool and microloan product developed by GMSA that drew on an exporter's strong relationships with farmers and allowed a bank to remotely serve farmers.



Development outcomes can be delivered by supporting the private sector

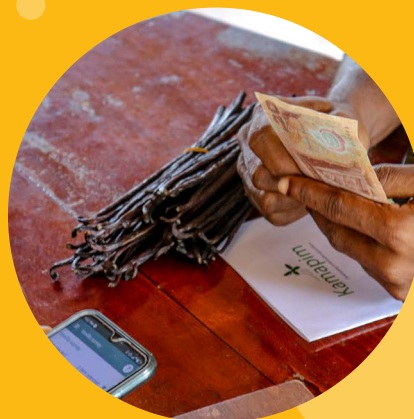
It has been demonstrated that co-investing with firms such as Kamapim to de-risk commercially driven innovations has a wide reach across the value chain and into remote areas, helping benefit large numbers of remote smallholder farmers. This lowers costs for development programs and banking services by avoiding the need to work with individual farmers and other smaller

actors, which is resource intensive, unsustainable, and will not create transformational change. Stimulating private sector investment increases the cost-effectiveness of program interventions and the prospects of sustained outcomes because businesses have an incentive for long-term engagement in their supply chains.



Supply chain finance plays a key role in the shift to high-value exports

The shift to high-value exports requires additional investment in agricultural inputs, labour, extension, processing, and certification by value chain actors who are willing to make these investments with the incentive of receiving premiums for their produce. A supply of affordable financial products is critical to investing in shifting PNG's commodity exports to high value exports. Further development of smallholder microloan products can encourage and support this transition to improved quality produce.





e-Banking and microloan products for remote communities can be improved



Lessons learned from the remote smallholder financial inclusion intervention, included:

- Establishment of mobile banking accounts and loans with remote smallholders should occur sequentially. The establishment of a mobile banking track record will assist the robustness of the credit scoring system and reduce loan risks.
- The timing of loan issuance needs to take into account crop seasonality on the basis that loans will be best repaid when the crop is sold.
- Loans over PGK500 should only be available to remote smallholders who have already established a loan repayment record. This will assist smallholders to understand how to manage and pay back loans.
- Increased support is needed to establish agents and enterprises in remote areas that can take advantage of mobile banking and support the human and technical infrastructure necessary to increase financial inclusion in remote areas.
- Smallholders require considerable hands-on training in financial inclusion using targeted training techniques.



The market is heading toward low-carbon crops

Emerging price signals for low carbon commodity crops are stimulating investment in emissions verification and reduction. These price signals are being driven by consumer preferences (e.g. labels on consumer-facing packaging), legislation (e.g. the EU's deforestation

bill) and corporate commitments (e.g. net zero carbon emissions targets). It has been demonstrated that vanilla production can disincentivise the uptake of logging contracts and assist in supporting environmentally sustainable agroforestry systems.



Producer training strategies

Training needs to be targeted appropriately to the needs of farmers, most of whom neither read nor write. Very few have more than primary or limited secondary education. There may be constraints to the participation of women or young farmers in training events.

Field work by MDF suggests that consideration of how training occurs in these different groups is needed before designing courses. Behaviour change communications techniques can be used to understand how people best receive information, and to help understand norms that may constrain changes in farming behaviour e.g.,

farmers may hold beliefs about best farming practices that are no longer valid with a changed climate, or they may have strong views about the roles of women and children in vanilla production. Training should include a balance of practical skills, demonstration, and discussion and the use of illustrated materials such as flipcharts and comics to convey key messages. Where possible, farmers should be given the opportunity to learn through travel, participation in supply chain decisions, through e.g. surveys, and governance of farmer cooperatives and associations.

Looking Forward

The vanilla industry is expected to continue to be subject to considerable price volatility, however the demand for traceable supply chains delivering quality vanilla with provenance certification will, to some extent, minimise the volatility and improve economic outcomes for remote producers.

Vanilla producers need to engage in stepwise interventions to increase productivity and manage crop diseases. There may be an opportunity for vanilla production to provide a financial counter to deforestation in support of PNG's climate mitigation targets.

There is a need for patient, long-term, clever investment in the vanilla sector to support the shift to high-grade products.

This shift to high-value exports will require additional investment in agricultural inputs, labour, extension, processing, and certification by value chain actors who are willing to make these investments. New financial instruments to support the value chain (e.g. a revolving fund) would assist the vanilla sector.

MDF developed two pipeline interventions with exporters Kamapim in Madang, and Native Vanilla in Port Moresby to certify their smallholder networks. These interventions are continuing under APEP, which will work with these firms on certification in 2023.





**Australian
Aid** 



- Papua New Guinea: Level 10, MRDC Haus, Musgrave St, Port Moresby, Papua New Guinea
 - Fiji/Pacific Regional: Garden City Business Park, Grantham Road, Suva, Fiji
- Timor-Leste: 2nd Street, Palm Business & Trade Centre, Surik Mas, Dili, Timor-Leste
- Sri Lanka: No. 349, 6/1, Lee Hedges Tower, Galle Road, Colombo 03, Sri Lanka
- Samoa: Pat Ah Him Building (Nia Mall), Unit 20, Second Floor, Saleufi St, Apia, Samoa



This publication has been funded by the Australian Government through the Department of Foreign Affairs and Trade. The views expressed in this publication are the author's alone and are not necessarily the views of the Australian Government.



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MDF is funded by the Australian government. It is implemented by Palladium, in partnership with Swisscontact