



Harnessing Agricultural Trade
for Sustainable Development

Vanuatu

cocoa and coconut





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Executive summary

This study is part of a series of UNCTAD publications that focus on upgrading and diversifying specific agricultural sectors of rural economies in developing countries, with a view to raising living standards among small-scale farmers in a context of sustainable development, female empowerment and food security.

The study analyses two agricultural sectors in Vanuatu - cocoa and coconut - in terms of trade-led opportunities, including crop cultivation for biofuel and the development and marketing of cocoa and coconut-based handicrafts and niche/boutique items. It builds on information and recommendations contained in UNCTAD's Vanuatu's National Green Export Review (NGER), which highlighted the country's export competitiveness in the coconut and cocoa sectors.

Vanuatu is at a critical juncture in its rural development pathway. On the one hand, the country faces a pressing need to dynamise its traditional rural economy. On the other hand, there is a need to preserve the existing family-type farming system and its fundamental food security and ecological roles.

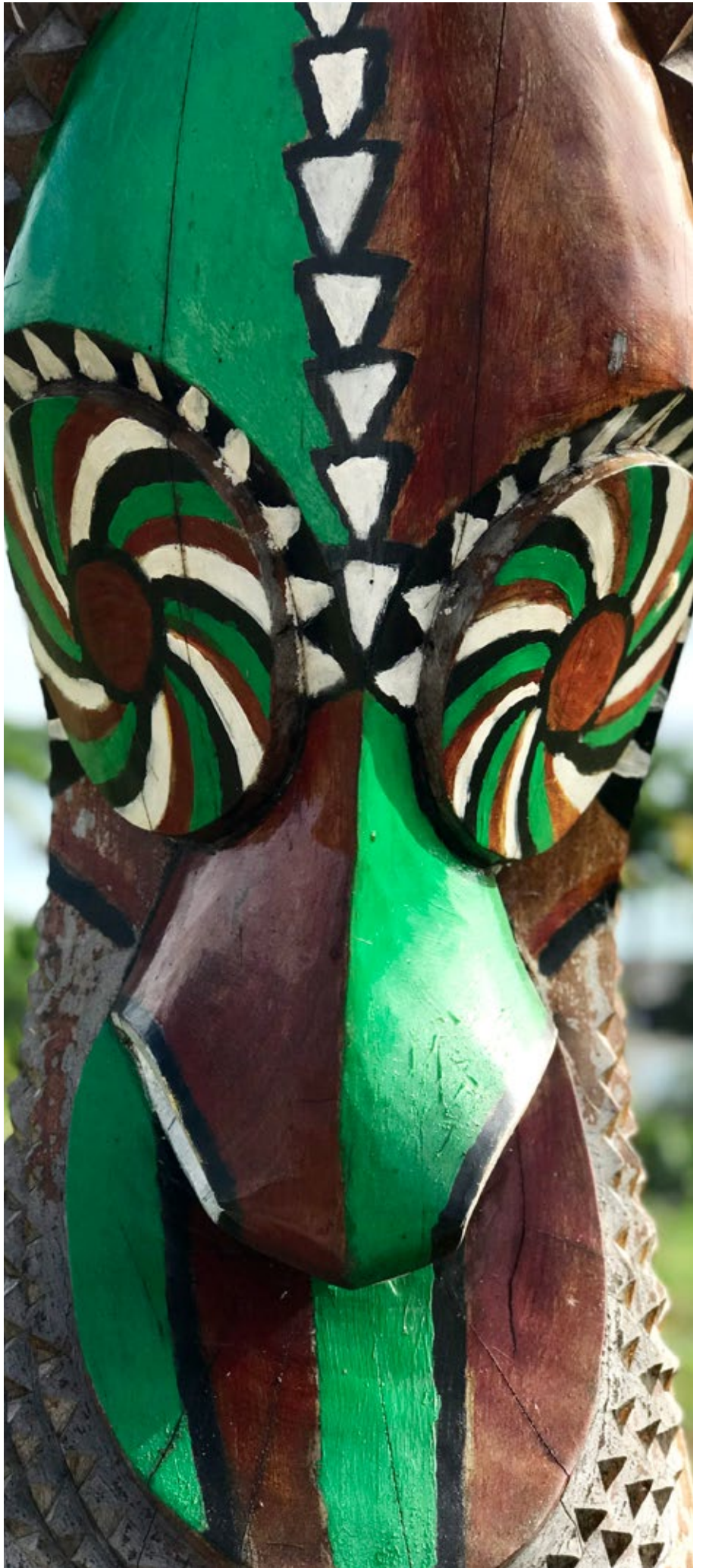
According to the study, the challenge is not just to expand the existing traditional farming system, but also to engender a pattern of structural rural transformation. This entails raising agricultural incomes, while generating non-farm income opportunities in rural areas - harnessing synergies between agricultural upgrading and agro-processing, handicrafts and tourism.

While emphasising positive impacts of diversification and upgrading trajectories, the study advises care in implementing strategies to minimise potential negative long-term impacts on, for example, staple food production, women or ecosystems. It further cautions on perverse consequences whereby, without successfully integrating small-scale farmers in the product value-chain, the principal beneficiaries of strategies may rather be the intermediaries.

Chapter 1 (Country overview) singles out the key socio-economic vulnerabilities and environmental issues. Chapter 2 (Commodity chain overview) maps the core processes in the value chain and the main actors involved, assessing governance structures and gender aspects. Chapter 3 (Upgrading trajectories) considers opportunities and challenges for value-addition and diversification. Chapter 4 (Sustainability outcomes) captures the social and environmental impacts of expanded, upgraded and diversified coconut and cocoa chains.

Chapter 5 concludes by highlighting key areas of policy intervention to integrate a socially-inclusive, ecologically-based agronomic model into sectoral trade arrangements and policies. These focus on the need to:

- strengthen multi-stakeholder dialogue and policy coherence, both vertically and horizontally in order to create consensus and mainstream sustainability into the agricultural trade with a mix of incentives and command and control regulation;
- articulate a locally-adapted ecologically-based agronomic model, agreed and defined by stakeholders, with a focus on sustainability and social equity;
- preserve customary tenure arrangements, within the context of Vanuatu's current mixed system of land ownership and use, while unlocking the commercial value of land, by finding a middle way between custom and formal land regimes;
- promote the uptake of Vanuatu's organic-by-default agronomic model among buyers and investors in the context of trade arrangements and certification schemes;
- enhance market transparency so farmers have access to current information on prices, quantities, marketing costs, quality standards and other market conditions at different locations or different points along the marketing chain.



Introduction

Since the vast majority of Vanuatu's inhabitants live and work in rural areas, rural development is the main driver of poverty reduction and will be essential to achieving Sustainable Development Goals (SDGs). It is anticipated that raising rural incomes to the level of urban incomes will help reverse the current pattern of rural-urban migration that is fuelling unsustainable urbanisation in Vanuatu.

This study was carried out to inform and direct Government efforts to expand, upgrade and diversify the coconut and cocoa chains in Vanuatu in a sustainable way. Through evidence-gathering and policy analysis, the study assesses the sustainability outcomes of expanded and upgraded value chains by delineating interlinkages between trade and various dimensions of sustainable development. Specifically, it benchmarks the economic, social and environmental effects of agricultural commercialisation and diversification strategies against the goals and policy objectives enshrined in Vanuatu's National Sustainable Development Plan (NSDP). The study generates knowledge and builds awareness and understanding on the social and environmental effects of trade-led structural transformation in agriculture and integrates this knowledge into trade policy planning and implementation to harness trade for inclusive and sustainable development in rural areas.

The study moves from the priority needs and potential activities emerging from the National Green Export Review (NGER) of Vanuatu and is aligned with the policy directives and strategies formulated in the Vanuatu National Agriculture Sector Policy and Vanuatu National Coconut Strategy 2016-2025. It implements specific elements of nationally-validated action plans. In particular, it shapes the design and implementation of a market intelligence module geared to more economically efficient, environmentally sustainable and socially inclusive supply chains in coconut and cocoa.

The study consists of five chapters. Chapter 1 (Country overview) provides a brief country overview and singles out the key socio-economic vulnerabilities and environmental issues. Building on Vanuatu's NGER and existing analyses, Chapters 2 and 3 provide deeper insights into the country's cocoa and coconut sectors. Chapter 2 (Commodity chain overview) maps out the core processes in the value chain and the main actors involved, also assessing governance structures and gender aspects. Chapter 3 (Upgrading trajectories) considers opportunities and challenges for value-addition and diversification. The analysis focuses on demand factors that can catalyse quality upgrading and diversification in the two sectors. Chapter 4 (Sustainability outcomes) combines both quantitative and qualitative approaches to capture the social and environmental impacts of expanded, upgraded and diversified coconut and cocoa chains. The analysis first gauges the extent to which expanded and upgraded chains can stimulate a broad-based, socially-inclusive and equitable pattern of economic growth in Vanuatu (gender-informed, pro-poor assessment). It then disentangles and summarises the complex local food-security ramifications of agricultural commercialisation and diversification policies (food security assessment). Finally, it considers the environmental impacts of expanded cocoa and coconut supply and of local processing in a context of disaster risk reduction and climate change adaptation (environmental assessment).

Chapter 5 concludes by highlighting key areas of policy intervention to integrate a socially-inclusive, ecologically-based agronomic model into sectoral trade arrangements and policies. The focus is on key catalytic interventions and leverage points to harness trade for inclusive and sustainable development in agriculture.



CHAPTER 1



Country overview
and development
background

Country overview and development background

The analysis in this chapter provides a brief country overview and singles out the key socio-economic vulnerabilities and environmental issues to set the stage for the ensuing sectoral analysis.

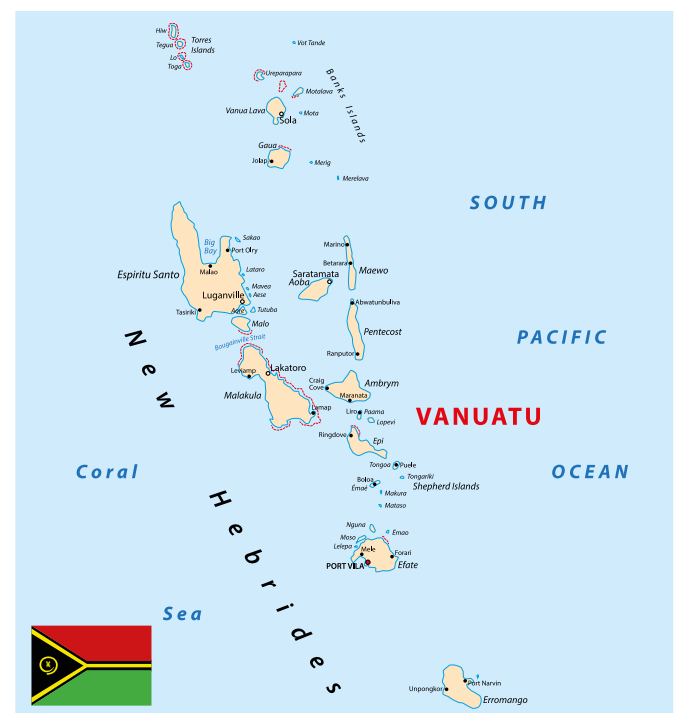
Economy

Vanuatu is a small archipelagic state with a land area of 12,281 square kilometres, a population of roughly 250,000 people, and a population density of about 19 people per square kilometre (VNSO, 2009 National Population and Housing Census). It comprises a 'Y' shaped chain of 83 islands, of which about 63 are permanently inhabited. Its territory straddles tropical and sub-tropical areas between the Equator and the Tropic of Capricorn, and consists of mostly mountainous islands of volcanic origin, with narrow coastal plains. Its small size, scattered archipelagic structure and insular remoteness are structural features that translate into significant competitive disadvantages. Most notably, transport costs (domestic and international) are significantly higher than those of other competitors in areas of export interest to Vanuatu; economies of scale are difficult to achieve, which translates into high per unit costs of production, high costs of infrastructure development, and low prospects for endogenous technology development and manufacturing expansion; and insularity precludes cross border trade and infrastructural synergies with neighbouring countries. These structural disadvantages significantly inhibit the country's growth potential and enhance its vulnerability to external – and internal – shocks.

Vanuatu is subject to intense volcanic activity and is strongly exposed to natural hazards from floods, drought, earthquakes and sea-level rise, but has limited capacity to cope and adapt to them due to fragile or non-existent critical (energy, transport, health, etc.) infrastructure. Owing to its exposure and vulnerability, the island state of Vanuatu is consistently ranked the world's most disaster-prone country in the World Risk Index (United Nations University Institute for Environment and Human Security (UNU-EHS, 2016). Disaster risk-reduction and management is a strategic priority in the context of extreme exposure and vulnerability to internal and external shocks. Against a background of extreme weather events and market volatility,

farm diversification is a key risk-hedging strategy. It allows farmers to diversify their income portfolio in a context of highly volatile commodity prices. It also increases resilience against climate change and natural hazards such as drought, floods, hurricanes and earthquakes, as structural climate changes and shocks tend to impact different crops in a different way.

Vanuatu's GDP growth has been sustained but erratic because of its aforementioned vulnerabilities. A narrow resource base, small domestic markets and limited manufacturing capacity translate into a high degree of dependence on imported goods and high export concentration in a few basic commodities. Vanuatu has significantly improved its merchandise trade balance since 1990 but negative values have been observed since 2000. A sharp drop in GDP per capita was observed in 2000 (partially due to the aftermath of the Asian financial crisis) but growth has picked up since, along with some marginal improvement in the trade balance.



Statistics on imported goods reveal Vanuatu’s limited manufacturing base (Vanuatu Government, Trade Policy Framework 2012¹). On average, over the 2012-15 period, machine/transport equipment and basic manufactured products together accounted for over 40 per cent of total imports. It is also worth noting the significant import share of food (including vegetables) and live animals, an area where Vanuatu might wish to explore options to increase domestic capacity (VNSO, 2016). The bulk of imports are sourced from Australia and New Zealand; China and Fiji are also major source countries, and increasingly so (Figure 1).

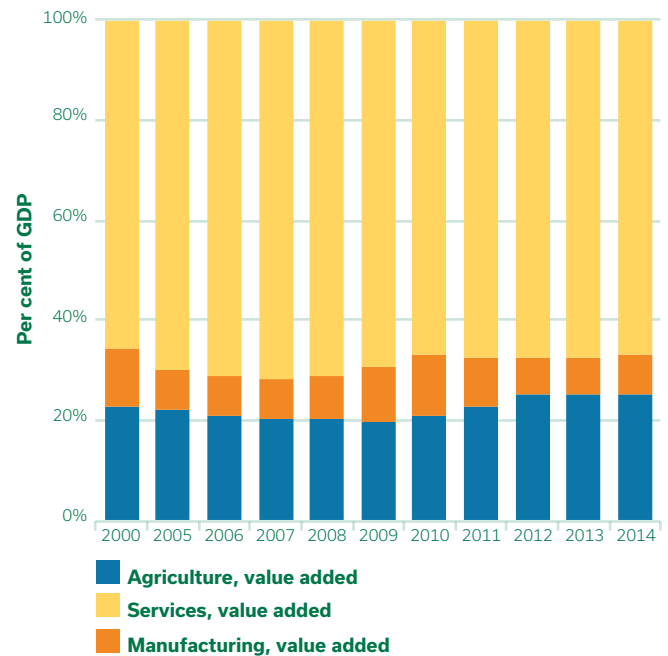
Vanuatu’s exports are concentrated in products whose world prices exhibit significant volatility. Commercial, export-oriented agriculture mainly covers copra, beef, cocoa and kava. In 2015, coconut palm products (mostly copra, coconut oil and coconut meat) accounted for about 45 per cent of the country’s total merchandise exports (VNSO, 2016). Copra is by far the most important cash crop (20 per cent of Vanuatu’s exports on average over the period 2012-15), followed by coconut oil (18 per cent), kava (13 per cent), beef (9 per cent), cocoa (7 per cent), and timber (5 per cent) (VNSO, 2016). Major export destinations include Japan, New Caledonia, the Philippines, Fiji and Europe.

In structural terms, Vanuatu has a dualistic economy, with a large traditional subsistence agricultural sector and a growing formal, or cash, economy. The latter includes commercial agriculture and associated trading, manufacturing, banking and shipping services alongside the country’s growing tourist and construction industry. Offshore finance, banking and Port Vila-based professional services also contribute considerably to Government revenue through licence and other fees. Tourism is the main source of foreign exchange earnings. The sectoral composition of GDP over the period 2000-2014 is shown in Figure 1. The contribution of agriculture to national GDP grew from 21 per cent in 1990 to around 28 per cent in 2014. Services on average accounted for about 65 per cent: wholesale and retail trade, government services, transport, communication, financial, real estate and food/accommodation accounted for the bulk. Within industry (10 per cent of GDP on average), the share of manufacturing is low (about 4 per cent of GDP) as the few existing manufacturing activities (mainly agro-processing and handicrafts) are still at an early and low value-added stage.

The rural economy is still largely subsistence-oriented; yet the subsistence sector is integrated into markets in an increasing and complex way. Major staple foods include root crops (taro, yam, cassava and sweet potato), bananas and fruits and vegetables. Banana and root crops as well as all island cabbage plants and other leafy vegetables are planted or harvested both for subsistence and domestic sale in village, island and urban markets. Likewise, the coconut palm has basic subsistence roles but is also chiefly of interest as a source of cash income (coconut palm products, mostly copra and coconut

oil, are exported). Note also that small and subsistence farmers traditionally establish their tree crops (e.g. cocoa and coconut) in mixed planting/inter-cropping with food crops such as cassava and bananas. This is done to spread income to the lean time between harvests or to meet basic livelihood needs while tree crops are maturing between tree crop cycles. Subsistence rural households increasingly depend on marketed goods: expenditure on consumer goods has increased significantly among rural households (VNSO 2007 and 2013); and rising transport, communication and education costs have amplified rural households’ need for cash income (VNSO 2007 and 2013). Ultimately, most subsistence farmers engage with the market to some extent.

FIGURE 1 GDP value added structure



Source: Calculations by the UNCTAD secretariat based on World Bank WDI data.

1 Population
258,301

3 CAPITAL CITY
Port Vila

2 Main Religion
Christianity

4 CURRENCY
Vanuatu Vatu (VUV)

5 LANGUAGE
French, English, Bislama

6 LANDMARK
**Iririki Island
Mount Yasur
Mele Island**

Social development indicators

By ethnic origin, Vanuatu has a very homogeneous population, with 98 per cent of inhabitants being Ni-Vanuatu (indigenous to the country), 1 per cent Part Ni-Vanuatu and 1 per cent of foreign descent. The largest single groups of foreign descent are of Australian, New Zealander and European origin, followed by Melanesians other than Ni-Vanuatu and Asians (VNSO, 2009 National Population and Housing Census). Vanuatu's population is relatively young with a median age of 20.5 years and rapidly growing: it more than tripled in size from 78000 in the late 1960s to over 234000 at the time of 2009 Population Census.

Within this homogeneous population, there are intersecting patterns of inequality based on gender, age and residence. As discussed in chapter 4, there are still significant differences between men and women in terms of educational attainment, school enrolment and literacy rates, in spite of genuine efforts and significant progress towards bridging the gender gap. Labour and employment statistics likewise point to deeply entrenched gender-based inequalities in labour markets. Gender gaps should be assessed in relation to marked differences according to place of residence, urban or rural: shortfalls in human development, services and income-generating opportunities are more numerous in rural than in urban areas. Finally, there are important intergenerational issues in human development which qualify gender-based inequalities. For example, the gap in literacy and education between men and women widens with the increasing age of the population. Gender should also be assessed in relation to income and other social status factors.²

Vanuatu's level of absolute poverty is relatively low (12.7 per cent compared to around a mean of 40 per cent for developing countries³). According to 2006 HIES data, the incidence of poverty using the US\$1.25 (PPP) poverty line was 9 per cent for the population and 8 per cent for households (Government of Vanuatu, 2010). Hence, destitution is rare. Yet there are pockets of poverty, particularly in urban areas. Furthermore, as discussed below, many people in rural areas suffer from what has been defined as "poverty of opportunity" in terms of a lack of access to basic services, jobs and education (Government of Vanuatu, 2010, see table 1).

Poverty is still predominantly a rural phenomenon: 59.4 per cent of poor people, or 62.4 per cent of poor households, live in rural areas (1). This reflects the fact that the rural population, 76 per cent of total population, is higher than the urban one; virtually all (98 per cent) of the rural population is active in agriculture, which accounts for an estimated 70 per cent of total rural household income (VNSO, 2008).

TABLE 1 Distribution of the poor and vulnerable, by urban and rural location

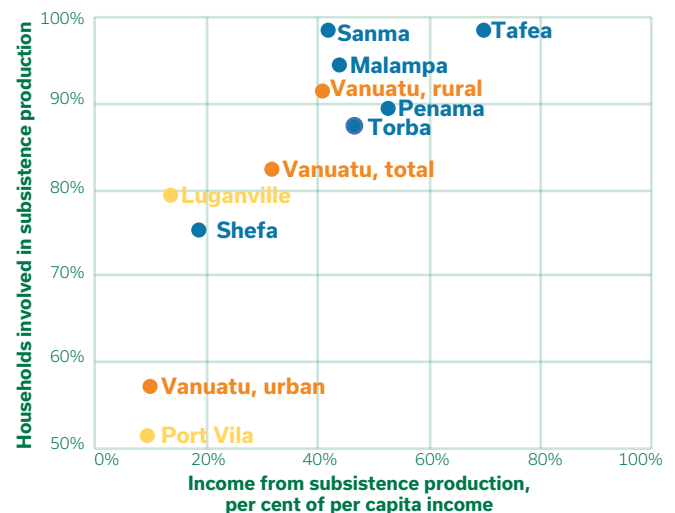
	Households (HH)	Share of poor HH	Population	Share of
Total below BNPL	5213		31263	
Rural	3254	62.4	18570	59.4
Port Vila (urban)	1436	27.5	9123	29.2
Luganville (urban)	524	10.0	3570	11.4

Source: Vanuatu hardship & Poverty Report 2012 (VNSO and UNDP, 2013).

Note: Poverty is hereinafter measured by the proportion of households and individuals with expenditure levels below the national poverty lines for food and basic needs.

As shown in Figures 2 and 3, most rural household are semi-subsistence with limited opportunities for cash income. Some rural provinces are extremely dependent on subsistence production as the main source of income: the income of the population in Tafea, Torba and Penama - among the poorest provinces - is mostly sourced from subsistence production.

FIGURE 2 Subsistence production role in income per capita



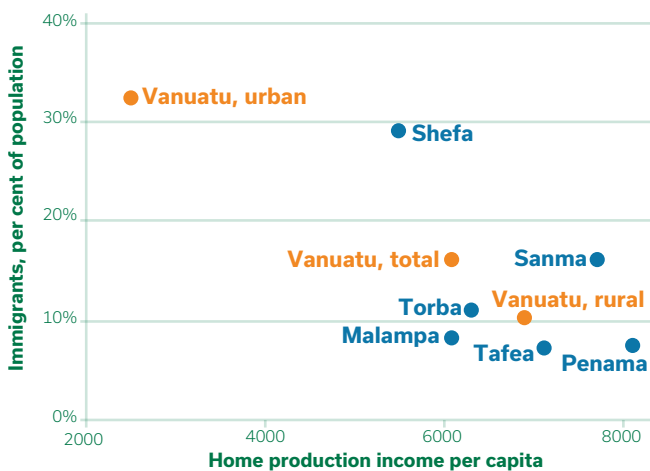
Source: UNCTAD secretariat calculations based on Vanuatu Household Income and Expenditure Survey (2010)

While subsistence and semi-subsistence farming provides an important safety net and safeguard against extreme (food) poverty, it is also at the root of the "poverty of opportunities"

depressing rural areas. As stated in the 2010 MDG Report for Vanuatu, the rural majority live in “subsistence affluence”, with plentiful natural resources in an unspoiled environment, yet suffer from a lack of access to services, infrastructure and income-earning opportunities⁴). This is reflected in statistics on household items and means of communication, by place of residence: 91 per cent of urban households had at least one mobile phone compared to 71 per cent in rural areas; the internet was used by 7 per cent of the population aged 15 years and older, 16 per cent in urban areas and only 3 per cent in rural areas; a higher proportion of urban households owned items such as motor vehicles, gas stoves, fridge or freezer, television, radio, computers, and DVD decks (VNSO, 2011).

The predominance of subsistence activities in the rural economy, coupled with limited opportunities to generate cash income and lack of amenities, has resulted in persistent rural to urban migration. Census data for 2004-2009 show migration inflows particularly into the largest urban area, Port Vila, and the associated peri-urban area in Shefa province, which recorded the highest population growth (3.7 per cent annually) and density (52 people per square kilometre). Migrants mainly came from Tafea, Malampa and Penama (VNSO, 2011), where subsistence farming is the main livelihood. Likewise, the 39 per cent population increase of Luganville between 2006 and 2010 cannot be explained by overall modest population growth (2.3 per cent annually); rather it was caused by high levels of rural to urban migration (Table 2).

FIGURE 3 Correlation of migration to subsistence income



Source: UNCTAD secretariat calculations, based on the Population Census 2009 and Household Income and Expenditure Survey 2010. Immigrants – share of population that responded as having a different place of residence (outside or inside of Vanuatu) 5 years prior to the Census. Home production (subsistence) income per capita – cash equivalent of home production.

TABLE 2 Total population size by urban rural residence, Vanuatu: 1967–2009

Year	Total	Urban	sp	Rural	%
1967	77,988	7,772	10.0	70,216	90.0
1979	111,251	15,784	14.2	95,467	85.8
1989	142,419	25,870	18.2	116,549	81.8
1999	186,678	40,094	21.5	146,584	78.5
2009	234,023	57,195	24.4	176,828	75.6

Source: VNSO, 2009 National Population and Housing Census

This flow of internal migration is fuelling unsustainable urbanisation, increasing urban poverty and exacerbating strains on urban infrastructure. As clearly emerges from the poverty statistics in Table 3, there is a limit to the potential of urban areas to absorb rural migration outflows and drive growth. Most remarkably, while the rural poor represent the largest proportion of the total population living below the Basic Needs Poverty Line (BNPL), the incidence of poverty is higher in urban areas. This higher incidence is compounded by and interacts with higher food poverty compared to rural areas. Due to the prevalence of subsistence farming, food security is on average higher in the rural areas, where households have customary access to land, a fact corroborated by the Vanuatu Hardship and Poverty report 2012. Whereas, in urban areas, people have to purchase food to meet their requirements.

TABLE 3 Poverty trends in Vanuatu, by urban and rural location (per cent)

	Incidence of food poverty				
	Households		Population		
	2006	2010	2006	2010	
Vanuatu, avg.	6.0	2.7	7.4	3.2	
Port Vila	4.7	2.2	5.4	2.8	
Luganville	2.2	6.0	2.2	8.2	
Rural	5.1	2.0	6.6	2.6	
	Incidence of basic needs poverty				
	Vanuatu, avg.	10.3	10.7	13.0	12.7
	Port Vila	16.3	14.7	20.1	18.4
	Luganville	10.4	19.4	12.2	23.6
	Rural	9.0	8.5	11.5	10.0

Source: UNDP Household Income and Expenditure Survey 2010; Proportion of households or population with weekly per capita adult equivalent expenditure less than the Food Poverty line and the Basic Needs Poverty line.

The legacy of colonialism and the complex interplay of custom and formal institutions

Vanuatu's multiple waves of colonisers, with distinct languages and settlement patterns, brought about a very complex stratification of foreign and indigenous values, which explains the linguistic diversity of the country, its range of Christian denominations and the complexity of its legal system.

The islands of Vanuatu have been inhabited since 500 B.C.; the region was part of the Tongan Empire from the 14th century. During the 19th century, French and English Christian missionaries and some traders and planters settled on some of the islands, which then became an Anglo-French condominium (the New Hebrides) in 1906. The New Hebrides were then ruled by separate British and French administrations until independence in 1980.

Vanuatu has three official languages, English, which is spoken by approximately 64 per cent of the population; while French is spoken by 37 per cent, and Bislama, a creole language derived from English, is spoken by 74 per cent of Vanuatu citizens.

These languages are among 113 local languages, which makes Vanuatu one of the most language-dense countries in the world.

Also rooted in Vanuatu's colonial history is the variety of religious denominations, markedly different between islands: the Presbyterian Church of Vanuatu (PCV) is the dominant denomination (28 per cent), followed by the Anglican Church (15 per cent), the Seventh Day Adventist Church and the Roman Catholic Church (12 per cent each), and other minor denominations (Church of Christ, Assemblies of God, Neil Thomas Ministry and Customary beliefs, including cargo cults) (VNSO, 2011).

The legal system – a mix of English common law, French law, and customary law – is likewise tributary to different traditions and systems. Legal pluralism is enshrined in the Constitution, which acknowledges the advisory and dispute settlement role of customary institutions at the village, island and district levels.⁵ The Constitution also enshrines custom tenure arrangements by vesting all land in indigenous custom owners. In practice, traditional customs co-exist in Vanuatu in a complex relationship with “formal” law. In some instances, customs are apprehended through formal legal systems in a way that has transformative effects over customary social structures. This is well exemplified by the complex interaction between modern and custom tenure systems in Vanuatu's land law (Box 1).

Box 1 Vanuatu's land tenure system

At independence in 1980, all land was formally returned to indigenous (Ni-Vanuatu) customary owners. The Constitution enshrined custom tenure arrangements by stating that “[a]ll land in the Republic of Vanuatu belongs to the indigenous custom owners and their descendants” (Art. 73) and that “[t]he rules of custom shall form the basis of ownership and use of land in the Republic of Vanuatu” (Art. 74). Art. 75 further stated that “[o]nly indigenous citizens of the Republic of Vanuatu who have acquired their land in accordance with a recognised system of land tenure shall have perpetual ownership of their land”. In other words, foreigners and citizens of foreign origin were excluded from perpetual ownership of customary lands - about 96 per cent of Vanuatu total land area (Meadows, 2017).

The principle enshrined in the Constitution was qualified by a number of exceptions.

First, to avoid major disruptions in the estate economy after independence, under the Land Reform Act (LRF) 1980, expatriates (denominated “alienators”) were entitled to remain on their lands (“alienated lands”) until either a lease was agreed or compensation (including for their value-addition) granted. Under this system, most so-called alienated land was re-leased to the alienators, mostly foreigners or citizens of foreign origin.

Second, the Government was entitled to directly own land (so-called “Public Land”), in derogation of Articles 73 and 74 of the Constitution. Public Land vested in the State included all former colonial government land, pursuant to the Land Reform (Amendment) Acts of 1992 and 2000. The Constitution also permitted the Government to acquire (expropriate versus fair compensation) customary land in the public interest (Art. 80) or buy it from custom owners for redistributive purposes (Art. 81). A large number of urban leases in Vanuatu's two main urban areas, Port Vila and Luganville, are on Public Land.

Finally, the Land Leases Act of 1983, as subsequently amended, allowed leasing out custom land. The procedure was relatively stringent and meant to protect custom landowners. A person who wished to lease land should first apply for a “Negotiator Certificate” with the Department of Lands. If granted and signed by the Minister, the certificate entitled the applicant to enter into negotiations with the customary owner of the land. If the latter could not be identified, or if the land was disputed, a Custom Owner Identification form was sent to and completed by the responsible custom chief in the area concerned. If the negotiations between the prospective lessee and the custom landowner were successful, a land survey was carried out to mark out the boundary of the leased land, the applicant paid the fees and custom owners received money from the lessee according to the terms of the lease agreement. As a safeguard, all leases had to be approved by the Government, instructed to reject them if prejudicial to customary owners, local communities or indigenous citizens.

In spite of these safeguards, the system eventually resulted in growing dislocation of indigenous people from custom land. As reported by Stefanova, Porter and Nixon (2012), by 2012, 9.5 per cent of the total land area of Vanuatu had been leased; on Efate, 69.5 per cent of urban land and 43.6 per cent of rural land was under lease, covering 56.5 per cent of the coastline. The 2006 Vanuatu National Land Summit (Land Summit) identified several challenges and dysfunctions in the leasing procedure. First, it appears that successive Ministers of Land had adopted an expansive interpretation of their right to sign leases, including over disputed or unclaimed custom land. This notwithstanding the fact that their power to sign leases on behalf of custom owner was technically confined to land alienated prior to independence (the first exception detailed above). Second, the determination of customary owners proved difficult and often resulted in disputed outcomes, with disputes dealt with in parallel under the rules of custom (customary land tribunals) and the formal court system (Island Courts and the Supreme Court). The reality of customary ownership, unrecorded, collective, allowing for multiple land users, was difficult to capture in formal Custom Owner Identification forms and there were serious concerns that chiefs would not fill in the forms diligently. Finally, most custom owners had little awareness of the technicalities involved and often agreed upon terms and conditions not particularly advantageous or even prejudicial to their interests. Quite often lessees included conditions in the agreement that required custom landowners to pay for the cost of improvements carried out on the leased plot in order to recover the land. These costs, covering investment related to factories, houses, infrastructure, could be prohibitive for indigenous custom owners, and led to a de facto expropriation of their land.

The Land Summit instigated an intensive period of public consultation under the Land Reform initiative, which led to the promulgation of new land laws in 2015. With the intent to afford greater protection to custom owners, the land reform removed the Ministerial power to sign off any land lease; placed the process of custom owner identification with the local customary institutions (nakamal);⁶ and more explicitly endorsed the notion of communal/group custom ownership by defining custom owners in terms of lineage, family, clan, tribe or other group.⁷ Significant procedural issues and challenges remain open, concerning in particular the number and delimitation of custom areas, as well as the identification of nakamals and of the areas under their jurisdiction.

Sources: *Constitution of Vanuatu, Consolidated Edition 2006; Land Reform Act (LRF) 1980; Custom Land Management Act No. 33 of 2013; Haccius, 2011; de Burlo, 1989; Meadows, 2017; Stefanova, Porter and Nixon, 2012.*

A parliamentary republic, Vanuatu has a multi-layered governance structure. Vertically, the central Government coexists with local government structures, under the ministerial oversight of the Department of Local Authorities (Ministry of Home Affairs). Each of Vanuatu’s six provinces (Torba, Sanma, Penama, Malampa, Shefa and Tafea) is administered by a provincial council, with a central administration and village-level local areas; the three largest urban areas, i.e. Port Vila (Shefa), Luganville (Sanma), and Lenakel (Tafea), are administered by municipal councils. The councils include representatives appointed from among women’s groups, youth, chiefs and churches, and consult with custom area chiefs on customary laws and traditional issues. Horizontally, the Government includes the Prime Minister’s Office and twelve Ministries, each overseeing functional departments and units. Creating vertical policy coherence involves both fostered coordination between central and decentralised government

structures and strengthened linkages between traditional and formal institutions as well as strong partnerships with community-based groups and other civil society organisations. Horizontal policy coherence calls for integrated solutions across Ministries and Departments to address development challenges that are linked and interrelated.



Summary observations

Since the majority of Ni-Vanuatu live and work in rural areas, rural development is the main driver of poverty reduction and will be essential to achieving the Sustainable Development Goals (SDGs) in Vanuatu. The key challenge is not just to expand the existing agricultural system but also to engender a pattern of structural rural transformation. This entails raising agricultural incomes while generating more productive non-farm income opportunities through the creation of viable non-farm enterprises. In turn, this will allow a positive convergence of minimum income levels in rural and urban areas, thereby contributing to the reversal of a pattern of rural-urban migration that is fuelling unsustainable urbanisation (UNCTAD, 2015c).

The trend towards commercialisation and diversification⁸ in agriculture, including through value-addition and diversification in the coconut and cocoa sectors, has significant potential to dynamise, diversify and add value to the traditional subsistence sector. The key is to harness synergies between agricultural upgrading and rural economic diversification through downstream activities in agro-processing and handicraft, and linkages with tourism. This path of structural transformation will contribute to the development of the rural, non-farm economy while upgrading the farm system upstream.

There are challenges ahead, taking into account the socio-economic specificity of Vanuatu. While commercialisation and diversification in agriculture can open up new opportunities for small, resource-poor producers, including female farmers, it also presents them with significant challenges. Specifically, this transformative pathway tends to favour commercially-oriented farmers who have easier access to inputs and marketing networks and a tendency to crowd out poor, risk-averse farmers, including disadvantaged or vulnerable communities and women.⁹ Likewise, the local food-security and environmental implications are complex, often double-edged, with a high degree of context specificity.

For the ultimate objective of inclusive and sustainable development, it is critically important to capture the distributional, food-security and overall sustainability consequences of trade-led structural transformations in agriculture and tackle exclusion. In particular, institutional and policy coherence is needed across trade and agriculture to address the challenges that small and subsistence producers face. These challenges are multifaceted, entangled, and tend to be gender-specific. The remainder of this analysis takes full account of these factors while outlining recommended areas of integrated intervention by means of complementary trade and agricultural policies.

NOTES

¹ http://repository.usp.ac.fj/6717/1/Vanuatu_government-trade_policy_framework.pdf

² Empowered women of foreign origin figure prominently among the most dynamic entrepreneurs in Vanuatu.

³ Calculated based on available data series for 2010, UNCTAD secretariat, based on World Bank WDI.

⁴ <https://dfat.gov.au/about-us/publications/Documents/vanuatu-mdg-report-2010.pdf>

⁵ Specifically, the Constitution (Chapter 5) institutionalises the National Council of Chiefs (Malvatumauri, composed of custom Chiefs elected by the Island and Urban Council of Chiefs) in its advisory capacity to the Government on all matters concerning Ni-Vanuatu culture and language. Further, the Constitution recognises the role of custom and customary institutions in the judiciary process, through a number of venues. If there is no rule of law applicable to a matter before a court, "the court shall determine the matter according to substantial justice and whenever possible in conformity with custom" (Art 47 (1)); "Parliament may provide for the manner of the ascertainment of relevant rules of custom, and may in particular provide for persons knowledgeable in custom to sit with the judges of the Supreme Court or the Court of Appeal and take part in its proceedings" (Art. 51); "Parliament shall provide for the establishment of village or island courts with jurisdiction over customary and other matters and shall provide for the role of chiefs in such courts" (Art. 52).

⁶ The nakamal was defined as "a customary institution that operates as the seat of governance for a particular area. Members of a nakamal include all men, women and children who come under the governance jurisdiction of that nakamal. A nakamal may be related to a single custom owner group or extended family group, or may be related to a number of custom owner groups or extended family groups living in a village or larger area" (Custom Land Management Act of 2013).

⁷ A "Custom owner" refers to "any lineage, family, clan, tribe or other group who are regarded by the rules of custom, following the custom of the area in which the land is situated, as the perpetual owners of that land and, in those custom areas where an individual person is regarded by custom as able to own custom land, such individual person" (Custom Land Management Act of 2013).

⁸ IFPRI, Bhutan: "we define agricultural diversification as the shift in production from low-value staple crops, such as maize and rice, into higher-value commodities such as fruits, vegetables, medicinal plants, and animal products." Commercialisation refers to the trend towards increasing the proportion of agricultural production that is sold by farmers.

⁹ In Vanuatu, where the most dynamic entrepreneurs often include the 1 per cent of citizens of foreign origin or foreigners, the process acquires special social connotations. Entrepreneurial skills and perspectives are not emphasised in the culture of Vanuatu and are therefore rare among Ni-Vanuatu. Coaching and training activities would be useful in assisting their switch from a passive to an entrepreneurial approach to business.





CHAPTER 2



Cocoa and coconut:
commodity
chain overview

Cocoa and coconut: commodity chain overview

UNCTAD's National Green Economy review (NGER) for Vanuatu has identified coconut and cocoa as dynamic sectors in which the country has a clear comparative advantage. According to the NGER, the two sectors offer significant opportunities for downstream processing and increased export value through product differentiation, including organic certification. The impacts on sustainability of upgrading trajectories in cocoa and coconut are assessed in chapter 4. To inform the analysis, it is important first to consider key aspects of the domestic production and marketing chain. Indeed, technical details about farming structures, marketing channels and processing techniques are of major importance in assessing social inclusiveness, food security and environmental impacts. Detailed assessments of Vanuatu's cocoa and coconut chains have been carried out elsewhere (AECOM Services Pty Ltd. and PHARMA, 2016; Pacific Agribusiness Research & Development Initiative, 2011; Pacific Agribusiness Research & Development Initiative, 2012; UNCTAD, 2014a; UNCTAD, 2016). Suffice it here to recall some of the main features of cocoa and coconut production, processing and marketing that have a significant influence on the analysis in the following chapters.

Agronomic conditions and farming systems

Coconut and cocoa are major smallholder crops in Vanuatu: two out of three rural households are engaged in coconut farming, while one out of four cultivates cocoa for sale (Table 4). Coconut farming is common across all rural provinces, contributing to the livelihood of more than half the rural population of Torba, Sanma, Penama and Malampa. Products of the coconut tree (mostly copra) are locally produced in all these provinces. The bulk of cocoa production (approximately 70 per cent of all cocoa produced in Vanuatu) is concentrated in Malekula, a part of Malampa province. The export wharf for both commodities is in Luganville, on the island of Santo, where large-scale processing facilities (2 copra crushing mills) are in operation.

TABLE 4 Private households engaged (or not) in coconut/cocoa production for sale

	Total no. households	Households growing cash crops	%	of those			
				Coconut	%	Cocoa	%
Torba	1766	1515	85.8	1260	71.3	65	3.7
Sanma	9213	6575	71.4	4814	52.3	1827	19.8
Penama	6620	6310	95.3	3375	51	1211	18.3
Malampa	7991	7584	94.9	7015	87.8	5142	64.3
Shefa	15930	6425	40.3	3729	23.4	418	2.6
Tafea	5853	5319	90.9	3268	55.8	82	1.4
Rural	35767	31776	88.8	23009	64.3	8692	24.3
Vanuatu	47373	33728	71.2	23461	49.5	8745	18.5

Source: UNCTAD secretariat, from the Vanuatu Population Census 2009.

Coconut and cocoa are perennial tree crops with relatively long gestation periods. These agronomic features have important structural implications. Coconut palms bear their fruits five to six years after planting. Their productive life lasts on average about 50 years, after which replanting is needed as yields start declining significantly. Trees cease production when they reach 60 to 70 years of age, although, in exceptional cases, trees up to 100 years old remain productive. In the case of cocoa, replanting is generally in order for trees over 20 years. Furthermore, the coconut stock of Vanuatu is ageing: 17 per cent of coconut parcels are old trees and require replanting (VNSO, 2008). In contrast, the cocoa reserves of Vanuatu are mostly young, which implies longer-term stability in the relative income of cocoa growing households (VNSO, 2008). For poor farmers, replanting costs are associated with short-term income losses as it requires about three to five years for the trees to bear fruit. This means that farmers will not invest unless there is some prospect of sustained high prices, and that they will continue to produce as long as prices cover the cost of labour. The time-lag factor acts as an entry and exit barrier in the cocoa and coconut sectors and reduces the short-term price elasticity of demand and supply. Diversification of use can ease these costs: timber from old coconut trees is well suited to construction and handicraft and can provide alternative sources of cash income for small-scale farmers between tree-crop cycles. A second aspect deserves some attention: coconut offers the advantage of year-round production, thereby providing a revenue stream throughout the year, within the season; cocoa generally produces one or two harvests per year and cocoa farmers typically diversify to spread out income to the lean times between harvests.

Issues of land diversion from staple food to cash crops are less acute in cocoa and coconut than in other tree-crop sectors such as palm oil. In the tropics, cocoa thrives in the shadow of tall plants and is well suited to the forest area; the places where cocoa grows best are not where food can be farmed more efficiently, which eases trade-offs between cocoa and staple food production. Note also that, in diversified farming systems, cocoa trees can easily be integrated into a food garden. Coconut lands in Vanuatu were once

concentrated in low-fertility zones, including coral coastal terraces, and traditionally consisted of mixed farming areas. Coconut plantations have gradually spread to more fertile zones, where they can compete with food production (FAO, 2013). Coconut plantations in Vanuatu are predominantly dual/mixed cropping systems, where coconuts coexist with other annual or perennial crops including cocoa and coffee as well as root crops and bananas. Coconuts and cocoa do not generally compete for land, as cocoa (like coffee and rubber) can be efficiently intercropped with coconuts. Mature coconuts (though not young, immature palms) are also suitable for agro-silvo-pastoral systems combining tree, pasture and livestock production.

In terms of the farming system, cocoa and coconut in Vanuatu are cultivated on both rural households' sub-holdings and on commercial farms ('plantations') (Box 2). Most rural households have their own coconut sub-holding, often with coconuts grown alongside other tree and food crops (VNSO, 2008). These sub-holdings typically involve labour-intensive, small-scale, subsistence farming based mostly (or only) on family labour; planting material is mostly propagated from seed nuts; and industrial inputs (synthetic fertilisers and pesticides) are rarely used, which makes coconut and cocoa farming "organic by default"¹. Coconuts are used as a source of cash income through copra production and as a source of food for households and feed for animals. Plantations, a legacy of the colonial economy, were returned to their indigenous customary owners with Independence; some were leased back to their operators under the "alienated" land special regime (Box 1). Plantations typically involve larger-scale, heavier mechanisation, and hired labour. Note, however, that in Vanuatu, a number of commercial farms tend to integrate traditional farming practices with agro-ecological approaches through functional complementarities with smallholder crops and the inclusion of livestock (Box 10). Note also that a number of plantation lands were sub-divided into small-scale holdings which are being operated by local people. This further reflects the structural advantages and potential competitiveness of small-scale farming in cocoa and coconut, as outlined below.

Box 2 Cocoa and coconut — farming models

According to the 2007 Agriculture Census of Vanuatu, the highest share of large-scale coconut plantations were concentrated in Shefa province (80 per cent of coconuts were on parcels of 50 or more hectares); the highest share of small-scale coconut sub-holdings were in Sanma and Penama provinces (almost 40 per cent of coconut farming was on parcels of two to three hectares). The majority (60 per cent) of coconut-farming households grow coconuts on a single-land parcel within the residence of the household. Concerning the cocoa sector, Malampa province hosted both the biggest large-scale cocoa plantings (10 hectares and over) and the biggest small-scale cocoa farming (1 to 3 hectares). Among other provinces, large-scale cocoa planting was prevalent in Penama (69 per cent), while other provinces recorded higher shares of the small-scale cocoa farming, also typically within the residence of the household.

Source: 2007 Agriculture Census of Vanuatu.

Coconuts and cocoa are particularly suited to smallholder production and have traditionally been a smallholder export crop across many countries. Contrary to other crops (e.g., tea or cereals), the exportable product (cocoa beans and copra) is fairly near the raw state and exports do not require bulk quantities for economic machine processing: fermentation of cocoa beans and extraction and drying of copra can be carried out efficiently at the farm gate in small lots and with a minimum of capital. Quality is a major issue, but it is primarily a matter of care and skills, which can be developed by small and subsistence producers. As outlined in this report, with increased commercial emphasis on niche/boutique market outlets and product differentiation, even greater efficiency can be found in small-scale as opposed to large-scale farming. For example, organic cocoa beans/coconut are high-value crops that require labour-intensive farming. They perform better in well-developed, smallholder agriculture than in other types of farming, due to the favourable incentive of self-employed, family farming compared with the significant transaction and monitoring costs of hired labour in estate-based plantations (HLPE, 2013).

As regards varieties and genetic improvement, coconuts belong mainly to the local Vanuatu Tall variety, well resistant to diseases (the coconut decay foliar only affects exotic varieties) and less vulnerable to storms than other varieties (e.g., dwarf coconuts). Crossing and hybridisation of the Vanuatu Tall has been carried out at the Vanuatu Agricultural Research and Technical centre (VARTC), leading to high-yielding, improved varieties. These include the Elite Vanuatu Tall (Elite VTT), obtained through selective breeding of the local Tall variety over four generations, and a hybrid variety obtained by crossing the Vanuatu Tall with a high-yielding variety from the Solomon Islands (FAO, 2013). The Elite VTT can be propagated by farmers using seed nuts collected from their own Elite VTT palms, while the hybrid has to be produced through pollination in specialised nurseries. These issues have important ramifications in terms of social inclusiveness and sustainability, as discussed further in chapter 4.

Uses and processing

The coconut value chain is intertwined with several end-uses across different industries and final markets. This multi-product chain structure offers significant opportunities for diversification and value-addition, with opportunities for price arbitrage. Annex 1 presents the main product flows. In the edible segment, there are two distinct strands based on the freshness of the coconut: coconut water is produced from tender coconuts with a not-fully-formed kernel; coconut-based food products, encompassing refined, bleached, and deodorised (RBD) oil, virgin coconut oil (VCO), desiccated coconut, coconut milk and cream, are derived from mature nuts. RBD oil is usually made from the dried coconut kernel (copra), from which crude oil is extracted by using heavy pressure, heat and chemical

solvents. The crude oil is further refined into RBD oil by refining, bleaching and deodorising. The extraction of VCO is performed instead from the fresh (undried) kernel through cold pressure or centrifugal processes, or from fermentation, without chemicals and at low temperatures. Other coconut foods (desiccated coconut, coconut milk and cream) are also sourced from the fresh meat of mature coconuts. There are other diversification options beyond human consumption. Crude coconut oil is a major raw material source for a range of starter compounds (fatty acids, fatty alcohols and glycerin) for natural oleochemicals, which are then used in detergents, soaps, shampoos and other personal care and pharmaceutical products. Copra can also be used as biofuel feedstock or can be exported as such to be further processed in other markets. Coconut by-products (husks and shells) are marketable for use by the natural fibre and horticultural industries (husks) and in the production of shell charcoal and activated carbon (shells). Coconut tree blossoms are tapped for their highly nutrient-rich sap, used for a range of high value niche products (vinegar, seasoning sauce, nectar, etc.), and coconut timber is used in construction and furniture. Finally, the products of the coconut palm are still used to meet basic subsistence needs: food, drink, shelter, fuel and even clothing.

In Vanuatu, less than 1 per cent of the coconut stock is used for human consumption and animal feed;² 42 per cent is used for copra; the remainder is left unused (FAO, 2013). Copra is exported as such, or further processed into coconut oil for various uses. The copra and RBD industry is export-oriented. Copra also caters to the domestic biofuel market. VCO is exported or sold domestically. Higher-value products, including artisanal soaps, are manufactured locally on a small scale. Micro-enterprises in this downstream sector – distinctively female-intensive – have significant promise for upgrade and expansion if sufficient training, mentoring and market support is given. Tourism (procurement by hotels and direct sales to tourists) offers a viable market outlet that can serve as a “learning ground” for specialty/niche export markets (see box 3 below on female processing in coconut).



The UNCTAD team at Gaston Chocolat Vanuatu, 2019

Box 3 Downstream female artisanal processing in coconut — the case of Oils of Paradise and Gavinos

Oils of Paradise manufactures and sells soap, perfume, body lotions and body creams from coconut oil, nangai oil, and other local fruits, trees and plants of Vanuatu. It is a small, artisanal business, but growing steadily. Start-up costs were minimal: the entrepreneur, a single mother, started at home in a small make-do factory on a trial basis. Having worked three years at an oil extraction company, she had some ideas about the oils but mainly learned by doing. A two-week course in Business Management and Computing at the Vanuatu Chamber of Commerce and mentoring from her tutor helped the young entrepreneur to start a small business. The owner buys raw materials from women from Ambae, her home island, where she also purchases local handicraft products (colourful baskets, manufactured by women) that she sells at her small retail outlet in Port Vila, in the backyard of her home. VCO is cold pressed with an artisanal press machine in the village as it is less costly to press there and transport the oil rather than the coconuts. Also, there would be little space in the owner's house for the machine. Mid-term goals include investing in a small volume oil-press machine and a branding exercise for better labelling and packaging of existing products.

Another example is Gavinos, a one-person artisanal coconut and crafts manufacturer. The owner cooperates with coconut farmers as well as ginger, coffee, lemon, vanilla farmers and beekeepers. She also produces handicrafts, including straw hats, in a constant effort to upgrade and diversify her product line. Participation in a number of international capacity-building programmes, including SheTrades, allowed her to better understand and meet customer specifications. The major challenges she is facing are the absence of proper packaging equipment, the lack of national regulations on organic labels, and difficulty in obtaining a permanent retail place accessible to customers.

Source: UNCTAD interviews. See also <http://www.pipso.org.fj/for-pacific-businesses/stories-from-around-the-region/success-stories/woman-behind-oils-paradise/>

Cocoa also offers a range of market outlets but fewer product diversification options than coconut (Annex 2). At harvesting, the cocoa pods are removed and opened; the beans are then cleaned and fermented. Fermentation lasts about five days and requires training as this process is essential for the flavour to develop. The beans are subsequently dried in the sun or with specialised equipment. In the wet climate of Vanuatu, special facilities are needed in order to use heat from the sun or fire to properly dry the beans and not contaminate them with the smell of smoke. After subsequent sorting, the beans are conveyed in sacks to be either shipped for export or transported to the domestic roasting and grinding plant. The process by-products (i.e. the shell and pulp) can be used in chemical production, beverages and as fertilisers and energy source. To produce chocolate, the cocoa nibs derived from cocoa beans are milled to yield cocoa "paste": one part is used as an ingredient of chocolate, while another is further processed into cocoa butter and cocoa powder. Cocoa butter, extracted from the mass by hydraulic pressing or by the use of a solvent, is used in the manufacture of chocolate or shipped to the dairy, confectionery and baking industries. The pharmaceutical and cosmetics industries, which also use cocoa butter, typically satisfy their requirements from lower-grade, solvent-extracted butter. The cocoa cake (i.e. the pressing residue) is coarsely ground and sold on the generic cocoa market, or ground further to produce cocoa powder. Cocoa paste/liquor and butter are combined

with other ingredients into chocolate. Packaging, marketing and retailing are the final steps in the value-chain process of chocolate production (UNCTAD, 2008).



In Vanuatu, the bulk of cocoa beans have traditionally been exported to regional trading hubs (Singapore) to be sold in the bulk market at the bottom end of the price scale. Part of the cocoa beans are now sold locally to the Vanuatu Aelan Chocolate Factory, a small chocolate factory supplying a number of niche/boutique outlets and domestic retailers (see box 4 for more information on artisanal chocolate manufacturing, below).

Box 4 Artisanal chocolate manufacturing in Vanuatu

Aelan opened in February 2015. The project was sponsored by the Alternative Communities Trade in Vanuatu (ACTIV) association, which facilitates farmers' access to niche/boutique market outlets. ACTIV sources beans from smallholders in Santo, Epi and Malekula for three single-origin chocolate bars. Untainted cocoa beans are also purchased from the Vanuatu Research and Training Centre (VRTC) plantation through VCGA at the spot market rate. Chocolate is manufactured in an artisanal way, with the only two ingredients being cocoa beans and sugar, with no milk. Aelan chocolate targets niche/boutique market segments. It is sold locally through Au Bon Marché supermarkets and Aelan's retail shop in Port Vila, and to visitors to the Aelan chocolate factory. Aelan also supplies domestic airlines for business-class flights. However, the impact can be broadened through linkages with artisan and luxury chocolate-makers across Europe and North America, and through export sales to niche/boutique outlets in Australia and New Zealand, but scale and standard compliance issues need to be addressed.

Source: UNCTAD Interviews.

Downstream value-addition in both cocoa and coconut does not necessarily involve large scale and heavy investment. In both sectors, primary processing can be performed well at or close to the farm gate, with no or minimal investment: copra extraction and drying³ and the fermentation of cocoa beans essentially involve manual activities and can be efficiently performed by small-scale, resource-poor farmers, if adequately trained. More advanced downstream processing may involve large-scale industrial operations, modern commercial processing and packaging technologies as well as knowledge and capital-intensive techniques. This is notably the case for RBD processing, the manufacture of refined coconut water, and the extraction of oleochemicals. However, some high-value products downstream can also be viably processed on a small scale with relatively limited capital investment. Chocolate can be produced in small quantities in an artisanal way with vintage technology. VCO extraction, which only involves pressing and purification by sedimentation, filtration or centrifugation, is well suited to small- and medium-scale technology. Note, however, that VCO extracted with simple techniques tends to have lower shelf life than VCO filtered through specialised equipment. The processing of grated coconut and milk and cream products, which mainly involves expeller and filtration processes, is also commercially viable at small and medium scales (ITC, 2016). In all these instances, small and subsistence producers can organise themselves into cooperatives or other associations to reach the minimum scale needed for efficient processing. Solar-powered tools (e.g., coconut-grating machines) and renewable energy sources (e.g., coconut-based diesel) have been efficiently tested to overcome shortfalls in the electricity grid. There is no need for heavy capital investment, bulk quantities or immediate proximity to consumer centres (the major stumbling blocks for micro, rural entrepreneurship). The key issue is quality, which here is a matter of care and skills that can be developed by small and subsistence producers.

Marketing structures

The cocoa and coconut global value chain (GVC) is characterised by a highly-fragmented production base in source countries, high export concentration, a complex pattern of vertical integration and horizontal concentration between international traders and processors, and heavily concentrated markets at the manufacturing and brand retail stages. The market is segmented into bulk and niche/boutique market outlets. The domestic marketing chains for cocoa and coconut are outlined in Annexes 3 and 4.

At source, production is extremely fragmented, characterised by the predominance of small-scale, geographically-scattered farmers and diversified, subsistence farming systems. Domestic marketing, from farm gate to the export wharf in Luganville, is handled by producers' organisations, local traders on their own account or agents of exporters and/or processors. Transport and logistics are major constraints. As previously mentioned, approximately 70 per cent of Vanuatu's cocoa production comes from Malekula Island, while coconut is sourced from all rural provinces. As there are no international ports on rural islands, all cocoa and coconut for export must be shipped domestically to Luganville in Espiritu Santo, where the export wharf for commodities is located (FAO, 2013). Internal and international transport costs are a critical cost component and competitiveness barrier. The low quality of the products supplied by local farmers is a major barrier to upgrading. The density and quality of infrastructure, including irrigation, feeder roads, storage facilities and post-harvest processing facilities, is relatively low in Vanuatu although crucial for well-developed, small-scale trade (see box 5). Domestically, there are different patterns of interaction between farmers and traders or processors, as outlined in Box 6.

Box 5 Domestic transport, transaction costs and “information friction” between buyers and suppliers

Transport takes place mainly by sea. There are several alternatives to transport marketable goods from remote islands to the main market centres in Vanuatu:

- *Commercial transport companies*: They offer reliable services but tend to be too expensive for small, resource-poor stakeholders. They typically require large forward financing.
- *Commercial private ships*: The key issue is advance communication and relationships between the actors.
- *State ships*: They follow certain routes but may be unreliable; the quality of transport is low (due to space constraints); prices are relatively low but, for some islands, the journey takes a very long time.

The conditions of shipping can adversely affect product quality. Damage to coconut oil can be avoided by proper packaging, while exposure of copra to sea water almost inevitably jeopardises its quality. The product is delivered in a state that does not reflect the agreed specifications, which can create “information friction” between the seller and the buyer.

Source: UNCTAD Interviews

Box 6 Patterns of farmer - processor interaction in Vanuatu

Based on structured interviews and in-country observations, three modes of small-scale farmers engagement were identified:

1. Small-scale farmers to a small-scale processor

- Utilises available resources (coconuts or coconut oil) from households;
- Based on completely traditional processing techniques, with minimal equipment;
- Traditionally, a family-run or family-based production unit;
- Can spread across different islands but is generally a one-node rural to urban relation;
- Present in the coconut sector, not in cocoa.

2. Medium-scale processor sourcing materials from small-scale farmers

- Based on established relationships with households and communities, relatively stable product flow;
- Generally involves several islands and communicates with commercial private ships (also a long-term relationship);
- Community-based production, where the producer organises training for the small-scale farmers and/or communities;
- Through direct interaction with small-scale farmers, the processor introduces better farming practices and, in some cases, intercropping practices;
- Present in both sectors.

3. Large-scale processor using materials from own plantation and from small-scale farmers

- Processor complements volatile flows (volume and/or quality) from small-scale farmers with a more stable product flow from own plantation;
- Farmers and communities are employed for the collection of the coconuts; additionally, farmers could be involved in keeping up the plantation through weeding or inter-cropping;
- Possible training in farming practices only as small-scale farmers, under this model, are not involved in downstream processing of the raw products;
- Present in both sectors;
- Requires less supervision from the core producer in the coconut sector.

Source: UNCTAD Interviews.

The export segment is heavily concentrated. In 2015, for example, three cocoa exporters (VCCE, C-Corp, Vanuatu CGA) handled the bulk of Vanuatu's cocoa bean exports (AECOM Services Pty Ltd and PHAMA, 2016). Exporters typically sell to regional branches of large trading houses, which sell on to brand manufacturers. Some sell on the spot market while others are locked in forward contracts with established trade partners.

Niche/boutique markets are structured differently and often entail deeper forms of coordination/integration between producers and brand manufacturers of niche consumer products. This is notably the case of ACTIV, relying on a network of closely coordinated producers on Santo and South West Bay, in close working relationship with VCGA in Malekula (AECOM Services Pty Ltd and PHAMA, 2016). Note however that ACTIV mainly sells locally. Export niche/boutique markets (in Australia, New Zealand, Singapore and France) may have a preference to buy through a reliable consolidator active in the niche/premium segment, as the costs associated with the opportunity to establish trusted relationships and source directly from Vanuatu are very high, given the micro-slots traded.

Gender issues

Socio-cultural patterns of labour segregation deserve specific attention in relation to upgrading strategies in cocoa and coconut.

In rural Vanuatu, cocoa and copra have long been considered primarily "male crops". This confirms the widely-held perception that export and other cash crops are "male crops" and subsistence and staple foods are "female crops" (FAO, 2011). However, the picture is more nuanced than it first appears. In Vanuatu, rural women are active in cocoa and coconut farming, typically as contributing/unpaid family workers on



Coconut at local main market - Nuñez 2019

the household plot. In this role, they are an essential component of a farming system – family farming – which leverages family ties to reduce the cost of labour, including transaction and monitoring costs. Gender differences exist but mainly relate to control over export proceeds: women are as active as men in cocoa and coconut farming, but it is generally men who deliver the produce when payment is made (also, UNCTAD, 2015c; UNCTAD, 2017b).



Gaston Chocolates

There are also discernible gender patterns in terms of functional tasks. Some (e.g. ploughing, harvesting, loading and unloading produce, bulk transport) tend to be predominantly male activities, while others (e.g. splitting of pods, early crop care, fermentation and drying) can be conveniently carried out by women, in line with local perceptions. This typically reflects the physical demands of the work. For example, Tall coconut varieties can reach heights of between 20 and 30 metres and harvesting and climbing the coconut palm to harvest coconuts or cut leaves is physically challenging. Likewise, a heavy weight involved in loading and unloading a marketable bulk of nuts/pods. Such tasks tend to be predominantly male. These occupational patterns reflect ingrained social norms as well as market imperfections and failures. Notably, the prevalence of men in bulk trade logistics reflects gender bias in access to transport facilities, logistics, and market information.

These roles are socially constructed and evolving. As discussed more widely in chapter 4, emphasis on downstream

value-addition and product-differentiation can yield gender-redistributive outcomes. Two aspects merit consideration.

First, an increased emphasis on product differentiation and niche marketing is likely to create new openings for women. Specialty/niche marketing reduces the focus on issues of scale linked to bulk trade and places emphasis on skills and care. In cocoa, for example, early crop care, fermentation and drying are critical to the final flavour of the cocoa bean. These on-farm and post-harvest activities typically engage female (and child) labour inputs. Note also that niche/boutique traders and buyers often establish direct marketing links with farmers and place emphasis on sustainability issues. This may create new openings for women, especially when off-takers integrate gender equality as a component of their procurement and marketing strategies (UNCTAD, 2014b).

Second, agro-processing (artisanal and industrial) creates new income-generating opportunities for rural women. Artisanal agro-processing (e.g. grating coconut or taro) is typically a female activity, as is the artisanal manufacture of soaps and personal care items.

So, while bulk export trade in tree crops is likely to remain primarily a male domain, due to socially ingrained gender differences in transport, finance and mobility, value-addition and product-differentiation targeting niche/boutique and specialty segments can create new opportunities for women. These aspects are considered at some length in chapter 4.



Coconut sold in local market - Nuñez 2019

NOTES

- ¹ 'Organic by default' is a term referred to as cultivation that naturally avoids use of pesticides and chemicals without being formally certified as organic.
- ² According to the Agriculture Census 2007, 58 per cent of households regularly use coconuts for drinking and/or cooking and/or feeding animals (VNSO, 2017).
- ³ Copra extraction and drying essentially involves splitting the coconut shell, removing, cutting and drying the kernel.



CHAPTER 3



Upgrading trajectories in cocoa and coconut: opportunities and challenges

Upgrading trajectories in cocoa and coconut: opportunities and challenges

As previously mentioned, Vanuatu faces a pressing need to dynamise its traditional rural economy. The challenge is not just to expand the existing agricultural system but also to instigate a pattern of structural rural transformation. This entails raising agricultural incomes while generating non-farm income opportunities in rural areas. Value-addition and diversification in the cocoa and coconut sectors can catalyse this structural rural transformation process, both products offering, as noted in chapter 3, a range of market outlets and several diversification options. There is significant room for harnessing synergies between agricultural upgrading, agro-processing, handicraft and tourism. Viable commercial options to unlock this potential in cocoa and coconut include any one or a combination of: product differentiation through organic certification; compliance with sustainability standards; indications of origin and branding/packaging strategies; downstream agro-processing into higher value-added products (e.g. artisanal VCO and grated coconut; personal care products; artisanal chocolate); value-addition to marketable by-products (husks and shells); and commercialisation of related handicraft production. Demand-side coordination mechanisms can kick-start the process. Boutique export outlets, the hospitality industry (hotels, restaurants, cruise lines, etc.) and, to a different extent, the biofuel sector, are key demand factors that can spearhead the transition towards a more diversified rural economy in Vanuatu. However, as pointed out below, while they offer viable options to harness the synergies between traditional subsistence modes of production and the rural non-farm economy, a certain number of pre-requisites need to be fulfilled to enter export niche markets.



Niche exports

Value-addition and diversification: market opportunities

There are growing opportunities for high value-added and specialty cocoa and coconut products in major consumer markets of export interest to Vanuatu, in particular niche markets, which exhibit significant market dynamism, as noted below in Table 5. The following value-added breakdown has been adopted for the specific purposes of this study:

TABLE 5 Value-added breakdown

	Coconut sector	Cocoa sector
Raw/semi processed	Coconuts (fresh/dried, desiccated or not); coconut kernel, dried kernel (copra)	Cocoa beans
Intermediate	Crude coconut oil; virgin coconut oil; coconut milk and cream; coconut yards	Cocoa paste; cocoa butter; cocoa powder
By-product	Kapok fibre, coconut husks, shells (from primary processing); copra cake (from oil processing)	Cocoa husks, shells
High value-added	Bottled coconut water; RDB coconut oil, oleochemicals, carpets of coconut fibres and other geotextile products	Chocolate (in any form); sweetened cocoa powder

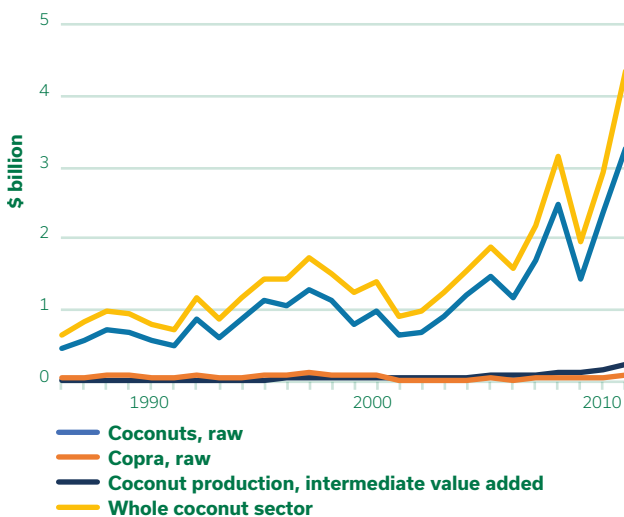
Source: UNCTAD secretariat.

As illustrated in Figure 4, the overall market for coconut palm products has grown significantly over the past decades – from about 800 million current US\$ in 1990 to over 4 billion current US\$ in 2011. A breakdown by product reveals different trends for different market segments: the upward trend was mainly due to the fast-growing, value-added coconut products,¹ while

copra and raw coconuts have been highly rigid. As described in the NGER of Vanuatu (UNCTAD, 2016), the past decade has witnessed a large expansion of value-added coconut-based exports such as bottled coconut water, coconut flour-based products and cosmetics from coconut oil. This upward trend is fuelled by demand in high-income countries and points to significant market opportunities globally for coconut-producing countries.



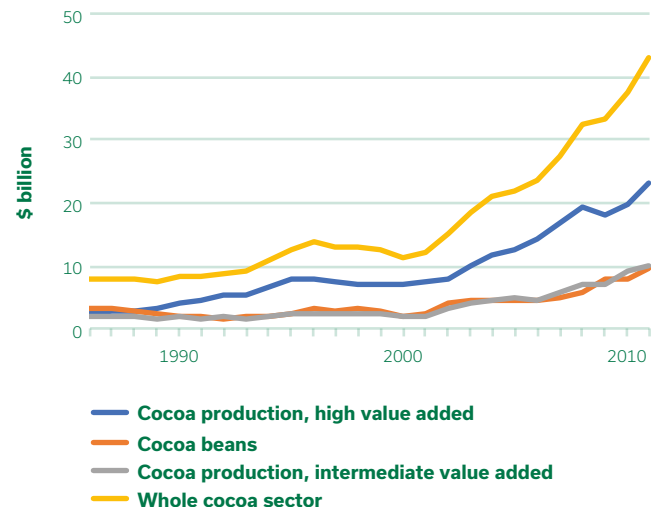
FIGURE 4 World coconut exports (US\$ billion)



Source: UNCTAD secretariat calculations, based on FAO data. Data for 2012-2013 is not included due to missing data for some countries; however further growth is forecasted. Intermediate value-added coconut products (as specified in table 5 above are based on FAO data on coconut oil. The total coconut sector is the sum of the three subgroups.

Worldwide, trade in cocoa and cocoa products (hereafter, the global cocoa trade) has grown steadily over the last decades (Figure 5). The high-end chocolate market has recorded the greatest increase in absolute terms.

FIGURE 5 Cocoa markets – world trends (US\$ billion)



Source: UNCTAD secretariat calculations based on FAO data. Data for 2012-2013 is not added due to missing data for some countries; however further growth is forecasted. "Whole cocoa sector" is the sum of the three subgroupings.

In the global chocolate market, specialty chocolate such as bean-to-bar, single origin, and fine-flavour gourmet chocolate, is the strongest segment in terms of growth, though not market share. Between 2011 and 2015, the market grew by between 7 per cent and 10 per cent CAGR (Compounded Annual Growth Rate, 5 year historical and future forecast), twice as fast as the bulk, standard segment (Packaged Facts, Mintel research, Nestlé, Team analysis; Fine cocoa market dynamics -- bid for the future, Presentation, Punta Cana, ICCO World Cocoa Conference 2016). This is driven by growing consumer emphasis on quality and health. Interestingly, mainstream chocolate companies such as Ferrero, Mars and Mondelēz are increasingly investing in premium lines. Another interesting development is the growing chocolate consumption in Asian and Pacific nations, including China and India, and the trend towards specialty chocolate in mature Asian markets (Japan, the Republic of Korea, Singapore, and Hong Kong, China). This translates into strong demand for high-quality, fine-flavour cocoa²: fine-flavour cocoa still accounts for only around 5 per cent of the world's cocoa production yet it is the fastest-growing segment in the chocolate market.

Consumer demand for "sustainable" products has also been growing in markets, including those of developing countries in Asia (an important export destination for Vanuatu). UTZ, Rainforest Alliance and Fairtrade together certified nearly 1.4 million tonnes of cocoa in 2013, or roughly 30 per cent of the world market (Cocoa Barometer 2015³). Global Fairtrade retail sales of cocoa increased by 24 per cent in 2015 (FairTrade, 2015), while UTZ certified cocoa grew more than tenfold between 2010 and 2015 (UTZ, 2015). As a result, the global cultivation area of organic cocoa increased by 21 per cent

between 2014 and 2015 (CBI, Netherlands Ministry of Foreign Affairs). A supply shortage is expected in the long run.

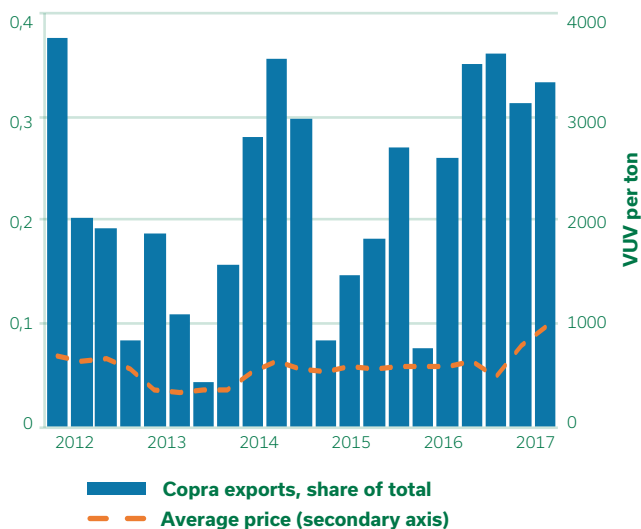
Other developments point to changes in consumer preferences and chain governance structures that can benefit a remote, small supplier like Vanuatu. Notably, there is increasing consumer interest in single-origin chocolates, in contrast to blends; the market for micro-lots is attracting growing interest from the high-quality chocolate industry; and the fine-flavour cocoa market reveals a trend towards direct trade between producers and chocolate makers. (CBI, Netherlands Ministry of Foreign Affairs). All this reflects growing consumer attention to production areas as well as to the story behind small-scale farmers and rural communities.

Vanuatu: lagging behind?

Despite new market opportunities for non-traditional players like Vanuatu from the growing world demand for high value-added/specialty products, and notwithstanding its dynamic export potential in cocoa and coconut, the country still exports mainly raw/semi-processed coconut products, namely, copra and standard cocoa beans.⁴

In 2016, and through the first quarter of 2017, copra accounted for over 30 per cent of merchandise exports, an increase compared to previous year averages (Figure 6). Analysis of quarterly VNSO trade data since 2012 indicates that the average price of copra exports has been relatively stable (below 1000 Vatu per ton), while the share of copra in overall exports has been erratic with no strict seasonality.

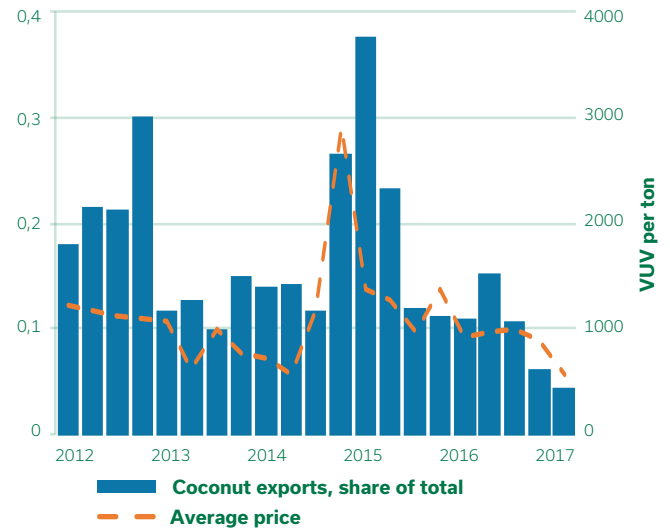
FIGURE 6 Recent copra export dynamics in Vanuatu



Source: UNCTAD secretariat calculations based on VNSO available data.. Average price calculated as unit values - million Vatu per ton.

The share of coconut oil in exports peaked in the first quarter of 2015 at around 38 per cent, but then steadily declined and constituted less than 5 per cent in the first quarter of 2017. Coconut oil prices are higher but more volatile than copra prices, as illustrated in Figure 7.

FIGURE 7 Recent coconut oil export dynamics in Vanuatu



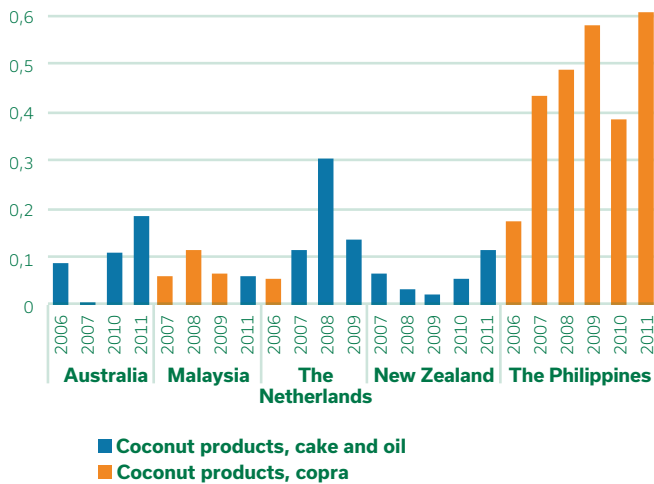
Source: UNCTAD secretariat calculations based on VNSO available data.. Average price calculated as unit values - million Vatu per ton of the product.



Artisanal market Vanuatu - Nuñez 2019

Overall, there is no consistent switching in export patterns from copra to higher value-added. The Philippines have increased their share as the most important destination for Vanuatu's coconut exports, but they consist of copra only. Other important export destinations – Australia, the Netherlands, Malaysia and New Zealand – despite accounting for only about 30 per cent, source from Vanuatu's intermediate value-added products or have switched from raw/semi-processed imports to intermediate (see Figure 8 below).

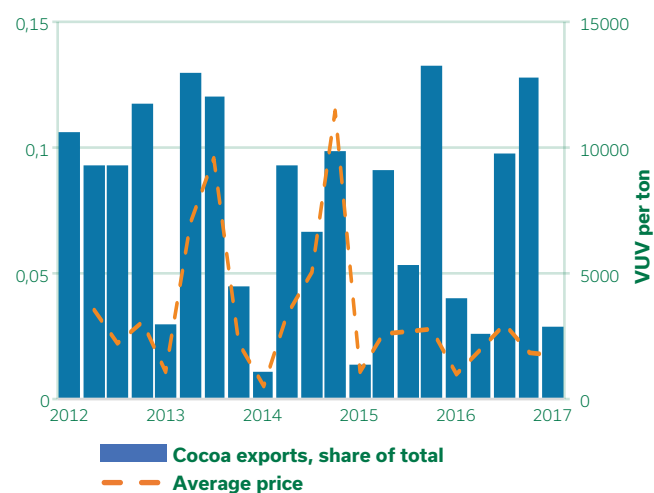
FIGURE 8 Vanuatu coconut exports, major destination countries (share of sector specific exports)



Source: UNCTAD secretariat calculations, based on available FAO data. Selected most popular export destinations of Vanuatu.

Currently VNSO presents data only on cocoa beans so no value-added comparison can be made. Nevertheless, on the basis of Figure 9, it can be stated that, while cocoa represents a small proportion of Vanuatu's exports and is a seasonal product (with exports mainly in the second and fourth quarters), it has a higher average unit value than currently-exported coconut products. This implies that there is a potential for higher per unit revenue from cocoa exports than from copra.

FIGURE 9 Recent cocoa export dynamics in Vanuatu



Source: UNCTAD secretariat calculations based on available VNSO data. Average price calculated as unit values - million Vatu per ton. The price during the first quarter of 2012 is omitted for presentation purposes.

Diversification strategies and challenges

UNCTAD's analysis has highlighted Vanuatu's competitiveness in cocoa and coconut production and trade as well as the untapped potential for adding value and diversifying existing export channels (UNCTAD, 2014a; UNCTAD, 2016). Value-addition and product-differentiation, including through niche marketing, has also received public endorsement as a key objective in the country's national development and trade strategies (Government of Vanuatu, Vanuatu National Coconut Strategy; Government of Vanuatu, NSDP; NAPs, UNCTAD, 2016).

Vanuatu could position itself as a niche source country by targeting specific high-end market segments: in the chocolate market, single-origin cocoa, cocoa with a history, and organic cocoa; in the coconut market, organic niche markets for VCO products and by-products. The shift towards niche value-addition and diversification will likely involve a re-orientation towards exports, with a shift from bulk copra markets (the Philippines) to more lucrative consumer markets in high-income countries (Australia, New Zealand and Europe, as well as Japan and other niche/boutique outlets in Asia).

Two upgrading strategies are involved. The first, which could be termed "horizontal" upgrading, refers to adding value to existing activities within a particular segment of the value chain. It includes value-addition and product-differentiation through quality upgrading, organic certification, compliance with sustainability standards, indications of origin and branding/packaging strategies. It typically results in specialised and customised products and niche marketing. The second, which could be termed "vertical" upgrading, refers to moving downstream along the value chain from relatively unprocessed commodities to the higher value-added stages of processing, manufacturing and marketing. This entails increased local processing and export of intermediate or high-value products (e.g. VCO or chocolate) instead of relatively unprocessed bulk commodities (copra or cocoa beans).

Given its size and limited manufacturing capacity, Vanuatu cannot competitively position itself downstream as a large-scale processing hub catering for a global "bulk" market – the role of the Philippines, for example. In downstream value-addition, one viable opportunity for Vanuatu is to capture a niche market. This may entail, for example, accessing organic niche markets for VCO products and by-products or specialty gourmet segments for single-origin, artisanal chocolate. Specialty/niche marketing reduces the focus on issues of scale linked to bulk trade and places emphasis on skills and care, carving out new opportunities for small economies with unique socio-cultural and environmental conditions. These segments are associated with special histories and niche sustainability labels that can leverage the relatively unique organic-by-default production and the socio-cultural specificities of small Pacific islands.

In traditional markets such as Belgium, France, Germany, Italy, Switzerland and the United Kingdom of Great Britain and Northern Ireland, consumer emphasis has increasingly shifted towards uniqueness, novelty, history and romance, as well as the sustainability ethos, all conditions Vanuatu can build upon to position itself in the market. The key supply side prerequisite is to have high-quality micro lots, or the potential to consistently deliver them. Farmers and processors could then link up through strategic partnerships with boutique traders and high-end manufacturers and target specific market segments.

Note, however, that export market requirements for cocoa and coconut products are stringent, particularly in high-end niche segments. To enter them, Vanuatu's producers and processors must comply with multiple legal requirements on food safety, food contaminant levels, extraction solvents and labelling. Furthermore, they must meet additional buyer requirements (private standards) on food safety, including product-specific quality standards and requirements regarding production and handling processes. VSS certification is also becoming a minimum requirement for entering some niche markets (see box 7).

Box 7 Accessing the European Union cocoa market: requirements

Legal requirements (sanitary and phytosanitary and technical barriers to trade)⁵

The general principles and requirements of food law in the European Union are set out in Regulation (EC) No 178/2002. The regulation lays down food-safety requirements based on the precautionary principle. It also established the European Food Safety Authority (EFSA) which provides scientific advice and scientific and technical support for the Community's legislation and policies in all fields related to food safety. Additionally, the regulation provides a rapid alert system for the notification of risk to human health deriving from food, emergency measures and crisis management.

Food Hygiene. Regulation (EC) No 852/2004 comprises certain basic food hygiene requirements. Every food business operator in third countries is responsible for monitoring the food safety of products and processes. This regulation includes general hygiene provisions for primary production and detailed requirements on processing. It requires that third countries, after primary production, must put in place, implement and maintain procedures based on hazard analysis and critical control point (HACCP) principles and comply with applicable Community legislation or national law.

Contaminants in foodstuffs.⁶ Regulation (EC) No 1881/2006 explicitly imposes on food business operators the burden of ensuring that imported foods of non-animal origin comply with European legislation. Foodstuffs containing an unacceptable toxicological level are barred from entering the European Union market. Maximum levels are set based on the advice of the EFSA for the contaminants of greatest concern to European Union consumers, either due to toxicity or potential prevalence in the food chain e.g. aflatoxins, heavy metals (cadmium), dioxins and nitrates.

Maximum residue levels for pesticides (MRLs).⁷ Regulation (EC) No 396/2005 defines a fully harmonised set of rules for pesticide residues. In the European Union Pesticides database, the only MRL applicable to cocoa products is classified under code number 0640000 (cocoa beans, fermented or dried, after removal of shells).

Microbiological criteria. Regulation (EC) No 2073/2005 comprises criteria to ensure that foodstuffs do not contain microorganisms or their toxins or metabolites in quantities that pose an unacceptable risk for human health.

Process and production. Regulation (EC) No 834/2007 covers production, processing, packaging, transport and storage of products bearing a reference to organic production methods. Directive 2009/32/EC harmonises national laws relating to extraction of solvents used in the production of foodstuffs and limits their use for the protection of health (Hexane).

Labelling. Regulation (EC) No 1169/2011 sets mandatory general rules on food labelling i.e. nutrition information on processed foods, highlighting allergens in the list of ingredients, better legibility, etc. Directive 2000/36/EC defines specific common rules for cocoa and chocolate products, which complement the applicable legislation to foodstuffs.

Phytosanitary requirements. Regulation (EC) No 882/2004 authorises the European Union Commission to request third countries to provide accurate and up-to-date information on their SPS regulations, control and risk assessment procedures.

These must be carried out in accordance with a control plan addressing potential risks enshrined in national laws of Member States. The regulation does not require third countries to have reference laboratories. However, laboratories engaged in verifying compliance with European Union food standards must be accredited. Annex I to Regulation (EC) No 669/2009 implementing Regulation (EC) No 882/2004 lists the foods of non-animal origin subject to controls at the point of entry into the European Union based on known or emerging risks.

Regulation (EC) No 211/2013 requires certification for the import of consignments of sprouts or seeds intended for the production of sprouts, excluding sprouts which have undergone a treatment that eliminates microbiological hazards.

Additional buyer requirements

Product-specific quality standards and Quality Management Systems (QMS) regarding the production and handling processes are not compulsory but usually requested as extra guarantees. There are two different kinds of certification: those applicable to processors and those for producer organisations and exporters. The former are HACCP-based and required by buyers, importers, food processors and retailers. The most important food safety management systems are recognised by the Global Food Safety Initiative. The latter are key to safe and traceable products.⁸

European buyers usually develop their own Corporate Social Responsibility policies and codes of conduct to ensure good practices and address social and environmental concerns. In addition, there are also industry codes and Voluntary Standard Systems to guarantee compliance, such as the Business Social Compliance Initiative and Social Accountability International.

There are several Voluntary Sustainability Standards that have been developed by private entities. The most commonly used certification schemes for cocoa production and trade are UTZ and Rain Forest Alliance. The European Committee for Standardization (CEN) and the International Organization for Standardization (ISO) are currently working on the development of standards in support of the sustainability and traceability of cocoa beans. As previously mentioned, Community regulations in the European Union have set the standards for organic production methods, applicable for cocoa. Although voluntary, cocoa organic certification is commonly and increasingly a requirement for niche markets.

Meeting these requirements can be extremely costly and more accurate cost-benefit analysis is needed to assess the profitability of this upgrading strategy at the micro level. For example, coconut farmers have the option of selling the produce almost at its raw state (nuts, or copra) at or close to the farm gate, or to add value locally (oil extraction), under coordination by a lead farmer/local processor. Alternatively, they have the option of delivering standard products to local shippers for bulk trade or engage in a trusted relationship and seek certification to

access more lucrative niche/boutique market outlets. Whether a maximum value-added (or niche marketing) is an optimal solution depends on the additional costs incurred when the farmer decides to sell in more lucrative market segments in the value chain. Availability of information on price differentials, quality and quantity requirements and costs at different points/segments in the marketing chain is necessary to decide whether to engage in niche or otherwise value-added segments. Only scattered information is currently available (Box 8).

Box 8 Direct standard compliance costs

In the beef industry, where SPS requirements are particularly stringent, costs of sending samples from Vanuatu to New Zealand were estimated in a range of between EUR 12,000 and EUR 26,000 per annum (sector-wide) (UNCTAD, 2017a). Micro (enterprise level) costs of organic and 'Fair Trade' certification are high for small-scale producers. For certified organic RBD coconut oil exported to Australia, reported costs were in the range of between AU\$ 6,000 and AU\$ 7,000 a year, covering three sets of certifications (for growers, crushers, and refiners). Certification is particularly costly in a context of geographically-scattered, small-scale farmers, as all source farmers/cooperatives would need to be individually certified. Note also that certification is required for all value-added nodes (in the coconut chain, growers, crushers and refiners need to be certified), which inflates costs. As highlighted in the concluding chapter, new options need to be explored to adapt certification to subsistence type, organic-by-default farming systems.

Sources: UNCTAD, 2017a and interviews

Furthermore, there are a number of pre-requisites, broadly related to supply capacity and enabling markets, which need to be fulfilled before Vanuatu can position itself as a reliable source country for high-quality micro-lots of niche commodities. In the sectors considered, these pre-requisites broadly include:

- Establish a Good Agriculture Practice (GAP) code in cocoa and coconut production, tailored to Vanuatu's specific agronomic conditions, to ensure compliance with importers' requirements;
- Develop improved seedling varieties, nursery manual and standard procedures for nursery management and implement pest- and disease- control systems;
- Profile and create inventories of nurseries, farmers and processors;
- Provide extension advice, technical support and marketing support for farmers wishing to engage in emerging products/niche markets;
- Implement through legislation a national grading system for different categories of products and a national-scale testing requirement for weighing;
- Establish labelling and packaging requirements according to the requirements of targeted export markets and possess the relevant machines and equipment;
- Establish through legislation a national organic brand and set up approved procedures for organic certification and registration of farmers and processors;
- Ensure an increased number of quality processing and drying facilities, including packing and transport.

The fulfilment of these basic pre-requisites requires both direct investment in productive assets and indirect investment in enabling markets and institutions. It requires on-farm investment by the smallholder; collective investment by communities, for example in irrigation, land management and knowledge accumulation and sharing; and public investment in support services and legislation to "enable" markets. Policy coherence is needed across trade and agricultural policies to align supply-side intervention and export market requirements.

A key challenge, as outlined in chapter 5, is to tailor policy interventions to local conditions and integrate sustainability concerns. New options need to be explored to make certification suited to Vanuatu's subsistence type, organic-by-default farming systems. It is also important to explore ways to make international standards more responsive to the social, cultural, environmental and agricultural conditions of source countries.

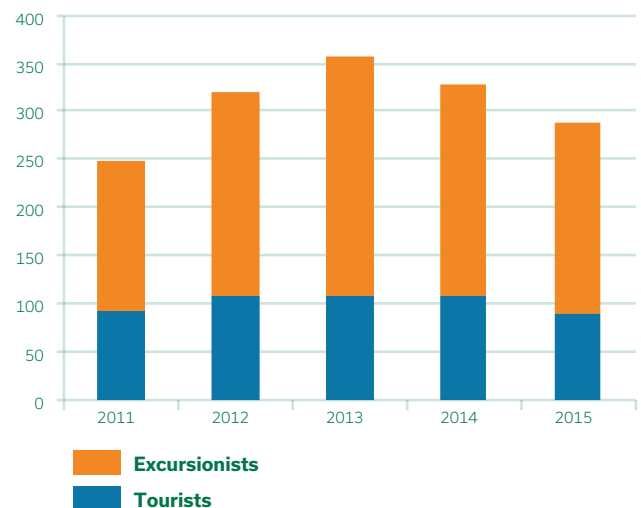
Enhancing linkages between tourism and sustainable agriculture

As detailed above, small-scale producers and processors face a vast array of challenges in their efforts to reach export markets.

In the short- to medium-term, a viable alternative is to develop high-value products to target the rapidly expanding domestic urban markets and tourism, including hotels, cruises and business flights. In the high-value segment, these outlets may provide a learning ground for specialty/niche export markets.

Tourism is a large contributor to Vanuatu's economy and has seen a significant increase since 2000. Net tourism⁹ accounts for one third of GDP, with over 287,000 visitors in 2015 (Figure 10), spending over US\$ 250 million. Apart from regular tourists, Vanuatu has a cruise ship terminal and is on the itinerary of many cruise ships. This explains why the number of day-excursion, cruise passengers is double the number of overnight visitors.

FIGURE 10 Number of tourists by type in Vanuatu (thousands of people)



Source: UNCTAD secretariat, based on available UNWTO data.

Tourism – the hospitality industry in particular – can be conveniently leveraged to sustain upgrading trajectories in cocoa and coconut. Hotels, cruise/airlines and restaurants, as well as direct sales to tourists, offer new or expanded market outlets for a range of cocoa and coconut products, such as artisanal chocolate, fresh nuts for water, coconut-based cosmetic products and virgin coconut oil, as well as coconut shell/fibre handicraft. Thus, tourism can, through local sourcing, act as a catalyst for quality upgrading and diversification in the two sectors.

Currently, there are a few successful examples of linking Ni-Vanuatu small-scale farmers to the tourism sector through the establishment of strategic partnerships with a lead entity (a consolidator or processor). For example, Vanuatu's first chocolate producer, Aelan Chocolate Makers™, has established contractual partnerships with small-scale farmers under the umbrella of the ACTIV Association, to supply high-value market outlets. Aelan chocolate and cocoa nibs are sold locally to tourists and residents through its retail outlet in Port Vila and

the Au Bon Marché supermarket chain; chocolate is offered in small, bite-size pieces in business class on domestic flights; and cruises and tour operators organise visits to the ACTIV Centre's Island Shop at Stella Mare, Second Lagoon, where tourists can buy a range of products.

The key challenge is how to scale up and replicate these successful models, and how to ensure that benefits are equitably shared across the chain. The hospitality industry (hotels, cruises, etc.) sets stringent requirements in terms of quality, volume and consistency and timely delivery of supplies. They reflect health and safety concerns and tourist preferences and involve on-farm and off-farm investment in productive assets, quality assurance and tracking systems. Most small and subsistence- farmers are not aware of these requirements or lack the capacity to comply with them without adequate training and financial support. Domestic supply constraints and bottlenecks in the local supply chain translate into high transaction costs and default risks for hotel managers, restaurant owners and purchasing officers. These second-tier buyers tend to rely on well-established supplier relationships to mitigate cost and risk factors, often using trusted brokers and preferring imported and wholesale goods over local supplies, as the latter are perceived as unreliable and of lower value (UNCTAD, 2015a).

New coordinated approaches are needed to overcome supply challenges and bridge the gap between small-scale or subsistence farmers and the tourism sector. As outlined in chapter 5, key actions to integrate small-scale farmers into the sector involve contractual partnerships that channel investment in farmer mobilisation, internal quality management and logistics. The broad terms of these bilateral deals need to be proactively framed to ensure pro-poor and sustainable outcomes.

A holistic approach is also needed to integrate pro-poor outcomes into tourism strategies. Indeed, while tourism can act as a catalyst for development, with important multiplier effects within the economy, it also poses sustainable development challenges. It can disrupt fragile, diversified ecosystems. In terms of local spillover effects, tourism may generate increased imports rather than stimulate local supply, draining foreign exchange earnings. Some research also points out that expansion of the tourism industry would lead to minimal welfare gains for the poorest rural households, benefiting richer and middle-income households disproportionately (UNCTAD, 2011). A tourism-led growth strategy also generally has gendered outcomes: the booming construction phase generates job opportunities almost exclusively for men; the majority of women's work is concentrated in seasonal, part-time and low-paid activities such as retail, hospitality and cleaning. To efficiently leverage tourism for socially-inclusive and sustainable rural transformation, apart from maintaining a stable inflow of tourists on excursions, the industry has to position Vanuatu as a niche, sustainable tourism destination¹⁰. Linkages between tourism and small-scale agriculture will provide commercial incentives to preserve diverse and fragile ecosystems.

Biofuels

So far, the analysis has concentrated on high-value products and high-end markets, notably niche export outlets and the rapidly expanding hospitality industry. However, important developments are also occurring in the conventional (bulk) industry. The emergence of biofuels in particular offers new market opportunities to resource-poor farmers, bringing a new dynamism to a relatively stagnant copra industry.

The use of copra as feedstock for biofuels in diesel vehicles and for electricity generation has revived interest in Vanuatu's declining copra industry (Box 9). The country's structural disadvantages - remoteness, scattered archipelago configuration, low population density, low demand - can transform into opportunities for the development of indigenous renewable energy. In particular, high transport and distribution costs inflate the cost of imported fossil fuels; and scattered and small settlements throughout the islands make widespread rural electrification unfeasible. In this setting, biofuels can be cost-competitive, at least during cycles of sustained fossil fuel prices: in 2012, for example, the production cost of coconut oil was estimated at US\$ 0.70/litre, compared to US\$ 0.85/litre for diesel, even after adjustment for lower caloric value (Zieroth, 2012; International Renewable Energy Agency, 2013).



Coconut oil, raw - Nuñez 2019

Box 9 Coconut oil diesel in Vanuatu

In Vanuatu, coconut oil is currently used as a biofuel to replace diesel fuel for electricity and transport. In recent years, copra output has exceeded 40,000 tonnes per year, sufficient to produce about 2,000 tonnes of coconut oil, equivalent to approximately 28 million litres of diesel, which is enough to replace about 70 per cent of Vanuatu's diesel fuel imports (International Renewable Energy Agency, 2013).

UNELCO, a subsidiary of ENGIE, has invested significantly in coconut oil as a source of fuel in electricity generation in Vanuatu. The first use of biofuel, with 5 per cent coconut oil, dates back to 2005. By 2007, the coconut oil ratio in biofuel had increased to 15 per cent. In May 2009, the power station on Malekula generated electricity using 100 per cent coconut oil; the Tagabe power station was also relying on coconut oil.

Vanuatu Services, a subsidiary of ENGIE, has established its own coconut oil mill and buys good quality copra directly from farmers. To avoid supply disruptions, UNELCO sources from different islands and at different stages (copra from farmers and coconut oil supplies from Vanuatu's coconut oil mills). It also has its own plantation and has invested in the renewal of the tree stocks to ensure supplies. In addition to biofuel using coconut oil, the company is looking at biomass, which generates power using coconut waste including coconut husks and shells.

Coconut oil has also been tested as an alternative to petroleum in automotive diesel engines. In 2002, some 200 mini-buses were using a coconut oil/diesel mix on a daily basis. Some vehicles were operated using pure coconut oil fuel. However, changes in tax law and licensing requirements in 2003 significantly reduced the use of coconut oil as a diesel fuel substitute in transport (International Renewable Energy Agency, 2013).

Developments in the use of coconut oil as a renewable energy source reflect relative price movements in the energy and coconut oil markets. In 2009, with soaring diesel prices, coconut oil fuel became more competitive. Diesel prices are currently low (at the 2005 level, pre-project), while international coconut oil prices are high, which has reduced the competitiveness of coconut oil-based diesel. Changes in government regulation and legislation also account for major shifts in biofuel demand.

Source: UNCTAD Interviews

Indigenous renewable energy development can have catalytic and multiplier effects within the local economy in Vanuatu. Greater reliance on coco-fuel will reduce dependence on costly fossil fuel imports that drain foreign exchange earnings. The multiplier effects will be achieved through sourcing copra locally, jobs created in the processing factories and factory demand for services. Importantly, demand for copra from domestic energy companies can create price arbitrage opportunities for farmers, who can decide to sell copra to either exporters or utility and energy sectors, depending on prices. Farmers will thus be able to hedge against adverse price movements in either sector and try to secure a stable income. Finally, the shift towards renewable energy can be an integral part of a holistic strategy to position Vanuatu as an environmentally-friendly tourism destination and a country capable of unleashing the commercial value of its endowment in natural resources at the same time as preserving them.

However, there are challenges ahead as well as immediate and long-term trade-offs that need to be carefully weighed and balanced.

Energy companies face challenges associated with price evolution, public policy changes and supply disruptions. As detailed in Box 9, coco-oil competes directly with petroleum-based petrol and diesel, and energy prices tend to drive biofuel development. The competitiveness of coco-oil is directly influenced by public policies, including grant funding for biofuel projects, loan guarantees and fiscal incentives, as well as mandatory requirements, such as blending or vehicle acquisition and fuel use for public fleets. Changes in law and regulations impact the commercial prospects of the local biofuel industry, making investors particularly vulnerable to political risks, absent credible stabilisation clauses. Biofuel feedstocks also compete with agricultural exports that rely on the same resource base.

Supply disruptions are a second major hurdle for investors. Bulk volumes are required for economic biofuel processing, which results in large and sustained feedstock requirements by the biofuel industry. As reported by an industry source, when one ton of copra is exported overseas, 600 litres of fuel is lost domestically (UNELCO). To some extent, demand for copra

biofuel feedstock from large companies can turn a commodity in chronic oversupply – copra – into one that is relatively scarce. For example, according to UNELCO's projections, it could scale up its coconut oil consumption to more than 10 million litres of oil per year, absorbing half of Vanuatu's current copra production (UNELCO/Cofely, [2014]). Options to hedge against third party risk include any one or a combination of: rehabilitation and development of local coconut farms; sourcing at different stages of transformation and from many islands; and vertical integration upstream into own plantation and oil transformation facilities (UNELCO/Cofely, [2014]). A related option is to enter into enforceable long-term contracts with reliable suppliers to secure stable sources.

In practice, small-scale farmers face many obstacles in taking advantage of price differences between market outlets (i.e. price arbitrage). First, farmers need access to timely information on prices, quantities and marketing costs in choosing where to market. Their ability to supply different market segments also depends on the costs (e.g. transport, risks and time) involved. Second, the reality on the ground is that farmers are often bound by traditional trading relationships, which may include an element of credit. Small or subsistence farmers typically enter supply relationships where elements of market power tend to be with the buyer. More commercially-oriented suppliers are often locked into long-term contractual relations that constrain their flexibility to exploit opportunities for price arbitrage.

Furthermore, the production of biofuels potentially raises food-security and environmental concerns, as outlined at some length in chapter 4. A careful weighing and balancing of trade-offs and conflicting interests across stakeholders is called for to create win-win solutions, as discussed in chapter 5.



Summary observations

The above analysis has outlined some value-addition and diversification trajectories to raise and diversify cocoa and coconut farmers' income. The ability to benefit from these trajectories depends on farmers' capacity to respond to quantity and quality requirements. As noted, major challenges remain in terms of physical supply and trade capacity.

First, farmers must raise productivity, i.e. increase output per unit of farmland. This involves either or both of two options: increasing physical yields (metric tonnes per harvested hectare) and/or higher cropping intensity (harvested crop area as a percentage of cropland). Various means are available, including replanting high-yielding varieties, intercropping or mixed cropping, improved agronomic practices, and more efficient harvest and post-harvest practices to reduce waste. As noted in chapter 4, to attain socially inclusive and environmentally sound outcomes, the focus should be, in line with Vanuatu's NSDP, on local, context-specific technical solutions and agronomic models that build on and leverage the competitive advantages of the country's traditional type of farming.

Second, in order to reap the benefits of commercialisation and diversification in agriculture, farmers must be able to link to markets and respond to their requirements – volumes, quality, other standard compliance, and timely and consistent delivery. Critical requirements in this regard include: access to current information on prices, quantities, costs, and other conditions at different locations or different points along the marketing chain; access to finance for on-farm productivity investment and upgrading; and extension advice, technical and marketing support for farmers wishing to engage in emerging products/ niche markets.

Third, public investment is needed to fulfil a number of pre-requisites regarding strategic trade infrastructure and supply capacity, as well as enabling institutions. The former include storage and transport facilities, testing/laboratory facilities and investment in varietal development and good agricultural practices suited to local conditions. The latter covers the regulatory underpinnings of the export trade, including legislation and appropriate procedures for testing, grading, labelling and certification.

These pre-requisites have not yet been met. On the supply side, farmers need to enhance their capacity to consistently deliver high-quality products in a timely manner. Lack of market information, standard compliance costs and infrastructure/ logistics inefficiencies are a major hurdle currently disconnecting small-scale farmers from potentially profitable markets. Furthermore, key support services and institutions - for testing, labelling, grading and certification – are lacking.

In this setting, structured, direct supply channels can create a bridge between buyers and sellers, and introduce the needed information, finance, and marketing links. This involves a shift from spot, arm's length transactions to some form of "structured" trade. These structured market ties can involve contract farming, outgrower schemes, or other softer forms of coordination between a lead off-taker (including a commercially-oriented lead farmer) and small and subsistence producers. Under these arrangements, the off-taker – an agri-processor, an exporter, a specialised wholesaler, a retail chain, a hotel, or agents of off-share buyers – enters into a contract or an informal arrangement with informal groups or formal organisations of producers, including female farmers, to purchase a given volume, at an estimated date, under a set of requirements and conditions (typically referring to farming practices and product quality). The price is pre-set or may vary within a price range depending on the actual product conditions upon delivery. This arrangement typically includes a package of services supplied by or through the off-taker, including planting material, extension advice, standard compliance training and monitoring. The structured model offers the advantages of pre-financing, access to credit, ensured market access and productivity investment.

However, it poses several key challenges. First, structured chains are not necessarily pro-poor in terms of distributional outcomes. Nor do they necessarily imply equitable outcomes. To the contrary, they may lead to relationships of dependency between actors with different bargaining power, abuse of position by downstream actors, and difficulty of exit. A major challenge then is how to redress information asymmetries and power imbalances within the chain and ensure that buyer-driven chains work for the poor. Second, structured chains may not necessarily favour sustainable outcomes in terms of farming practices and underlying technical and agronomic models. For example, off-takers may impose input-intensive practices and quasi-monoculture to increase scales and yields. It is important for local authorities to step in and frame the broad terms of the bilateral deal as regards permissible inputs and practices. Third, there is evidence of exclusion of resource-poor, small and subsistence farmers in the context of "scale-dualism" in the small-scale farm sector: off-takers tend to source from commercially-oriented medium or large-scale farmers as the transaction costs associated with the coordination and monitoring of scattered, subsistence producers can be very high (Henson, 2008¹¹). To tackle these concerns, public authorities need to step in and proactively structure business incentives and disincentives to promote socially inclusive and sustainable outcomes, as outlined in chapter 5.

NOTES

- ¹ The breakdown of coconut sector products by level of value-added for the purpose of this study is presented in Table 5.
- ² The market distinguishes between two broad categories of cocoa beans: fine or flavour cocoa beans, and bulk or ordinary cocoa beans. Fine or flavour cocoa beans are generally from Criollo or Trinitario cocoa tree varieties, while bulk, or ordinary cocoa beans, derive from Forastero trees, with some notable exceptions. As reported by the ICCO, "the difference between fine or flavour cocoa and bulk cocoa is in the flavour rather than in the other quality factors. Fine flavours include fruit (fresh and browned, mature fruits), floral, herbal, and wood notes, nut and caramelic notes as well as rich and balanced chocolate bases". <https://www.icco.org/about-cocoa/fine-or-flavour-cocoa.html>
- ³ <https://www.rainforest-alliance.org/business/news-events/>
- ⁴ Vanuatu's coconut exports have a strong potential. As shown in Figure 9, since 2006 they have been growing at a faster pace than the average. This is particularly the case for coconut oil exports: their actual value grew from about US\$ 2.5 million in 2006 to almost US\$ 12 million in 2011, even though coconut oil still represents only 10 per cent of Vanuatu's overall exports (overall trade value from WITS). The Copra exports growth rate has also in general been higher than among other coconut-exporting countries.
- ⁵ The European Union's Rapid Alert System for Food and Feed (RASFF) consumers' portal does not display any rejection of cocoa or cocoa products from Vanuatu.
- ⁶ For more information: https://ec.europa.eu/food/safety/chemical_safety/contaminants_en
- ⁷ For more information: <http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN>
- ⁸ For more information: <https://www.cbi.eu/market-information/cocoa/buyer-requirements/>
- ⁹ Calculated as GDP share of net expenditure - expenditure of inbound tourists minus expenditure of outbound tourists, last estimates provided by UNWTO for 2013.
- ¹⁰ Sustainable tourism is defined by the United Nations World Tourism Organization (UNWTO) as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities, <https://sdt.unwto.org/content/about-us-5>.
- ¹¹ Henson, S. and S. Jaffee, 2008. Understanding Developing Country Strategic Responses to the Enhancement of Food Safety Standards. World Economy.





CHAPTER 4



Sustainability
outcomes

Sustainability outcomes

The goal of this report is to assess the social inclusiveness and pro-poor sustainability of efforts to upgrade, expand and diversify the cocoa and coconut sectors in Vanuatu. Specifically, the analysis screens trade upgrading and diversification policies in the two sectors for their potential to either benefit or negatively impact the goals and targets embedded in the country's NSDP. Called "Vanuatu 2030: The People's Plan", it is the country's highest-level policy framework. It provides an inescapable normative benchmark for assessing the legitimacy of trade policy options. The Plan charts a holistic development path that strikes a balance between the social, environmental and economic pillars of sustainable development. Tailoring the 2030 Agenda to Vanuatu's context, the Plan re-assesses material wealth objectives through Melanesian values of respect, harmony, unity and forgiveness, and brings to the forefront of policy discourse intangible values and communal assets.

The Plan's economic "pillar" envisages agricultural upgrading and rural diversification into non-farm activities through strengthened linkages between tourism, infrastructure, agriculture and industry (ECO 3.1, 3.2, 4.4, 4.5). It supports increased production and processing of niche products and value-addition to commodities in which Vanuatu enjoys a comparative advantage as well as expanded trade (ECO 3.3, 3.4, 3.5, 4.3). This economic agenda is not unqualified in terms of distributional outcomes and environmental impacts. Vanuatu's NSDP charts a holistic development pathway, whereby trade policy objectives are pursued concurrently with social and environmental goals, including:

- The preservation and enhancement of cultural and traditional knowledge (SOC 1.2) and of the traditional economy (SOC 1.7);
- The promotion of a socially inclusive society where the rights of all Ni-Vanuatu, including women, youth, the elderly and vulnerable groups are supported (SOC 4);
- Support to sustainable and traditional agricultural practices, focusing on disaster risk reduction and climate change adaptation (ENV 1.2);
- The prioritisation of renewable energy sources and promotion of energy efficiency (ENV 2.3);
- The conservation and sustainable management of Vanuatu's biodiversity and ecosystems (ENV 5).

These social and environmental objectives define specific, actionable policy priorities, to be harnessed through trade. To harness trade for sustainability, it is important first to gauge the social and environmental impacts of trade-led structural transformation in agriculture, with a focus on rural diversification associated with cocoa and coconut green exports. This is what this chapter seeks to do, by delineating interlinkages between upgrading trajectories in cocoa and coconut and various dimensions of sustainable development. The analysis first gauges the extent to which efforts to upgrade and expand Vanuatu's cocoa and coconut trade can stimulate a broad-based, socially-inclusive and equitable pattern of economic growth, which can raise the standard of living of poor farmers, men and women (i.e. gender-informed, pro-poor assessment). It then disentangles and summarises the complex food-security ramifications of agricultural commercialisation and diversification policies in the coconut and cocoa sectors (i.e. food-security assessment). Finally, it draws out the implication of these policies for the conservation and sustainable management of Vanuatu's biodiversity and ecosystems in a context of disaster risk reduction and climate change adaptation (i.e. environmental assessment). The report's findings are an important guide to policymakers and community leaders in planning and formulating appropriate trade policies in dynamic agricultural export sectors, with the ultimate objective of targeting poverty and exclusion, and protecting the environment.

Gender-informed, pro-poor assessment

As previously noted, about three-quarters of the Ni-Vanuatu population, and 62.4 per cent of poor households live in rural areas and depend on agriculture for their livelihood. In this setting, rural development is the main driver of poverty reduction. The key challenge, as mentioned before, is to raise agricultural incomes, while generating more productive, non-farm income opportunities through the creation of viable non-farm enterprises. In turn, this will allow a positive

income convergence between rural and urban areas, thereby contributing to a reversal of the pattern of rural-urban migration that is fuelling unsustainable urbanisation (chapter 1). Trade-led value-addition and diversification in the cocoa and coconut sectors can spearhead a pro-poor structural transformation strategy in rural Vanuatu. As outlined below, subsistence and semi-subsistence Ni-Vanuatu farmers can reap the benefits of rural upgrading and diversification, as the process unlocks the commercial value of their natural asset endowments. Indeed, 64 per cent and 24 per cent of rural households in Vanuatu are currently engaged to some extent respectively in coconut and cocoa farming; 96 per cent of rural land is still communal, customary land, where part of the stock of coconut trees are left unattended or not used at full capacity. Note also that an upgrading trajectory that involves product differentiation through VSS compliance or niche/boutique marketing builds on and leverages the competitive advantage of small-scale farmers over capital-intensive, bulk, industrial crop production. It also creates significant openings for rural women, beyond gender stereotypes. These factual aspects are discussed below.

Benefits for small-scale, subsistence farmers

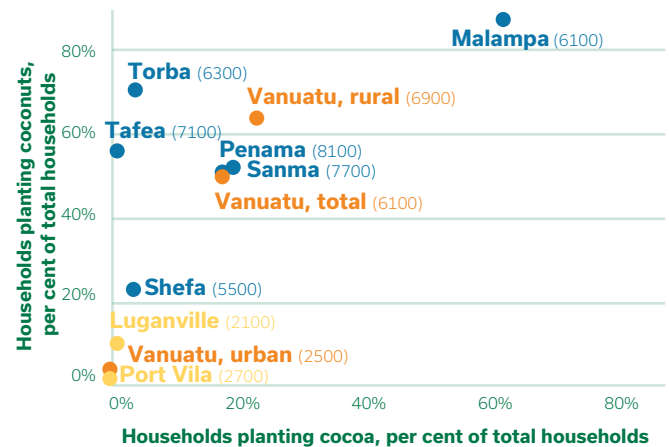
Benefits from increased commercialisation and value-addition in cocoa and coconut (smallholder cops) will likely be more widely distributed than under, for example, heavily capitalised, large scale plantation systems. This is on account of some features relating to Vanuatu's land tenure arrangements, the farming system, and crop characteristics. A number of sector-specific facts should be taken into account when assessing the potential benefits for semi-subsistence and subsistence farmers. They are discussed below.



Factor endowment of smallholders - In Vanuatu, subsistence and semi-subsistence farmers can reap the benefits of rural upgrading and diversification as this process unlocks the commercial value of their natural asset endowments. Coconut, in particular, already forms the basis of everyday economic activities undertaken by rural households and thus provides a readily available means to diversify rural income.

Figure 11 below indicates the cocoa and coconut growing rates among households and the average per capita income from subsistence production. Two out of three rural households are engaged in coconut farming; one out of four in cocoa. Upgrading and diversification in cocoa and coconut products could provide them with additional opportunities for cash income.

FIGURE 11 Household engaged in coconut/ cocoa planting

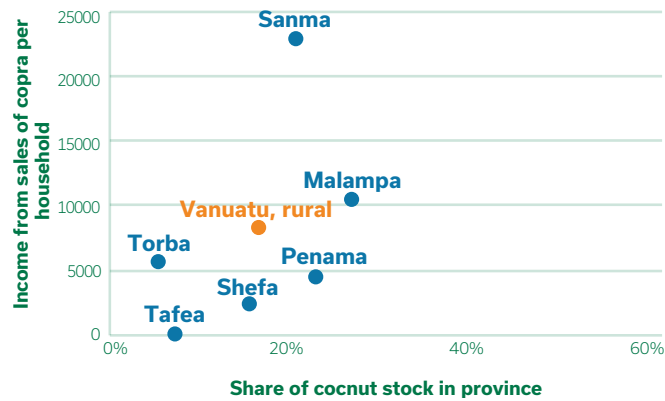


Source: UNCTAD secretariat calculations based on the Vanuatu Household Income and Expenditure Survey (2010), Agriculture Census of Vanuatu 2007. In brackets - mean per capita income from subsistence production

Most rural households engage in subsistence agriculture and typically establish their tree crops in mixed planting with food crops to diversify their livelihood portfolio. This is a system where cocoa can easily be integrated as a cash crop with little extra-expense of labour. Labour demand for tree crops is often simultaneous with labour demand for food and horticultural crops. Cocoa trees can also be efficiently intercropped with coconuts or planted in the shadow of forest trees. Coconut palms are already abundant and widespread. Except for Port Vila and Luganville, all provinces are currently engaged in coconut farming (and, to a lesser extent, cocoa farming), and observe different per capita income from farming activities.

Unused capacity and untapped potential - Part of the stock of coconut trees in Vanuatu are left unattended or not used to full capacity, as smallholders access them as needed rather than as a stable source of income. According to some estimates, 58 per cent of coconuts are left unused, the remainder being used for copra (42 per cent) and a minimal part in human and animal consumption (Expert Consultation on Coconut Sector Development in Asia-Pacific, 30 October - 1 November 2013, Bangkok, Thailand). In particular, there is no direct link between coconut planting and copra production for sale by households. Figure 12 below indicates that there are inconsistent gains from copra production and endowment. While Torba has the lowest share of Vanuatu's coconut stocks, the per household income generation is much higher than in some other provinces.

FIGURE 12 Average household income from copra sales by province and overall stock



Source: UNCTAD secretariat calculations based on the Vanuatu Household Income and Expenditure Survey (2010), Agriculture Census of Vanuatu 2007 (VNSO, 2008).

This is due to the lack of economic attractiveness: the low level of profits associated with copra production has left a great share of trees unattended (UNCTAD, 2016). Since 2000, when the global coconut market started growing at an unprecedented rate, the number of households engaged in coconut planting in Vanuatu has rapidly increased. Yet, this growth did not necessarily translate at the same rate into copra production: to the contrary, the share of households thus engaged has fallen (UNCTAD secretariat based on data from VNSO). This implies that households, instead of relying on copra production for cash income, preferred other means of income (e.g., getting hired in the construction or service sector), while coconut trees were used for other, subsistence-related purposes (e.g. food consumption, kettle feed and fire production).

Prevalence of custom land tenure - Indigenous farmers in Vanuatu have an inherent and perpetual right to use custom land, which accounts for approximately 96 per cent of the total land area (Meadows, 2017). This means that, in theory, small and subsistence farmers have access to cultivable land and to land sources of cash income, including coconut palms and cocoa trees on custom lands. In practice, the reality on the ground is somewhat different, as well as more nuanced and complex than the general principle of custom ownership suggests. As previously noted, custom ownership coexists with leases and other formal tenure systems, though customary regimes are still prevalent (Box 1). Note also that, while emphasis is on communal customary ownership, there are areas within communities where the land is held by individual owners, including chiefs. Further, there is still a distinction between custom ownership of the land (by the clan) and ownership of the plants on the land (by the individual who has planted them). Finally, custom ownership is not necessarily equitable or inclusive. There can be large inequalities in the land area held by different clans and

by different persons within the clan. Ultimately, much depends on the delimitation of specific intra-island custom boundaries and on the process of custom owner determination. This is not necessarily inclusive, particularly in gender terms.

Cocoa and coconut as smallholder crops - As previously mentioned, coconuts and cocoa are particularly suited to smallholder production and have traditionally been a smallholder export crop across many countries. They are ready for export fairly near their raw state, can be efficiently handled in small lots, and do not require heavy capital investment for primary processing: thus, fermentation of cocoa beans and copra extraction can be carried out efficiently at the farm gate. Quality is a major issue, but it is primarily a matter of care and skills, which can be developed by the small producer. Increased commercial emphasis on niche/boutique market outlets and certification is likely to make labour-intensive, traditional-type farming even more efficient compared to large-scale, heavily capitalised production. As previously mentioned, in labour- and knowledge-intensive agriculture, the value produced per unit of land in smallholder agriculture can outweigh that of large-scale agriculture (HLPE, 2013). Note also that niche/boutique traders and brand manufacturers also buy and sell the stories and relationships behind the product they trade. The empowerment of small-scale farmers can thus become a centrepiece for their marketing and sourcing strategy (UNCTAD, 2014b).

Suitability for small-scale, artisanal value-addition - In cocoa and coconut, value can be efficiently added at or close to the farm gate. As previously noted, downstream value-addition in both sectors does not necessarily involve large scales and heavy investment. Some high-value products (VCO, grated coconut and milk and cream products, artisanal soaps) can be viably processed at small scale, with relatively limited capital investment. Small-scale farmers can organise themselves into cooperatives or other associations to reach the minimum scale needed for efficient processing. Renewable energy has also been efficiently tested to overcome shortfalls in the electricity grid.

These factors combined point to opportunities for income generation among small farming households in copra and coconut-related production.

Inter-province inequalities

Table shows the average per household and per capita income by province, based on Household Income and Expenditure Survey 2010 data (VNSO). Average income is defined through all types of income, including wages, salaries, subsistence, entrepreneurship, gifts and other. The capital, Port Vila, and Shefa province, where it is located, have the highest average income. The poorest province in terms of both per household and per capita income is Tafea. It is followed, in terms of per

household income, by Malampa, Torba and Penama. These are all rural provinces heavily reliant on coconut for subsistence and cash, as shown in Table 6.

TABLE 6 Average monthly income by Vanuatu province, 2010

	Average Monthly Income	
	(VUT)	
	per household	per capita
Torba	65800	12100
Sanma	94000	18800
Penama	67700	15000
Malampa	60200	13800
Shefa	131800	24500
Tafea	53500	10700
Vanuatu rural	79500	16400
Luganville	74100	13200
Port Vila	104100	20400
Vanuatu urban	97500	18700
Vanuatu total	83800	17000

Source: UNCTAD secretariat based on Population Census 2007.

Calculations based on HIES 2010 indicate that the distribution of the Vanuatu labour force by income percentile is, in general, homogeneous across provinces, with the notable exception of Torba – where the labour force is concentrated in the lowest income percentiles. The labour force of Sanma province and Port Vila are concentrated in the higher percentiles of income. This implies that higher income earnings from agricultural activity are more likely to have the lowest impact on income distribution in Sanma province and Port Vila, while the highest impact could potentially be achieved in Torba.

It follows that new or growing market outlets for cocoa and coconut products can generate income opportunities for poor, subsistence farmers in Vanuatu, including in remote rural areas and outlying islands. Note that proximity to urban markets is a critical competitiveness issue in staple food production but not necessarily for export crops. Peri-urban areas, due to their proximity to urban centres, enjoy comparative advantages in servicing urban markets in staple foods and horticultural products, often highly perishable. More remote islands can competitively integrate into export-driven chains, especially when niche/boutique traders and outlets sell the history

behind the product. Note also that, in coconut, artisanal value-addition (e.g., extraction of oil from copra) can be efficiently undertaken locally, at or close to the farm gate, including in remote and distant islands. The same holds true for coconut-based handicraft production.

Gender aspects

The gender implications of functional and product upgrading in cocoa and coconut are complex and multidimensional.

Overall, downstream value/addition can create significant opportunities for Ni-Vanuatu women. Labour-intensive agro-processing, whether artisanal or industrial, is typically female-intensive in terms of labour input. The artisanal manufacturing of soap and personal care products is also, distinctively, a female activity in Vanuatu. Likewise, horizontal product differentiation, including through VSS compliance, provides significant openings for rural women. The repositioning of Vanuatu's main cash crops (coconut and cocoa) towards higher-value specialty segments will likely involve the establishment of trusted relationship and direct marketing links with premium quality and specialty buyers, or their trusted consolidators. These off-takes may support a reorganisation of the chain beyond gender stereotypes (UNCTAD, 2014b). When lead firms in the chain sell the stories and relationships behind the product they trade, female empowerment can become a centrepiece of their sourcing strategy.



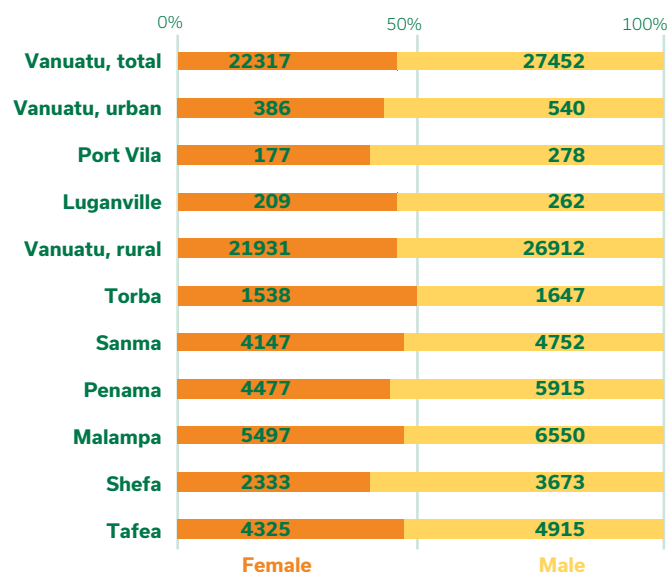
Main market, Vanuatu - Nuñez 2019

Yet these upgrading trajectories can also magnify existing gender disparities. In particular, premium quality and specialty markets require compliance with stringent standards and high certification costs. The process may favour commercially-oriented, better-educated farmers having easier access to quality planting material and marketing networks – with a tendency to crowd out marginal and vulnerable rural smallholders, many of whom are women. Further, if badly managed, expansion of cash crop acreage can encroach on arable land under staple food production.¹ As discussed below, Ni-Vanuatu women are mainly engaged in the subsistence staple food sector: diversion of land and other resources from food to cash crops may contribute towards further marginalising women involved in the non-tradeable, subsistence segment.

These dimensions can be better captured by considering the gender structure of agriculture in Vanuatu, alongside the wide array of gender-specific obstacles that constrain the productivity and entrepreneurial potential of rural women in poor areas.

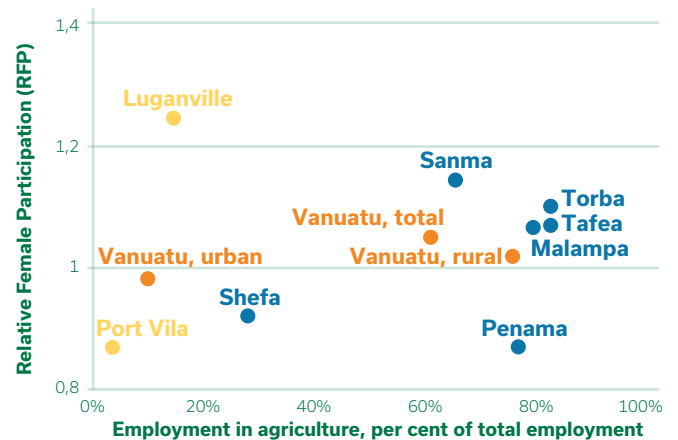
Agriculture is not distinctly female-intensive: in absolute terms, men and women are equally involved in farming (Figure 13). Yet, women are more likely than men to be employed in the sector, as shown in Figure 14. This reflects the fact that Vanuatu's women, when economically active, tend to be segregated in specific sectors and occupational groups, while men tend to be more evenly distributed across industries and occupations. Table 7 shows the most common employment sectors for women, agriculture being the first with 55 per cent of employed women.²

FIGURE 13 Gender structure of employment in the agricultural sector 2009



Source: UNCTAD secretariat calculations based on data from Population Census 2009. Information on "skilled employment in agriculture, fishery and forestry" is used.

FIGURE 14 Female participation in agricultural labour



Source: UNCTAD secretariat calculations based on the Vanuatu Population Census (2009). Information on "Skilled agriculture, fishery and forestry" is used.³

TABLE 7 Female labour industry composition

Industry	Industry share of employed women (per cent of all employment)
Agriculture	62
Accommodation	10
Education	7
Financial and insurance	3
Other services	23

Source: UNCTAD secretariat calculations based on the Population Census 2009. Only selected (most common) industries are listed.

Since agriculture remains by far the most important source of livelihood for women and, since women are more likely than men to work in agriculture, commercialisation and diversification in the sector have significant potential to introduce additional income opportunities for rural women. This transformative path would counter, in some respects, the gender-bias built into the recent pattern of economic growth in Vanuatu, which has focused mainly on the booming male-intensive construction sector.

There are, however, qualifications. As already mentioned, women face multiple constraints that hinder their entrepreneurial potential. These include: time and mobility constraints arising from the double burden of productive work and unpaid care work; gender segregation in the labour market, which confines women largely to subsistence and relatively low-income activities; lower literacy rates, language abilities and educational level than men (for the population 30 years and older); and intra-household decision-making dynamics, which limit women's control over household assets (including land) and income. These socio-cultural, gender-based norms interact with and compound market imperfections in rural areas to reduce women's productivity and entrepreneurial potential (UNCTAD, 2015c). These constraints and their implications are briefly discussed below.

The burden of domestic care - Ni-Vanuatu women are more likely than men to be economically inactive, which reflects the double burden of care and productive work. Even if women account for roughly half of the country's total population, they only represent 40 per cent of the labour force,⁴ compared to 60 per cent for men (VNSO, 2011). At the time of the 2009 Population Census, the labour force participation in Vanuatu stood at 71 per cent; the men's labour force participation rate was at 80 per cent compared to 61.4 per cent for women. The labour force participation rate for females did not exceed 71 per cent at any age, while that of males was more than 90 per cent at ages 30 to 49 (VNSO, 2011). There are almost five-times more females engaged in home duties than males (VNSO, 2011). The burden of domestic care is a major constraint for rural women, putting a strain on their mobility and time flexibility on-farm and off-farm (UNCTAD, 2015c; UNCTAD, 2017b).

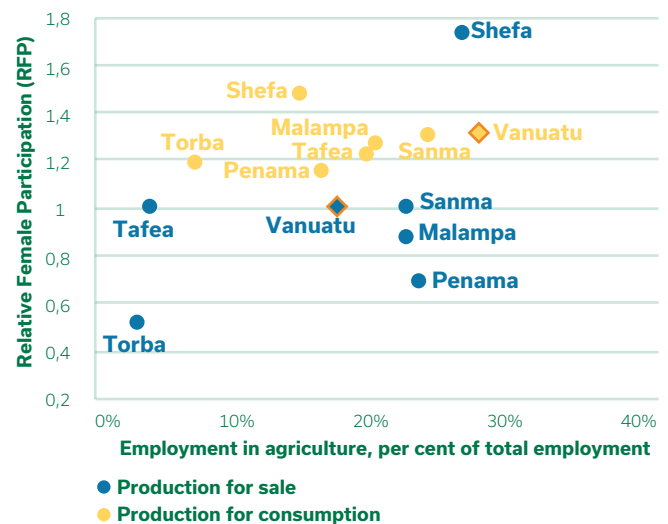


Gender segregation in agriculture employment - Socio-cultural patterns of labour segregation deserve specific attention when discussing upgrading strategies in cocoa and coconut. In agriculture, Ni-Vanuatu women tend to be segregated in subsistence activities.⁵ Figure 15 illustrates the difference in

the female labour share allocated to agricultural production for sale (commercial) and for consumption (subsistence). The relative female participation rate, except for Shefa province, where Port Vila is located, is much higher for subsistence production than for agricultural production for sale.⁶ Most rural women also engage with markets as they typically sell their agricultural surplus for cash income, as well as some produce and handicrafts. Yet subsistence farming remains the main livelihood activity for most of them.

In the context of Vanuatu, there is therefore some validity to the widely shared perception that there is a prevalence of rural women in subsistence production and small-scale marketing of staple crops in local markets, while men market export crops. Cocoa and copra exports, for example, are still primarily considered a male enterprise. As already mentioned, women participate in these bulk commodity sectors but typically as contributing family workers. If badly managed, an export-driven commercialisation strategy in agriculture may further marginalise women by diverting land and other resources from subsistence staples (where there is a prevalence of women) to export cash crops; and by entrenching a division of labour whereby women participate as contributing family workers and men control sale proceeds.

FIGURE 15 Female role in agricultural production by type



Source: UNCTAD secretariat calculations based on the Vanuatu Population Census (2009)

New market openings for women but persistent inequalities - As already mentioned, this pattern of gender segregation in agriculture across commercial/subsistence lines is blurring: the repositioning of Vanuatu's main cash crops (coconut and cocoa) towards higher-value specialty segments and niche marketing offers new openings for women in downstream value-addition and in niche segments. Yet, even in these emerging areas, women continue to face multiple constraints on their productive and entrepreneurial potential.

First, there are ingrained gender-based inequalities in access to land. As previously noted (Box 1), all land in Vanuatu belongs to indigenous custom owners, men and women. By law, customary institutions (the *nakamal* in the first instance) oversee the custom owner determination process and administer land disputes. In a traditional context of patriarchal values, there are challenges in ensuring the meaningful representation and effective voice of women in the *nakamal*. In practice, women's access to the land is thus determined by intra-household and communal power dynamics, which often tend to marginalise women.

Second, women typically have lower levels of education and literacy than men. Ni-Vanuatu women still remain under-represented in advanced secondary and tertiary education (VNSO, 2011). According to the 2009 Population Census, after the age of 16, school enrolment rates for males were higher than for females; for the population 30 years and older, literacy rates were higher for males than females, and the gap widened with the increasing age of the population. Note, however, that the literacy rates of 15 to 24 year olds were almost equal for males and females, an indicator of successful policies in education to bridge the gender gap. Lower levels of education and literacy translate into a significant competitive disadvantage in doing business for female farmers and entrepreneurs.

Finally, women tend to have less access than men to the internet and other forms of information and communication technology and face gender-based obstacles in transport. These seriously affect their trade competitiveness vis-à-vis men, as well as their ability to meet market requirements.

Gendered norms, behaviours and social relations play a large part in explaining the gaps discussed above. The double burden of care and productive work, gender segregation in labour markets, and differences in access to education, mainly arise from gendered social structures and norms. These fundamental gender-based inequalities interact with imperfections in rural markets that further inhibit women's dynamic potential in the rural economy. Addressing them effectively requires direct, gender-specific action to correct or compensate for structural gender biases (UNCTAD, 2015c).

Food security and nutrition

The local food security implications of agricultural commercialisation and diversification in low-income countries are complex and often double-edged, with a high degree of context specificity. It provides households with alternative means of obtaining cash income, and thus enhances their food security. Yet it may also pose food security challenges if it results in shortage of land suitable for food crop production. Food security implies that household members have access to sufficient, safe and nutritious food at all times. It requires either access to cultivable land or to cash income or a combination of both.

The key challenge for Vanuatu is to expand and upgrade cocoa and coconut farming as a source of cash income without encroaching on subsistence production of local foods. Traditional subsistence foods include root and tuber crops such as yams, taros, cassava and sweet potatoes, cooking bananas and breadfruit, as well as non-starchy fruits and vegetables. These crops are produced under traditional farming practices in home gardens throughout the year for home consumption. The surplus is sold for cash on village, island and urban markets. It is important to preserve this traditional, diversified farming system, which ensures a significant degree of food self-sufficiency.

There is indeed a clear relationship in Vanuatu between traditional subsistence farming and food security. According to the Population Census 2009, subsistence farming is present across almost all groups of households both in rural and urban populations – 91 and 57 per cent on average (VNSO, 2011). Due to the higher prevalence of subsistence farming in rural areas, food security is on average higher there, where the population has easier access to land. This is supported by the Vanuatu Hardship and Poverty report 2012 (VNSO and UNDP, 2013). Rich natural resources and a high level of traditional subsistence farming have contributed positively to the elimination of extreme food poverty across Vanuatu.

Note also that the Government has articulated an ambitious food security strategy that very much emphasises the role of domestically produced, traditional food staples. The strategy promotes *aelan kaikai* as a key part of a sustainable and nutritionally balanced diet (ENV 1.2) and advocates reduced reliance on food imports through import substitution production (ENV 1.3). It reflects growing concerns, particularly in urban areas, about the increasing consumption of imported food and the shift away from traditional subsistence food, such as root crops, fruit and green vegetables. This change in consumption pattern is resulting in a double burden of diet-related disease: micronutrient deficiencies and underweight occur at the same time as obesity-related non-communicable diseases (Jones et al., 2015). In Port Villa and Lungvanille, achieving recommended intakes of local fruit and vegetables is largely unaffordable for the poor, as shown by a cross-sectional analysis of the cost and affordability of non-starchy fruits and vegetables in the capital (Jones et al., 2015). Fruit and vegetable affordability through expanded supply and improved marketing, is key to Vanuatu's food security strategy. This highlights the importance of subsistence farming, and the contribution of women to agricultural production (Piau-Lynch, 2007).

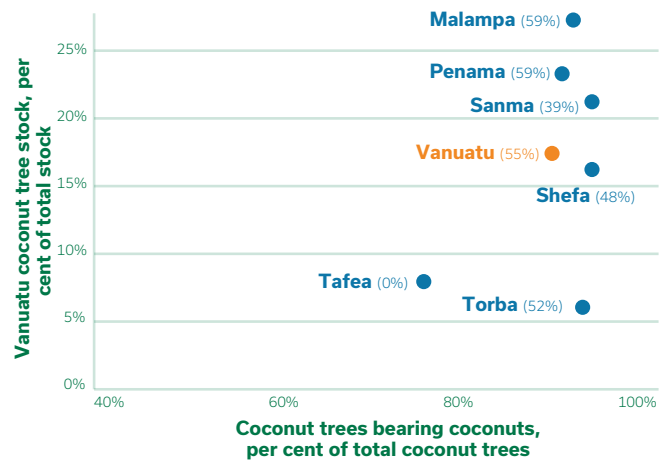
Policy coherence is needed in this area between trade policies and food security strategies. A "hybrid" approach should be pursued that combines export-oriented options and production for self-consumption and local marketing. The approach should encourage upgrading options in cocoa and coconut to bring in additional income for rural households, without resulting in a shortage of suitable land for subsistence, staple food

production. The ancient principle of farm diversification – a traditional trait of peasant-type farming systems – is attracting renewed interest as a strategy to accommodate food security concerns and the need to dynamise the rural economy. The focus is on integrated approaches that combine food and cash crops by fully exploiting mixed cropping, inter-planting and inter-cropping options. The combination of tree, pasture and livestock also deserves some attention. There is significant room to pursue such approaches in the context of Vanuatu's farming model. Some options are discussed below.

Cocoa in the shade of coconuts - As highlighted in the Agriculture Census 2007, cocoa trees can be shaded by different trees and are very successfully cross-planted with coconuts. Figure 16 correlates the distribution of coconut trees bearing coconuts and the coconut trees stock of Vanuatu and depicts by province the share of coconut trees used to shade cocoa trees (in brackets). Figure 16 indicates that, with the exception of Tafea province, about 80 per cent of coconut stocks in every province bore coconuts in 2007. The share of coconut trees used to shade cocoa varies from 0 per cent (Tafea province) to 59 per cent (Malampa). Thus, there is potentially a vast number of coconut trees suitable for cross-planting that could be used as a shade for cocoa trees.



FIGURE 16 Structure of Vanuatu's coconut sector (incl. cocoa shading)



Source: UNCTAD secretariat calculations based on the Vanuatu Agriculture Census (2007). In brackets, share of cocoa shaded by coconuts.

Plot-level diversification and intercropping of tree and staple crops - Tree crops like coconuts or cocoa can also be established in mixed planting with food crops such as plantains, as well as horticultural crops. This diversification strategy has been efficiently pursued both by farmers on smallholder land and commercially-oriented plantations. The association of tree and food crops increases food security. It is particularly important between tree crop cycles when tree crops' yields decrease or while young tree crops are maturing. It also reduces exposure to shocks caused by weather events or market instability, which tend to affect different crops differently. Finally, the association of tree and food crops plays an important ecological role – for example, plantains can provide shade to the cocoa trees during the seedling stage (Schroth et al., 2015).

Box 10 Association of food and tree crops on coconut plantations

The 500-hectare Undine Bay Plantation on Efate covers a vast alluvial plane between two rivers. In coconut, inter-planting is a viable commercial option as a minimum distance (up to 9 m) has to be kept between lines of coconut for efficient harvesting. Food and other short-cycle crops can be efficiently planted between the lines. On the Undine Bay Plantation, 5 hectares were opened for growing vegetables for free, with potential extension of this space to 120 hectares that were recently planted. The solution was deemed to be profitable to both parties: small and subsistence producers and local communities would have free access to suitable land for food production, while the estate would save on weed control costs, as the farmers would weed and keep the land in order between the tree crops. The plantation staff went to neighbouring villages and informed the local people about the opportunity. Farmers, including women farmers, could grow vegetables for their own consumption and sell the surplus on local markets. The company would provide transport to market the produce. Initial experience included eight families, of which only three continued. In a week at the peak of the harvest each family (of two people) can earn roughly the equivalent of two monthly wages. This successful experience contributed to ten families participating in the plantation in 2017.

Source: UNCTAD Interviews.

Agro-silvo-pastoral systems - Finally, mature coconuts can be deliberately combined with pasture and livestock production in agro-silvo-pastoral systems. This allows farmers and estate owners to increase and diversify sources of income. Note, however, that this integrated approach is not viable during replanting as cattle can damage young, immature palms (Interviews).

These are just some examples of integrated approaches combining food and tree crops, as well as tree, pasture and livestock production. Nevertheless, farm diversification has some shortfalls; notably, it may reduce economies of scale and increase harvest, post-harvest and marketing costs. However, these should be weighed and balanced against the many advantages of farm diversification as a risk-hedging, food-security enhancing and income-stabilisation strategy.

Environment, bioenergy and climate change

Vanuatu faces pressing environmental issues. Major challenges ahead include climate change and the loss of biological diversity in the face of demographic pressure, rapid urbanisation and construction projects. Expanded trade in cocoa and coconut can be part of the problem if it favours a shift towards quasi-monoculture systems. Yet trade upgrading trajectories in cocoa and coconut can also be harnessed to forge a sustainable way forward if they encourage and entrench the social and ecological functions of agriculture. The following analysis considers the environmental implications of trade upgrading trajectories in cocoa and coconut, while tackling the challenges and opportunities associated with relevant biofuel developments.

Biodiversity and climate change

It is now widely accepted that biodiversity is strongly affected by climate change but, through the ecosystems that it creates or changes, biodiversity also impacts climate change and climate change mitigation. Vanuatu's archipelago is characterised by a unique and highly diversified eco and biological system, including endemic species and plants. Conserving the biodiversity is critical when addressing climate change questions.

The environmental impacts of cocoa and coconut farming, and generally of tree crops, depend on the underlying technical and agronomic model. The Government of Vanuatu may wish to carefully consider in which direction the trade-driven agricultural reform process is heading, whether towards a large-scale industrial model, or towards a more complex system that builds on knowledge-intensive, sustainable smallholder agriculture, as envisaged by Vanuatu's NSDP. Heavily capitalised

tree crop monocultures are typically associated in the mid- to long-run with loss of biodiversity and structural environmental degradation. Diversified farming systems, where tree crops are associated with food crops and often integrate livestock, tend to be more socially inclusive and environmentally friendly. These systems, often traditional, are very knowledge intensive and can play an essential role in the *in-situ* preservation of biodiversity. Through farmers' and breeders' selection of resistant and high-yield varieties, they also contribute to an endogenous process of continual genetic adaptation to changing environmental, economic and even social contexts.

As previously noted, current farming practices in Vanuatu tend to involve rotations or associations of crops, use of organic matter to nourish the soil, and minimal mechanical soil disturbance. These are the basic principles of a conservation approach to agriculture that attracts premium prices in high-value market segments, when products are certified as organic, or according to other VSS. Note, in this respect, that most cocoa and coconut in Vanuatu is organic by default, albeit in the absence of certification. Cocoa and coconut farming involves farming models and techniques that are environmentally sustainable in a context of climate change and even play important ecological roles.

A key challenge is to further encourage and entrench this farming model by means of incentives and regulation (chapter 5). In terms of productivity enhancements, the focus should be, in line with Vanuatu's NSDP, on local, context-specific technical solutions and agronomic models that build on and leverage the competitive advantages of the country's traditional-type farming (Box 11).



These solutions reflect Vanuatu's agro-ecological condition – diverse ecosystem and diversified farming. They do not imply costly or unpopular changes as they reflect the existing set up and conditions. The trade-led upgrading strategy outlined in this report can lead to entrenching these practices by means of incentives and regulation, as further discussed in chapter 5.

Box 11 Underlying technical and agronomic model

In terms of *farming practices*, the focus should be on low-external input practices well suited to smallholder production. These are location and context-specific, depending on the crop. They variously combine features of conservation agriculture (minimal mechanical soil disturbance, use of organic matter to nourish the soil, rotations or associations of crops), integrated pest management, organic agriculture, crop diversification, multiple crop/pasture systems and multifunctional landscape management that associates agriculture, home gardening, trees and forest. They are generally knowledge-intensive, labour-intensive, and low-external input. As widely discussed by expert panels, they tend to perform better in well-developed smallholder agriculture than in estate production because of the favourable incentive structure in self-employed farming and the significant transaction and monitoring costs of hired labour (HLPE, 2013). They also tend to be gender-sensitive, as they leverage roles and knowledge associated with female farmers.

Improved planting material - The focus should be on the use of non-proprietary genetic material and on research to develop locally genetic material adapted to Vanuatu's soil characteristics, farming systems, and extreme exposure to weather incidents. The focus is on public seed breeding programmes as a public good, allowing the diffusion of locally adapted genetic material that farmers could freely save, use and exchange. The most suitable planting material must be inexpensive to propagate (which is not the case with most hybrids). The approach should be implemented within the framework of public/private partnerships and should integrate a strong training and extension component.

Mechanical inputs - The envisaged approach promotes investment in technologies that reduce the drudgery of farm work without involving change in the farming scale/model. The focus here is on relatively simple equipment and machinery such as improved hand-held agricultural tools, harvest bags, push and pull or rotary weeders, threshing and cleaning equipment. This light mechanisation is also the most gender-sensitive approach as women tend to be marginalised when heavy capital equipment and machinery are introduced.

Collective and public investment - The approach favours and stimulates collective and public investment in infrastructure (irrigation, landscape management, knowledge), and emphasises the role of support services and enabling markets.

Source: HLPE, 2013; FAO and IFAD.

Infrastructure

Expansion of coconut and cocoa production will have an impact on the environment through infrastructure. This impact is channelled through fixed and marginal effects. The fixed effect involves the impact from construction of new capacities for processing cocoa and coconut products. As highlighted in Vanuatu's NGER (UNCTAD, 2016), the existing coconut mills are operating at under-capacity due to the current low rates of production at the primary level. The marginal effect of infrastructure relates to the increased traffic associated with transport of coconuts to the mills and from mills to domestic markets or exports. This effect is likely to be minimal as there is already a high level of boat traffic, which is used at below-capacity level. Taking into account that almost all provinces (except for Torba) have better wharf connections by canoe than vehicle⁷, and that canoes are more common among Vanuatu's population, the marginal effect on the environment is expected to be minimal.

Biofuels

The use of coconut oil as biofuel has raised a number of concerns. There concerns arise with respect to the perceived competition between food and fuel in coconut consumption,

leading to direct conflicts between land for fuels and land for food. Biofuel feedstock production also raises environmental issues. As bulk quantities are needed for efficient biofuel feedstock processing in electricity generation, there are concerns that the biofuel drive may encourage a shift towards estate-type coconut plantations. This development may put pressure on fragile ecosystems on which poor farmers depend.

These concerns need to be re-assessed in the light of location and context-specific facts. Note in this respect that:

- In Vanuatu, less than 1 per cent of coconuts are used for human and feed consumption: the bulk is either left unused or exported fairly near the raw stage (dried coconut meat, or copra), as a low-priced commodity. Also, on account of the abundance and low use rate of coconuts, there is a significant margin to expand copra supply to the biofuel segment without affecting food uses.
- Increased demand for copra from the biofuel sector will sustain copra prices and provide new opportunities for rural villagers in terms of livelihood and food security.
- Oil extraction from copra yields a by-product that is a perfect stock feed for animals (chicken, pork, cattle, prawn, horse).

The process can contribute towards the sustainability of local farms by producing a local, cheap available feed.

- In Vanuatu, diversified farming still prevails on estates: a coconut plantation must not be seen as coconut only. It is a world unto itself with various products and resources depending on markets and needs. Copra production is thus often associated with cattle grazing and vegetable intercropping, alongside coffee trees and sandal wood.

The perceived competition between food, feed and fuel should thus be reassessed in the light of these context-specific facts.

Environmental concerns associated with large commercial operations and high-level inputs, changes in land use, and loss of biodiversity, are perhaps more pressing than food concerns. Yet these concerns can be accommodated well if biofuel investment builds on and preserves the current diverse plantation system. In Vanuatu, estate agriculture should not be equated with monoculture. As already noted, coconut plantations do not imply a shortage of suitable land for subsistence, staple food production as coconut can be easily associated with food and horticultural crops by means of mixed and inter-cropping (Box 10). Furthermore, bulk volume requirements can also be met in a system where small-scale agriculture is prevalent. Scale issues exist but can be conveniently addressed through consolidators that pool and consolidate supplies from scattered smallholders. The processing plant can easily perform this role as it typically occurs in tea sector in the context of satellite smallholder production models.

Overall, if food and environmental issues are properly tackled, coconut-based biofuels can provide significant opportunities to improve rural livelihoods, with pro-poor effects. Note that cutting copra is often the only source of monetary income for rural people, particularly in the outer islands. In this context, biofuels can be an integral part of a viable strategy to construct diverse livelihood portfolios and increase cash income in rural areas.

NOTES

- 1 Gender-blind agriculture and trade policy, especially when they target commercialisation of traditionally subsistence activities, typically lead to a worsening of the position of women in terms of access to money, bargaining power in the household, etc. (Netsayi et al., 2015).
- 2 This is in line with findings from the Hardship and Poverty report 2012: Vanuatu females are actively engaged in agriculture – 45 per cent of employment in the sector are women.
- 3 The Chart illustrates the relative female participation rate in agricultural labour by province. Values over unity indicate that, in the province in question, women are more likely to be doing agricultural jobs than men. Port Vila is located in Shefa province and thus has a number of service-sector jobs which are traditionally performed by women. In all other provinces, with the notable exception of Penama, women are a major labour force in agriculture. Relative female participation (RFP) is calculated using the formula: $RFP = \frac{N_{Agr}^F / N^F}{N_{Agr}^M / N^M}$; Where N_{Agr}^F and N_{Agr}^M are the numbers of females and males respectively engaged in agriculture and the overall numbers of females and males respectively employed.
- 4 The labour force includes employed and unemployed (that is, either working or actively seeking work). In Vanuatu's Population Census, all people classified as subsistence workers are considered to be employed.
- 5 The same pattern, i.e. prevalence in subsistence, is observed generally. More working women than men (49 per cent and 41 per cent respectively) are involved in subsistence activities (VNSO 2011, Vanuatu National Gender Equality Policy), which, to some extent, makes them more susceptible to poverty and abuse. This is reflected in figures on paid employment. In terms of the employment–population ratio, almost 50 per cent of men aged 30 to 49 were employed as paid workers. In contrast, the age groups with the highest percentage of females in paid employment never exceeded 30 per cent (Population Census). Within paid employment, elementary occupations, service and sales workers, and clerks, workers were predominately female, while all other categories were dominated by males (Population Census). According to the 2007 Agriculture Census, males dominated the labour force in the commercial farm sector (69 per cent), compared to females (32 per cent); the majority of seasonal workers were women.
- 6 Note, however, that most subsistence farmers produce a surplus that is marketed locally.
- 7 UNCTAD secretariat calculations based on HIES 2010 data.

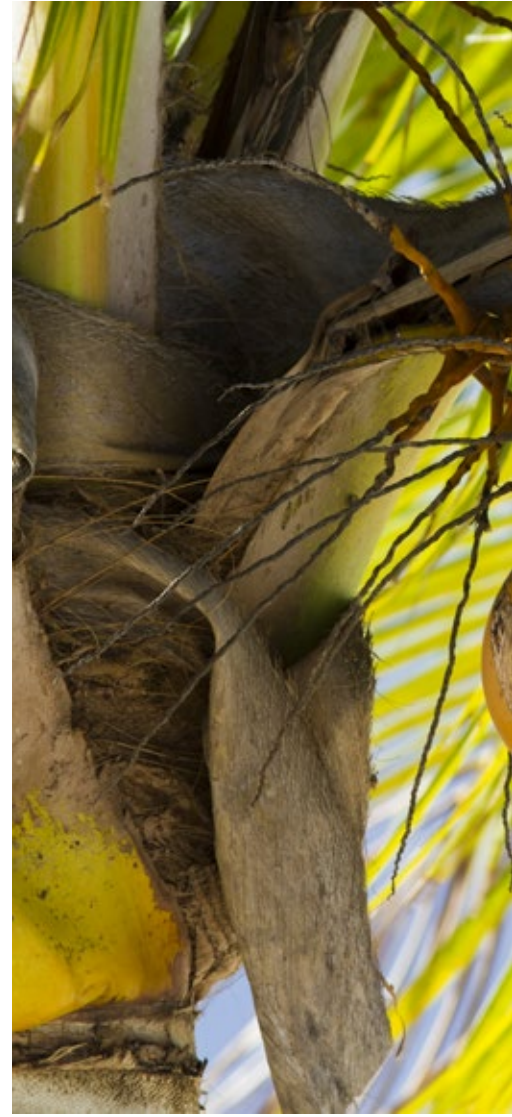
Conclusions

Vanuatu's NGER has highlighted the country's export competitiveness in the coconut and cocoa sectors, while stressing the need to seize the untapped potential for adding value and diversifying existing export channels. As highlighted in this report, the key to rural structural transformation is through a combination of different diversification and value-addition strategies, including product differentiation (e.g., organic certification or single origin), downstream agro-processing into higher value-added products (e.g., artisanal VCO), and biofuel crop cultivation.

Efforts to upgrade, expand and diversify the cocoa and coconut sectors along these lines can bring significant benefits in terms of poverty reduction and social inclusiveness. They will have a direct effect on the general well-being of resource-poor, small-scale farmers by providing additional opportunities for cash income. New or expanded market outlets for cocoa and coconut products, as previously discussed, will also provide opportunities for cash income generation in outlying islands and remote rural areas. The process can be gender-redistributive as it leverages markets and activities that tend to be female-intensive. If properly managed, it can be food-security enhancing and environmentally sound, while injecting new dynamism into the rural economy.

However, these positive effects will not occur automatically. For example, tree crop intensification programmes can encroach upon staple food production or adversely affect ecosystems, with negative long-term effects. Likewise, traders or processors can reap all the benefits of increased commercialisation and value-addition, with little pass-through to small and subsistence farmers. Incentives and disincentives need to be proactively structured to harness trade for socially inclusive and sustainable development. This calls for strengthened multi-stakeholder dialogue to efficiently integrate sustainability considerations in trade and investment arrangements. Key areas for policy intervention are briefly outlined in the following chapter.





CHAPTER 5



Policy
recommendations

Policy recommendations

Vanuatu is at a critical juncture in its development pathway: the country needs to dynamise and transform its rural economy by building on its small-scale and diversified farming system, and leveraging traditional agro-ecological approaches. Expanding on the NGER, this study has outlined upgrading trajectories in the cocoa and coconut sectors that amplify the competitive strengths of small-holder agriculture, leverage agro-ecological practices and place emphasis on women's roles and knowledge. These trajectories combine social welfare objectives (food security and nutrition, and social inclusiveness, including gender equality), environmental goals (protection of biodiversity and climate-change resilience), and economic objectives (increased income). They cater to both domestic and export market outlets. They show how trade can drive transformational systemic changes at the local and national level towards achieving inclusive sustainable development, beyond aggregate welfare gains.

Policy and institutional coherence is needed across the trade and agriculture ministries to implement this strategy. As regards agriculture, proactive rural development policies are needed to stimulate yield and enhance productivity on smallholder plots; and to adequately inform, technically prepare and organise small scale-farmers and micro-scale processors to meet the requirements of new market outlets. The focus should, in line with Vanuatu's NSDP, be on local, context-specific technical solutions and agronomic models that build on and leverage the competitive advantages of Vanuatu's small-scale farming system. As regards trade policy, the objective is to enhance trade, but in a way that builds on and leverages the competitive advantages of small-holder agriculture in high-value, labour- and knowledge-intensive crops. This involves a shift in emphasis from bulk commodity trade to specialty/niche marketing, and niche value-addition. The focus is then on differentiated and value-added products and services that leverage traditional agriculture and its socio-ecological roles, through the delivery of green services.

Key catalytic interventions to engender stakeholder consensus and drive transformational changes in this direction are already

enshrined in Vanuatu's National Adaptation Plans (NAPs) for cocoa and coconut. The NAPs identify a coherent set of actions to increase and sustain smallholder market-related production, while framing institutional and enabling conditions.¹ The findings from this study are fully aligned with and support the NAP action frameworks. They add to these frameworks by pushing sustainability concerns further into the spaces for interventions to catalyse the development of socially-inclusive and environmentally-sustainable value chains. Some lines of action are outlined below.

Strengthen multi-stakeholder dialogue and policy coherence

There is a strong need to engender stakeholder consensus and mainstream sustainability considerations into agricultural trade arrangements with a mix of 'soft' (incentives) and 'hard' (command and control regulation) instruments. This calls for strengthened multi-stakeholder dialogue and policy coherence at the vertical and horizontal levels. Vertical policy coherence involves fostered coordination between central and decentralised government structures, strengthened linkages between customary and formal institutions, and strong partnerships with community-based groups and other civil society organisations. Horizontal policy coherence calls for integrated solutions across ministries and departments to address development challenges that are linked and interrelated.

Vanuatu can conveniently leverage existing multi-stakeholder platforms to engage stakeholders and ensure that agricultural trade policies and arrangements are reflective of and responsive to local sustainability concerns. In the cocoa sector, the Cocoa Industry Working Group (CIWG), set up under the PHAMA Programme, already brings public and private stakeholders together to foster dialogue and coherent decision-making in the cocoa sector. The CIWG group includes government representatives from the Department of Agriculture and Rural Development, the Department of Industries, and the

Vanuatu Commodities Marketing Board; key stakeholders from the private sector (Epi Cocoa Producers Association, Cocoa Producers Association, South West Bay Cocoa Producers Association, the Vanuatu Chamber of Commerce and Industry); as well as research and inspection bodies (the Food Technology Development Centre Analytical Unit and the Vanuatu Agricultural Research and Technical Centre). This framework provides a suitable platform for elaborating integrated interventions to achieve policy coherence across trade and sustainable agriculture. It may be necessary to link with and involve other line ministries and departments, particularly when tackling issues of land management (Department of Lands) and multilevel local governance (Department of Local Authorities). It is also important to effectively mainstream gender concerns in decision-making by linking with the Department of Women's Affairs.

A first step to strengthen this existing framework is to set up a cooperation platform by means of a directory of stakeholders. This platform, being set up by the Department of Industry and UNCTAD, can evolve into an official registry of key stakeholders engaged in the cocoa and coconut sectors.

Articulate a locally-adapted, underlying agronomic model

The convened stakeholders (refer to point above) should discuss and define the specifics of a locally adapted, ecologically based agronomic model for green exports. Preference should be given to long-term, agro-ecological sustainability and social equity vs. shorter-term goals in line with Vanuatu's NSDP.

In terms of productivity enhancements, the focus should be on local, context-specific, technical solutions and agronomic models that build on and leverage the competitive advantages of Vanuatu's traditional-type farming. This involves, among others:

- Public seed-breeding programmes, with the diffusion of locally-adapted genetic material that farmers can freely save, use and exchange (vs. proprietary hybrids);
- Investment in technologies that reduce the drudgery of farm work without involving a change in farming scale/model (vs. capital intensive farming);
- Adaptive, local- and ecologically-based, knowledge-intensive integrated pest management (IPM) systems that emphasise cultural and biological pest controls (vs. synthetic chemical controls);
- Context-specific, sustainable land management practices that reflect Vanuatu's agro-ecological conditions;
- The promotion of functional complementarity between small-holder crops and estate production, including through inter-cropping.

The objective should be to identify and list locally adapted, ecologically based techniques and practices in cocoa and coconut farming, harvesting, post-harvest processing and marketing. These practices can form the basis of a national organic standard and seal, as further discussed in this chapter.



Outside of the prime ministers office, Vanuatu - Nuñez 2019

In Vanuatu, organic farming techniques and practices do not imply costly or unpopular changes as they reflect the existing set-up and conditions (organic by default). The key is to entrench these practices by means of incentives and regulation, including through trade. The price premium associated with market differentiation through organic, labour and other sustainability certifications can provide significant incentives. In the bulk segment, export requirements of Maximum Residue Limits and consumer demand for naturally grown products can also unlock the commercial value of organic-by-default production. Vanuatu may also wish to carefully consider, at least in certain areas targeted for collective organic certification, banning the use of synthetic fertilisers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation. This proscription, if credibly enforced, can give market credibility to a national organic seal and collective certification schemes, as well as country-of-origin labelling and GI registrations, and enhance recognition of Vanuatu products in foreign markets.

Preserve customary tenure arrangements, while unlocking the commercial value of land

In terms of land tenure arrangements, stakeholders should move beyond a fractious and polarised debate between custom and formal land regimes and find a middle way (Meadows, 2017). The focus is on hybrid approaches that preserve the existing customary tenure system while unlocking the commercial value of land. The current land regime in Vanuatu is moving in this direction, trying to support both customary and formal land tenure arrangements. The system reflects the complex interaction between modern and custom tenure arrangements and the need to strike a balance between competing interests and values: on the one hand, pressure from the most dynamic sectors of the economy (tourism and construction), which require registered land titles as collateralisable assets on which to build and sell; on the other hand, the need to preserve customary access to the land. Note that many customary owners themselves are willing to lease their lands as rents, even if low, may pay better than copra production. The key is to find workable paths to protect customary uses of the land, while unlocking its commercial value (Box 12).

Overall, the envisaged upgrading trajectories do not require a change in scale or farming model. As previously discussed, high-value crops require labour- and knowledge-intensive farming and tend to perform well in well-developed, smallholder agriculture. When economies of scale matter (typically in transport logistics), small-scale farmers are able to increase efficiencies by pooling their resources. Cooperatives, producers' associations and women's networks can be a solution to many scale constraints smallholders face, including high unit costs in logistics, little bargaining power in contractual relations and limited access to finance, technology and extension.

Favour the uptake of Vanuatu's agronomic model in trade arrangements and certification schemes

Vanuatu should take advantage of the window of opportunity created by new, inclusive, value-chain dynamics and press for the uptake of its underlying agronomic model (points 2 and 3) by buyers and investors. This can occur in the context of certification schemes and structured procurement models.

Box 12 A “middle way” in land tenure systems - examples

A key challenge is to identify custom governance structures and boundaries and register custom interests in the land. The procedures to determine custom owners and their rights can create a recorded interest in the land, specifying what interest families, groups or individuals have. This recorded interest could be used as a quasi-collateralisable asset. It could be pledged as security for repayment of a loan as it indicates that the group has a resource endowment or a revenue stream if the land is leased. Note, however, that the custom land could not be forfeited in the event of default, which places limits both the tradeability and securitisation of customary titles.

If the land is leased, the lease terms can be framed to encourage an explicitly managed dualism promoting functional complementarities between large farms and subsistence farmers. For example, it may become standard practice to include clauses in the lease agreement that require the lessee to allow free intercropping of staple food by custom owners and to provide transport assistance. This may become a requirement, in the context of large plantation projects, to show that the lease is not prejudicial to custom owners (lineage, family, clan, tribe, or other groups who are regarded by the rules of custom as the perpetual owners of the land).

From a gender perspective, it is important to obtain meaningful representation of women in custom governance structures, based on guidelines from Vanuatu's Department of Women's Affairs. It is also important to frame lease terms in such a way that they ensure equal benefits for women's groups. The lease process can become a catalyst for the empowerment of rural women, if well managed.

Source: UNCTAD interviews.

a) Structure procurement

As discussed in chapter 4, small-scale, subsistence farmers and micro, survival-oriented processors in Vanuatu face a vast array of challenges when trying to reach export markets or high-value domestic outlets. These challenges broadly stem from their remoteness to markets, broadly defined to include lack of geographical proximity, knowledge asymmetries, power relationships, and the costs of information and commerce. In particular, market infrastructure and trade-related capacities are poor, which hinders supply response to price incentives associated with lucrative markets. As discussed in chapter 3, structured, direct supply channels can bridge buyers and sellers, and bring in the needed information, finance, and marketing links. These structured market ties can involve contract farming, out-grower schemes, or other softer forms of coordination between a lead off-taker and small and subsistence farmers. They typically include a package of services supplied by or through the off-taker, including planting material, extension advice, standard compliance training and monitoring. The model offers the advantages of pre-financing, access to credit, ensured market access and productivity investment. However, as discussed in chapter 3, this structured model poses challenges in a number of key respects. Structured chains may lead to dependency relationships between actors with different bargaining power, abuse of position by downstream actors and difficulty of exit. They may not necessarily favour sustainable outcomes in terms of farming practices and underlying technical and agronomic models. Finally, they may favour commercially-oriented, medium or large-scale farmers, with a tendency to crowd out resource-poor, small-scale and subsistence farmers.

A major challenge is then how to redress information asymmetries and power imbalances within the chain and ensure that buyer-driven chains meet the country's unique social, cultural, environmental and agricultural conditions. To ensure pro-poor and sustainable outcomes, trade and rural development authorities have to work synergistically and establish a coherent framework for bilateral contracts between smallholders and lead firms to counter their power imbalance. In particular, local authorities should step in and frame the broad terms of the bilateral deal in terms of permissible farming inputs and practices, in line with Vanuatu's agronomic model (points 2 and 3). This involves a shift in emphasis from bilateral contractual relationships between farmers and off-takers to triangular public-private partnerships involving small and subsistence farmers, off-takers and the public sector (HLPE, 2013). These multi-stakeholder partnerships will dilute power asymmetries and set framing conditions relating to pricing, rights of land use, farming practices and technologies, as well as standards, in a pro-poor and sustainable direction.

It is also critically important to track prices, costs and margins in selected value chains, including VSS segments. This involves setting up a secured, strategic repository of transaction-level

data covering prices and marketing costs at various stages through the chain. Transparency of contract arrangements and appropriate price benchmarks are the basis for an inclusive and fair process for smallholders in contractual schemes. The evidence generated will also yield insights into the value retained at source by small farmers in VSS chains.

b) Certification

New options need to be explored to make certification suited to Vanuatu's subsistence type, organic-by-default farming systems. As previously discussed, this can occur through the establishment of a national organic standard adapted to the country's local culture and ecosystem. The Pacific Organic Standard provides a regional benchmark, allowing room for locally-adapted, ecologically-based farming techniques and practices. Vanuatu could fine-tune and adapt this standard by incorporating local, context-specific techniques and practices in cocoa and coconut farming (point 2). The Pacific Standard is flexible in terms of conformity assessment procedures, which would allow the country to integrate social norms and structures in the set-up of locally-tailored inspection and certification bodies and procedures. As discussed above (points 1 and 2), the standard setting process should be participatory and inclusive. It should occur in a multi-stakeholder partnership with government agencies, local farmers and processors, and international agencies.

It is also important to explore ways for international sustainability certification schemes to be more responsive to the unique social, cultural, environmental and agricultural conditions of source countries. This involves a shift from a traditional top-down approach in standard setting to a bottom-up one which ensures that legitimate local concerns are taken on board during the VSS-setting process. Indeed, VSS need to be tailored to local conditions in order to yield meaningful impacts in terms of social and environmental gains at the local level. To this end, standard setting needs to be made more transparent and inclusive through more active involvement of actors from developing countries from the early stage of standard development. UNCTAD's VSS project is moving in this direction.



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Enhance market transparency

As discussed in chapter 3, a certain number of pre-requisites need to be fulfilled before small scale farmers and microprocessors in Vanuatu can access new or expanded market outlets, including niche export markets. A critical requirement is access to current information on prices, quantities, marketing costs, quality standards and other market conditions at different locations or different points along the marketing chain.

Market information and transparency and the synchronisation of information between suppliers and buyers is both a pre-requisite and an expression of well-functioning markets and supply-chain efficiency. Farmers must be able to link to markets and respond to market requirements to reap the benefits of agricultural commercialisation and diversification. This requires a mix of market information, market intelligence and marketing support. Information is also needed for planning or arbitrage purposes: farmers need access to timely information on price differentials and costs at different points/segments in the marketing chain to decide whether a maximum value-added is an optimal solution or to exploit price arbitrage opportunities between markets. Access to information is also key to redressing information asymmetries and power imbalances within the chain and ensuring that buyer-driven chains work for the poor.

Efficient market information provision is thus a pre-requisite for value-addition and diversification strategies in Vanuatu's cocoa and coconut sectors. Sponsored by UNCTAD, the Department of Industry is setting up a shared database system to store and disseminate strategic commercial information. The central repository will serve as the core of a scalable and modular market information service intended to reduce information asymmetries and transaction costs in export chains.



Nambawan café - Nuñez 2019

NOTES

¹ Key actions include among others: the setting up of multi-stakeholder working groups (1.a, 5); tightened institutional cooperation across trade and agriculture and with other ministries (1.b, 12); sector overview and profiling (2); information linkages and connecting networks, and enhanced access to strategic market information (7.d, 11); national organic branding (10); and the promotion of domestic marketing of value-added, diversified products (7, 8); Emphasis is on value-addition and product differentiation, with attention to both niche export outlets and new and expanded domestic market outlets. Vanuatu's NGER report, available at: http://unctad.org/en/PublicationsLibrary/ditcted2016d1_en.pdf.



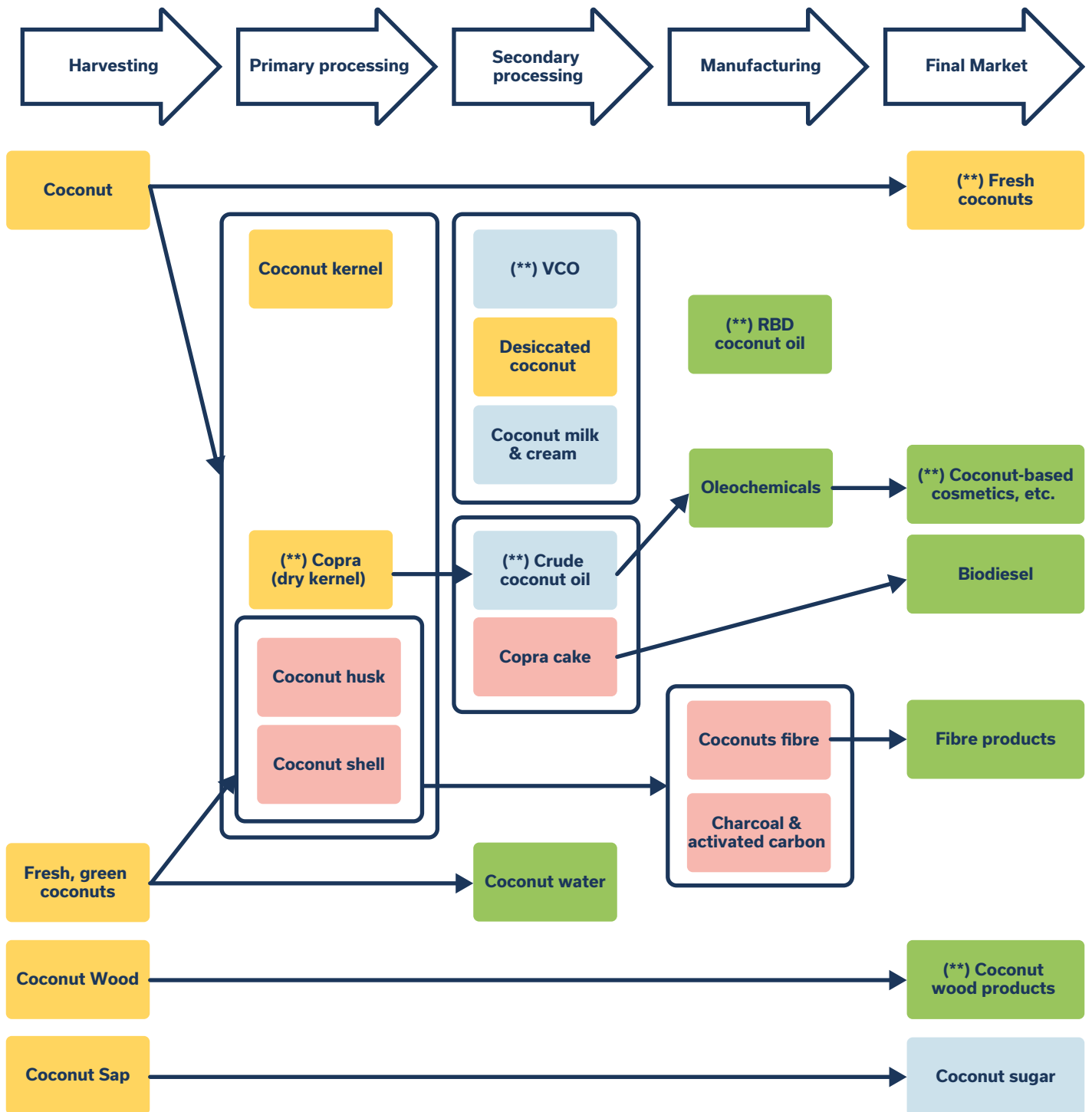
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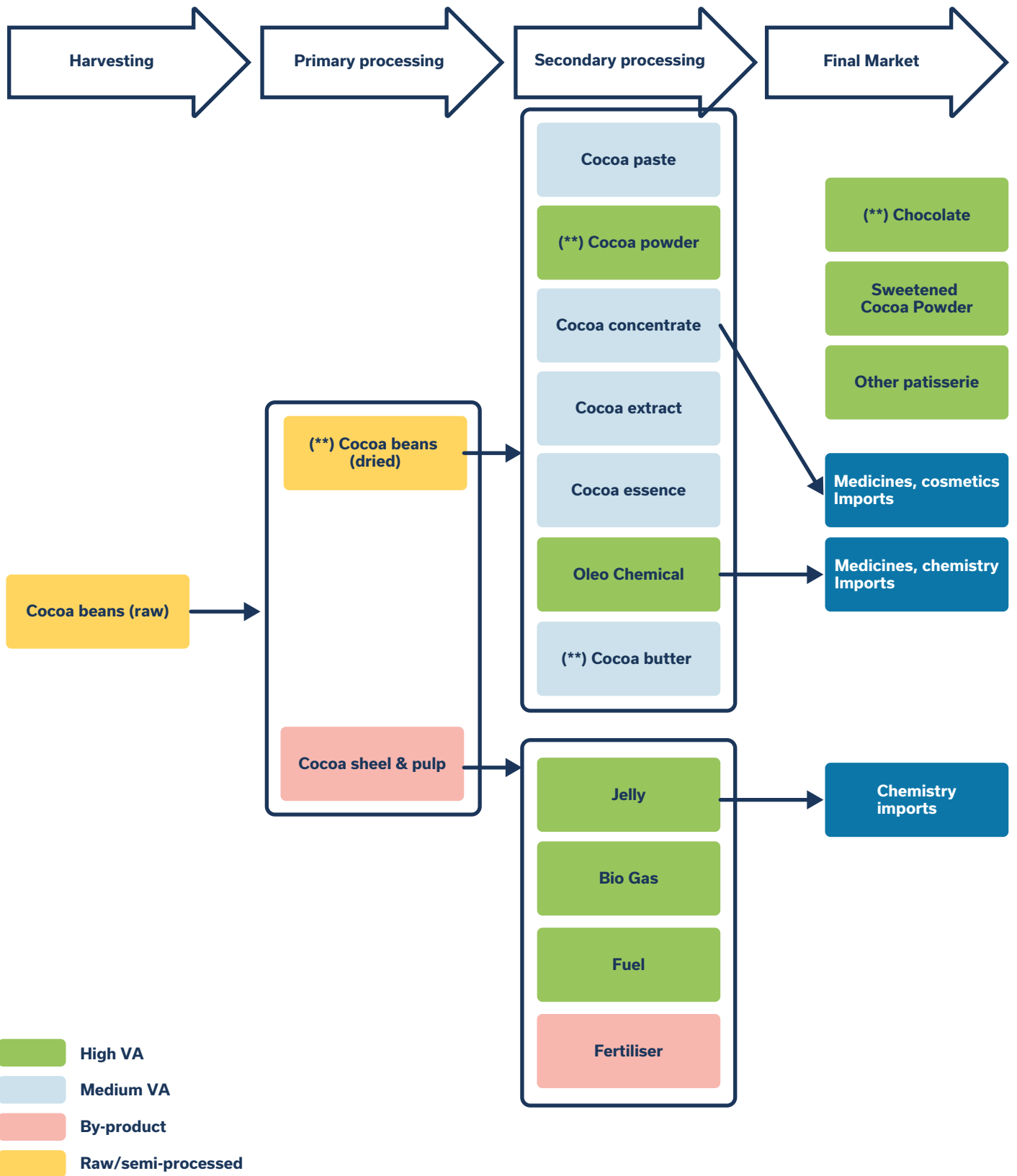
Annexes

Annex 1: Coconut — product map



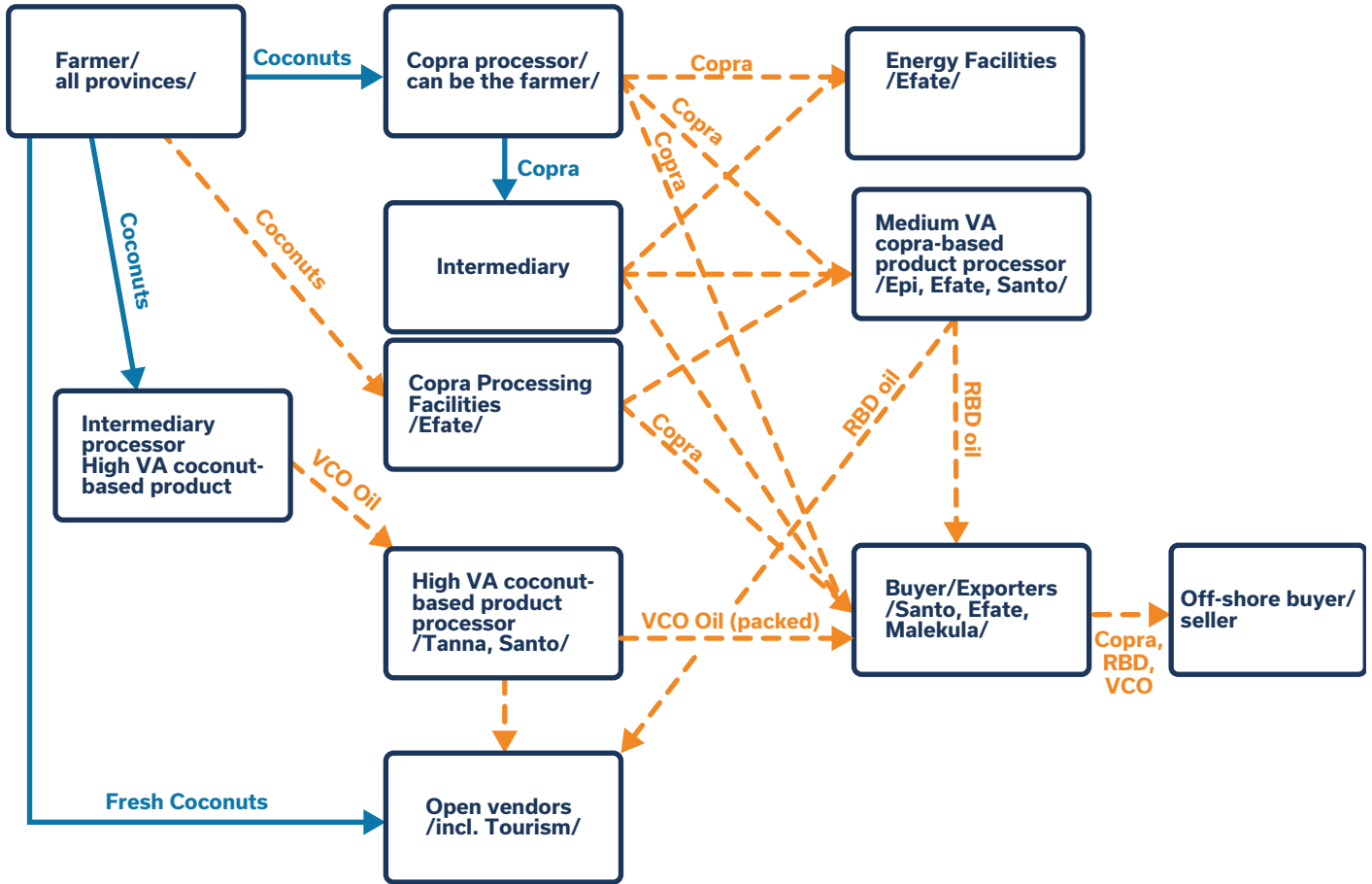
Note: (**) - indicates the product being currently exported by Vanuatu

Annex 2: Cocoa – product map



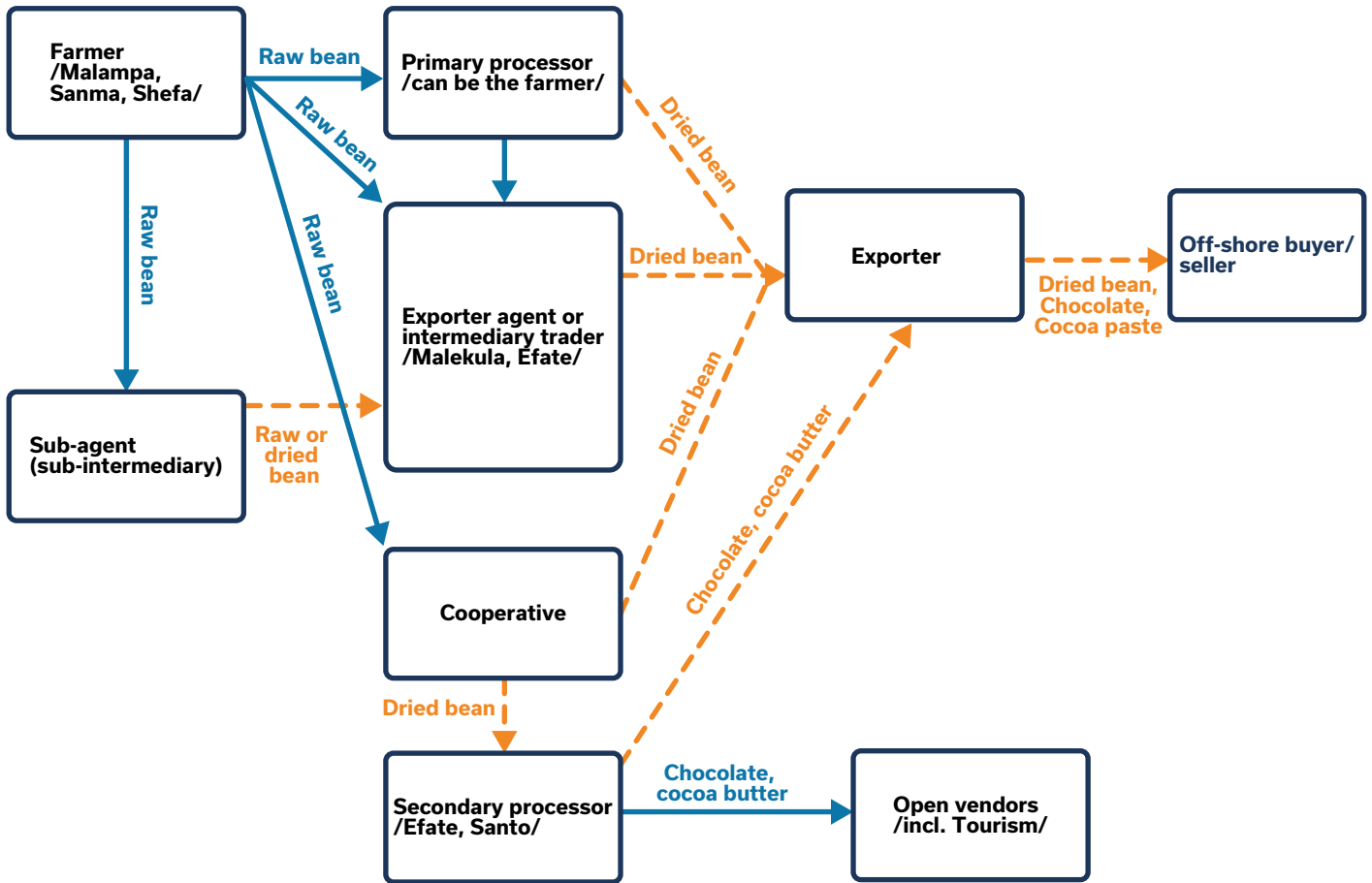
Note: (**) – indicates the product being currently exported by Vanuatu

Annex 3: Coconut — actors map



- The relationship is likely not to involve shipping
- - -> The relationship is likely to involve shipping

Annex 4: Cocoa — actors map



Annex 5: Top 5 since 2000 in coconut and cocoa market

TABLE 1 Top 5 since 2000 in coconut market

1.1. OVERALL COCONUT MARKET

Exporter		Importer	
country	share	country	share
Philippines	0.45	United States	0.22
Indonesia	0.25	Netherlands	0.14
Netherlands	0.08	Germany	0.13
Malaysia	0.06	China	0.07
Sri Lanka	0.03	Malaysia	0.06
Total average share of leaders:	0.87		0.62
Market size:	US\$ 2.7 billion		

1.2. COPRA MARKET

Exporter		Importer	
country	share	country	share
Indonesia	0.27	Philippines	0.51
Sri Lanka	0.18	Pakistan	0.33
India	0.14	Belgium	0.18
Solomon Islands	0.09	Germany	0.18
Vanuatu	0.07	Malaysia	0.09
Total average share of leaders:	0.75		1.29
Market size:	US\$ 52 million		

1.3. COPRA PRODUCE

Exporter		Importer	
country	share	country	share
Philippines	0.5	United States	0.21
Indonesia	0.27	Netherlands	0.15
Netherlands	0.09	Germany	0.12
Malaysia	0.07	China	0.07
Germany	0.02	Malaysia	0.07
Total average share of leaders:	0.95		0.62
Market size:	US\$ 2.1 billion		

1.4. COCONUTS

Exporter		Importer	
country	share	country	share
Philippines	0.35	United States	0.18
Indonesia	0.17	Belgium	0.06
Sri Lanka	0.13	Germany	0.06
Singapore	0.08	Netherlands	0.06
Netherlands	0.05	Singapore	0.05
Total average share of leaders:	0.78		0.41
Market size:	US\$ 500 million		

TABLE 2 Top 5 since 2000 in cocoa market

2.1. OVERALL COCOA MARKET

Exporter		Importer	
country	share	country	share
Germany	0.12	United States	0.12
Netherlands	0.12	Germany	0.1
Cote d'Ivoire	0.1	France	0.09
Belgium	0.08	Netherlands	0.09
France	0.08	United Kingdom	0.07
Total average share of leaders:	0.5		0.47
Market size:	US\$ 27 billion		

2.2. COCOA BEANS MARKET

Exporter		Importer	
country	share	country	share
Cote d'Ivoire	0.43	Netherlands	0.22
Indonesia	0.14	United States	0.15
Ghana	0.13	Germany	0.1
Netherlands	0.08	Malaysia	0.09
Cameroon	0.06	Belgium	0.06
Total average share of leaders:	0.84		0.62
Market size:	US\$ 5 million		

2.3. COCOA PRODUCE (INTERMEDIATE VA)

Exporter		Importer	
country	share	country	share
Netherlands	0.32	United States	0.14
Cote d'Ivoire	0.11	Germany	0.11
France	0.1	France	0.1
Malaysia	0.09	Belgium	0.08
Germany	0.05	Netherlands	0.08
Total average share of leaders:	0.67		0.51
Market size:	US\$ 6.3 billion		

2.4. COCOA PRODUCE (HIGH VA)

Exporter		Importer	
country	share	country	share
Germany	0.17	DEU	0.09
Belgium	0.12	FRA	0.09
France	0.09	GBR	0.09
Netherlands	0.06	USA	0.09
Italy	0.05	NLD	0.04
Total average share of leaders:	0.49		0.4
Market size:	US\$ 16 billion		

Annex 6: Most frequent NTMs (coconut), by group of products and measures

	Sanitary and Phytosanitary Measures	Technical Barriers to Trade	Pre-Shipment Inspection and Other Formalities
High Value-Added	Certification requirements	Labelling requirements	Direct consignment requirement
	Packaging requirements	Authorisation requirement for TBT purposes	Requirement to pass through specified port of customs
	Hygienic practises during production	Certification requirements	
	Food and feed processing requirements		
Overall	73%	15%	11%
Intermediate	Certification requirements	Labelling requirements	Requirement to pass through specified port of customs
	Labelling requirements	Authorisation requirement for TBT purposes	Direct consignment requirement
	Inspection requirement		
Overall	30%	14%	56%
Raw/Semi-Processed	Special authorisation requirement for SPS reasons	Certification requirements	Requirement to pass through specified port of customs
	Certification requirements	Packaging requirements	Other formalities
	Traceability requirements	TBT regulations on transport and storage	
Overall	75%	15%	10%
By-Product	Certification requirements	Certification requirements	Requirement to pass through specified port of customs
	Inspection requirement	Traceability information requirement	Other formalities
	Other hygienic requirements	TBT regulations on transport and storage	
Overall	25%	60%	14%

Annex 7: Most frequent NTMs (cocoa), by group of products and measures

	Sanitary and Phytosanitary Measures	Technical Barriers to Trade	Pre-Shipment Inspection and Other Formalities
High Value-Added	Certification requirements	Labelling requirements	Direct consignment requirement
	Food and feed processing requirements	Authorisation requirement for TBT purposes	
	Packaging requirements		
	Hygienic practises during production		
Overall	78%	9%	13%
Intermediate	Certification requirements	Labelling requirements	Direct consignment requirement
	Special authorisation requirement for SPS reasons	Authorisation requirement for TBT purposes	
	Labelling requirements		
Overall	60%	26%	14%
Raw/Semi-Processed	Special authorisation requirement for SPS reasons	Labelling requirements	Requirement to pass through specified port of customs
	Geographical restrictions on eligibility	Authorisation requirement for TBT purposes	
Overall	73%	7%	20%
By-Product	Inspection requirements	Labelling requirements	Requirement to pass through specified port of customs
	Certification requirements	Authorisation requirement for TBT purposes	
	Special authorisation requirement for SPS reasons		
Overall	58%	32%	10%





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