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Acknowledgements

This study is part of UNCTAD’s efforts to tackle vulnerabilities and build resilience in small and vulnerable economies, while prompting structural diversification and upgrading. It strengthens national capacities to design and implement complementary trade and agricultural policies supportive of small scale and subsistence-oriented farmers, including female farmers and vulnerable groups, and supportive of local food security. It provides evidence-based analysis that feeds national, regional and international policies with the aim of generating inclusive sustainable development.

The study builds on the National Green Export Review (NGER) of Vanuatu and leverages UNCTAD expertise in key analytical areas, including non-tariff measures, voluntary sustainability standards (VSS), the trade-agriculture-gender nexus, biofuels and renewable energy, and pro-poor structural rural diversification through trade. The study was drafted by Irene Musselli, Maria V. Sokolova and Rodrigo Saavedra Zepeda, under the overall coordination of Guillermo Valles. It benefited from insightful comments and suggestions from Miho Shirotori, Robert Hamwey, Alessandro Nicita and Marisa Henderson. Invaluable support was provided by the Government of Vanuatu, in particular the Department of Industry, which generously shared information, facilitated multi-stakeholder consultations and reviewed the final draft.

The information in this report has been gathered from various sources, including interviews with key informants in the country. To this purpose, a mission was carried out in Port Vila, Vanuatu, during 11 – 18 February 2017. Interviews were conducted with public and private stakeholders, including representatives from the Department of Industry, the Department of Agriculture and Rural Development, the Department of Women’s Affairs, the National Statistics Office, the Government Chief Information Officer, the private sector, International Organisations and the donor community.

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Executive Summary

Vanuatu is at a critical juncture in its rural development pathway. On the one hand, the country faces a pressing need to “dynamize” its traditional rural economy. Note, in this respect, that 62.4 percent of poor households live in rural areas and depend on agriculture for their livelihood. Most of them are still largely semi-subistence, with limited opportunities for cash income. While subsistence and semi-subsistence farming provides an important safety net and safeguard against extreme (food) poverty, it also stands at the root of the “poverty of opportunities” that is depressing rural Vanuatu, fuelling an unsustainable urbanization trend. The challenge is thus not just to expand the existing traditional farming system, but 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, handicraft and tourism.

On the other hand, there is a need to preserve the existing family-type farming system, and its fundamental food security and ecological roles. In Vanuatu, subsistence-oriented farming provides an important safety net and safeguard against extreme poverty. In a context of climate structural changes and shocks, farm diversification and traditional agro-ecological approaches (an essential feature of subsistence crop gardens and cash crop sub-holdings in Vanuatu) increase resilience against natural hazards. Farm diversification also allows farmers to diversify their livelihood portfolio, spread income between harvests and between tree crop cycles, and generally hedge against production failures and market instability. It is also important to acknowledge that Ni-Vanuatu women are mainly engaged in the subsistence staple food sector. Therefore, Vanuatu needs to dynamize and transform its rural economy, but building on its prevailing traditional farming system, and leveraging traditional agro-ecological approaches.

These competing needs call for a hybrid transformation pathway that combines elements of tradition and modernity. As regards agriculture, this pathway favours a rural development model that puts emphasis on the competitiveness of labour– and knowledge–intensive smallholder agriculture and on functional complementarities between large and small farms. As regards trade, the focus is on differentiated and value-added products and services that leverage traditional agriculture and its socio-ecological roles, through the delivery of green services and of high-value niche products.

Building on the NGER, this study outlines trade-led upgrading trajectories in the cocoa and coconut sectors that build on the competitive strengths of smallholder agriculture, leverage agro-ecological practices, and put 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 envisage a combination of different diversification and value-addition strategies, including product differentiation, diversification into value added downstream products, biofuel crop cultivation, and commercialization of related craft production. 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 in Vanuatu, including in gender terms.

The study highlights that positive effects will not occur automatically. For example, tree crop intensification programmes can encroach on staple food production or adversely affect women and

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1 From 2014 through 2017, the Government of Vanuatu cooperated with UNCTAD on the implementation of a NGER to develop a national action plan aimed at increasing exports in various green products in the coconut, cocoa and sandalwood value chains. Full information on NGERS is available online (www.unctad.org/nger). Vanuatu's NGER report is available at: http://unctad.org/en/PublicationsLibrary/ditcted2016d1_en.pdf.
ecosystems, with negative long-term effects. Likewise, traders or processors can reap all the benefits of increased commercialization and value-addition, with little pass through to small and subsistence-oriented producers. Incentives and disincentives need to be proactively structured in an environmentally sustainable and socially inclusive way, to harness trade for inclusive and sustainable development. In particular, institutional and policy coherence is needed, across trade and agriculture, to sustainably integrate small scale farmers in value chains. The report outlines key recommended areas of policy intervention to harness trade for inclusive and sustainable development in the cocoa and coconut sectors. It moves beyond a fractious and polarised debate caught in ideological entanglements – cash versus staple food crops, small scale versus commercial plantations, customary versus formal tenure, etc. – focusing on new approaches that leverage commercial dynamics to preserve and “entrench” the traditional social and ecological functions of agriculture.
Introduction

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 in cocoa and coconut in Vanuatu, by delineating interlinkages between trade and various dimensions of sustainable development. Specifically it benchmarks the economic, social and environmental effects of agricultural commercialization 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 in 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 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 at stake. Building on Vanuatu’s NGER and existing analyses, Chapters 2 and 3 provide deeper insights into Vanuatu’s cocoa and coconut sectors. Chapter 2 (Commodity Chain Overview) maps 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 in Vanuatu’s cocoa and coconut sectors. 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 seize the social and environmental impacts of expanded, upgraded and diversified coconut and cocoa chains in Vanuatu. The analysis first gauges the extent to which expanded and upgraded chains in cocoa and coconut 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 commercialization and diversification policies in the coconut and cocoa sectors (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.
1. 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 at stake, to set the stage for the following 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 population density of about 19 persons/km² (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 across 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. Small size, scattered archipelagic structure, insular remoteness are structural features that translate in significant competitive disadvantages for Vanuatu. Most notably, transport costs (domestic and international) are significantly higher than those of other competitors in areas of export interest to Vanuatu; economies of scales are difficult to achieve, which translates in high per unit costs of production, high costs of infrastructure development, and low prospects for endogenous technology development and manufacturing expansion; insularity precludes cross border trade and infrastructural synergies with neighbouring countries. These structural disadvantages significantly inhibit Vanuatu’s growth potential, and enhance its vulnerability to external – and internal – shocks.

The country 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 natural hazards, on account of fragile or non-existent critical (energy, transport, health, etc.) infrastructure. On account of 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 Vanuatu’s 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 in the Vanuatu context. 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 differently.

GDP growth has been sustained but erratic, because of vulnerability to internal and external shocks. Narrow resource base, small domestic markets, limited manufacturing capacity translate in 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 are observed since 2000. A sharp drop in GDP per capita is observed in 2000 (partially contributed 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 2012). On average over the 2012-15 period, machine/transport equipment and basic manufactured products combined accounted for over 40 percent 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 supply 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.
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 percent of Vanuatu’s total merchandise exports (VNSO, 2016). Copra is by far the most important cash crop (20 percent of Vanuatu's exports on average over the period 2012-15), followed by coconut oil (18 percent), kava (13 percent), beef (9 percent), cocoa (7 percent), and timber (5 percent) (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. This latter includes commercial agriculture and associated trading, manufacturing, banking and shipping services; alongside the growing country’s tourist and construction industry. Off-shore 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 Table 1. The contribution of agriculture to national GDP has grown from 21 percent in 1990 to around 28 percent in 2014. Services on average accounted for about 65 percent over the period 2000-2014: wholesale and retail trade, government services, transport, communication, financial, real estate and food/accommodation accounted for the bulk. Within industry (10 percent of GDP on average over the period 2000-2014), the share of manufacturing is low (about 4 percent of GDP), as the few existing manufacturing activities (mainly agro-processing and handicraft) are still at an early and low value added stage.

### Table 1: GDP value added structure

![GDP Value Added Structure Graph](image)

Source: Calculations by the UNCTAD secretariat based on World Bank WDI data, accessed 20th November 2016.

The rural economy is still largely subsistence-oriented; yet in Vanuatu, the subsistence sector is complexly and increasingly integrated to markets. 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 selling in village, island and urban markets. Likewise, the coconut palm has basic subsistence roles, but is also of chief interest as a source of cash income (coconut palm products, mostly copra and coconut oil, are exported). Note also that small and subsistence-oriented 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 lean time between harvests,
or meet basic livelihood needs while tree crops are maturing, between tree crop cycles. Subsistence-oriented rural households increasingly depend on marketed goods: expenditure on consumer goods has increased significantly among rural households (VNSO 2007 and 2013); raising transport, communication and education costs have amplified rural household need for cash income (VNSO 2007 and 2013). In the end, most subsistence-oriented farmers engage with the market to some extent.

Social development indicators

By ethnic origin, Vanuatu has a very homogenous population, with 98 percent persons being Ni-Vanuatu (indigenous to Vanuatu), 1 percent Part Ni-Vanuatu and 1 percent of foreign descent. The largest single groups of foreign descent were 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 median age of 20.5 years, and fast growing: it has more than tripled in size, from 78 thousand in the late 1960s to over 234 thousand 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 are to be assessed in interplay with marked differences by place of residence, between urban and rural constituencies: 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 qualifies gender-based inequalities. For example, the gap in literacy and education between men and women widens with increasing age of the population. Gender is also to be assessed in interplay with income and other social status factors.²

Vanuatu’s level of absolute poverty is relatively low (12.7 percent compared to around 40 percent mean for developing countries³). According to the 2006 HIES data, the incidence of poverty using the $1.25 (PPP) poverty line was 9 percent for the population and 8 percent for households (Government of Vanuatu, 2010). Hence, destitution is rare in Vanuatu. 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).

From an urban – rural perspective, poverty is still predominantly a rural phenomenon: 59.4 percent of the poor, or 62.4 percent of poor households, live in rural areas (Table 2). This reflects the fact that the rural population is higher than the urban one: more than three quarters (76 percent) of the population live in rural areas; virtually all (98 percent) the rural population is active in agriculture, which contributes an estimated 70 percent of total rural household income (VNSO, 2008).

<table>
<thead>
<tr>
<th>Table 2: Distribution of the poor and vulnerable, by urban and rural location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Total below BNPL</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Port Vila (urban)</td>
</tr>
</tbody>
</table>

² Empowered women of foreign origin figure prominently among the most dynamic entrepreneurs in Vanuatu.
³ Calculated based on data series for 2010, UNCTAD secretariat calculations based on WDI World Bank.
| 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 food and basic needs poverty lines.

As shown in Figure 1, most rural household are semi-subsistence, while limited opportunities for cash income. Some rural provinces are majorly dependent on subsistence production as the main source of income: income of population in Tafea, Torba and Penama - among the poorest provinces – is mostly sourced from subsistence production.

**Figure 1: 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 also stands at the root of the “poverty of opportunities” that is 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 unspoilt environment, yet suffer from what is called “poverty of opportunity”, i.e. a lack of access to services, infrastructure and income-earning opportunities (Government of Vanuatu, 2013). This is reflected in statistics on household items and means of communication, by place of residence: 91 percent of urban households had at least one mobile phone compared to 71 percent in rural areas; the internet was used by 7 percent of the population aged 15 years and older, 16 percent in the urban areas and only 3 percent in the rural areas; higher proportion of urban households used items such as motor vehicles, gas stoves, fridge or freezer, TV, radio, and computers, as well as DVD decks (VNSO, 2011).

The predominance of subsistence activities in the rural economy, coupled with limited cash income generation opportunities and lack of amenities, has resulted in a persistent flow of rural to urban migration. Census data for 2004-2009 show migration inflows particularly into the largest urban area, Port Vila and associated peri-urban area in Shefa province, which recorded the highest population growth (3.7 percent annually) and density (52 persons/km²). Migrants mainly came from Tafea, Malampa and Penama (VNSO, 2011), where subsistence-oriented farming is the main livelihood option. Likewise, the population of Luganville increased by 39 percent between 2006 and 2010. Overall modest population growth (2.3 percent annually) cannot explain such an increase: this major boost in Luganville population was caused by high levels of rural to urban migration.
Figure 2: Correlation of migration to subsistence income

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

Table 3: Total Population size by urban rural residence, Vanuatu: 1967–2009

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

Source: VNSO, 2009 National Population and Housing Census

This internal migration flow is fuelling unsustainable urbanization, increasing urban poverty and exacerbating strains on urban infrastructure. As it clearly emerges from the poverty statistics in Table 4, there is a limit to the potential of urban areas to absorb rural migration outflows and drive growth. Most remarkably, whilst the rural poor represent the largest proportion of the total population living below the BNPL, incidence of poverty is higher in urban areas (Table 4). Higher incidence of poverty in urban areas compounds and interacts with higher food poverty in urban, compared to rural, areas. Due to prevalence of subsistence farming, food security is on average higher in the rural areas, where households have customary access to land for subsistence cropping. This is seconded by Vanuatu Hardship and Poverty report 2012: as subsistence farming is the main economic activity in the rural areas, food security is there higher than in urban areas, where people have to purchase food to meet food requirements.

Table 4: Poverty trends in Vanuatu, by urban and rural location (percents)

<table>
<thead>
<tr>
<th>Incidents of Food Poverty</th>
<th>Incidents of Basic Needs Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households</td>
<td>Population</td>
</tr>
<tr>
<td>Vanuatu, avg.</td>
<td>6.0</td>
</tr>
</tbody>
</table>
The legacy of colonialism and the complex interplay of custom and formal institutions

Vanuatu’s multiple waves of colonizers, with distinct languages and settlement patterns, brought about a very complex stratification of foreign and indigenous values, which explains the complex linguistic diversity of the country, its constellation of Christian denominations, and the complexity of Vanuatu’s 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 (64 percent of the population), French (37 percent), and Bislama (74 percent), a creole language derived from English (VNSO, 2011), alongside 113 local languages. This constellation makes Vanuatu one of the most language-dense countries worldwide.

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 percent), followed by the Anglican Church (with a share of 15 percent), the Seventh Day Adventist Church and the Roman Catholic Church (with a share of 12 percent 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 mixed system of English common law, French law, and customary law – is likewise tributary to different legal 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. 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).

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.
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 percent 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 land owners. A person who wished to lease a 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 this latter could not be identified, or if the land was disputed, a Custom Owner Identification form was sent to and completed by the custom chief responsible in the area concerned. If the negotiations between the prospective lessee and custom land owner were successful, a land survey was carried out to mark out the boundary of the leased land, the applicant payed the fees, 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 Dixon (2012), by 2012 9.5 percent of the total land area of Vanuatu had been leased; on Efate, 69.5 percent of urban land and 43.6 percent of rural land was under lease, covering 56.5 percent 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 adopted an expansive interpretation of their right to sign leases, including over disputed or un-claimed 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 discussed 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 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 land owners 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), more explicitly endorsed the notion of communal/group custom ownership, by defining custom owners in terms of lineage, family, clan, tribe or other group. 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 governance jurisdiction.


A parliamentary republic, Vanuatu has a multi-layered governance structure. At the vertical level, 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 amongst women groups, youth, chiefs and churches, and consult with custom area chiefs on customary laws and traditional issues. At the horizontal level, the Government includes the Prime Minister’s Office and twelve Ministries, each overseeing functional departments and units. Creating policy coherence in the vertical direction involves fostered coordination between central and decentralised government structures, but also strengthened linkages between traditional 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.

Summary Observations

A few considerations arise from this quick overview.

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 SDGs in this country. The key challenge is not just to expand the existing agriculture system, but 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, thus contributing to reverse a pattern of rural-urban migration that is fuelling unsustainable urbanization (UNCTAD, 2015c).

The trend towards commercialization and diversification in agriculture, including through value addition and diversification in the coconut and cocoa sectors, has significant potential to dynamize the

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5 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).

6 A “Custom owner” refer 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).

7 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
traditional subsistence sector, through value-addition and diversification. The key is to unleash and harness synergies between agricultural upgrading and rural economic diversification, through downstream activities in agro-processing and handicraft, and linkages with tourism. This path of rural structural transformation will contribute to the development of the rural non-farm economy, while upgrading the farm system upstream.

There are challenges ahead, account taken for the socio-economic specificity of Vanuatu. Indeed, commercialization and diversification processes in agriculture can open new opportunities for small, resource-poor producers, including female farmers, but also poses significant challenges for them. Specifically, this transformative pathway tends to favour commercially-oriented farmers who have easier access to inputs and marketing networks, with a tendency to crowd out poor, risk-averse farmers, including disadvantaged or vulnerable communities and women. The local food security and environmental implications of this process are likewise 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 seize 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 tackle the challenges that small and subsistence producers face. These challenges are multifaceted and entangled, and tend to be gender-specific. The remainder of the analysis is intended to capture these dimensions, while outlining recommended areas of integrated intervention by means of complementary trade and agriculture policies.

products. Commercialization refers to the trend toward increasing the proportion of agricultural production that is sold by farmers.

8 In Vanuatu, where the most dynamic entrepreneurs often include the 1 percent citizens of foreign origin or foreigners, the process acquires special social connotations. Entrepreneurial skills and perspectives are not emphasized in Vanuatu cultures, and as such they are rare among Ni-Vanuatu. Coaching and training would be useful in assisting Ni-Vanuatu to switch from a passive and towards an entrepreneurial approach to business.
2. Cocoa and Coconut: Commodity Chain Overview

Vanuatu’s NGER has identified coconut and cocoa as dynamic sectors in which Vanuatu has a revealed comparative advantage. As discussed in the NGER, the two sectors offer significant opportunities for downstream processing and increased export value through product differentiation, including organic certification. The sustainability impacts 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 when assessing the social inclusiveness, food security and environmental impacts of upgrading trajectories in agriculture. Detailed assessments of Vanuatu’s cocoa and coconut chains have been done 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 here to recall some main features of cocoa and coconut production, processing and marketing that bear importantly 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 5). 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 percent of Vanuatu’s supply) is concentrated in Malekula island, part of the Malampa province. Export wharf for both commodities is in Luganville, on the island of Santo, where large-scale processing facilities (2 copra crushing mills) are also operational.

Table 5: Private households engaged (or not) into coconut/cocoa production for sale

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


Coconut and cocoa are perennial tree crops with relatively long gestation periods. These agronomic features hold important structural implications. Coconut palms bear their fruits 5-6 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 60-70 years of age, although in exceptional cases trees up to 100 years of age remain productive. In the case of cocoa, replanting is generally in order for trees over 20 years. The coconut stock of Vanuatu is aging: 17 per cent of coconut parcels are old trees and require replanting (VNSO, 2008). In contrast to the coconut stock, 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 3 to 5 years for the trees to bear fruits. This means that farmers will not invest, unless there is some prospect for 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 uses can ease these costs: timber from the old coconut trees is well suited for construction and handicraft, and can provide alternative sources of cash income for small farmers between tree crop cycles. A second aspect deserves some attention: coconut offers the advantage of year-round production, 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 income to 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 production and staple food production. Note also that, in diversified farming systems, cocoa trees can also be easily 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, coffee, but also 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 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 with other tree and food crops (VNSO, 2008). These sub-holdings typically involve labour-intensive small scale subsistence oriented farming, based mostly (or only) on the family labour; planting material is mostly propagated from seed nuts; industrial inputs (synthetic fertilizers and pesticides) are rarely used, which makes coconut and cocoa farming “organic by default”. 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 scales, heavier mechanization, and hired labour. Note, however, that in Vanuatu a number of commercial farms tend to integrate traditional farming practices and integrated agroecological approaches, through functional complementarities with small holder crops and by integrating livestock (Box 10). Note also that a number of plantation lands were then sub-divided into small-scale holdings which are being operated by local people. This also reflects the structural advantages and potential competitiveness of small scale farming in cocoa and coconut, as discussed below.

Box 2: Cocoa and coconut – farming models
According to the 2007 Agriculture Census of Vanuatu, the highest share of the large scale coconut plantations were concentrated in Shefa province (80 percent 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 percent of coconut farming was on parcels of 2 to 3 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 prevailed in Penama (69 percent), while other provinces recorded higher shares of the small scale cocoa farming, typically also 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. Differently from 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 efficiently done at farmgate in small lots and with a minimum of capital requirement. Quality is a major issue, but it is primarily a matter of care and skills, which can be developed by small and subsistence-oriented producers. As discussed through this report, with increased commercial emphasis on boutique/niche market outlets and product differentiation, even greater efficiency is found in small-scale as against 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, on account of the favourable incentive structure of self-employed, family farming as against the significant transaction and monitoring costs of hired labour in estate-based plantation (HLPE, 2013).

Turning to varieties and genetic improvement, coconuts mainly belong to the local Vanuatu Tall variety, well resistant to diseases (the coconut decay foliar only affects exotic varieties) and less susceptibility to storm than other varieties (e.g., dwarf coconuts). Improvement of the Vanuatu Tall by crossing and hybridization 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 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 aspects have important ramifications in terms of social inclusiveness and sustainability, as discussed further in chapter 4.

**Uses and processing**

The coconut value chain is complexly branched within, with several end-uses across different industries and final markets. This multi-product chain structure offers significant opportunities for diversification and value-addition within the chain, with opportunities for price arbitrage. Annex presents the main product flows in the sector. In the edible segment, there are two distinct chain strands, based on the freshness of the coconut: coconut water is produced from tender coconuts with not fully formed kernel; coconut-based food products, encompassing refined, bleached, and deodorized (RBD) oil, virgin coconut oil (VCO), desiccated coco, 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 deodorizing. Extraction of the VCO is instead done
from the fresh (undried) kernel through cold pressure or centrifugal processes, or fermentation, without chemicals and at low temperatures. Other coconut foods (desiccated coco, 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 fiber and horticulture industries (husks) and in the production of shell charcoal and activated carbon (shells). The 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 needs.

In Vanuatu, less than 1 percent of the coconut stock is used for human consumption and animal feed;[^9] 42 percent 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 RDB 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 — hold 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.

**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, body creams, from coconut oil, nangai oil, and other local fruits and trees 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 3 years at an oil extraction company she had some ideas about the oils but mainly learned by doing. A 2 week course in Business Management and Computing at the Vanuatu Chamber of Commerce and mentioning 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, at the backyard of her home. VCO is cold pressed with an artisanal press machine at 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, but also 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. 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.


[^9]: According to the Agriculture Census 2007, 58 percent of households regularly use coconuts for drinking and/or cooking and/or feeding animals (VNSO, 2017).
Cocoa also offers a range of market outlets, but less product diversification options than coconut (Annex). 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. Beans are subsequently dried in the sun or with specialized equipment. In the wet climate of Vanuatu, special facilities are needed in order to use the sun or fire heat to properly dry the beans and not “taint” the beans with the smoke smell. After subsequent sorting, 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 also as fertilizers and energy source. To produce chocolate, the cocoa nibs derived from cocoa beans are milled to give cocoa “paste”: part is used as an ingredient of chocolate, while part 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 grounded coarsely and sold on the generic cocoa market; or grounded further to produce cocoa powder. Cocoa paste/liquor and butter are combined with other inputs into chocolate. Packaging, commercial 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 end of the price scale. Part of the cocoa beans are now sold locally to Vanuatu Aelan Chocolate Factory, a small chocolate factory that is supplying a number of niche/boutique outlets and domestic retailers.

**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. Taint free 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 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. Broader impacts can be achieved 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: Interviews.

Downstream value-addition in both cocoa and coconut does not necessarily involve large scales and heavy investment. In both sectors, primary processing can well be done at or close to farm gate, with no or minimal investment: copra extraction and drying\(^\text{10}\) 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, and knowledge and capital-intensive techniques. This is notably the case for RBD processing, the manufacture of refined coconut water, and the extraction of oleochemicals. Yet, some high-value products downstream can

\(^{10}\) Copra extraction and drying essentially involves splitting the coconut shell, removing, cutting and drying the kernel.
also be viably processed at 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 technics tends to have lower shelf life than VCO filtered through specialized 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-oriented producers can organise in 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 with consumer centres (the major stumbling blocks for micro rural entrepreneurship). The key issue is quality, which is here a matter of care and skills that can be developed by small and subsistence-oriented 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 boutique/niche market outlets.

The domestic marketing chains for cocoa and coconut are outlined in Annex and Annex.

At source (Vanuatu) production is heavily fragmented, characterized by the predominance of small, scattered farmers and diversified subsistence-oriented farming systems. Domestic marketing, from farm gate to the export wharf in Luganville, is handled by producers’ organizations, local traders on their account, or agents of exporters and/or processors. Transport and logistics are major constraints. As mentioned, approximately 70 percent 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 domestically shipped 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. Low quality of the products supplied by local farmers is a major barrier to upgrading. Density and quality of infrastructure, including irrigation, feeding roads, storage facilities, post-harvest processing facilities, is relatively low in Vanuatu, while being crucial for well-developed small scale trade.

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

<table>
<thead>
<tr>
<th><strong>Transport mainly occurs by sea. There are several alternatives to transport marketable goods from remote islands to the main market centres in Vanuatu:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial transport companies:</strong> They offer reliable services, but tend to be too expensive for small, resource poor stakeholders. They typically require large forward financing.</td>
</tr>
<tr>
<td><strong>Commercial private ships:</strong> The key issue is ahead communication and relationships between the actors.</td>
</tr>
<tr>
<td><strong>State ships:</strong> They follow certain routes, but may be unreliable; the quality of transportation is low (due to space constraint); prices are relatively low, but for some islands the journey takes very long.</td>
</tr>
</tbody>
</table>

The conditions of shipping can adversely affect the 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 an “information friction” between the seller and the buyer.

Source: Interviews

Domestically, there are different patterns of interaction between farmers and traders or processors, as outlined in Box 6.

**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**
   - Utilizes available resources (coconuts or coconut oil) from households;
   - Based on completely traditional processing technics, with minimal equipment;
   - Traditionally, a family-run or family-based production unit;
   - Can spread across different islands, but generally is 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 the commercial private ships (also a long-term relationship);
   - Community-based production, where producer organizes trainings for the small-scale farmers and/or communities;
   - Through direct interaction with small-scale farmers the processor brings in better farming practices and, in some cases, intercropping practices;
   - Present in both sectors.

3. **Big 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: 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 contacts 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 boutique/niche 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 opportunity costs of establishing trusted relationships and sourcing directly from Vanuatu are very high, given the micro-slots traded.
Gender issues
Socio-cultural patterns of labour segregation deserve specific attention when discussing upgrading strategies in cocoa and coconut.

In rural Vanuatu, cocoa and copra have for long been considered primarily a “male crop”. This confirms the widely held perception of export and other cash crops as “male crops”, and of subsistence and staple foods as “female crops” (FAO, 2011). The picture is however more nuanced than it may at first appear. In Vanuatu, rural women are active in cocoa and coconut farming, typically as contributing/unpaid family workers on 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 refer 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).

There are also discernible gender patterns in terms of functional tasks. Some tasks (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 done by women, in line with local perceptions. This typically reflects the physical demand characteristics of work. For example, Tall coconut varieties can reach 20-30 metres and harvesting, and climbing the coconut palm to harvest coconuts or cut leaves is physically challenging. Likewise, the amount of weight moved in loading and unloading a marketable bulk of nuts/pods is heavy. These tasks tend to be predominantly male activities. These occupational patterns reflect ingrained social norms, but also market imperfections and failures. Notably, the prevalence of men in bulk trade logistics reflects gender-biases 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 deserve consideration.

First, increased emphasis on product differentiation and niche marketing is likely to create new openings for women. Specialty/niche marketing de-emphasises scale issues linked to bulk trade and emphasises 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 women (and children) 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 considerations as a component of their procurements 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. So is the artisanal manufacture of soaps and personal care items.

Overall, 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 openings for women. These aspects are considered at some length in chapter 4.
3. Upgrading Trajectories in Cocoa and Coconut: Opportunities and Challenges

As discussed, Vanuatu faces a pressing need to “dynamize” its traditional rural economy. The challenge is not just to expand the existing agriculture system, but to engender 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. As discussed in chapter 3, coconut and cocoa offer a range of market outlets and several diversification options. There is significant room for diversification and value-addition, by harnessing synergies between agricultural upgrading, agro processing, handicraft and tourism. Viable commercial options to unlock this potential in cocoa and coconut include any or a combination of the following: product differentiation through organic certification, compliance with sustainability standards, indications of origin, 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 commercialization of related handicraft production. Demand-side coordination mechanisms (pool factors) 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 an agrarian transition towards a more diversified rural economy in Vanuatu. As discussed below, they offer viable options to harness the synergies between traditional subsistence-oriented modes of production and the rural non-farm economy. Yet, important supply-side obstacles need to be tackled, to realize this potential. In particular, a certain number of prerequisites need to be fulfilled to enter export niche markets.

Niche Exports

Value-addition and diversification: market opportunities

There are growing market opportunities for high-value added and specialty cocoa and coconut products in major consuming markets of export interest to Vanuatu. High value added specialty niche markets, in particular, exhibits significant market dynamism, as discussed below. For the specific purposes of this study, the following value-added breakdown is adopted:

<table>
<thead>
<tr>
<th>Table 6: Value-added breakdown</th>
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<tbody>
<tr>
<td><strong>Coconut sector</strong></td>
</tr>
<tr>
<td>Raw/semi processed</td>
</tr>
<tr>
<td>Intermediate</td>
</tr>
<tr>
<td>By-Product</td>
</tr>
<tr>
<td>High Value Added</td>
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</tbody>
</table>

Source: UNCTAD secretariat.
Overall, as shown in Figure 3, the overall market for coconut palm products has grown significantly over the past decades – from about 800 mln current USD in 1990 to over 4 bln current USD in 2011. A breakdown by product shows different trends for different market segments: the upward trend was mainly due to the fast-growing high value-added coconut products, 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, covering such products as bottled coconut water, coconut flour-based products and cosmetics from coconut oil. This upward trend is demand-driven, fuelled by demand in high-income countries, and points to significant market opportunities globally for coconut-producing countries.

Figure 3: World coconut exports (bln USD)

Source: UNCTAD Secretariat calculations, based on FAO data, accessed on 20/11/2016. 2012-2013 are excluded because of the missing data, further increase is expected. Copra produce (as specified in Table 6 above in “intermediate value added” group) based on FAO data on coconut oil. Total coconut sector is the sum of the three subgroups.

Worldwide, trade in cocoa and cocoa products (hereafter, global cocoa trade) has grown steadily over the last decades (Figure 4). The high end chocolate market has recorded the greatest increase in absolute terms.

Figure 4: Cocoa markets – world trends (bln. USD)

The breakdown of the coconut sector products by the level of value added in the product for the purpose of this project is presented in Table 1.
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 premium chocolate market grew by 7 percent to 10 percent CAGR (Compounded Annual Growth Rate, 5 year historical and future forecast), two time faster than 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). The process 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 growing chocolate consumption in Asian and Pacific nations, including China and India, and the trend towards specialty chocolate in mature Asian markets (Japan, South Korea, Singapore, Hong Kong). This translates in strong demand for high-quality, fine flavour cocoa: fine flavour cocoa still accounts for only around 5 percent of the world’s cocoa production, yet it is the fastest-growing segment in the chocolate market.

Consumer demand for “sustainability” products has also been dynamically 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 percent of the world market (Cocoa Barometer 2015). Global Fairtrade retail sales of cocoa increased by 24 percent 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 percent between 2014 and 2015 (CBI, Netherlands Ministry of Foreign Affairs). A supply shortage is expected in the long run.

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12 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](https://www.icco.org/about-cocoa/fine-or-flavour-cocoa.html)
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 attracts growing interest from the high-quality chocolate industry; finally, the fine flavour cocoa market shows a trend towards direct trade between producers and chocolate makers (CBI, Netherlands Ministry of Foreign Affairs). These developments reflect growing consumer attention to production areas, as well as to the story of small scale farmers and rural communities.

**Vanuatu: Lagging behind?**

These developments are framing new markets opportunities for non-traditional players, including Vanuatu. Yet, Vanuatu still mainly exports raw/semi-processed coconut products, namely, copra and standard cocoa beans. This is in spite of growing world demand for high value-added / specialty products, and notwithstanding Vanuatu’s’ dynamic export potential in cocoa and coconut.\(^{13}\)

In 2016 and through the first quarter of 2017, copra accounted for over 30 percent of merchandise exports, an increase compared to previous year averages (Figure 5). Analysis of the quarterly VNSO trade data since 2012 indicates that the average price of copra export has been relatively stable (below 1000 Vatu per ton), while the share of copra in the overall exports has been erratic with no strict seasonality.

**Figure 5: Recent copra export dynamics in Vanuatu**

\[\text{Source: UNCTAD Secretariat calculations based on VNSO data, assessed June 2017. Average price calculated as unit values - million Vatu per one ton of the product.}\]

\(^{13}\) Vanuatu coconut exports have a strong dynamic potential. As shown in Figure 9, since 2006 Vanuatu coconut exports 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 2.5 mln USD in 2006 to almost 12 mln in 2011, even if coconut oil exports still represent only 10 percent of Vanuatu overall exports (overall trade value from WITS). Copra exports growth rate has also in general been higher than among other coconut-exporting countries.
The share of coconut oil in exports peaked in the first quarter of 2015 at around 38 percent, but then steadily declined, and constituted less than 5 percent in the first quarter of 2017. Coconut oil prices are higher but more volatile than copra prices as illustrated in Figure 6.

**Figure 6: Recent coconut oil export dynamics in Vanuatu**

![Graph showing recent coconut oil export dynamics in Vanuatu](image)

Source: UNCTAD Secretariat calculations based on VNSO data, assessed June 2017. Average price calculated as unit values - million Vatu per one ton of the product.

Overall, there is no consistent switching in export patterns from copra to higher value added products in the coconut sector. In terms of export destination, the Philippines have gained share as the most important export destination for Vanuatu coconut exports, but these exports consist of copra only. Other important export destinations – Australia, Netherlands, Malaysia and New Zealand – despite accounting for only about 30 percent of Vanuatu’s coconut-related exports, source from Vanuatu intermediate value-added coconut product or have switched from raw/semi-processed imports to intermediate value-added products.

**Figure 7: Vanuatu coconut exports, major destination countries (share of Vanuatu sector specific exports)**

![Graph showing Vanuatu coconut exports to major destination countries](image)
Source: UNCTAD Secretariat calculations, based on FAO data, accessed on 20th November 2016. Selected most popular exporting destinations of Vanuatu.

At the moment VNSO presents data only on cocoa beans, thus no value added comparison can be done in the cacao sector. Nevertheless, on the basis of Figure 8 the following can be stated: while cocoa represents a low share in Vanuatu exports and is a seasonal export product (with the second and fourth quarters bearing most of the exports), it has higher average unit value than currently exported coconut products. This implies that there is a possibility of higher per unit revenue from cocoa exports than from copra.

Figure 8: Recent cacao export dynamics in Vanuatu

Source: UNCTAD Secretariat calculations based on VNSO data, assessed June 2017. Average price calculated as unit values - million Vatu per one ton of the product. First quarter of 2012 price is omitted for the presentation purposes.

Diversification strategies and challenges

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

Vanuatu could strategically 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 in the direction of exports, with exports shifting from bulk copra markets (the Philippines) to more lucrative end consumer markets in high income countries (Australia, New Zealand, Europe, but also Japan and other niche boutique outlets in Asian markets).
Two upgrading strategies are involved. First is what could be termed “horizontal” upgrading. It refers to adding value to existing activities within a particular segment of the value chain. This includes value addition and product differentiation through quality upgrading, organic certification, compliance with sustainability standards, indications of origin, branding/packaging strategies. It typically results in specialised and customised products and niche marketing. A second approach refers to moving downstream along the value chain (“vertical” upgrading), from relatively unprocessed commodities to the higher value-added stages of processing, manufacturing and marketing products. 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 the size and limited manufacturing capacity of the country, 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 de-emphasises scale issues linked to bulk trade and emphasises skills and care, carving new opportunities for small economies with unique socio-cultural and environmental conditions. These segments are associated with special stories and niche sustainability labels that can leverage the relatively unique organic by default and socio-cultural specificities of small Pacific islands. In traditional consuming countries such as Belgium, France, Germany, Italy, Switzerland and the United Kingdom, consumer emphasis has increasingly shifted towards uniqueness, novelty, history and romance, and the sustainability ethos: all conditions Vanuatu can build upon to strategically position itself in the market. The key supply side prerequisite is to have high-quality micro lots, or some 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 these markets, 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. In some market channels, VSS certification is also becoming a minimum requirement for entering niche markets.

**Box 7: Accessing the EU cocoa market: requirements**

<table>
<thead>
<tr>
<th>Legal requirements (SPS and TBT)</th>
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<tr>
<td>The general principles and requirements of food law in the European Union are set in Regulation (EC) No 178/2002. The disposition lays down food safety requirements based on the precautionary principle. It also established the European Food Safety Authority (EFSA) which shall provide 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.</td>
</tr>
</tbody>
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14 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.
**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 the hazard analysis and critical control point (HACCP) principles and comply with applicable Community legislation or national law.

**Contaminants in foodstuffs.** 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 EU market. Maximum levels are set based on the advice of EFSA for the contaminants of greatest concern to EU 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).** Regulation (EC) No 396/2005 defines a fully harmonised set of rules for pesticide residues. In the EU Pesticides database, the only MRLs 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 secure that foodstuffs do not contain micro-organisms or their toxins or metabolites in quantities that pose an unacceptable risk for human health.


**Labelling.** Regulation (EU) 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 EU 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 EU food standards must be accredited. Annex I to Regulation (EC) No 669/2009 implementing Regulation (EC) No 882/2004 list the foods of non-animal origin subject to controls at the point of entry into the EU based on known or emerging risks.

Regulation (EU) No 211/2013 requires certification to the import of consignments of sprouts or seeds intended for the production of sprouts, excluding sprouts which have undergone a treatment which eliminates the 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 certifications 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

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15 For more information: [https://ec.europa.eu/food/safety/chemical_safety/contaminants_en](https://ec.europa.eu/food/safety/chemical_safety/contaminants_en)

Safety management systems are recognised by the Global Food Safety Initiative. Whereas the latter are key for safe and traceable products. 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 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 cacao production and trade are UTZ and Rain Forest Alliance. The European Standardization Committee (CEN) and the International Organization for Standardization (ISO) are currently working on the development of standards in support of sustainability and traceability of cocoa beans. As previously referred, 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 near its raw state (nuts, or copra) at or close to farm gate, or to add value locally (oil extraction), under coordination by a lead farmer / local processor. Likewise, they have the option of delivering standard products to local shippers for bulk trade, or engage in 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 meat to New Zealand were estimated in the range of Euro €12,000 to Euro €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 6,000 – 7,000 AUD a year, covering 3 sets of certifications (for growers, crushing, and refiners). Certification is particularly costly in a context of scattered, small-scale farmers, as all farmers/cooperatives from whom the produce is sourced 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 discussed in the concluding chapter, new options need to be explored to make certification suited to subsistence-type, organic by default farming systems.

Sources: UNCTAD, 2017a and interviews

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

17 For more information: [https://www.cbi.eu/market-information/cocoa/buyer-requirements/](https://www.cbi.eu/market-information/cocoa/buyer-requirements/)
- 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 labelling requirements of targeted export markets and have the needed labelling 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 increased number of quality processing and drying facilities including packing and transportation.

The fulfilment of these basic prerequisites 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 agriculture policies, to align supply-side intervention and export market requirements.

A key challenge, as discussed 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 discussed 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, 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 tourism to Vanuatu accounts for one third of GDP, with over 287,000 persons visiting the country in 2015 (Figure 9), spending over 250 million USD in the country. Apart from regular tourists that come to the country, Vanuatu has a cruise ship terminal and is on the route for many cruise ships. This explains why the number of same-day tourists–cruise passengers–is double the number of overnight visitors in Vanuatu.

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18 Calculated as GDP share of the net expenditure - expenditure of inbound tourists minus expenditure of the outbound tourists, last estimates provided by UNWTO for 2013.
Tourism – the hospitality industry in particular – can be conveniently leveraged to sustain upgrading trajectories in cocoa and coconut. Hotels, cruise/air lines, 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 origin cholate, fresh nuts for water, coconut-based cosmetic products, virgin coconut oil, as well as coconut shell / fibre handicraft (Government of Vanuatu, n.a.). Through local sourcing, tourism can thus act as a catalyst for quality upgrading and diversification in the cocoa and coconut sectors.

Currently, there are a few successful examples in 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 ACTI V Association, to supply high-value market outlets. Aelan chocolate and cocoa nibs are sold locally to tourists and residents through Aelan’s retail outlet in Port Vila and the Au Bon Marché supermarket chain; chocolate is supplied in small bite-size 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, consistency of supplies, and timely delivery of supplies. These requirements reflect health and safety concerns and tourist preferences. They involve on-farm and off-farm investment in productive assets, quality assurance and tracking systems. Most small and subsistence-oriented 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 in high transaction costs and high default risks for hotel managers, restaurant owners and purchasing officers. These second-tier buyers tend to rely on well-established supplier relationships to mitigate default risk and reduce transaction costs, often using trusted brokers and preferring imported and wholesale goods over local supplies, as these latter are perceived as unreliable and of lower value (UNCTAD, 2015a).
New coordinated approaches are needed, to overcome supply challenges and bridge the rift between small or subsistence-oriented farmers and tourism sectors. As discussed in chapter 5, key actions to integrate small farmers to the tourism 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 so as to ensure pro-poor and sustainable outcomes.

A holistic approach is also needed to integrate pro-poor outcomes in 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 spill over effects, tourism may generate increased imports, rather than stimulate local supply, draining foreign exchange earnings. Some research also points to the fact 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; in the hospitality industry, 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 the tourism industry as a driver for socially inclusive and sustainable rural transformation, apart from maintaining the stable inflow of excursionists, the industry has to be properly targeted, by positioning Vanuatu as a niche sustainable tourism destination. This will provide commercial incentives to preserve diverse and fragile ecosystems, including through linkages between tourism and small farmer’s agriculture.

**Biofuels**

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

Use of copra as feedstock for biofuels in diesel vehicles and for electricity generation has revived interests in Vanuatu’s declining copra industry (Box 9). Vanuatu’s structural disadvantages - remoteness, scattered archipelago configuration, low population density, small demand - can turn into opportunities for indigenous renewable energy development. In particular, high transport and distribution costs inflate the cost of imported fossil fuels; 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, production cost for coconut oil was estimated to be US$/l 0.70, compared to 0.85 US$/l for diesel, even after adjustment for lower caloric value (Zieroth, 2012; International Renewable Energy Agency, 2013).

**Box 9: Coconut oil diesel in Vanuatu**

In Vanuatu, coconut oil is currently used as a biofuel to replace diesel fuel for electricity and transportation. In recent years, copra output exceeded 40,000 tonnes per year, sufficient to produce about 27,000 tonnes of coconut oil, equivalent to approximately 28 ML of diesel, enough to replace about 70 percent of Vanuatu’s diesel fuel imports (International Renewable Energy Agency, 2013).

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19 Sustainable tourism is defined as “[t]ourism 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” (UNWTO, 2005)
UNELCO, a subsidiary of ENGIE, has invested significantly in the use of coconut oil as a source of fuel in electricity generation in Vanuatu. The first use of bio-fuel, with 5 percent coconut oil, traces back to 2005. By 2007, the coconut oil ratio in biofuel had increased to 15 percent. In May 2009, the power station on Malekula generated electricity using 100 percent coconut oil; the Tagabe power station was also relying on coconut oil as a source of fuel.

Vanuatu Services, a subsidiary of ENGIE, has established its own coconut oil mill and buys good quality copra directly from farmers. In order to avoid supply disruptions, UNELCO source from different islands and at different stages (copra from farmers and coconut oil supplies from Vanuatu’s coconut oil mills). It has also its own plantation and has invested in 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 are operated on a pure coconut oil fuel. However, changes in tax law and licensing requirements in 2003 significantly reduced the use of coconut oil as 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 energy and coconut oil markets. In 2009, with soaring diesel prices, coconut oil fuel became more competitive. Diesel prices are currently low (at 2005 level, pre-project), while international coconut oil prices are high, which has reduced the competitiveness of the coconut oil-based diesel segment. Changes in government regulation and legislation also account for major shifts in biofuel demand.

Source: Interviews

In Vanuatu, indigenous renewable energy development can have catalytic and multiplier effects across the local economy. Greater reliance on coco-fuel will reduce dependence on costly fossil fuel imports that drain foreign exchange earnings. It will have multiplier effects within the local economy, through the sourcing of copra locally, jobs created in the processing factories, and factory demand for services. Most importantly, copra demand from domestic energy companies can create price arbitrage opportunities for farmers, who can decide to sell copra to either exporters or utility and energy concerns, depending on prices. By exploiting these arbitrage opportunities, farmers will be able to hedge against adverse price movements in either segment, and stabilise their income. Finally, the shift towards renewable energy can be integral part of a holistic strategy to position Vanuatu as an environmentally-friendly tourism destination, a country capable of unlocking the commercial value of its natural resource endowment, while preserving it.

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

Energy companies face challenges associated with price developments, public policy changes and supply disruptions. As mentioned (Box 9), coco-oil competes directly with petroleum-based petrol and diesel, and energy prices tend to drive biofuels development. The competitiveness of coco-oil relative to petroleum-based petrol and diesel is directly influenced by public policies, including grant funding for biofuel projects, loan guarantees, fiscal incentives, as well as mandatory requirements, such as blending requirements, or vehicle acquisition and fuel use requirements 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, copra biofuel feedstock demand by large companies can turn an abundant commodity in chronic oversupply – copra – into a relatively scarce commodity. According to UNELCO projections, for example, the utility 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]). Available options to hedge against third party risk include any or a combination of the following: 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, contractual option is to enter into enforceable long term supply contracts with reliable suppliers to secure stable supply sources.

Small-scale farmers, on their hand, face many obstacles in taking advantage of price differences between market outlets (i.e. price arbitrage). In practice, opportunities for farmers to take advantage of arbitrage possibilities are restricted. First, farmers need access to timely information on prices, quantities, and marketing costs, for choosing where to market. Their ability to supply different markets 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 provision. Small or subsistence oriented farmers typically enter supply relationships that tend to have elements of market power on the buyer end. More commercially oriented suppliers are often locked into long-term contractual relations that constrain their flexibility to exploit price arbitrage opportunities.

Furthermore, the production of biofuels can potentially raise food-security and environmental concerns, as discussed at some length in chapter 4. Trade-offs and conflicting interests across stakeholders call for a careful weighing and balancing of interests, to carve 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 discussed, major challenges remain, in terms of physical supply and trade capacity.

First, farmers must raise farm (land) productivity, i.e. increase output per unit of farmland. Productivity enhancements involve 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). These options can be undertaken through various means, including replanting high-yielding varieties, intercropping or mixed cropping, improved agronomic practices, and more efficient harvest and post-harvest practices to reduce waste. As discussed in chapter 4, in order 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 Vanuatu’s traditional-type farming.

Second, in order to reap the benefits of agriculture commercialization and diversification, farmers must be able to link to markets and respond to market requirements – required volumes, quality requirements, other standard compliance, timely and consistent delivery. Critical requirements in this
regard include: access to current market information on prices, quantities, marketing costs, and other market conditions at different locations or different points along the marketing chain; access to finance for on-farm productivity investment and upgrading; extension advice, technical support 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, and 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 export trade, including legislation and appropriate procedures for testing, grading, labelling, and certification.

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

In this setting, structured, direct supply channels can bridge buyers and sellers, and bring in the needed information, finance, and marketing links. This involves a shift, from spot, arm’s length transactions to some form of 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 lead farmer, commercially oriented) and small and subsistence-oriented producers. Under these arrangements, the off-taker—an agri-processor, an exporter, a specialized 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 organizations 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. The 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 model offers the advantages of pre-financing, access to credit, ensured market access, and productivity investment.

Yet, this structured model poses challenges, in a number of key respects. First, structured chains are not necessarily pro-poor, in terms of distributional outcomes. They do not necessarily imply equitable outcomes. To the contrary, they may lead to dependency relationships between actors with different bargaining power, abuse of position by downstream actors, and difficulty of exit (UNCTAD, 2014). A major challenge is then how to redress information asymmetries and power imbalances within the chain, and ensure that buyer-driven chains work for the poor. Second, they 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 that local authorities step in and “frame” the broad terms of the bilateral deal, in terms of permissible inputs and practices. Third, there is evidence of exclusion of resource-poor, small and subsistence-oriented farmers in the context of “scale-dualism” in the small scale farm sector: off-takers tend to source from commercially-oriented medium or large farmers, as the transaction costs associated with the coordination and monitoring of scattered, subsistence-oriented producers can be very high (Henson, 2006). 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 discussed in chapter 5.
4. Sustainability Outcomes

The goal of this sustainability assessment 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 cocoa and coconut for their potential to either benefit or negatively impact on the goals and targets embedded in Vanuatu’s NSDP. Called “Vanuatu 2030: The People’s Plan”, Vanuatu NSDP is the country’s highest level policy framework. It provides an inescapable normative benchmark for assessing the legitimacy of trade policy options in Vanuatu. 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 the 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 commodities, value addition to commodities in which Vanuatu enjoys a comparative advantage, and 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 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 prioritization of renewable energy sources and the 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. In order 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 poor farmers, men and women (gender-informed, pro-poor assessment). It then disentangles and summarises the complex food security ramifications of agricultural commercialization and diversification policies in the coconut and cocoa sectors (food security assessment). Finally, it draws out the implication of these trade upgrading and diversification policies for the conservation and sustainable management of Vanuatu’s biodiversity and ecosystems, in a context of disaster risk reduction and climate change adaptation (environmental assessment). The report findings are an important guide to policy-makers 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 discussed, about three-fourths of the Ni-Vanuatu population, and 62.4 percent 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, 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, thus contributing to reverse a pattern of rural-urban migration that is fuelling unsustainable urbanization (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 discussed below, subsistence and semi-subsistence Ni-Vanuatu farmers can reap the benefits of rural upgrading and diversification, as this process unlocks the commercial value of their natural asset endowments. Indeed, 64 percent and 24 percent of rural households in Vanuatu are currently engaged to some extent in, respectively, coconut and cocoa farming; 96 percent for rural land is still communal, customary land; on this land, part of the stock of coconut trees are left unattended or not used at the 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-oriented farmers

In Vanuatu, benefits form increased commercialization and value-addition in cocoa and coconut (small holder cops) will likely be more widely distributed than under, for example, heavily capitalized, large scale plantation systems. This is on account of some features relating to Vanuatu’s land tenure arrangements, the farming system, and crop characteristics that make the benefits from commercialization more widely distributed than under different organisation arrangements. A number of sector-specific facts are to be taken into account, when assessing the potential benefits for semi-subsistence and subsistence farmers of agricultural commercialization and diversification in cocoa and coconut. 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 venue to diversify rural income, through diversification and value-addition. Figure 10 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 these rural households with additional opportunities for cash income.

Figure 10: Household engaged in coconut/cocoa planting
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 be easily integrated as a cash crop with little extra-expense of labour. Labour demand for tree crops are often complementary in time to those 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 in cocoa farming), and observe different per capita income payoffs from farming activities.

**Unused capacity and untapped potential** - Part of the stock of coconut trees in Vanuatu are left unattended or not used at the full capacity, as small holders access them upon need rather than as a stable source of income. According to some estimates, 58 percent of coconuts are left unused, the remainder being used for copra (42 percent) and, in minimal part, human and animal consumption (Expert Consultation on Coconut Sector Development in Asia-Pacific, 30 October - 1 November 2013, Bangkok, Thailand). In particular, there is not direct link between coconut planting and copra production for sale by households. Figure 11 below indicates that there are inconsistent gains from the copra production and endowment. While Torba has lowest share of Vanuatu’s coconut stocks, the per household income generation is much higher than in some other provinces.

**Figure 11: Average household income from copra sales by province and overall stock**
This situation is due to lack of economic attractiveness: the low level of profits that was associated with copra production has left a great share of trees unattended (UNCTAD, 2016). Since 2000 when the global coconut market has started growing at an unprecedented rate, and 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: the share of households engaged into copra production 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 construction or service sector), while coconut trees have been used for other, subsistence-related purposes (food consumption, kettle feed, 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 percent of the total land area (Meadows, 2017). This means that, in theory, small and subsistence-oriented farmers have access to cultivable land and to land sources of cash income, including coconut palms and cocoa trees on custom lands. In practice, however, the reality on the ground is somewhat different, more nuanced and complex than the general principle of custom ownership suggests. As discussed, 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 by 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 custom owner determination process. This process is not necessarily inclusive, particularly in gender terms.

Cocoa and coconut as smallholder crops – As discussed, 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: fermentation of cocoa beans and copra extraction can be efficiently done at farmgate in small lots and with a minimum of capital requirement. 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 boutique/niche market outlets and certification is likely to make labour-intensive, traditional-type farming even more efficient, compared to large-scale, heavily capitalized production. As discussed, 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 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 farmgate. As discussed, downstream value-addition in both cocoa and coconut does not necessarily involve large scales and heavy investment. Some high-value products downstream (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 in cooperatives or other associations to reach the minimum scale needed for efficient processing. Renewable energy has been efficiently tested to overcome shortfalls in the electricity grid.

All together, these facts point out to the opportunities of income generation among small farming households in copra and coconut-related production.

**Inter-province inequalities**
Table 7 shows the average per household and per capita income by province in Vanuatu, based on Household Income and Expenditure Survey 2010 data (VNSO). Average income is defined through all types of income, including wage, salaries, subsistence, entrepreneurship, gifts and other. The capital, Port Vila, and Shefa province, hosting it, have the highest average income. The poorest province, both in terms of 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 5.

**Table 7: Average monthly income by Vanuatu province, 2010**

<table>
<thead>
<tr>
<th>Province</th>
<th>Average Monthly Income (VUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>per household</td>
</tr>
<tr>
<td>Torba</td>
<td>65800</td>
</tr>
<tr>
<td>Sanma</td>
<td>94000</td>
</tr>
<tr>
<td>Penama</td>
<td>67700</td>
</tr>
<tr>
<td>Malampa</td>
<td>60200</td>
</tr>
<tr>
<td>Shefa</td>
<td>131800</td>
</tr>
<tr>
<td>Tafea</td>
<td>53500</td>
</tr>
<tr>
<td>Vanuatu rural</td>
<td>79500</td>
</tr>
<tr>
<td>Luganville</td>
<td>74100</td>
</tr>
<tr>
<td>Port Vila</td>
<td>104100</td>
</tr>
<tr>
<td>Vanuatu urban</td>
<td>97500</td>
</tr>
<tr>
<td>Vanuatu total</td>
<td>83800</td>
</tr>
</tbody>
</table>
Calculations based on HIES 2010 indicate that distribution of Vanuatu labour force by income percentile is, in general, homogenous across provinces, with the notable exception of Torba – where labour force is concentrated in the lowest income percentiles. Labour force of Sanma province and Port Vila are concentrated in the higher percentiles of income. This implies that higher income earnings from agriculture activity are more likely to have lowest impact on income distribution in Sanma province and Port Vila, while the highest impact could be potentially achieved in Torba.

It follows that new or growing market outlets for cocoa and coconut products can generate income opportunities for poor, subsistence-oriented farmers in Vanuatu, including in remote rural areas and outlaying 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, for 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 done locally, at or close to farmgate, 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 offtakes may support a reorganization of the chain beyond gender stereotypes, as discussed by UNCTAD (UNCTAD, 2014b). When lead firms in the chain sell the stories and relationships behind the product they trade, women empowerment can become a centerpiece of their sourcing strategy.

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 farmers, better educated, with 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. 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 to further marginalize women involved in the non-tradable subsistence segment.

20 Gender-blind agriculture and trade policy, especially when they target commercialization of traditionally subsistence activities, typically lead to a worsening of women's positions, in terms of access to money, bargaining power in the household, etc. (Netsayi, 2015).
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.

In Vanuatu, agriculture is not distinctly female-intensive: in absolute terms, men and women are equally involved in farming (Figure 12). Yet, women are more likely than men to be employed in the sector, as shown in Figure 13. 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 8 shows the most common employment sectors for women, agriculture being the first with 55 per cent of employed women.21

Figure 12: Gender structure of the employment in the agriculture sector 2009

Source: UNCTAD Secretariat calculations based on the data from Population Census 2009. Information on “skilled employment in agriculture, fishery and forestry” is used.

Figure 13: Women participation in agriculture labor

Source: UNCTAD Secretariat calculations based on Vanuatu Population Census (2009) Information on “Skilled agriculture, fishery and forestry” is used. Note: The Chart illustrates the relative female participation rate in agriculture labour by province. Values over unity indicate that in the province in question women are more likely to be doing agriculture 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

21 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.
calculated using the formula: \[ RF \frac{P}{F} = \frac{N_{Agr}^F}{N_{Agr}^M} \]. Where \( N_{Agr}^F \) and \( N_{Agr}^M \) are the numbers of females and males respectively engaged in agriculture, \( N^F, N^M \) - the overall numbers of females and males employed respectively.

### Table 8: Women labor industry composition

<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry share of employed women (percent of all employment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>62</td>
</tr>
<tr>
<td>Accommodation</td>
<td>10</td>
</tr>
<tr>
<td>Education</td>
<td>7</td>
</tr>
<tr>
<td>Financial and insurance</td>
<td>3</td>
</tr>
<tr>
<td>Other services</td>
<td>23</td>
</tr>
</tbody>
</table>

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, commercialization and diversification in agriculture have significant potential to bring in additional income opportunities for rural women. This transformative path would counter, in some respects, the gender-bias built in the recent pattern of economic growth in Vanuatu, which has mainly regarded the booming construction sector, men-intensive.

There are, however, qualifications. As mentioned, women face multiple constraints that hinder their entrepreneurial potential. These include: time and mobility constraints arising from the double burden of productive 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 and compound with 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 in Vanuatu account for roughly half of the total population, they only represent 40 percent of the labour force,\(^{22}\) compared to 60 percent for men (VNSO, 2011). At the time of the 2009 Population Census, labour force participation in Vanuatu stood at 71 percent; men’s labour force participation rate was at 80 percent compared to 61.4 percent for women. The labour force participation rate for females did not exceed 71 percent at any age, while that of males was more than 90 percent at ages 30–49 (VNSO, 2011). There are almost 5-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).

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\(^{22}\) 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.
**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.\(^{23}\) Figure 14 illustrates the difference in the female labour share allocated to agriculture production for sale (commercial) and for consumption (subsistence). The relative female participation rate, except for Shefa province that hosts Port Vila, is much higher for subsistence production than for agriculture production for sale.\(^{24}\) Most rural women also engage with markets, as they typically sell their agricultural surplus for cash income, and some produce and sell handicrafts. Yet, subsistence-oriented farming remains the main livelihood activity for most of them.

In the context of Vanuatu, there is hence some validity to the widely shared perception that rural women prevail 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 discussed, women participate in these bulk commodity sectors, but typically as contributing family workers. If badly managed, an export-driven commercialization strategy in agriculture may further marginalize women, by diverting land and other resources from subsistence staples (where women prevail) to export cash crops; and by entrenching a division of labour whereby women participate as contributing family workers and men control sale proceeds.

![Figure 14: Female role in agriculture production by type](image)

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

**New market openings for women but persistent inequalities** - As discussed, 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,

\(^{23}\) The same pattern, i.e. prevalence in subsistence, is observed generally. More working women than men (49 percent and 41 percent 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 percent of men aged 30–49 were employed as paid workers. In contrast, the age groups with the highest percentage of females in paid employment never exceeded 30 percent (Population Census). Within paid employment, the elementary occupations, the service and sales workers, and clerks, service workers were dominated by females, 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 percent), compared to females (32 percent); the majority of seasonal workers were women.

\(^{24}\) Note, however, that most subsistence farmers produce a surplus that is marketed locally.
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 discussed (Box 1), all land in Vanuatu belongs to indigenous custom owners, men and women. By law, customary institutions (the nakamal on first instance) oversee the custom owner determination process and administer land disputes. In a traditional context of patriarchal values, there are challenges in ensuring meaningful representation of 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 marginalize women.

Second, women typically have lower levels of education and literacy than men. Ni-Vanuatu women still remain underrepresented 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, the gap widened with increasing age of population. Note however that literacy rates of 15–24 year-olds were almost equal for males and females, an indicator of successful policies to bridge the gender gap in education. Lower levels of education and literacy translate in significant competitive disadvantage for female farmers and entrepreneurs in doing business.

Finally, women tend to have less access than men to the internet and other ICT means, and face gender-based obstacles in transport. These obstacles 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 big 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 and nutrition security**

The local food security implications of agriculture commercialization and diversification in low-income countries are complex, often double-edged, with a high degree of context specificity. Agricultural commercialization and diversification 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, including yams, taros, cassava and sweet potatoes, cooking bananas and breadfruit, and 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 in home consumption and local marketing.

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 population – 91 and 57 per cent accordingly on average (VNSO, 2011). Due to higher prevalence of subsistence farming in rural areas, food security is on average higher in the rural areas, where population has easier access to land for subsistence farming and gardening. This is seconded by Vanuatu Hardship and Poverty report 2012 (VNSO and UNDP, 2013). Rich natural resources of Vanuatu and high level of traditional subsistence farming has positively contributed to the elimination of extreme (food poverty) across the country.

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, 2015). In Port Villa and Lunganville, 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 of Vanuatu (Jones, 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-oriented farming, and the contribution of women in agricultural (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 shortage of suitable land for subsistence-oriented staple food production. The ancient principle of farm diversification – a traditional trait of peasant-type farming systems – attracts renewed interest in this context as a strategy to accommodate food security concerns and the need to dynamize 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 attention. There is significant room to pursue these integrated approaches in the context of Vanuatu’s farming model. Some options are discussed below.

_Cocoa in the shade of coconuts_ - As highlighted in Agriculture Census 2007, cocoa trees can be shaded by different trees, and are very successfully cross-planted with coconuts. Figure 15 correlates the distribution of coconut trees bearing coconuts and coconut trees stock of Vanuatu and depicts by province the share of coconut trees that are used to shade cocoa trees (in brackets). Figure 7 indicates that with the exception of Tafea province about 80 per cent of coconut stocks in every province were bearing coconuts in 2007. The share of coconut trees used to shade cocoa varies from 0 percent (Torba province) to 59 percent (Malampa). Thus, potentially there is a vast number of coconut trees that are suitable for cross-planting and could be used as a shade for cocoa trees.
Figure 15: Structure of Vanuatu coconut sector (incl. cocoa shading)

Source: UNCTAD Secretariat calculations based on 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 commercial-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 important ecological roles – for example, plantains can provide shade to the cocoa trees during the seedling stage (Schroth and Ruf, 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) is 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-oriented 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 the two monthly wages. This successful experience has contributed to the fact that in 2017 ten families are participating at the plantation.

Source: Interviews.

*Agro-silvo-pastoral systems* - Finally, mature coconuts can be deliberately combined with pasture and livestock production in agro-silvo-pastoral systems. This approach 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. Farm diversification has some shortfalls; notably, it may reduce economies of scale and increase harvest, post-harvest and marketing costs. Yet, these shortfalls are to be weighted and balanced against the many advantages of farm diversification as a risk-hedging, food-security enhancing and income stabilization strategy.

Environmental, bioenergy, 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 urbanization 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 also tackling the challenges and opportunities associated with relevant biofuel developments.

Biodiversity, in a context of 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 characterized 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 capitalized 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 environmental friendly. These systems, often traditional, are very knowledge intensive, 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 discussed, 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 the absence of certification. Cocoa and coconut farming in Vanuatu involves farming models and techniques that are environmentally sustainable in a context of climate change and even play important ecological roles.

A key challenge ahead 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 Vanuatu’s traditional-type farming (Box 11).

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 practices are location and context-specific, also 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 adapted 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 drudgery of farm work without involving change in farming scale/model. The focus is here on relatively simple equipment and machinery, such as improved hand-held agricultural tools, harvest bags, push and pull or rotary weeder, threshing and cleaning equipment etc. 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.

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

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 implies 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 below the capacity level. Taking into account that almost all provinces (except for Torba) have better wharf connection by canoe than vehicle25, and that canoes are more common among Vanuatu population, the marginal effect on the environment is expected to be minimal.

25 UNCTAD Secretariat calculations based on HIES 2010 data.
Biofuels

The use of coconut oil as biofuel has raised a number of concerns. 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 light of location and context-specific facts. Note in this respect that:

- In Vanuatu, less than 1 percent 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 low-priced commodity. Also on account of the abundance and low use rate of coconuts, there is 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 Vanuatu, proving livelihood and food security.
- Oil extraction from copra produces a remnant that is a perfect stock feed for animals (chicken, pork, cattle, prawn, horse). The process can contribute towards 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 in 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 is thus to 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 shall not be equated with monoculture. As discussed, coconut plantations do not imply shortage of suitable land for subsistence-oriented 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 prevails. 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 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 livelihood, 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 integral part of a viable strategy to construct diverse livelihood portfolios and increase cash income in rural areas.
Conclusions

Vanuatu NGER has highlighted Vanuatu’s export competitiveness in the coconut and cocoa sector, while stressing the need to seize the untapped potential for adding value in these sectors and diversifying existing export channels. As highlighted in this report, the key to rural structural transformation in these sectors 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 in Vanuatu. 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 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 in the rural economy.

Yet, these positive effects will not occur automatically. For example, tree crop intensification programmes can encroach on staple food production or adversely affect ecosystems, with negative long-term effects. Likewise, traders or processors can reap all the benefits of increased commercialization and value-addition, with little pass through to small and subsistence-oriented farmers. Incentives and disincentives need to be proactively structured in an environmentally sustainable and socially inclusive way, to harness trade for 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.
5. Policy Recommendations

Vanuatu is at a critical juncture in its development pathway: the country needs to dynamize and transform its rural economy, but building on its small scale and diversified farming system, and leveraging traditional agro-ecological approaches. Building on the NGER, this study has outlined upgrading trajectories in the cocoa and coconut sectors that build on the competitive strengths of small holder agriculture, leverage agro-ecological practices, and put 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 trade and agriculture ministries, to implement this strategy. As regards agriculture, proactive rural development policies are needed to stimulate yield and productivity enhancements on smallholder plots; and to adequately inform, technically prepare and organize small scale farmers and micro scale processors to meet the requirements of new market outlets. 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 Vanuatu’s small scale farming system. As regards trade policy, the objective is to enhance trade, but in a way that builds on and leverage the competitive advantages of smallholder 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 NAPs for cocoa and coconut s. The NAPs identify a coherent set of actions to increase and sustain smallholder market related production, while framing institutional and enabling conditions. The findings from this study are fully aligned with and support the NAP action frameworks. They add to these frameworks by pushing further sustainability concerns in intervention spaces, to catalyse development of socially inclusive and environmentally sustainable value chains. Some lines of action are outline below.

1. 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. Policy coherence in the vertical direction involves fostered coordination between central and decentralised government structures, strengthened linkages between customary and formal institutions, and strong partnerships with community based

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26 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), informational linkages and connecting networks, and enhanced access to strategic market information (7.d, 11), national organic branding (10), 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.
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 Program 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 Vanuatu Commodities Marketing Board; key stakeholders from the private sector (Epi Cocoa Producers Association, Cocoa Producers Association, South West Bay Cocoa Producers Association, Vanuatu Chamber of Commerce and Industry); as well as research and inspection bodies (the Food Technology Development Center Analytical Unit and 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, which is 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.

2. 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 Vanuatu's green exports. Preference should be given to long-term agroecological 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 other:

- 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 drudgery of farm work without involving change in farming scale/model (vs. capital intensive farming);
- Adaptive, local- and ecologically-based, knowledge-intensive integrated pest management (IPM) systems that emphasize 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 smallholder 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.

In Vanuatu, organic farming techniques and practices do not imply costly or unpopular changes as they reflect 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 in Vanuatu. Vanuatu may also wish to carefully consider, at least in certain areas targeted for collective organic certification, to ban the use of synthetic fertilizers 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, collective certification schemes, as well as country-of-origin labelling and GI registrations, and enhance recognition of Vanuatu products in foreign markets.

3. 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” (Meadowsn, 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 moves 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 the commercial value of the land (Box 12).

**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 in the land 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 puts limits to both the tradability 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-oriented 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 the equal benefits of women groups. The lease process can become a catalyst for the empowerment of rural women, if well managed.

Source: UNCTAD and interviews.

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

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

Vanuatu should take advantage of the window of opportunities 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.

b) Certification

New options need to be explored to make certification suited to Vanuatu's subsistence-type, "organic by default" farming systems. As discussed, this can occur through the establishment of a national organic standard that is adapted to Vanuatu'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 locally 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 Vanuatu to integrate social norms and structures in the setup 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.

a) Structure procurement

As discussed in chapter 4, small-scale, subsistence-oriented 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 that 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 (FAO; UNCTAD, 2015a). In particular, market infrastructure and trade-related capacities are poor in Vanuatu, 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, outgrower schemes, or other softer forms of coordination between a lead off-taker and small and subsistence-oriented 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. Yet, 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 farmers, with a tendency to crowd out resource-poor, small and subsistence-oriented 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 unique social, cultural, environmental and agricultural conditions of Vanuatu. In order 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-oriented farmers, off-takers, and the public sector (HLPE, 2013; UNCTAD, 2014). 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 bases 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.

5. Enhance market transparency

As discussed in chapter 3, a certain number of prerequisites 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 synchronization 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 agriculture commercialization 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 redress information asymmetries and power imbalances within the chain, and ensure 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.
6. Bibliography


Secretariat of the Pacific Community. 2008s. Vanuatu Country Profile. Secretariat of the Pacific Community.


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Annex 1: Coconut – product map

Harvesting → Primary processing → Secondary processing → Manufacturing → Final market

Coconut

- Coconut kernel
  - (**) VCO
  - Dessicated coconut
  - Coconut milk & cream

- (**) Copra
  - (**) Crude coconut oil
  - Copra cake

- Coconut husk
- Coconut shell

- Fresh, green coconuts
- Coconut water

- Coconut Wood
- Coconut Sap

- (**) Coconut wood
- (**) Coconut based cosmetics, etc.
- (**) RBD coconut oil
- (**) Coconut based cosmetics, etc.
- Biodiesel
- Fibre products
- Coconut fibre
- Charcoal & activated carbon
- Coconut sugar

Note: (**) – indicates the product being currently exported by Vanuatu
Annex 2: Cocoa – product map

Harvesting → Primary processing → Secondary processing → Final Market

Cocoa beans (raw) → (**) Cocoa beans (shelled)

Cocoa sheel & pulp → Jelly, Bio Gas, Fuel, Fertilizer

Cocoa paste → (**) Cocoa powder

Cocoa concentrate → Cocoa extract → Cocoa essence → Oleo Chemical → (**) Cocoa butter

(**) Chocolate → Sweetened Cocoa Powder → Other patisserie

Medicines, cosmetics → Medicines, chemistry

Chemistry

Note: (**) – indicates the product being currently exported by Vanuatu
Annex 3: Coconut – actors map

Farmer/all provinces/

COPRA processor /can be the farmer/

Intermediate processor High VA coconut-based product

COPRA Processing Facilities

High VA coconut-based product processor /Tanna, Santo/

Open vendors /incl. Tourism/

Energy Facilities /Efate/

Medium VA copra-based product processor /Epi, Efate, Santo/

Buyer/Exporters /Santo, Efate, Malekula/

Off-shore buyer/Seller

The relationship is likely not to involve shipping

The relationship is likely to involve shipping
Annex 4: Cocoa – actors map

Farmer
/Malampa, Sanma, Shefa/

Sub-agent
(sub-intermediary)

Primary processor
/can be the farmer/

Secondary processor
/Efate, Santo/

Export agent or intermediary trader
/Malekula, Efate/

Cooperative

Exporter

Off-shore buyer/seller

Raw bean

Raw bean

Raw bean

Raw bean

Raw bean

Raw or dried bean

Raw bean

Dried bean

Dried bean

Dried bean

Dried bean

Dried bean

Chocolate, cocoa butter

Chocolate, cocoa butter

Chocolate, cocoa butter

Dried bean, Chocolate, Cocoa paste

Open vendors
/incl. Tourism/
### Annex 5:

#### TABLE 1: Top 5 since 2000 in coconut market

**1.1. Overall coconut market**

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Exporter</th>
<th>Importer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>United States</td>
<td>0.45</td>
<td>0.22</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Netherlands</td>
<td>0.25</td>
<td>0.14</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Germany</td>
<td>0.08</td>
<td>0.13</td>
</tr>
<tr>
<td>Malaysia</td>
<td>China</td>
<td>0.06</td>
<td>0.07</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Malaysia</td>
<td>0.03</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Total average share of leaders: 0.87

Market size: 2.7 bln USD

**1.2. Copra market**

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Exporter</th>
<th>Importer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Philippines</td>
<td>0.27</td>
<td>0.51</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Pakistan</td>
<td>0.18</td>
<td>0.33</td>
</tr>
<tr>
<td>India</td>
<td>Belgium</td>
<td>0.14</td>
<td>0.18</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>Germany</td>
<td>0.09</td>
<td>0.18</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>Malaysia</td>
<td>0.07</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Total average share of leaders: 0.75

Market size: 52 mln USD

**1.3 Copra produce**

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Exporter</th>
<th>Importer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>United States</td>
<td>0.5</td>
<td>0.21</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Netherlands</td>
<td>0.27</td>
<td>0.15</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Germany</td>
<td>0.09</td>
<td>0.12</td>
</tr>
<tr>
<td>Malaysia</td>
<td>China</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Germany</td>
<td>Malaysia</td>
<td>0.02</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Total average share of leaders: 0.95

Market size: 2.1 bln USD

#### TABLE 2: Top 5 since 2000 in cocoa market

**2.1. Overall cocoa market**

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Exporter</th>
<th>Importer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>United States</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Germany</td>
<td>0.12</td>
<td>0.1</td>
</tr>
<tr>
<td>Cote d'Ivoire</td>
<td>France</td>
<td>0.1</td>
<td>0.09</td>
</tr>
<tr>
<td>Belgium</td>
<td>Netherlands</td>
<td>0.08</td>
<td>0.09</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>France</td>
<td>0.08</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Total average share of leaders: 0.5

Market size: 27 bln USD

**2.2. Cocoa beans market**

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Exporter</th>
<th>Importer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cote d'Ivoire</td>
<td>Netherlands</td>
<td>0.43</td>
<td>0.22</td>
</tr>
<tr>
<td>Indonesia</td>
<td>United States</td>
<td>0.14</td>
<td>0.15</td>
</tr>
<tr>
<td>Ghana</td>
<td>Germany</td>
<td>0.13</td>
<td>0.1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Malaysia</td>
<td>0.08</td>
<td>0.09</td>
</tr>
<tr>
<td>Cameroon</td>
<td>Belgium</td>
<td>0.06</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Total average share of leaders: 0.84

Market size: 5 bln USD

**2.3 Cocoa produce (intermediate VA)**

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Exporter</th>
<th>Importer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>United States</td>
<td>0.32</td>
<td>0.14</td>
</tr>
<tr>
<td>Cote d'Ivoire</td>
<td>Germany</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>France</td>
<td>France</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Belgium</td>
<td>0.09</td>
<td>0.08</td>
</tr>
<tr>
<td>Germany</td>
<td>Netherlands</td>
<td>0.05</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Total average share of leaders: 0.67

Market size: 6.3 bln USD
### 1.4. Coconuts

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Market size:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>United States</td>
<td>500 mln USD</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Belgium</td>
<td></td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Germany</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>Netherlands</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>Singapore</td>
<td></td>
</tr>
<tr>
<td><strong>Total average share of leaders:</strong></td>
<td><strong>0.78</strong></td>
<td><strong>0.41</strong></td>
</tr>
</tbody>
</table>

### 2.4. Cocoa produce (high VA)

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>Market size:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>DEU</td>
<td>16 bln USD</td>
</tr>
<tr>
<td>Belgium</td>
<td>FRA</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>GBR</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>USA</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>NLD</td>
<td></td>
</tr>
<tr>
<td><strong>Total average share of leaders:</strong></td>
<td><strong>0.49</strong></td>
<td><strong>0.4</strong></td>
</tr>
</tbody>
</table>
Annex 6: Most frequent NTMs (coconut), by group of products and measures

<table>
<thead>
<tr>
<th></th>
<th>Sanitary and Phytosanitary measures</th>
<th>Technical Barriers to Trade</th>
<th>Pre-Shipmen t Inspection and Other Formalities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Value Added</strong></td>
<td>Certification requirements</td>
<td>Labelling requirements</td>
<td>Direct consignment requirement</td>
</tr>
<tr>
<td></td>
<td>Packaging requirements</td>
<td>Authorization requirement</td>
<td>Requirement to pass through specified port of customs</td>
</tr>
<tr>
<td></td>
<td>Hygienic practises during production</td>
<td>Certification requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food and feed processing requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>73%</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Intermediate</strong></td>
<td>Certification requirements</td>
<td>Labelling requirements</td>
<td>Requirement to pass through specified port of customs</td>
</tr>
<tr>
<td></td>
<td>Labelling requirements</td>
<td>Authorization requirement</td>
<td>Direct consignment requirement</td>
</tr>
<tr>
<td></td>
<td>Inspection requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>30%</td>
<td>14%</td>
<td>56%</td>
</tr>
<tr>
<td><strong>Raw/Semi-Processed</strong></td>
<td>Special authorization requirement for SPS reasons</td>
<td>Certification requirements</td>
<td>Requirement to pass through specified port of customs</td>
</tr>
<tr>
<td></td>
<td>Certification requirements</td>
<td>Packaging requirements</td>
<td>Other formalities</td>
</tr>
<tr>
<td></td>
<td>Traceability requirements</td>
<td>TBT regulations on transport and storage</td>
<td></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>75%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td><strong>By-Product</strong></td>
<td>Certification requirements</td>
<td>Certification requirements</td>
<td>Requirement to pass through specified port of customs</td>
</tr>
<tr>
<td></td>
<td>Inspection requirement</td>
<td>Traceability information requirement</td>
<td>Other formalities</td>
</tr>
<tr>
<td></td>
<td>Other hygienic requirements</td>
<td>TBT regulations on transport and storage</td>
<td></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>25%</td>
<td>60%</td>
<td>14%</td>
</tr>
</tbody>
</table>
Annex 7: Most frequent NTMs (cocoa), by group of products and measures

<table>
<thead>
<tr>
<th></th>
<th>Sanitary and Phytosanitary measures</th>
<th>Technical Barriers to Trade</th>
<th>Pre-Shipmeatn Inspection and Other Formalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Value Added</td>
<td>Certification requirements</td>
<td>Labelling requirements</td>
<td>Direct consignment requirement</td>
</tr>
<tr>
<td></td>
<td>Food and feed processing requirements</td>
<td>Authorization requirement for TBT purposes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packaging requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hygienic practices during production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>78%</td>
<td>9%</td>
<td>13%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Certification requirements</td>
<td>Labelling requirements</td>
<td>Direct consignment requirement</td>
</tr>
<tr>
<td></td>
<td>Special authorization requirement for SPS reasons</td>
<td>Authorization requirement for TBT purposes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Labelling requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>60%</td>
<td>26%</td>
<td>14%</td>
</tr>
<tr>
<td>Raw/Semi-Processed</td>
<td>Special authorization requirement for SPS reasons</td>
<td>Labelling requirements</td>
<td>Requirement to pass through specified port of customs</td>
</tr>
<tr>
<td></td>
<td>Geographical restrictions on eligibility</td>
<td>Authorization requirement for TBT purposes</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>73%</td>
<td>7%</td>
<td>20%</td>
</tr>
<tr>
<td>By-Product</td>
<td>Inspection requirements</td>
<td>Labelling requirements</td>
<td>Requirement to pass through specified port of customs</td>
</tr>
<tr>
<td></td>
<td>Certification requirements</td>
<td>Authorization requirement for TBT purposes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special authorization requirement for SPS reasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>58%</td>
<td>32%</td>
<td>10%</td>
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</tbody>
</table>