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Assessment of organic certification in the coconut oil value chain in the Philippines

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UNCTAD Project (DA-1617AI): Fostering the development of green exports through Voluntary Sustainability Standards
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EXECUTIVE SUMMARY

1 **OVERVIEW**: Voluntary Sustainability Standards (VSS) is gaining importance in many developed and developing countries to address sustainability issues and slowly being mainstreamed in domestic and international market to satisfy the sustainable behaviour and modern lifestyle of the consumers. Certification is one of many VSS tools used by producers to adhere to sustainability standards and for consumers to make objective buying decisions. Organic certification is the most widely applied VSS in agriculture sector, where about 2.7 million producers in 178 countries are applying organic agriculture in 2016. As modern society increasingly demands traceability of organic products from field to table, many organic certifications require sustainable production along the entire value chain.

2 **OBJECTIVES**: This study aimed to identify how actors in the Philippine coconut oil value chain can effectively respond to the growing pressures from consumers, private sector, and stakeholders regarding the adoption of sustainable practices, which contribute to improving market opportunities and country's green exports. The coconut remains an important sector for economic and rural development in the Philippines; i.e. where coconut areas in 1,195 municipalities and 79 provinces account for 30% of the total farmlands and employ 3.5 million coconut farmers who comprised 20% of the country's poor. Coconut oil is the top agricultural export commodity, contributing 23% to the total value of the Philippine agricultural export in 2015. The major export markets are the United States, Europe, and other developed countries with very high sustainability standards.

3 **METHODS**: The methods used in the study include value network mapping, cross tabulation, and policy analysis of survey data, which were collected through chain referral sampling of actors in the coconut oil value chain including coconut workers, tenants, farmers, and middlemen as well as coconut oil processors and exporters. Key institutions also participated in the survey, including decision-makers, administrators, and practitioners from academic, government and non-government institutions, certification bodies, and producers' associations. The results of the analyses are challenges and options in organic certification, which will be used as inputs to the development of National Action Plan (NAP) and establishment of Multi-Stakeholder Platform for VSS in the Philippines.

4 **INSTITUTIONAL CONTEXT**: The Organic Agriculture Act 2010 mandates the DA-BAFS[1] to accredit Organic Certifying Body (OCB), which is responsible for verifying compliance of certified actors to prescribed organic standards. The Philippine National Standard for Organic Agriculture (PNS-OA) was revised in 2016 to

[1] Bureau of Agriculture and Fisheries Standards in the Department of Agriculture (DA-BAFS)

harmonize national standards with the ASEAN standards[2] and procedure with the national accreditation body DTI-PAB[3] and international standards (ISO). The OCCP[4] is currently the only national OCBs operating in the country, while Control Union and ECOCERT are examples of international OCBs mainly serving organic exports. The government provides subsidies for organic certification through the DA-BAFS and different agencies provide support like technical advice and capacity building to coconut associations.

5 **PATHWAYS TO CERTIFICATION**: The three main pathways to organic certification in the Philippines are direct applications to OCBs, membership in associations, and awareness through government programs. The OCBs disseminate information on certification and provide seminars to coconut producers of the certified processors. Associations provide information on and support application to organic certification through close partnership with the relevant government agencies (e.g. DA-BAFS, DTI, PCA[5]) and OCBs. The government's development programs provide direct support that encourages certification of production, processing, and export of coconut oil in the Philippines. The government has also established partnership with various institutions (e.g. academic, NGOs, OCBs, etc.) to promote sustainable agriculture.

6 **NETWORKS OF VALUE CHAIN**: There are complex links between the actors in the coconut oil value chain, which may begin from the input (i.e. labour) providers to the farmers and end at either exporters or processors, if the latter are exporting coconut oil in foreign markets. The networks are not completely exclusive because some actors like middlemen and processors can be involved in more than one network. Associations play an important role in the networks, providing access to information, support on organic certification, and links to value chain actors. Many of the coconut producers in the value chain are old with low level of education, while the middlemen, processors, and exporters are mostly younger and well educated. Many coconut farms are organic by default but are not certified. Certified processors help them to get certification.

7 **EMBEDDEDNESSS AND POWER**: Embeddedness measures the connectedness between actors and benefits generated for themselves and local communities. With linkages to many actors, brokers including middlemen of raw coconut and exporters of coconut oil benefit most from certification. The middlemen are key players that link farmers, who are considered to get least benefits, to the rest of the actors in the value chain. Embedding more actors in certified value chain generates more benefits to the community like better quality, healthier, and safer products and good environment. Both processors and exporters of coconut oil have the capacity and power to

[2] ASEAN Standard for Organic Agriculture (ASOA)
[3] Philippine Accreditation Bureau of the Department of Trade and Industry (DTI-PAB)
[4] The Organic Certification Center of the Philippines (OCCP) and Negros Island Certification Services (NiCert) are two national OCBs, but the latter is currently renewing its accreditation.
[5] Philippine Coconut Authority (PCA)

influence government policy. But middlemen have the power to set and negotiate level of product prices in the value chain. The farmers have the least power in many aspects of the value chain.

8 **BARRIERS AND OPPORTUNITIES**: The most important motivation for organic certification is increase in income, which was achieved by many actors in the value chain except for farmers. But there are many barriers to certification. While certification fees and required paperwork are severe barriers when making decisions to be certified, access to finance to convert into organic production is severe barrier when implementing certification. The provision of subsidy is considered key to creating opportunities from certification. The most important opportunities include more profits from organic than conventional farming and higher prices for certified than conventional products. But support from the government and reduced certification fees are important to make certification, and thus economic opportunities, more accessible to actors.

9 **CONTRIBUTIONS TO THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)**: Actors in the value chain consider their production and business to have important contribution to decent employment (i.e. sufficient income, prevent child labour, safe workplace) and environmental conservation (i.e. no impacts on soil and water degradation, biodiversity loss and deforestation). But they have less contributions to other SDGs particularly gender equality and partnership. Certification of their production and business is considered to have positive impacts on environmental conservation, sustainable production and consumption, decent employment, and partnership. Only processors are most convinced that organic certification has positive impacts on gender equality. Many certified processing companies already provide women equal opportunities in supervisory and/or decision-making roles.

10 **POLICY CHALLENGES**: The current system of organic certification is not very inclusive, with farm producers neither playing an important role nor receiving significant benefits. The nature of agricultural production and profile of farm producers make economic benefits from certification less accessible to the coconut producers, resulting to non-compliance. But this condition also affects the business of processors who bear the costs of the certification and harms the competitiveness of the exporters in the world market. The lack of competition among OCBs contributes not only to high costs of but also to low standard for certification. This is critical to the government support system for certification, which depends on OCBs in preparing farmers to qualify for subsidy and facilitating the achievement of the SDGs through certification.

11 **POLICY OPTIONS**: Seven main policy options were identified from the analysis of data from survey and interviews – enhance knowledge on organic practices, provide access to resources and facilities, strengthen partnership in value chain, develop a competitive sector of OCBs, create innovative but affordable certification system, create domestic market for organic products, and consolidate government support programs. These options could address the important challenges confronting the value chain actors in the coconut oil industry and institutions that are involved in organic certification in the Philippines. They could serve as inputs to the NAP which will aim to improve the system of organic certification and discussion points for the national multi-stakeholder platform which will be established to enhance the role of VSS in achieving SDGs in the country.

12 **MULTI-STAKEHOLDER PLATFORM**: There is a very strong support for the establishment of a national Multi-Stakeholder Platform. However, interest in participating in the Platform is very low among the value chain actors, except for the processors of coconut oil. The main reasons for this are lack of time, capacity, and knowledge. Thus, the role of the platform should aim to transform from knowledge-sharing to standard setting, allowing the value chain actors to first gain knowledge on organic certification and then to effectively contribute in the discussions on setting standards (i.e. VSS). Analyses of embeddedness level and power in the value chain of coconut oil as well as the challenges in the system of organic certification in the Philippines emphasize the need to pay attention on the goals, representation, power balance, and leadership of the national multi-stakeholder platform.

ACRONYMS

ALGOA	Asian Local Governments for Organic Agriculture
ASOA	ASEAN Standard for Organic Agriculture
BAFPS	Bureau of Agriculture and Fisheries Product Standards
BAS	Bureau of Agricultural Statistics
BSWM	Bureau of Soils and Water Management
Calabarzon	Region comprises of Cavite, Laguna, Batangas, Rizal, and Quezon
DA-BAFS	Bureau of Agricultural and Fisheries Standards of the Department of Agriculture
DAR	Department of Agrarian Reform
DILG	Department of the Interior and Local Government
DOST	Department of Science and Technology
DTI	Department of Trade and Industry
DTI-PAB	Philippine Accreditation Bureau in the Department of Trade and Industry
FSC	Forest Stewardship Council
GlobalGAP	Global Partnership for Good Agricultural Practice
GMOs	Genetically modified organisms
IEC	International Electrotechnical Commission
IFOAM	Organics International
ISO	Organization for Standardization
LGUs	Local Government Units
MSMEs	Micro, Small and Medium-scale enterprises
NAP	National Action Plan
NISARD	Negros Island Sustainable Agriculture and Rural Development Foundation
NOAB	National Organic Agriculture Program
OCB	Organic Certifying Body
OCCP	Organic Certification Center of the Philippines
OTOP	DTI's ONE TOWN, ONE PRODUCT
MSPs	Multi-stakeholder partnerships
PCA	Philippine Coconut Authority
PCARRD	Philippine Council for Agriculture, Forestry and Natural Resources Research and Development
PEFC	Programme for the Endorsement of Forest Certification Schemes
PhilGAP	Philippines Good Agricultural Practice
QFUC	Quezon Federation and Union of Cooperatives
SDGs	Sustainable Development Goals
UNCTAD	United Nations Conference on Trade and Development
UPLB	University of the Philippines Los Banos
USDA	United States Department of Agriculture
VCOP	Virgin Coconut Oil Producers and Traders Association of the Philippines
VSS	Voluntary Sustainability Standards

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1. INTRODUCTION

1.1 Overview on Voluntary Sustainability Standards

Voluntary Sustainability Standards (VSS) are standards to meet specific sustainability goals including human rights, income equality, health and safety, environmental protection, etc. The first VSS initiatives like Organic, Fairtrade, and Rainforest Alliance aimed specifically to fill the niche markets of green consumers. But as more international and/or non-government organisations participated in developing VSS, the goals shifted to transforming and mainstreaming market to address sustainable production and consumption (Potts, Voora, Lynch, & Mammadova, 2016). Table 1 presents the widely recognised VSS that were developed by organisations including the International Federation of Organic Agriculture Movements (IFOAM), Rainforest Alliance, Fairtrade International, ProTerra Foundation, etc. Governments are, however, increasingly recognising these standards and implementing policy measures to create own national standards (e.g. USDA Organic, JAS Japanese Organic Regulation) or align to the international standards (e.g. PhilGAP as harmonized to GlobalGAP). The leading players in the private sector are also introducing sustainability standards as part of their marketing strategy (RILA, 2015). Retail supermarket chains and business organisations are using eco-standards to enhance image of the organisation itself and not just their individual products (Salmon, 2002). Some multinational corporations have also started to move away from third-party certified VSS like Fair Trade to create their own sustainability standards (Ionova, 2017). Thus, the VSS universe is becoming increasingly fuzzy and complex with interests of consumers and businesses mixed up, and producers remain on the receiving end.

Although VSS are intended to be applied by the producers of goods and services on a voluntary basis, their application is increasing due to shift in consumer behaviour towards sustainable consumption. Certification and labelling systems serve as tools for producers to adhere to sustainability standards and for consumers to make objective buying decisions. The globalised market makes the impacts of VSS go beyond national borders. For example, consumers' choices for sustainable goods and services in developed countries influence the producers' decision to apply sustainability standards in developing countries. But VSS are increasingly gaining importance in the developing countries' domestic markets as well (Salmon, 2002). Recently, VSS are finding other uses in the government and financial sectors, where they are applied to support implementation of policy goals and assessment of portfolio risk (Komives & Jackson, 2014).

Table 1. Examples of Voluntary Sustainability Standards globally

VSS	Year founded	Organization	Commodity/ Sector	Land coverage in 2015
IFOAM	1972	IFOAM – Organics International	Agricultural products	50.9 million hectares or 1.1% of the global agricultural land
RA/SAN	1987	Rainforest Alliance/ Sustainable Agriculture Network	Food and agriculture sector	3 million hectares
Fairtrade	1997	Fairtrade International	Food and agriculture	0.05% of the global agricultural land

GlobalGAP	1997	Global Partnership for Good Agricultural Practice	Food and agriculture	3.1 million hectares
UTZ	2002	UTZ	Food and Agriculture, esp. cocoa, coffee and tea	2.1 million hectares worldwide or 0.05% of the global agricultural area
4C	2006	Global Coffee Platform	Coffee	15.2% of the global coffee area
RTRS	2006	Round Table on Responsible Soy	Agriculture, esp. soyabean	734,977 hectares or 0.02% of the global agricultural area and 0.6% of the global soybean area
ProTerra	2012	ProTerra Foundation	Agriculture, esp. soyabean	1.8 million hectares or 0.04% of the global agricultural area and 1.6% of the global soybean area

Source: (Lernoud et al., 2017, 2015)

VSS exist in many forms, which can focus on specific economic sectors (e.g. forest, agriculture, fisheries, textile, and apparel), support specific group in the society (e.g. farmers, cooperatives), address specific environmental (e.g. biodiversity, greenhouse gas emissions) and social (e.g. equity, safety) issues, and cover full range of environmental impacts throughout the production chain, etc. (UNFSS, 2013). Certification and labels are some of the instruments used for the implementation of the sustainability standards. The VSS certification in the forest and agriculture (as well as textile and apparel) sectors has significantly increased in recent years. In terms of global land area, VSS in the forest sector including Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification Schemes (PEFC) are the largest with over 450 million hectares in 2016 (Lernoud et al., 2017).

In terms of country and producer coverage, organic certification in the agriculture sector dominates the VSS, particularly for banana, cocoa, coffee, cotton, soybean, sugar, and tea. According to the global report on organic agriculture (Willer & Lernoud, 2018), there were about 2.7 million producers applying organic agriculture in 178 countries in 2016, although they account only for about 58 million hectares of the global land area. But there was a significant increase of 427 percent in organic agricultural land, from only 11 million hectares in 1999. While more than half of the global organic land is in Oceania and Europe, about 40 percent of the world's organic producers are in Asia (Hamzaoui-Essoussi & Zahaf, 2012). The global market for organic food products amount to about 90 billion USD, about 400 percent increase from value in 2000 (Willer & Lernoud, 2018). With the share of organic agriculture of only 1.2 percent of the global land area, opportunities for increasing global organic market remain significant. These will be expected to receive policy support, particularly in about 87 countries where organic regulations are being implemented.

1.2 VSS for organic agricultural products and exports

Organic standards address several environmental and social concerns. Restrictions on the use of chemicals on crops and pharmaceuticals on animals have positive impacts on both the environment and people. They promote not only farmer and food safety but also improved food quality (Giovannucci, 2006). But organic standards are also increasingly promoting economic concerns not only through farm diversification (which enhances income resilience), but through price premium for healthy and safe products. Organic products and exports

create an opportunity for higher value trade (UNCTAD, 2004). Because demands for organic products are concentrated in Europe and North America where supply is not sufficient despite largest share in organic agricultural land (Table 2), organic exports from developing countries are increasingly filling supply gaps in these developed regions. Retail sales and per capita consumption in other regions remain low (Table 2), so a large share of the organic production is exported to Europe and North America where demand and prices are higher. In Europe, businesses are paying even more attention to Corporate Social Responsibility (CSR) because of ever-growing green consumerism. This is an important driving factor for increase in demand for organic products. The modern society demands business to behave in a socially responsible manner, for example, taking into consideration field to table traceability (Giovannucci, 2006; Salmon, 2002). Thus, many organic standards thus require sustainable production along the entire value chain, from farm production and product processing to end-users regardless of the distance and location.

Organic agricultural products and exports entail higher production costs for the producers and retail costs for the consumers. But consumer prices of organic products are also influenced by demand and supply situation in the global market (Maghirang, De La Cruz, & Villareal, 2011). By providing an option to produce and consume organic products even at higher costs, the VSS can empower market to include costs of environmental protection within the pricing mechanism and facilitate investment in the promotion of sustainable production and consumption (Potts et al., 2016).

Promoting export of organic products became a major policy goal in many developing countries (Maghirang et al., 2011). This is because of its contribution not only to environmental and social sustainability but also to economic growth. China and India are the two countries with significant share to global certified organic production, with the latter having a share of 79 percent for cotton, 22 percent for soybean, 19 percent for tea of the total global land area planted to organic certified products (Acosta, Virk, Kumar, & Sharma, 2018). Around 70 percent of the organic products in India are for exports to USA, Canada, South Africa, and the European countries (EXIM Bank, 2015).

Table 2. Share to organic agricultural land, retail sales and per capita consumption, by region.

Region	Organic agricultural land [hectares]	Regions' shares of the global organic agricultural land	Retail sales [Million €]	Per capita consumption [€]
Africa	1,801,699	3%	16	-
Asia	4,897,837	8%	7,343	1.7
Europe	13,509,146	23%	33,526	40.8
Latin America	7,135,155	12%	810	1.3
North America	3,130,332	5%	41,939	117.0
Oceania	27,346,986	47%	1,065	26.5
World	**57,816,759**	**100%**	**84,698**	**11.3**

Source: (Willer & Lernoud, 2018)

1.3 Objective of the study[6]

The sustainability standards are extremely important as they all have different implications on production, processing, marketing, and consumption in both developing and developed countries. While consumer awareness on the significance of certified production is high in developed economies, knowledge about the motivation and decision to be certified under a certain VSS scheme at the producer level is relatively weak. Given the variability of global, regional, and national agri-food standards, it is crucial to understand how and why producers choose to be certified (or not). This concern is particularly important in the context of coconut oil industry in the Philippines, which is the country's largest export commodity. Like many other agro-processing industries (e.g. coffee, pineapple, etc.), the lower-end of the value chain consists of large number of smallholder and poor farmers and, on the other hand, the upper-end of the value chain is dominated by few large and rich multinational processing companies. A distinct characteristic of the coconut oil, which other industries can learn from, is its Micro, Small and Medium Enterprises (MSME) sector which gained a share in the global export market, albeit with increasing competition from multinational companies. Enhancing benefits of farm producers and competitiveness of MSMEs will contribute to the SDGs.

As part of the United Nations Conference on Trade and Development (UNCTAD) Project (DA-1617AI) - Fostering the development of green exports through Voluntary Sustainability Standards (VSS) in Asia and the Pacific, this study in the Philippines aimed to assess the beliefs, opinions, outlooks, and perceptions of value chain actors and institutions that are within export-oriented value chains in the organic coconut oil sector. Perceptions are shaped by individual's understanding and motivations and, therefore, a good measure of reasons behind decisions to certify or not. Through the assessment, variations in the perceptions of actors within the value chain can be unpacked, shedding light on the understandings and tensions underlying the willingness to adopt certification and sustainable production methods. For academics and donors, the assessment provides an initial contribution to envisage principal perceptions behind the adoption of voluntary sustainability standards among smallholder producers and other actors in the value chain. For policymakers, the visualization of motivations will not only identify power and perception asymmetries among value chain actors, but also contribute to the detection of areas where policy could play a role in mitigating these differences.

The UNCTAD project aims to contribute to increasing developing countries' capacities to effectively respond to growing pressures from consumers and private sector regarding the adoption of sustainable production practices. Effectively responding to consumer and private sector pressure means not only improving market opportunities, but also enhancing the sustainability impact of a country's green exports. This assessment identified strategic options towards the creation of a Multi-Stakeholder Sustainability Platform at the national level in the Philippines. It also aimed to gather evidence to serve as inputs towards the development of a NAP for fostering green export sectors in the country. Thus, knowledge gained from the study will contribute to the establishment of the Platform and the design of the Plan on VSS and green exports, integrating various interests of actors and institutions in the organic coconut oil value chain. The overall impact of the assessment is the development of green exports

[6] Based on the information in the UNCTAD Assessment toolkit.

products as well as the contribution to the achievement of the SDGs, particularly on ending poverty (SDG-1), achieving food security (SDG-2), achieving gender equality (SDG-5), promoting decent work (SDG-8), ensuring sustainable production and consumption (SDG-12), promoting sustainable use of terrestrial ecosystems (SDG-15), and strengthening means of implementation of partnerships (SDG-17) (United Nations, 2018).

2. ANALYTICAL FRAMEWORK

The assessment of value chain for organic coconut oil in this study is guided by the analytical framework in Figure 1. The framework has four components: (1) policy and institutional contexts for organic certification, (2) Value chain for organic coconut oil, (3) power and embeddedness of the actors in the value chain, and (4) Links between the value chain, VSS and SDGs. The institutions involved in the VSS both at the national and international level as well as government policy measures that support organic certification defined the policy and institutional contexts for the VSS assessment. These institutions follow different pathways in reaching out to various actors in the value chain, i.e. partnership with the actors, provision of support to the actors, or participation in government programs. Support systems are either individuals, firms, or institutions that provide critical services to actors in the value chain, but do not own or purchase the produce as it moves towards the end market. Examples of services that supporting markets provide are agricultural inputs, information, technological assistance and financial services, marketing services, and partnership.

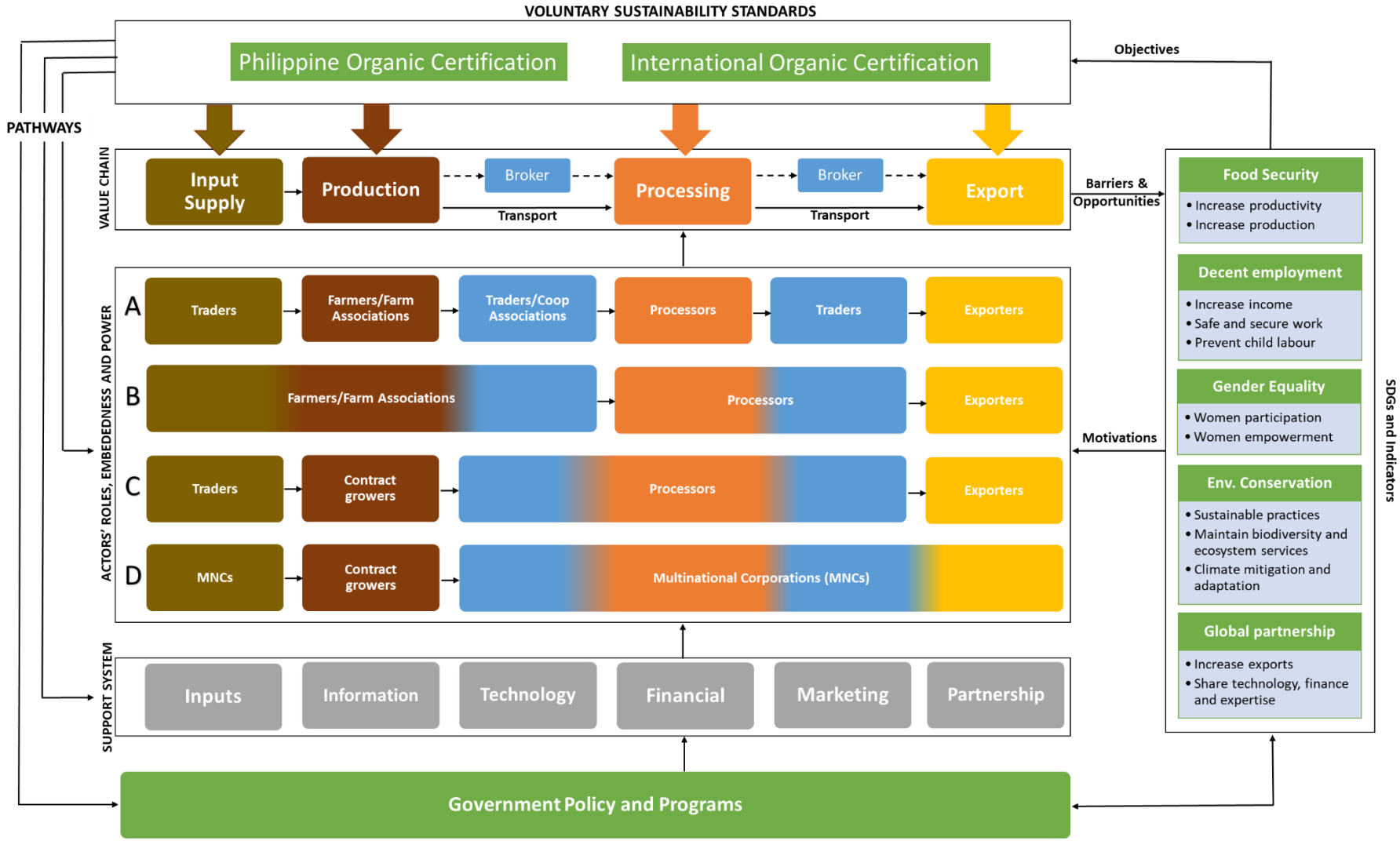


Figure 1. Analytical framework for the assessment of organic coconut value chain

2.1 Actors and their roles in value chain

The value chain for organic coconut oil includes various production and business activities from production of inputs for coconut production to processing of coconut oil for export to other countries. There are five main elements which define the activities in coconut oil value chain in the Philippines – production of coconut seedlings including provision of advice on farm practices; production of raw coconut which can be taken over by the farmers themselves, farm associations or contractors; processing of coconut oil either at the village or company level (i.e. where village processors provide coconut oil to companies for further processing); export of coconut oil to other countries; and collection and transport of products from one production point to the other (i.e. no value added on the product).

The actors (i.e. producers, processors, exporters, brokers) can participate in different activities and take one or more roles in the elements, which in turn can influence their levels of power and embeddedness in the value chain. It is assumed that the more roles the actors take in the value chain, the higher is the level of their power and embeddedness in the system. Power is defined based on access to production and market institutions including power over information, production methods, production quality/ quantity, and power over price-setting (Krauss & Krishnan, 2016). On the other hand, embeddedness refers to connectedness to not only own business operation (i.e. firm-level) but also local culture, community, and economic networks, thereby creating positive externalities for their partners and general public (Schmidli, 2016). VSS and policies supporting VSS aim to achieve sustainable development based on different indicators of SDGs. VSS like organic certification can contribute to several SDGs including food security, decent employment, gender equality, environmental conservation, and partnership. However, these depend on the motivations of the actors in participating in organic practices as well as the barriers and opportunities in organic certification. But barriers and opportunities in turn can be influenced by the system of certification and its support system, structure of embeddedness, and power in the values chain.

2.2 Actors' embeddedness and power

One of the early definitions of embeddedness in relation to economic behaviour refers to the rational action of gaining "sociability, approval, status and power" (Granovetter, 1985; as cited in Zhongqi & Shuiying, 2005: p.102) which, in the context of value chain, was extended to refer to the "different layers or dimensions … of economic exchanges [that] are embedded in social relationships, value systems and power structures" (Hospoes & Clancy, 2011: p.33). Theories of local and social embeddedness provide understanding on how actors negotiate and coordinate their interactions either through informal (i.e. social relationships) or formal (i.e. contracts and labels) mechanisms, or combination of both (Bloom & Hinrichs, 2011). "[C]ompetitive advantages are often local, rooted in their embeddedness with their environment and stakeholders" (Kern-Ulmer, 2011: p.10). Embeddedness has impacts on value creation through exchange of benefits in the form of knowledge and information (Gobbo, Fusco, & Junior, 2014), which in turn open new value-creation opportunities and improves performance (Hess & Yeung, 2006; Jack & Anderson, 2002; Kern-Ulmer, 2011). The degree and form of embeddedness affects not only the performance of the actors, but also power balance among them (Gobbo et al., 2014).

In the context of value chain, power provides basis for relationships between and ability to influence behaviour of other actors (Huo, Flynn, & Zhao, 2017). "Those with resources often have more power" (Hiemstra, Brouwer, & van Vugt, 2012: p.3). With increased globalization, benefits and opportunities from local embeddedness are increasingly reduced particularly for actors serving at the low-end of the value chain. The concentration of power on few multinational corporations in global value chain is causing unequal distribution of opportunities (Dodd & Asfaha, 2008; FairTrade, 2014; Ledger, 2016; Lund-Thomsen & Lindgreen, 2014), often with only little "spillover of capital, technology, skills and knowledge" to local actors (Lee & Gereffi, 2015: p.319).

> *"As a narrow set of large firms increasingly act as gate-keepers to the high-value markets of rich countries, small-scale farmers find it increasingly difficult to join these supply chains, and the gap is growing between large and small producers in a context in which both categories of producers compete for access to resources, to credit and influence, and to political influence".* Olivier De Schutter, Former United Nations Special Rapporteur on the right to food (2008-2014) (FairTrade, 2014: p.3)

In the agro-food value chain, there is evidence on significant shift in power gains by large supermarkets and processors, leaving smaller processors and wholesalers, retailers and farmers with little bargaining power (Ledger, 2016). The challenge in global value chain, which provides collective benefits through economic growth, is to restore power balance among the various stakeholders and allow individual value chain actors to benefit from local embeddedness. Sustainability standards are important step towards this system change by (re-)empowering the actors at the lower end of the value chain to control access to resources and gains from contributing to value creation. Power structure varies from one value chain to the other depending on the networks. Understanding complexity of chain networks helps to understand the structure of power relationships (Huo et al., 2017). Value Network Analysis, which is a tool for measuring embeddedness, can provide understanding on how resources flow among actors and how this influences each other as well as what is the underlying power structure that motivates some actors to desire and aspire for a system change (Slikke, Dentoni, & Trienekens, 2017).

3. DATA AND METHODS

3.1 Case study area

3.1.1 Importance of the coconut sector

Philippines is one of the countries where the coconut sector remains an important source of economic and particularly rural development. Coconut is one of the traditional industries in the Philippines with enormous potential in not only contributing to economic prosperity and poverty reduction, but also developing a green economy. Coconut is a multipurpose crop with many useful products and by-products, but the coconut meat has the highest added value. It is processed into copra meal as animal feed and coconut oil for home consumption (e.g. cooking) and industrial production (e.g. soap, biodiesel). In addition to the diversity of

economic and social benefits, coconut also offers many opportunities for improving the environment by increasing carbon sequestration and reducing carbon emission. Studies have shown that among major crops in the Philippines, a hectare of coconut farm has the highest average carbon storage with the potential to absorb 17.54 tons of carbon per year. Coconut has also the most stable carbon storage because it is a perennial with almost nil burning in the Philippines, i.e. coconut trunks, leaves, and fruits are used.

Domestically, the important role of coconut for millions of Filipinos is evident by the huge amount of land and human resources devoted to the sector. There are coconut areas in 68 out of 79 provinces in the country and about 331 million coconut trees in 3.3 million hectares of land, accounting for 30% of the total farmlands. The coconut is cultivated as traditional agro-systems allowing poor farmers to diversify into other agricultural production including woods, cereals, and livestock. There are about 3.5 million coconut farmers who comprised 20% of the country's poor and are working in coconut farms in 1,195 municipalities. Although the regions with the largest coconut production coconut are located in the island of Mindanao (Figure 2), the province with the largest coconut production is located in the island of Luzon, specifically in the region of Calabarzon (Table 3). The Quezon Province in Calabarzon ranks 1st among the 29 provinces under the Priority I classification for coconut production in the Philippines (PCA, 2017). It accounts for about 10 percent of the coconut production in the Philippines in 2016 and volume of production has been increasing since 2000. Priority-I consists of highly suitable areas with yield of at least 2.5 tons copra or 11,250 nuts per hectare per year. Laguna and Batangas, two other provinces in the Calabarzon Region, rank 5th and 14th under the Priority II classification or suitable areas with yield between 1.5 and 2.5 tons copra or 6,750 and 11,250 nuts per hectare per year. Many processing plants and companies for coconut products are also located in Calabarzon due to its proximity to Metro Manila, the capital city of the Philippines and location of largest business centre and international port in the country. For these reasons, Calabarzon was chosen as case study areas for this study, specifically the provinces of Quezon, Laguna, and Batangas. Calabarzon has a total land area of 1,622,861 hectares which comprise 5% of the Philippine Archipelago and the most populated region of the country with 12,609,803 people.

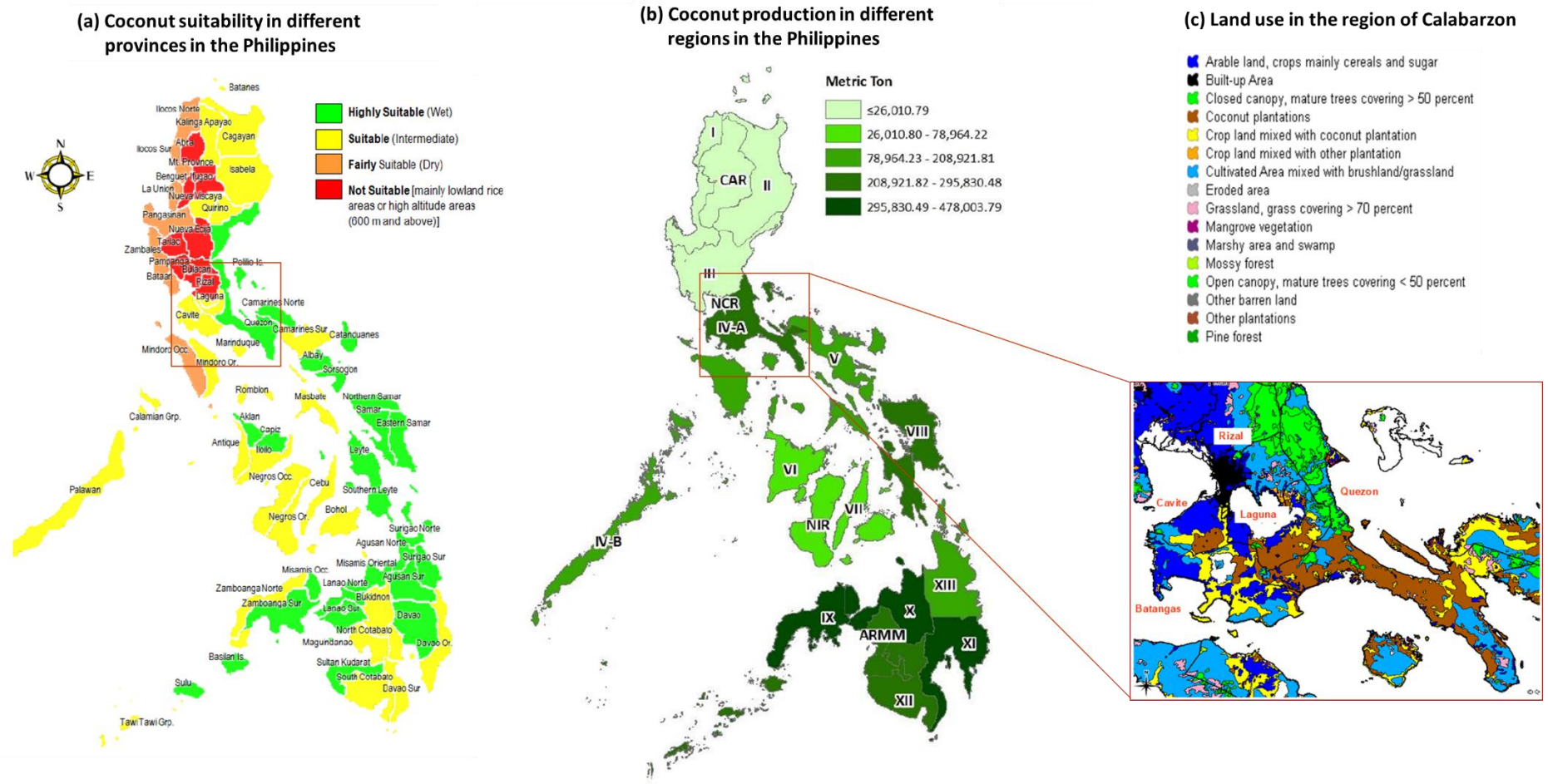


Figure 2. Geographical pattern of coconut suitability and production in the Philippines, and land use in the case study areas in Calabarzon
Sources: (a) (PCA, 2012), (b) (PSA, 2016), (c) Acosta et al. 2015

Table 3. Volume of coconut production in metric tons, by region and in the provinces of the Calabarzon Region

REGIONS/Provinces	1990	2000	2010	2016
PHILIPPINES	3,111,978	3,143,909	3,575,944	3,565,059
1. CAR	238	235	281	375
2. ILOCOS REGION	13,701	12,123	11,740	12,693
3. CAGAYAN VALLEY	6,475	8,217	13,661	15,245
4. CENTRAL LUZON	36,236	27,684	24,088	27,873
5. CALABARZON	349,035	347,548	438,673	485,208
• *Batangas*	*28,795*	*27,769*	*36,990*	*36,305*
• *Cavite*	*17,659*	*17,476*	*13,620*	*13,607*
• *Laguna*	*66,631*	*62,275*	*62,248*	*60,000*
• *Quezon*	*235,662*	*239,780*	*325,545*	*375,026*
• *Rizal*	*288*	*248*	*270*	*270*
6. MIMAROPA	147,694	148,807	181,784	214,650
7. BICOL REGION	374,378	367,245	452,679	454,349
8. WESTERN VISAYAS	118,764	113,339	119,922	75,394
9. CENTRAL VISAYAS	138,476	126,200	128,677	79,415
10. EASTERN VISAYAS	341,058	364,808	434,539	320,201
11. ZAMBOANGA PENINSULA	328,578	323,765	372,971	423,792
12. NORTHERN MINDANAO	276,908	286,221	301,257	302,816
13. DAVAO REGION	380,870	369,204	375,885	357,453
14. SOCCSKSARGEN	142,992	148,540	185,021	190,841
15. CARAGA	220,811	228,178	219,121	193,019
16. ARMM	235,764	271,795	315,645	331,633
17. NEGROS ISLAND REGION	..	..	..	80,103

Source: Philippine Statistics Authority (http://countrystat.psa.gov.ph/)

3.1.2 Exporting opportunities of coconut oils

With an average household consumption of one litre per week, coconut oil is the most important oil product in the Philippines (Padua, 2015). At the same time, however, coconut oil is the most important agricultural export commodity in the Philippines, contributing 23% to the total value (i.e. 5 billion US$) of the country's agricultural export in 2015 (PSA, 2018b). Globally, the Philippines is the largest coconut oil (HS Codes 151311 and 151319) exporter in the first half of 2010s (Padua, 2015). Although coconut production in Indonesia is higher than the Philippines, the former consumed larger amount of its product domestically. In contrast, the Philippines coconut production is oriented for consumption outside the country, thus, it continues to hold this position in the global market. The value of coconut oil exports was 101.29 Million US$ in 2017 (PCA, 2017) and grew by 16% as of June 2018 (PSA, 2018a). The major export markets for coconut oil are the United States (47%) and Netherlands (35%) (PSA, 2018b).

The production and yield of coconut have steadily increased since 1980, with the production growing faster than the yield (Figure 3). This implies that more land is being cultivated to produce coconut. Traditionally, exports of coconut products were dominated by copra. As the

major coconut producing countries, including the Philippines, have developed coconut oil industries using advanced oil extraction equipment, the role of copra in the global market has significantly diminished (Prades, Salum, & Pioch, 2016). The value of global exports has increased at an average annual rate of 6.9% from 2007 to 2015 (Sergeeva, 2018). However, although coconut oil has more added value than copra, the prices of both products have developed almost the same (Figure 3). The Philippine Coconut Authority (PCA) reported the continuous decline in the price of coconut oil in the world market in 2018, but which would encourage shift in demand from other vegetable oils to coconut oil (Arcalas, 2018). Moreover, with the change in consumer behaviour to more healthy and sustainable products, higher value oil products with much higher prices that ordinary coconut oil such as Virgin coconut oil (VCO) and organic coconut oil are offering better opportunities for exports.

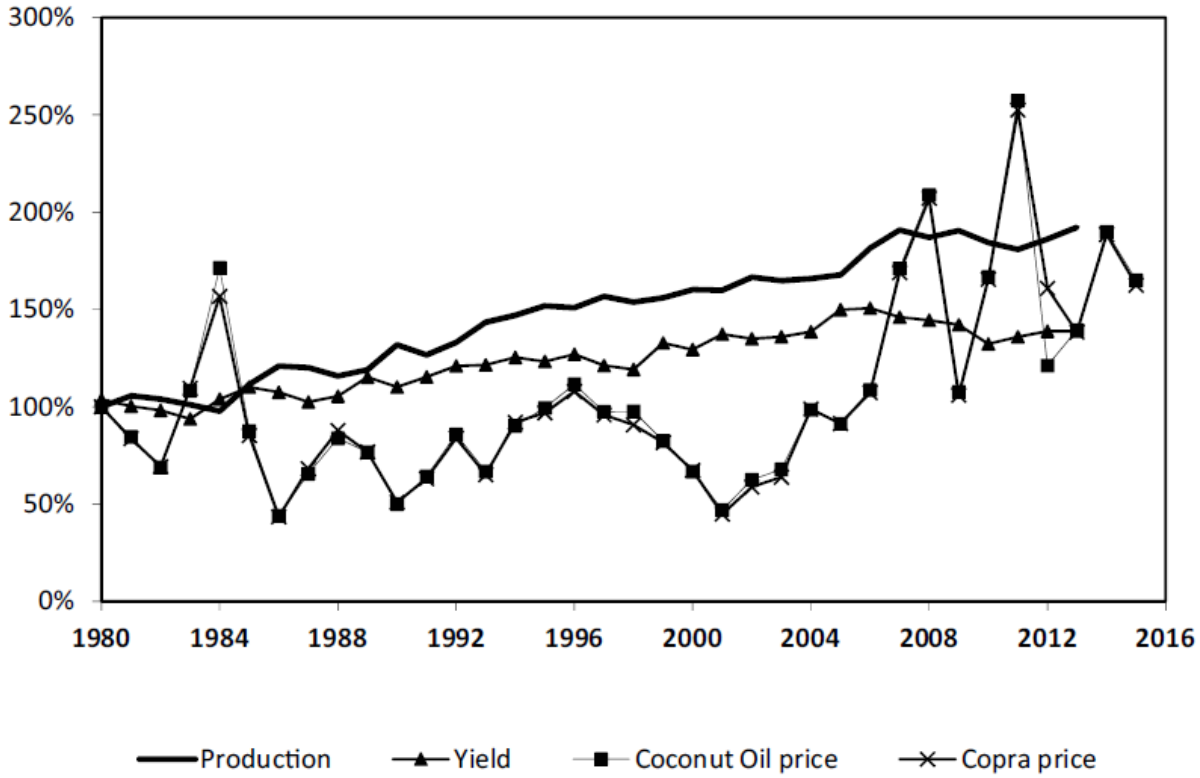


Figure 3. Evolution of the world production, yield, prices of copra, and coconut oil (1980 = ref. *100)*
Source: (Prades et al., 2016), using data from FAOStats 2016 for production and yield and Oilworld monthly for prices

The global market for VCO is expanding with high added-value exchanged at 4177 USD/t FOB Philippines in 2015 (Agustin 2016, as cited in Prades et al., 2016). The Philippines is one of the largest exporters of virgin coconut oil in Europe, including countries like Netherlands, Germany, Belgium, and the United Kingdom. But its biggest market is the USA accounting for more than 50% of the Philippine VCO export (CBI, 2016). As the global market for VCO expanded and large companies of coconut processed products added VCO in their product lines, many MSMEs that started VCO industry in the Philippines were not able to compete and ceased operations (Bawalan, 2011). However, as the demand for both virgin and organic coconut oil is not yet saturated in the global market, with appropriate policy support along

the value chain, not only the MSMEs, but also producers of raw coconut would benefit from coconut oil exports.

3.2 Data collection

The study is mainly based on information from interview and survey with "actors" in the coconut oil value chain in the provinces of Quezon, Laguna, and Batangas, which are among the country's most important coconut producers (chapter 3.1.1), as well as institutions. "Actors" refer to the persons or companies that are involved in adding value to the coconut products from farm to market. They include coconut producers and brokers, oil processers, and exporters. In this study, institutions refer to public, private, and academic institutions that have links to the actors in the coconut oil value chain. Although there were several persons in a farm, firm, or institution who participated in the interview, not all of them completed the survey. In case where they represent different positions, make different decisions, and have different knowledge on the issues of organic certification, then more than one person completed the survey in a firm or institution. Consultations with experts and survey of respondents were conducted from mid-January to mid-March in 2018. To identify the experts for the consultations and survey, review of literature on the institutions that participate in the support system of organic coconut industry in the Philippines was done. It was also done to understand the analytical contexts for the VSS, organic certification, and their relevance to the Philippine coconut industry.

3.2.1 Survey preparation

The people who completed the survey are referred to as survey "respondents" in this study. Three sets of questionnaires were used to conduct survey with actors. These questionnaires have similar structure, but the questions were adapted to the production and business aspects of farmers (Appendix 1), processors (Appendix 2), and brokers (Appendix 3). The latter questionnaire was used for conducting survey with both middlemen and exporters. The questions are related to the value chain of coconut oil, starting from its domestic production to international exportation. To identify the role(s) of the actors in the value chain, they were asked to indicate number(s) and corresponding letter(s) indicated in Figure 4. They were asked to take note that 1c refers to broker, supplying coconut seedlings to farmers; 2c refers to broker, supplying coconut to processor; and 3c refers to broker, supplying coconut oil to exporters. An actor maybe involved in one or more parts of the value chain. For example, coconut producers could be taking up the role of "seedlings producers (1a)" if they use their own seedlings and role of "brokers (1c)" if they supply directly to coconut oil companies. The survey questionnaire has three parts. Part A consists of semi-structured questions on the characteristics of the respondents' production chain (e.g. farmland, processing firm/plant, etc.). Part B consists of semi-structured questions on the respondents' knowledge on certification and coconut oil value chain. Part C consists of structured questions on the respondents' perceptions on the influence of certification on sustainable development.

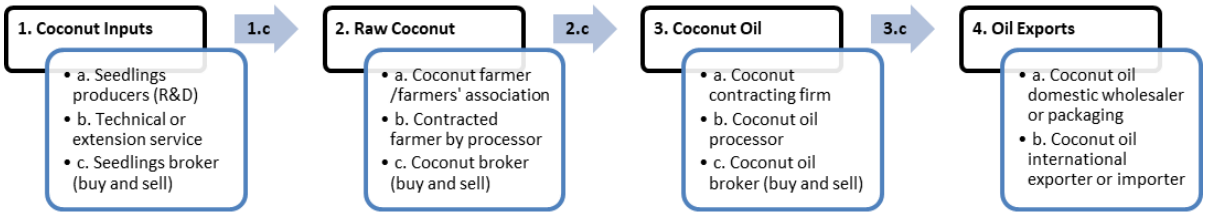


Figure 4. The value chain diagram used in the questionnaires
Note: The actors and their links were based on review of literature and expert consultation during the pretest of the questionnaire.

The institutions refer to persons or organisations that influence the farm production and market system of the coconut industry, and thus influence the decisions of the actors. They include academic experts, government officers, organic certifiers, etc. The institutions have a different set of questions as those from the actors (Appendix 4). The questionnaire for the institutions focused mainly on the information related to policy and programs of the governments and their knowledge on organic certification in the Philippines. Like the questionnaire for the value chain actors, it has also three parts: Part A refers to their role as institution; Part B refers to their knowledge on VSS certification and value chain; and Part C refers to their perception on the links between certification and sustainable development.

A preliminary questionnaire was based on those included in the UNCTAD Assessment Toolkit cost(Box 1), which provided an analytical framework and a set of generic questions (Appendix 5). These questions were then improved and adapted to the local condition in the Philippines through pretesting. Considering the different types of respondents for and thematic coverage of the survey, a two-phase pretest approach was conducted to improve the questionnaire. The first-phase was conducted with expert on value chain analysis in the Philippine coconut sector from the University of the Philippines Los Banos (UPLB) to identify how to develop a questionnaire that applies across all actors and institutions in the value chain. Moreover, the three parts of the survey were merged into one questionnaire to improve the flow of the questions, i.e. put together related and delete overlapping questions. Some of the open-ended questions were modified as structured (i.e. questions with choices) to reduce the time required to complete the questionnaire. The second-phase involved pretest with coconut farmers, processors, and researchers using the questionnaire that was revised during the first-phase pretest. The main objective of the second pretest was to check the clarity of the questions and time required to complete the questionnaire. The two most important issues that were raised on the first-phase revised questionnaire and led to further major revisions in the final questionnaires are the following:

- The number of open-ended questions should be further limited to reduce the burden on the respondents and the time required to answer the questions. They should be replaced with structured questionnaire with several answers to choose from. The choices will give the respondents more ideas on the questions and will be encouraged to think of other possible answers.
- The use of different sets of questionnaires for the different types of actors will be useful because of the different nature of their roles and activities in the value chain. By directly addressing their roles and responsibilities in the questionnaire, the respondents will be able to respond to the questions based on their experience and knowledge on the issues.

Box 1 Summary of the Assessment Toolkit

The VSS Assessment Toolkit is a simple and easy means to increase developing countries' capacities to effectively respond to growing pressures from consumers and private sector stakeholders regarding the adoption of sustainable production practices. It contributes to strategic options towards the creation of a multi stakeholder sustainability platform at the national level in Vanuatu, Lao PDR, and the Philippines. It also aims to gather evidence to serve as inputs towards the development of a National Action Plan (NAP) for fostering green export sectors in the three selected countries. Specifically, it contributes to a new approach as it allows researchers and policymakers to visualize the main concerns of different actors in a specific agricultural value chain into a Constellation of Priorities (CoP) Model. This CoP model could be created independently to visualize perceptions of a specific group of actors or in an aggregated form for all the actors in a value chain. Through the Toolkit, variations in the perceptions of actors within the value chain can be unpacked, shedding light on the understandings and tensions underlying the willingness to adopt certification and sustainable production methods. For academics and donors, the Toolkit provides an initial contribution to envisage principal perceptions behind the adoption of voluntary sustainability standards among smallholder producers and other actors in the value chain. For policymakers, the visualization of motivations will not only identify power and perception asymmetries among value chain actors but also contribute to the detection of areas where policy could play a role in mitigating these differences.

The Toolkit itself is divided into five components, namely;

1. Roadmap – It provides step-by-step guidelines for using the other components of the Toolkit.
2. Structured Questionnaire – It is a series of simple closed-ended questions. Answers to this questionnaire provide basis of the visualization of the Constellation of Priorities model which will be generated in an excel sheet. The structured questionnaire is divided into three sections, namely, (i) Preliminary questions (ii) Personal information and (iii) Perceptions.
3. Interview Guidelines – The document consists of open-ended questions which aim to probe deeper into the stakeholders' statements in the Structured Questionnaire. There are different Interview Guidelines for certified and non-certified actors and stakeholders. Answers to this Interview Guideline allow respondents to motivate their answers and could be valuable sources of information for policy recommendations.
4. Simple Guide to Data Analysis – The document explains how to consolidate and analyze the data gathered from value chain actors and institutions. It clarifies how to input data and obtain results using the Microsoft Excel worksheet that has been designed specifically for the Assessment Toolkit.
5. Metrics file - It explains the various categories of results that we are interested in tracking the relevant SDGs for the study. It shows what qualitative and quantitative indicators are used to capture the results, what specific quantification of the indicator was used and what survey question is linked to this indicator. The Metrics file helps users to further tweak the Toolkit to fit into country level contexts by providing them with ideas on how to further develop survey questions from indicators that feed into results we are interested in.

3.2.2 Survey administration

To identify the structure of networks and interlinkages between actors in the coconut oil value chain, the study applied the chain referral sampling which identified the respondents for the survey (Figure 5). This sampling method relies on a series of participant referrals to others who share common interest or activities, with the aim of expanding scope of investigation and accessing multiple networks (Penrod, Preston, Cain, & Starks, 2003). Chain referral sampling is a general term for a class of sampling methods including snowball sampling, link tracing designs, and others (Heckathorn, 2011). While these methods have advantages in terms of finding hidden populations and accessing sensitive networks as well as time- and cost-effectiveness in data collection, their application requires proper attention due to potential sampling bias resulting from oversampling of particular network, no guarantee of representativeness of the samples, and unavailability of sampling error and statistical inferences (Biernacki & Waldorf, 1981; Dudovskiy, 2018b; Heckathorn, 1997; Magnani, Sabin, Saidel, & Heckathorn, 2005). Penrod et al. (2003) suggested seven steps for conducting chain referral sampling and overcoming many of the disadvantages of chain-referral sampling. By going through these steps for chain referral sampling, the study aimed to enhance the results' "validity, reliability, and generalizability" (Penrod et al., 2003: p.105).

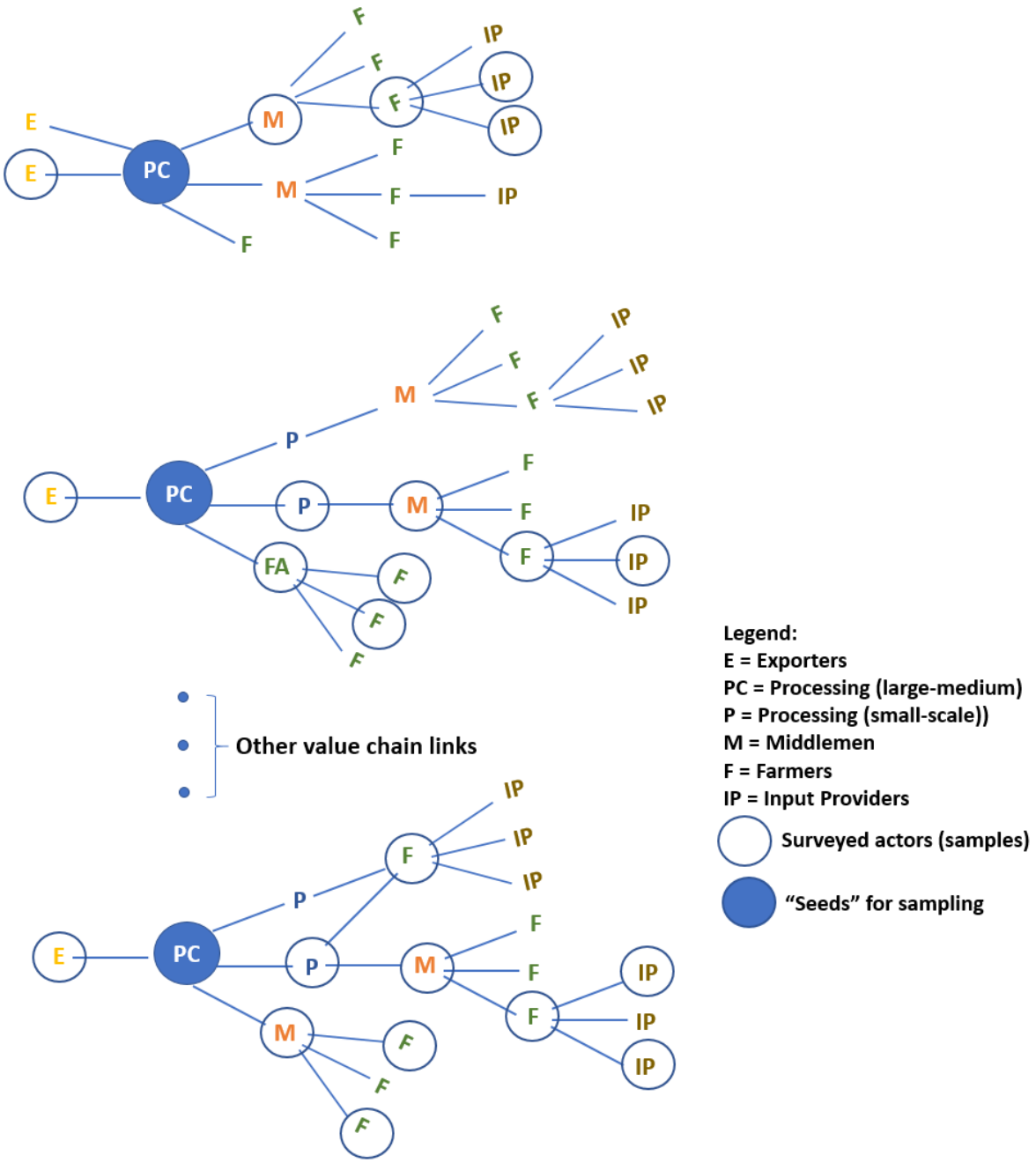


Figure 5. Sampling method to identify actors within the value chain for the survey

Step 1: Defining the population and identifying subjects

The step requires a clear conceptual definition of the population and a plan to operationally identify potential respondents. In this study, Figure 4 was used to identify the main actors in the coconut oil value chain. The figure was integrated in the questionnaire so that the respondents would know the subject of interest in the study. Moreover, questions that identify the type and nature of links of the actors to other actors in a network were included in the survey (Table 4). In the case of the institutions, Figure 1 guided the identification of the potential respondents. As a general criterion, institutions are experts or practitioners who are able to provide technical advice on production inputs, access to information and technology, financial and marketing support, and platform for building partnerships.

Table 4. Illustration of questions to identify type and nature of links of the actors in the value chain

We would like to know your direct relationship or immediate link with the other actors (i.e. outside your own farm) in the value chain. Please identify actors that provide the following:

- *Source of information on or support for certification*
- *Source of information on production inputs and methods*
- *Source of information on markets, where to sell products*
- *… and others*

Based on the above answers, kindly provide us contact details of your [links to the value chain] so we can request them to participate in the survey. We aim to survey your links in the value chain

Note: Refer to questions 16 and 17 in Appendix 1, Appendix 2, and Appendix 3 for details.

Step 2: Considering the sample size

Chain referral sampling entails the use of non-probability sampling because not all members of the population (i.e. actors in a network of value chain) were known and identifying all members was not possible due to time and cost constraints. Non-probability sampling applies in many qualitative researches where there is no sampling frame (i.e. list of population members) to draw the samples from (Heckathorn, 2011). This case applies to the coconut industry, which is one of the largest and most complex sectors in the Philippines (Ceder & Johansson, 2015). Other reasons for using non-probability sampling in this study include dispersion of the actors in the value chain in different provinces and regions (particularly farmers who are located on very remote areas) and difficulty in accessing coconut oil value chain networks due to sensitivity of business (particularly large multinational companies). While "[t]he issue of sample size in non-probability sampling is rather ambiguous and needs to reflect a wide range of research-specific factors in each case", there are available indications on the minimum sample sizes (Dudovskiy, 2018a). According to Saunders, Lewis, & Thornhill (2012), the minimum sample size for semi-structured questionnaire and in-depth interviews is 5-25. Table 5, which presents the number of respondents in the value chain and for institutions, shows that the study met the required minimum sample size. Due to budget and time constraints, the study had set 25 as target number of respondents for each type of actors and did not aim for much higher number. In case of the processors, however, only 10 of them were willing to participate in the survey (see step 5 below). The brokers include both middlemen and exporters. The number of brokers is implicitly higher than 15 because most of the processing companies are exporting their coconut oil. Moreover, large- and medium scale processing companies do not partner with middlemen because they have direct link to the producers of raw coconut.

Table 5. Number of respondents in the survey

Respondents	**Actors**				**Institutions**[3]	**TOTAL**
	Input providers[1]	Farmers	Processors	Brokers[2]		
Number	26	26	10	15	25	102
Share to total	25%	25%	10%	15%	25%	100%

[1]These refer to tenants and workers who provide labour input to the farmers.

[2]Also include exporters. Since most of the processors are also exporters, the implicit number of brokers is about 20.
[3]These refer to experts in the academic, government, association, and certification institutions.

Step 3: Selecting and assessing settings

Settings can be considered as point of entry (i.e. seeds) for the sampling (Figure 5), particularly to the respondents who are not easy to access. The initial settings selected for the study are the coconut oil processing companies for several reasons: (a) they are the most difficult to contact due to protection of business operation or interest; (b) they have the link to the exporters or importers of coconut oil in the world market; (c) they have the strongest interest to apply organic certification to compete in the world market; and (d) they drive the demand for raw coconut and choose the downward links in the value chain. Different settings according to the scale of production (i.e. large-, medium- and small-scale companies) and scope of business operation (i.e. national and multinational companies) were considered in the study. The inclusion of different settings aimed to reduce bias in the selection of respondents.

Step 4: Gaining access

Establishing the researcher's entry to the identified setting(s) is a big challenge. Expert consultations in the beginning of the study revealed that the response rate of survey with private companies is generally low. In this case, a critical step is to identify "gatekeepers", which can provide "entry and access to the setting and help create the necessary link between researchers and the target population" (Penrod et al., 2003). In this study, four institutions played an important role as gatekeepers (Figure 6): Department of Trade and Industry (DTI), PCA, Virgin Coconut Oil Producers and Traders Association of The Philippines, Inc. (VCOP), and experts on coconut research in UPLB. The DTI informed selected processing and exporting companies on the survey. In addition, it provided the UNCTAD researchers a referral to the VCOP, which have access to large- and medium-scale producers and exporters of organic coconut oil through their membership in the association. The PCA directly sent e-mail invitation for the survey to the large-, medium-, and small-scale coconut oil processors in the Calabarzon region, which are not necessarily members of the VCOP or other associations. The researchers sent follow-up e-mails to these processing companies. The UPLB provided referrals to small-scale coconut oil producers which are not member of any associations. Using different gatekeepers facilitated entry to companies which belong to different value chain networks (i.e. members and not members of associations). Altogether, at least 25 coconut oil processing companies received invitation to participate in the survey through the different gatekeepers.

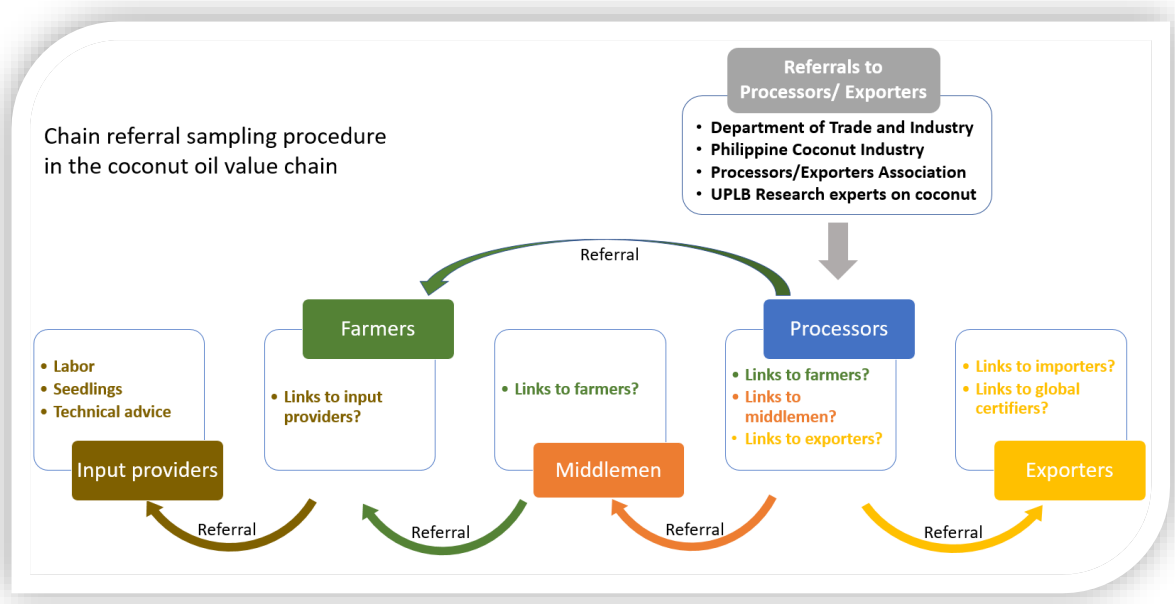


Figure 6. Entry points to access respondents for conducting the survey

Step 5: Initiating chains and identifying locators

To initiate the chain, invitations to participate in the survey were sent to the coconut oil companies per e-mail. The e-mail invitation included a referral letter from the institutions or mentioned that they were recommended by the institutions to participate in the survey. However, despite the referrals from these institutions and several e-mail reminders, only four companies responded to the e-mail invitation. To increase the number of companies to 10 (i.e. response rate of 45 percent), six companies were surveyed through "walk-in" method. The researchers went to the office without any appointment and referred to the e-mail invitation. However, budget and time constraints did not allow to increase number of respondents using the "walk-in" method. The 10 companies that participated in the survey were asked to provide information about their links (see step 1) and serve as "locators" of other actors in the value chain. According to Penrod et al. (2003), locator status is assigned more selectively in qualitative studies to seek a range in variation that is theoretically driven rather than statistically driven. In this study, the selection criteria were defined in the settings, which aimed to have representation of large-, medium-, and small-scale as well as national and multinational coconut oil processing companies. This is particularly relevant to assessment of power and embeddedness in the value chain.

Step 6: Pacing and monitoring of the referral chains

This step aimed to obtain most representative sample and meet budget constraints, which maybe a challenge for multiple referral chains (Penrod et al., 2003), i.e., not only within one value chain network, but also across different networks. Considering available budget and time for the study, the target number of 25 respondents per type of actors was used as a guide to monitor the referral chains. After collecting the referrals from the locators (i.e. processing companies) and each succeeding sources of referrals (see Figure 6), assessment of the respondents' referral list was conducted to identify those who will be included in the survey. Location is an important criterion

for selecting respondents at each stage of referrals. Only respondents who are in the Calabarzon region were selected as respondents for the survey. To increase the spread of respondents across the region, respondents were selected in the three most important coconut producing provinces in the region including Quezon, Laguna, and Batangas. In Quezon Province, "referred" coconut producers whose farms are located on very remote areas (i.e. in the border of region) were excluded from the survey not only due to budget and time constraints, but also for security reasons.

Step 7: Discontinuing the referral chains

The referral chains were discontinued based on several criteria: (a) when the target sample size was attained for each type of actor; (b) when respondents from each of the three provinces were surveyed; (c) when actors in one value chain network also participate in another network; and (d) when referred respondents are located on very remote areas.

3.2.3 In-depth interviews

In-depth interviews through open dialogue with several key persons in each organization and association, referred to as institutions, were also conducted. The aim of the interviews was to collect information that can elaborate the answers in the questionnaire or on issues that cannot be captured in the survey. There was no set of questions presented to the institutions. They were requested to openly discuss the issues on organic certification that are relevant to their organizations/associations and activities that contribute to organic practices (e.g. soil management, intercropping, etc.) in the value chain. The interviews were conducted in the office of the organizations or associations and took at least one hour to complete.

3.3 Data analysis

The data collected from the semi-structured questions of the survey were encoded and analysed in excel spreadsheets. In this study, three main methods of analysis were applied on the data – value network mapping, cross tabulation, and policy analysis (Figure 7). The results of the value network mapping and cross tabulation provided inputs to the policy analysis. In addition, the results of the in-depth interviews were used in the policy analysis.

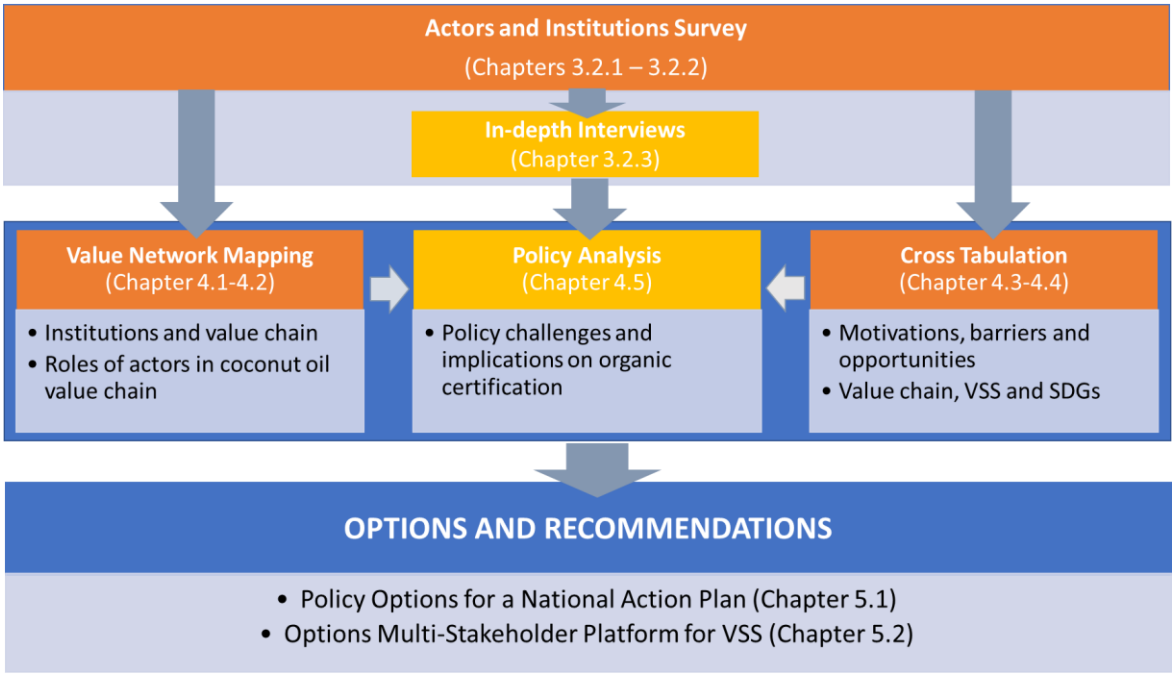


Figure 7. Steps for and types of methods of analysis of organic certification

3.3.1 Value network mapping analysis

Value network is defined as web of relationships that improves tangible (e.g. prices, demand) and intangible (e.g. quality, information) value of products through "complex dynamic exchanges between two or more individuals, groups, or organizations" (Allee, 2009: p.433). Value network goes beyond the supply chain to encompass organizations that support the actors in adding value to the product. In this study, these organizations are referred to as institutions, which is defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman 1984, as cited in Feng et al., 2010). When embedded in the value network, institutions also create tangible and intangible value through interactions with the focal organization (in this case, value chain actors) and between the institutions themselves (Feng and Crawley 2008, as cited in Feng et al., 2010). An analysis of value network generates knowledge on the value creating roles and relationships in the value chain (Slikke et al., 2017). Value network mapping, which identifies the linkages between the actors in the coconut oil value chain and of the actors to the institutions, has two objectives in this study. The first objective is to analyse the institutional context for organic certification and second is to determine the networks of value chain. The latter guides the analysis of power and embeddedness in the value chain. Gephi (version 0.9.2, 2017), a graph visualization and manipulation software, was used to map the value chain network.

3.3.1 Cross tabulation analysis

Cross tabulation or crosstab is a basic tool for empirical research (White & Korotayev, 2004). The analysis is based on the distribution of at least two categorical variables by presenting their results (i.e. percentage, count, etc.) on a two-dimensional grids or matrix format (Research Optimismus, 2018). Specifically, the categories (or codes to responses to the questions) of one variable determine the rows of the table, while the categories of the other

variable determine the columns. The results of the crosstab analysis are presented in tables and diagrams such as bar and web. They are useful in comparing the perceptions of the actors and institutions on power and embeddedness in the value chain, barriers and opportunities in organic certification, and contributions of the value chain and VSS to the SDGs. Excel software was used for cross tabulation analysis.

3.3.3 Policy analysis

Policy analysis is drawn from various methods of inquiry (quantitative or qualitative) and uses valid arguments to generate "information" that is relevant for the policy and has utility to resolve problems in desired political settings (Dunn 1981, p.35 as cited in Fischer, 2007). In this study, information refers to the critical challenges that confront the actors in applying organic certification and policy-relevant options to improve the certification system in the Philippines. These challenges and options are drawn from the results of the value network mapping and cross tabulation analyses (i.e. methods of inquiry). The information provides useful inputs to a National Action Plan or NAP (i.e. a roadmap to resolve problems), which will be developed through a Multi-Stakeholder Platform (i.e. political setting for policy discussions).

4. RESULTS AND DISCUSSION

4.1 Description of institutions and value chain

4.1.1 Philippine institutional and development contexts

a. Mapping the institutional context for organic certification

Certification is a written assurance (i.e. certificate) issued by a third party (i.e. certification body or certifier) wherein products, processes, or services along supply chain conform with standards, demonstrating to the buyers that producers comply with these standards (Dankers, 2003). The third-party certification is also referred to as independent assessment, which is differentiated from first-party (self) assessment where a producer makes own assessment of its products, processes, or services and second-party assessment where a producer engages an assessor to conduct the assessments on his behalf (Maghirang et al., 2011; Woodley, 2016). Depending on the relationship between the producer and assessor (e.g. buyers of the products are assessor), like the first-party, the second-party assessment could result in conflict of interest. In contrast, third party is a "conformity assessment activity that is performed by a person or body that is independent of the person or organization that provides the object, and of the user interests in that object" (Woodley, 2016). Nonetheless, a third-party assessment may "not automatically guarantee impartiality or absence of conflicts of interest" for several reasons like any party can set the standards, one institution set the standard and issue certification, and competition among certification bodies (which earn from certification fees) results to less strict standards (Dankers, 2003). Figure 8 presents the main institutions that support the certification system in the Philippines.

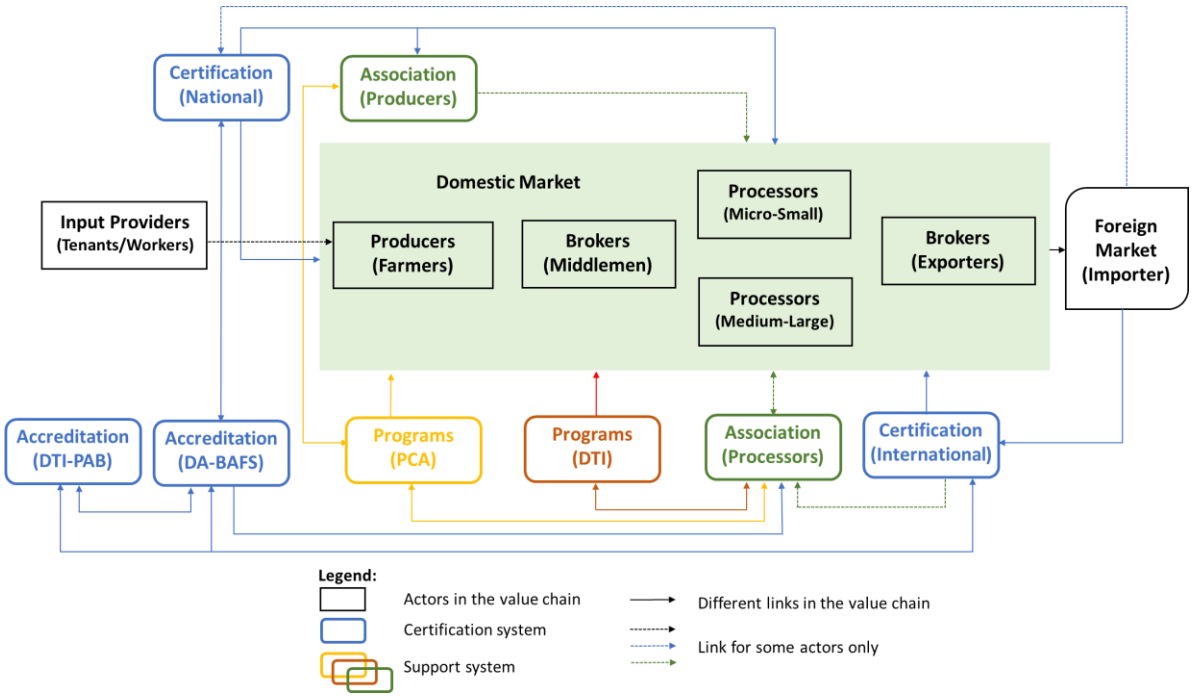


Figure 8. Institutional context of organic certification for coconut oil value chain in the Philippines

Note: DA-BAFS is the Bureau of Agriculture and Fisheries Standards in the Department of Agriculture; DTI-PAB is the Philippine Accreditation Bureau in the DTI; DTI is the Department of Trade and Industry, PCA is the Philippine Coconut Authority

The certification system for organic coconut oil in the Philippines is based on third-party assessment, which are conducted by certification bodies. Although the main government agencies involved in certification are the Bureau of Agricultural and Fisheries Standards of the Department of Agriculture (DA-BAFS) and Philippine Accreditation Bureau of the Department of Trade and Industry (DTI-PAB), there are other public and private institutions that enhance capacity of value chain actors to apply for certification (Table 6). The DA-BAFS is mandated by Organic Agriculture Act 2010 to accredit and issue official accreditation number to the certification body, which is officially referred to as Organic Certifying Body (OCB). The OCB "refers to a body responsible for verifying that a product is sold or labelled as organic is produced, processed, prepared, handled and imported according to the prescribed guidelines" (DA Circular 06 Series 2015). The Official Accreditation refers to the "procedure by which the DA-BAFS having jurisdiction over OCB formally recognizes the competence of an inspection and/or certification body to provide inspection and certification services" (Ibid.). The certification procedure includes submission of requirements, review of application, assessment of compliance with accreditation criteria, evaluation of the assessment report, approval of the official accreditation, and surveillance assessments of continued compliance. The guidelines for the official accreditation of OCBs have been recently revised to harmonize procedure with the DTI-PAB, the national accreditation body, and international standards (ISO). The operation of DTI-PAB is on PNS ISO/IEC 17011, which provides for "general requirements for accreditation bodies accrediting conformity assessment bodies" (www.pabaccreditation.dti.gov.ph). The DA-BAFS official accreditation procedure is linked to that of the DTI-PAB in several ways: (1) application of OCB requires accreditation certificate

on ISO/IEC 17065:2012[7] issued by DTI-PAB; (2) joint assessment with DTI-PAB if application is at the same time sought for ISO/IEC 17065:2012 accreditation; (3) approval of DTI-PAB's decision to allow OCB's change in scope (e.g. reduction, extension) of accreditation.

[7] The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) form the specialized system for forming international standards. The ISO/IEC 17065:2012 refers to conformity assessment, specifying the requirements for bodies certifying products, processes and services. (source: https://www.iso.org/obp/ui/#iso:std:iso-iec:17065:ed-1:v1:en)

Table 6. Institutions supporting the organic coconut oil value chain

Name of institution	**Type of institution**	**Links to institutions/ actors**	**Role and/or support to coconut oil value chain**
Organic Certifying Body (OCB)	Private	DA-BAFS, DTI-PAB, value chain actors,	• Apply for accreditation to DA-BAFS and/or DTI-PAB • Accredit OCBs are recognized to have competence to provide inspection and certification services • Conducts verification of organic products of value chain actors to ensure they are produced, processed, prepared, handled and imported according to the prescribed guidelines
Bureau of Agricultural and Fisheries Standards of the Department of Agriculture (DA-BAFS)	Government	OCB, DTI-PAB, other government agencies, farm producers	• Responsible for developing standard for organic agriculture in the Philippines and harmonizing with international standards (e.g. ASEAN) • Responsible for accreditation and issuance of official accreditation number to OCBs • Approves DTI-PAB's decision to allow OCB's change in scope (e.g. reduction, extension) of accreditation • Provides subsidy to value chain actors applying for certification, especially farm producers selling in the domestic market • Develops strategy for communication plan, promotion and awareness, capability building, and standard/guideline promotion by conducting seminars
Philippine Accreditation Bureau of the Department of Trade and Industry (DTI-PAB)	Government	OCB, DA-BAFS, processors and exporters	• Operates based on PNS ISO/IEC 17011, which is the general requirements for accreditation bodies accrediting conformity assessment bodies • Responsible for accreditation and issuance of accreditation certificate on ISO/IEC 17065:2012, which refers to conformity assessment, specifying the requirements for OCBs
Organic Certification Center of the Philippines (OCCP)	Private	DA-BAFS, DTI-PAB, value chain actors, OCBs	• National OCB that comply with the national standard for organic agriculture in the Philippines • Certifies value chain actors mainly for domestic market and to a lesser extent for international market • Ties up with international-oriented OCB to support processors to export in global market

Control Union	Private	DA-BAFS, value chain actors	• International OCB that comply with the standard for organic agriculture in the importing countries • Certifies value chain actors only for international market
Philippine Coconut Authority (PCA)	Government	Coconut producers	• Provides support to increase coconut productivity through replanting programs • Implement Philippine Rural Development Program that provides support on equipment and certification • Implements projects such as organic intercropping in coconut farms
Virgin Coconut Oil Producers and traders Association of the Philippines, Inc. (VCOP)	Private	Coconut oil processors and exporters, Control Union, Government agencies	• Provides support to its members in terms of technology, information, laboratory equipment, trainings and capacity building • Work with OCB to provide guidance for certification to the value chain members • Receives support on training and capacity building, expansion of facilities and market from the DOST • Receives support on raw materials from the PCA • Cooperate with DTI and other government agencies so that concerns of members are considered in policies and programs
Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)	Government	Farm producers, Other government agencies	• Implement projects to rehabilitate senile trees, increase productivity, reduce use of pesticides and increase income of farmers • Collaborate with other government agencies in implementing its projects • Supports the Philippine Organic Agriculture Information Network to raise awareness on organic agriculture
The National Economic Development Authority (NEDA)	Government	Other government agencies	• Monitors achievements in eco-labelled (or certified) products against the targets set in development plans
Department of Agriculture (DA)	Government	DA-BAFS, PCA, Other government agencies, Farm producers	• Implements priority activities through its National Organic Agriculture Program (NOAB) in 2016-2017 • Implements and amends Organic Agriculture Act • Formulate guidelines for the enforcement of organic labelling • Implement Rural Development Program, providing various support including inputs, postharvest facilities and support services • BAFS is one of its seven Bureaus

			• In coconut road map, together with the PCA, it leads agro-enterprise development, transforming nucleus-estate enterprises to a value-chain oriented system
Department of Trade and Industry (DTI)	Government	DTI-PAB, Other government agencies, VCOP, Value chain processors and exporters	• Implement priority stimulus program ONE TOWN, ONE PRODUCT (OTOP) PHILIPPINES for the Micro, Small and Medium-scale enterprises (MSMEs), providing business counselling, skills and entrepreneurial training, product design and development, appropriate technologies and marketing of different products including organic • In coconut road map, serves a resource agency for value chain planning and provides marketing assistance and funds for shared common facilities • BAFS is one of its Bureaus
The Department of Agrarian Reform (DAR)	Government	Farm producers	• In coconut road map, it is the lead agency to fast track Agrarian Reform in coconut lands and organize national and provincial stakeholder conferences to mobilize DAR-NGO-PO mechanism
Department of the Interior and Local Government (DILG)	Government	Farm producers, Other government agencies	• Support the Inter-LGU (Local Government Units) cooperation, which provides assistance to the organization of coconut farmers • Support other government agencies in implementing their program and projects at the sub-national level
Quezon Federation and Union of Cooperatives (QFUC)	Private	Farm producers, coconut oil processors, VCOP	• Association of farmers and small-scale processors • Member of the VCOP
Negros Island Sustainable Agriculture and Rural Development Foundation, Inc. (NISARD)	NGO	Local Government Units, farm producers	• Leads the promotion of organic agriculture in Negros Island through public-private partnership
IFOAM Organics Asia	NGO	Local Government Units, farm producers	• Conducts projects and activities such as Bio Villages, Asian Local Governments for Organic Agriculture (ALGOA), Producer-Consumer Partnership, and Participatory Guarantee System or organic certification

The DA-BAFS define certification as the "procedure by which OCB provides written attestation that food or inputs or food control systems conform to applicable organic agriculture standards and requirements" (DA Circular 06 Series 2015). The two main categories of OCBs operating in the Philippines are the national and international certification. The national certification is oriented towards certifying organic products for the domestic market while international certification is oriented towards certification of export products for the global market (Figure 8). The OCCP is currently the only national OCB operating in the country[8], while Control Union and ECOCERT are examples of international OCBs mainly serving organic exports. The OCCP must comply with the PNS-OA, which aims to promote organic agriculture and enhance market competitiveness of agriculture products. The PNS/BAFS 07:2016 is the revised standard to harmonize PNS-OA with the ASEAN Standard for Organic Agriculture (ASOA), which "covers several scopes, namely: (a) conversion; (b) crop production; (c) animal production; (d) beekeeping; I special products; (f) processing; (g) labelling and consumer information; (h) traceability; and (i) requirements for the inclusion of substances for organic production. The different scopes should be treated as one standard on organic agriculture with the various parts complementing each other" (DA-BAFS, 2016). The international OCBs must comply with the standards of the importing countries, for example, European Union (EU) organic requirements (EU Reg. 834/2007, 889/2008), United States Department of Agriculture (USDA) organic requirements for National Organic Program (NOP) of the USDA, and Japanese organic requirements (JAS) in case of the Control Union (Control Union 2018). Hence, the requirements for the international certification depend on the standards set by the government of importing countries. While serving mainly the domestic organic markets, the OCCP also certifies organic products for export to few countries. For example, through its partnership with international OCBs such as CERES, OCCP can also cover Germany, JAS, USDA, and EU.

The government, through the DA-BAFS, provides subsidy to cover certification costs to actors who are selling their organic produce in the domestic market. An important requirement for the subsidy program is a proof of organic practices for at least three years, which are often provided to the DA-BAFS by the OCBs. The actors can apply for subsidies in the regional offices of the DA-BAFS, which assess compliance to organic practices. Other programs related to certification include communication plan, promotion and awareness, capability building, and standard/guideline promotion by conducting seminars. Programs of other government agencies also support conversion of farms into organic production.

According to DA-BAFs, they collaborate with different agencies to support programs related to certification including the PCA, DTI, the Department of Education (DepED), Department of Health (DOH), Department of Agrarian Reform (DAR), Department of Science and Technology (DOST), Department of Environment and Natural Resources (DENR), and Department of the Interior and Local Government (DILG). For example, the PCA provides support to increase coconut productivity through replanting programs. It has also projects on organic intercropping in coconut farms. The Philippine Rural Development Program provides equipment and certification assistance. The Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) has also projects to increase productivity, reduce use of pesticides, and increase income of farmers. The National

[8] A second national OCB, the Negros Island Certification Services (NiCert) is currently renewing its accreditation.

Economic Development Authority (NEDA) monitors achievements in eco-labelled (or certified) products against the targets set in development plans. The government agencies also support the producers and processors' association. For example, the VCOP receives support on training and capacity building, expansion of facilities, and market from the DOST and on raw materials from the PCA.

b. Pathways to organic certification

There are four main pathways at which the OCBs operate to reach out to the actors in the value chain in the Philippines – through direct applications of processors, processors applying for raw coconut producers, membership in associations, and government programs.

i) Processors → OCBs
Actors can directly apply to the OCBs for organic certification. The OCBs disseminate information on certification through their websites or information campaigns. In case of the international certification, processors directly apply to the OCBs.

ii) Farmers (thru Processors) → OCBs
When processors apply for certification, they are required to adhere not only to apply organic processing procedures, but also to use organic inputs (i.e. raw coconut). The producers of raw coconut are not knowledgeable about certification procedure and cannot afford the certification fees. Thus, there are no producers who apply for certification of their organic practices. The processors applying for certification of organic coconut oil apply for certification of producers, who supply them with organic raw coconut. The former can request the OCBs to provide seminars to the coconut farmers (Interview with Control Union). This will help ensure that the actors in the entire value chain for the coconut oil exports comply with the international organic standards. The certification fees and other OCB services for the certification of raw coconut producers are paid by processors who are applying for certification.

ii) Associations (on behalf of farmers, MSMEs) → OCBs
National associations for producers and processors (i.e. MSMEs) are important pathways to organic certification in the Philippines (Figure 8). Associations can provide information on and support application to organic certification to the members through close partnership with the government agencies responsible for accreditation and development programs as well as with the OCBs. For example, the Virgin Coconut Oil Producers and traders Association of the Philippines, Inc. (VCOP) discusses with the DA, DTI, PCA, and other government agencies about issues relevant to the development of the coconut oil export sector. The VCOP supports its members through in terms of technology, information, laboratory equipment, trainings, and capacity building. In addition, an international certification body like Control Union is member of the VCOP, which facilitates access to information on standards for international certifications. Membership of national medium-scale processors in association empowers them to access information that are otherwise only available to multinational large-scale processors, who have link to importers in the global market. Association of farmers and small-scale processors like the Quezon Federation and Union of Cooperatives (QFUC) is also a member of the VCOP, allowing information to flow down to the other end of the value chain. The QFUC is now planning to apply for organic certification.

ii) Farmers, MSMEs (thru government programs) → OCBs

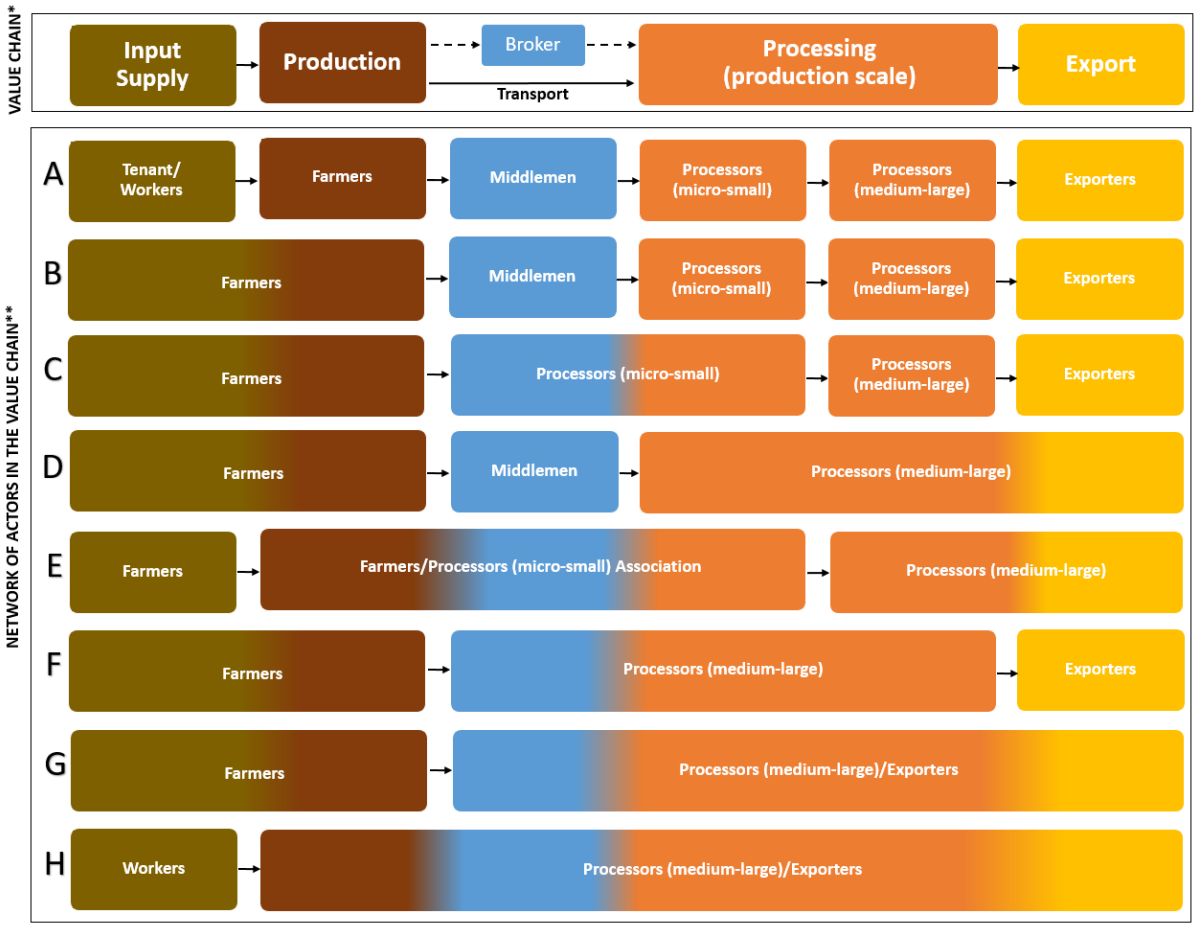
Development support programs of the government are another useful pathway to organic certification (Figure 8). The DA (e.g. PCA, BAFS) and DTI (e.g. PAB, EMB) are the government agencies that provide direct support to the certification of production, processing, and export of coconut oil in the Philippines. For example, the DA-BAFS provides subsidy for organic certification. Moreover, the DA's priority activities through its National Organic Agriculture Program (NOAB) in 2016-2017 included the Amendment of 2010 Organic Agriculture Act, formulation of guidelines for the enforcement of organic labelling, and provision of various inputs, postharvest facilities, and support services. The DTI's ONE TOWN, ONE PRODUCT (OTOP) PHILIPPINES, which is a priority stimulus program for MSMEs, includes business counselling, skills and entrepreneurial training, product design and development, appropriate technologies and marketing of different products including organic (DTI website). While many other agencies have programs that are not directly addressing organic certification, they help to raise awareness and encourage partnership on organic production and processing and ultimately participation in organic certification. For example, different government agencies have roles to play in implementing the Coconut Road Map. The DA and PCA are lead agencies for agro-enterprise development, transforming nucleus-estate enterprises to a value-chain oriented system. The DAR is the lead agency that fast tracks Agrarian Reform in coconut lands and organizes national and provincial stakeholder conferences to mobilize DAR-NGO-PO mechanism, where PO is People's Organization. The DTI serves a resource agency for value chain planning and provides marketing assistance and funds for shared common facilities. The DILG supports the Inter-LGU cooperation and the Local Government Units (LGUs) support the organization of coconut farmers, among others.

The government has also established partnership with various stakeholders to promote sustainable agriculture. For example, the Negros Island Sustainable Agriculture and Rural Development Foundation, Inc. (NISARD), a public-private partnership, is leading the promotion of organic agriculture in Negros Island (Maghirang et al., 2011). The Philippine Organic Agriculture Information Network, an information service that provides accessible data/ information to various stakeholders in the organic agriculture industry, is being supported by leading Philippine State Universities, OCBs, various associations, and government agencies like the PCARRD of the DOST, Bureau of Agricultural Statistics (BAS), Bureau of Agriculture and Fisheries Product Standards (BAFPS), and Bureau of Soils and Water Management (BSWM) (http://www.pcaarrd.dost.gov.ph/home/momentum/philorgagri/). International Organizations like IFOAM also provide opportunities for raising awareness on organic certification in the Philippines. The Philippines is member of the IFOAM Organics Asia, which conducts projects and activities such as Bio Villages, Asian Local Governments for Organic Agriculture (ALGOA), Producer-Consumer Partnership, and Participatory Guarantee System or organic certification (Belisario, n.d.). The ALGOA was inspired by the League of Organic Agriculture Municipalities and Cities, which is an association of Philippine Municipal Mayors who are advocating the prohibition of using genetically modified organisms (GMOs) and toxic chemicals in agriculture.

4.1.2 Value chain for organic coconut oil

a. Mapping the networks of value chain

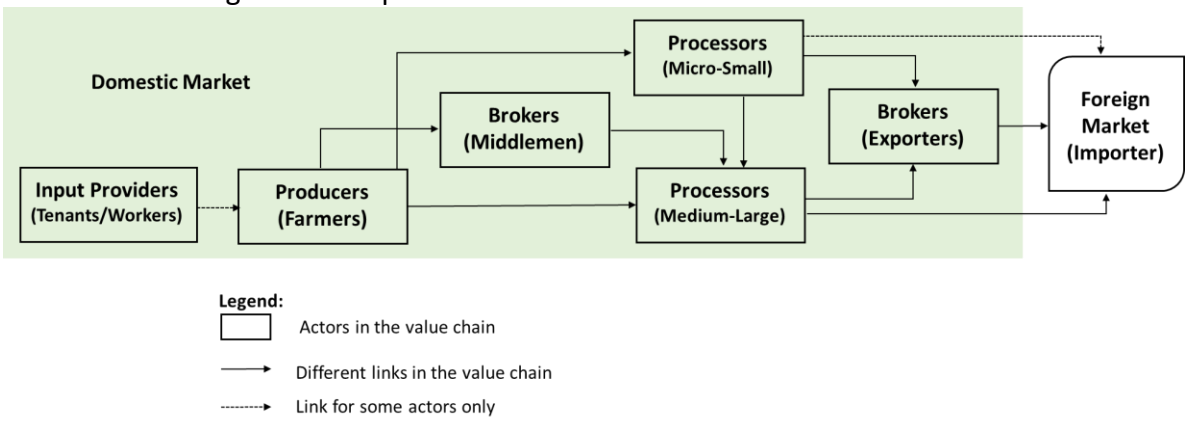
Box 2 shows that there is a complex links between the actors in the coconut oil value chain, which may begin from the input (i.e. labour) providers to the farmers and end at exporters or processors, who are exporting their coconut oil products abroad. Other inputs like seedlings and technical advice are not part of the value chain because they are often provided through support system of the government (e.g. PCA). The results of the survey revealed several major networks of actors in the value chain in the case study area (Figure 9). These networks are not completely exclusive because some actors like middlemen and processors can be involved in more than one network (Box 2, Figure *8*). Even if processors are not involved in other networks, many of them know each other because there are only few exporters of organic coconut oil and many are members of the same association. Among the networks, A has the largest and F has the least number of actors participating in the value chain (Figure 9). In large farms, tenant and workers are employed by farmers to look after the coconut trees and other crops (Network A). While brokers (i.e. middlemen) can play an important role in buying raw coconut from farmers and transporting them to processors, there are no brokers in between processors and exporters. There is often a direct link between the processors or exporters and, in most cases, the processors are exporting their own coconut oil products. In networks A and B, medium-scale processors are also buying processed coconut oil from small-scale (i.e. village) processors to increase the volume of their exports. Middlemen are not present in many other networks because the transport of raw coconut from the farms are taken over by the processors or farm associations. Nonetheless, there are large number of middlemen because of large number of small farms in the Philippines, many of them do not have links to the value-adding companies. Some associations include both farmers and processors (particularly small-scale) creating links between these two actors in the value chain. Associations for processors like VCOP allow medium-scale processors to export their coconut oil products because they give the members access to information and support on organic certification.



*Each box represent an actor in the value chain, where an actor can do different activities along the chain
**Network refers to specific linkage of actors in the value chain, where concentration of actors increases from networks A to H; Other networks may still exist that have not been covered by the survey.

Figure 9. Different networks of actors in the value chain for organic coconut oil in the Philippines

Box 2. Links among and description of the actors in the value chain



Farmers – are person who own (i.e. landholder), cultivate and manage the land for agricultural purposes. Many coconut farmers are small landholders. "Small farmer" depends on small-scale subsistence farming as their primary source of income and whose sale, barter or exchange of agricultural products do not exceed a gross value of One hundred eighty thousand pesos (P180,000) per annum based on 1992 constant prices (Republic Act No. 7607).

Tenants – are persons who, themselves and with the aid available from within their immediate farm households, cultivate the land belonging to, or possessed by, another, with the latter's consent for purposes of production, sharing the produce with the landholders (in this case, farmers) under the share tenancy system, or paying to the landholders a price certain or ascertainable in produce or in money or both, under the leasehold tenancy system (Republic Act No. 119).
Workers – or "farmworkers" are persons who render service value as employees or labourers in agricultural enterprises or farms regardless of whether their compensations are paid on a daily, weekly, monthly or wholesale (i.e pakyaw) basis (Republic Act No. 7607).
Middlemen – or brokers, are agents whose expertise is on selling or buying for their principals without having possession of or title to the goods. They earn their incomes through a commission that is a percentage of the value of the goods bought or sold. (Surtida, 2000)
Processors – are members of a company that processes product to add value (i.e. from raw coconut to coconut oil and markets products to consumers. They "add value to a product by changing its current place, time and from one set of characteristics to other characteristics that are more preferred in the marketplace" (Boland, 2009). Depending on size of asset and employment, they can be categorized as micro, small, medium and large enterprises.
Micro, small and medium enterprises – or MSMEs in the Philippines is defined as any business activity or enterprise engaged in industry, agri-business and/or services that has: (1) an asset size (less land) of up to PhP100 million; and (2) an employment size with less than 200 employees, regardless of the type of business ownership (i.e., single proprietorship, cooperative, partnership or corporation) (SEPO, 2012).
Exporter – is a country, firm, or person that sells and sends goods to another country (Collins Dictionary).
Importer – is a country, firm, or person that buys goods from another country for use in their own country (Collins Dictionary).

b. Profile of the value chain actors and institutions

The characteristics of the actors and institutions who participated in the survey are presented in Table 7. The largest number of respondents (45) are between 41 and 60 years old and the least number of them (24) are above 60 years old. About 75 percent of the respondents with age above 60 are farmers and tenants, while almost half with aged 40 and below are from institutions. There was slightly higher female than male respondents. Females are represented in all types of respondents, except for workers. The stakeholders account for the largest number of female respondents (31.82 percent). In terms of education, almost half of the 49 respondents with university degrees are from institutions. The other half of the respondents have elementary or high school education, many of them are coconut producers. The respondents are mainly married. Respondents who are single are only common among tenants. There are 49 owners of the farms and firms (i.e. processing, marketing), a significant number of them are farmers (61.90 percent), followed by the brokers (23.81 percent). The respondents from institutions are all employees.

Table 7. Personal characteristics of the actors and institutions, in percent

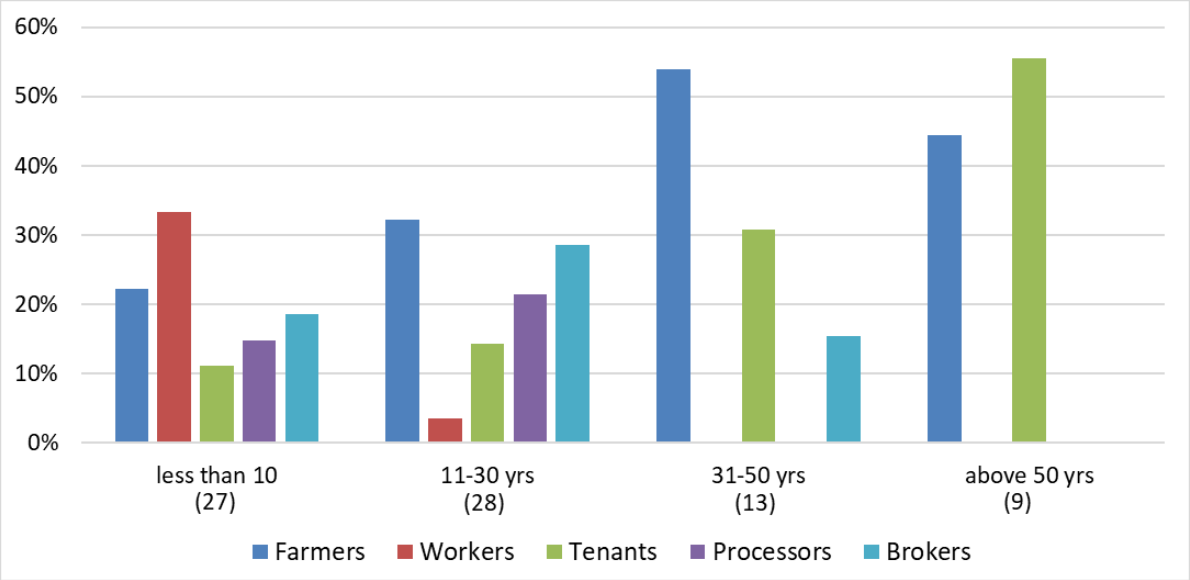
Characteristics	Number of respon-dents	Coconut Producers			Processors	Brokers	Institutions
		Farmers	Workers	Tenants			
Age							

• 20-40	33	12.12	24.24	3.03	9.09	9.09	42.42
• 41-60	45	26.67	4.44	15.56	11.11	22.22	20.00
• above 60	24	41.67	-	33.33	8.33	8.33	8.33
Gender							
• Male	42	29.31	17.24	10.34	8.62	15.52	18.97
• Female	60	20.45	0.00	22.73	11.36	13.64	31.82
Education							
• No formal	1	-	-	100.00	-	-	-
• Elementary	29	34.48	27.59	37.93	-	-	-
• High school	20	50.00	10.00	15.00	-	20.00	5.00
• Vocational/Tech. School	2	50.00	-	-	50.00	-	-
• University*	49	8.16	-	2.04	18.37	22.45	48.98
Sex							
• Single	16	-	-	100.00	-	-	-
• Married	82	34.48	27.59	37.93	-	-	-
• Widow/widower	4	50.00	10.00	15.00	-	20.00	5.00
Function							
• Owner	42	61.90	-	-	14.29	23.81	-
• Worker/employee	60	-	16.67	26.67	6.67	8.33	41.67

*Includes both graduate and undergraduate levels

Note: Except for the number of respondents, the values refer to percent of respondents for each category, i.e. values in each row sum up to 100 percent.

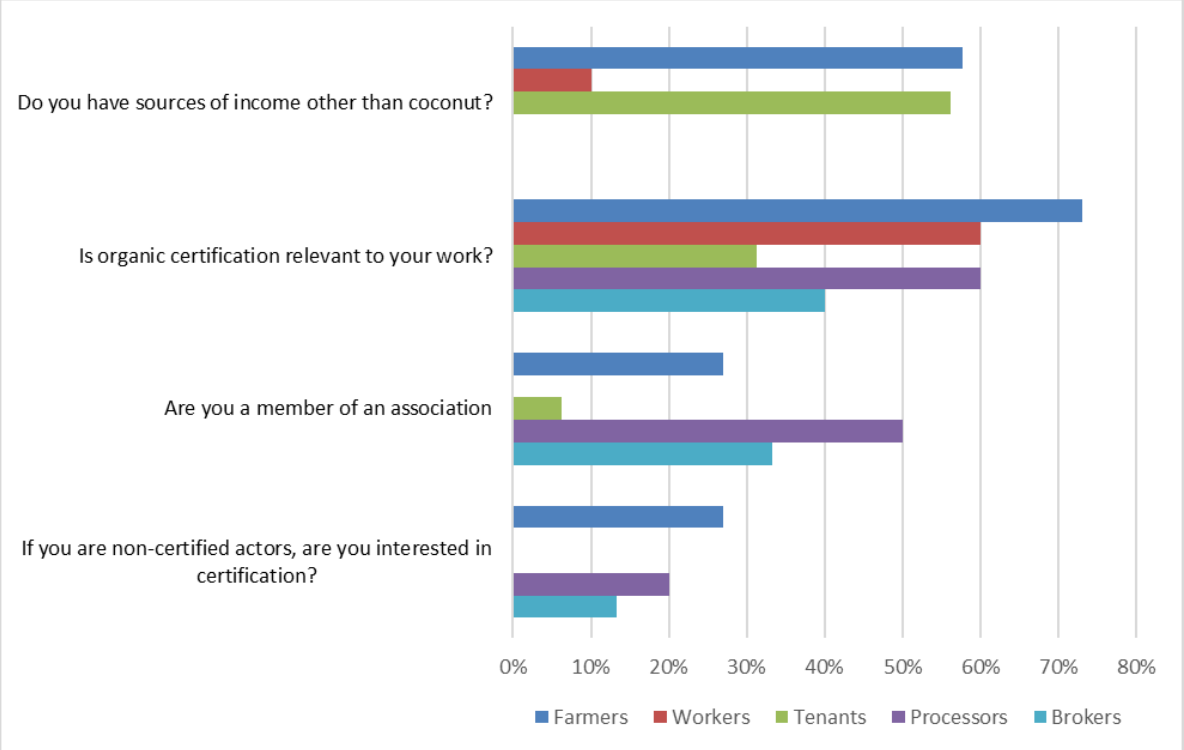
Figure 10 presents the number of years each type of actors has been engaged in producing, processing, or marketing coconut products. Most of the respondents are engaged in the work of business for less than 10 years (27 respondents) or between 11 and 30 years (28 respondents). The processors are in the business for 30 years or less. The respondents who are working for more than 30 years are mainly tenants and farmers. Figure 11 shows that while coconut producers have other sources of income, the only source of income for the processors and brokers is their business on coconut products. Organic certification is considered relevant in the work and business of at least 60 percent of the workers and processors and to a lesser degree for other actors. A quarter of the farmers and half of the processors in the survey are members of an association related to production and processing of coconut. For the actors whose production and processing are not yet certified, only less than 27 percent of the farmers and less than 20 percent of processors are interested in organic certification. The reasons for the lack of interest among the farmers include additional production costs, no market demand, and lack of information on certification and following organic practices (i.e. no need for certification to be organic). For the non-certified processors, the reasons include manpower scarcity, expensiveness, and exportation of non-certified products.



Note: Numbers in the parenthesis refer to the number of respondents who are engaged in the work or business for the given number of years

Figure 10. Years engaged in the production, processing or marketing of coconut products

Figure 11. Production characteristics of the value chain actors, in percent



Note: The values refer to percentage of respondents who answered yes to the questions related to the above characteristics.

All survey respondents, except for the institutions, were asked if they are following organic practices. Figure 12 presents the percentage of the actors in the value chain which apply organic practices in their work. All workers and processors who were surveyed indicated that they are practicing organic farming and processing, respectively. About 85 percent of the farmers and tenants and 60 percent of the brokers are applying organic practices. According

to the surveyed institutions, practices in coconut farms are organic by "default" or "neglect". The organic practices in the production of raw coconut include no use fertilizer and pesticides, no intercropping, use of salt as fertilizer, and use of organic fertilizer. For the farmers and tenants, the main reasons for not practicing organic farming are the need to apply fertilizers for the other crops (i.e. intercrops) in the coconut farm and inject pesticides to the coconut trees that were infected by pest and diseases. The processors explained that they are applying methods of processing that are organic including, for example, wet process that uses no heat, wet centrifuge process, conventional or cold process fermentation, filtered products, no chemicals added, etc. Because not all the processors are certified, only parts of their processing methods are organic and do not strictly adhere to national or international standards. For the 60 percent of the brokers who indicated that their work is applying organic practices, they are mainly middlemen who supply raw coconut products to medium and large processing companies as in Network D and organic certified exporters of coconut oil in the foreign market as in Network G (Figure 9). The rest of the brokers are either not participating in the networks of certified coconut oil, or they are part of these networks, but buying and selling both organic and non-organic raw coconut.

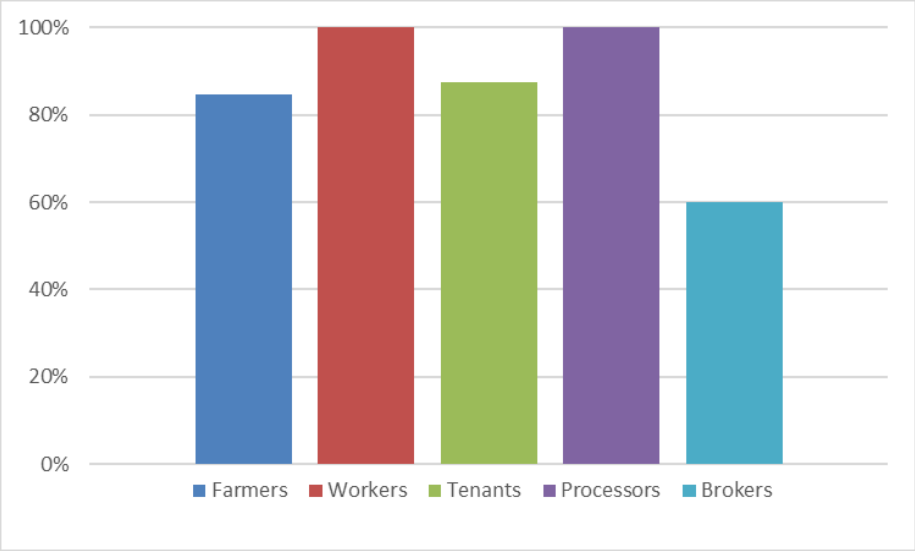


Figure 12. Proportion of value chain actors following organic practices

4.2 Role of actors in the value chain

4.2.1 Embeddedness in the value chain

This section aims to assess the level of embeddedness of each actor in the value chain. It described the links among the actors in the value chain particularly as sources of information, buyer of inputs and supplier of products, contract agreement or partnership, and provision of technical and marketing support. Embeddedness refers not only to connectedness between the actors in the value chain, but also to the benefits which are generated from economic networks and gained by the actors themselves and local communities (chapter 2.2).

a. Linkages between value chain actors

Figure 13 shows the linkages of actors in the value chain with respect to certification and sustainable production. Specifically, it shows that many actors consider brokers of raw coconut to have an important role in facilitating transfer of information on or support for certification, partnership for certification or sustainability standards, and technical advice for sustainable production from other actors in the value chain. On the one hand, processors of coconut oil have links with many other actors on all aspects of certification and sustainable production, hence, they are the dominant recipient of support and technical advice as well as partners for certification in the value chain (i.e. refer to blue circles, with processors having largest size). On the other hand, brokers of raw coconut (i.e. middlemen) are important providers of information on and partnership for certification for all actors, except for the processors. Broker of coconut seedlings and producer of coconut inputs do not have any links to the actors in any aspects of certification and sustainable production (see bottom part of Figure 13).

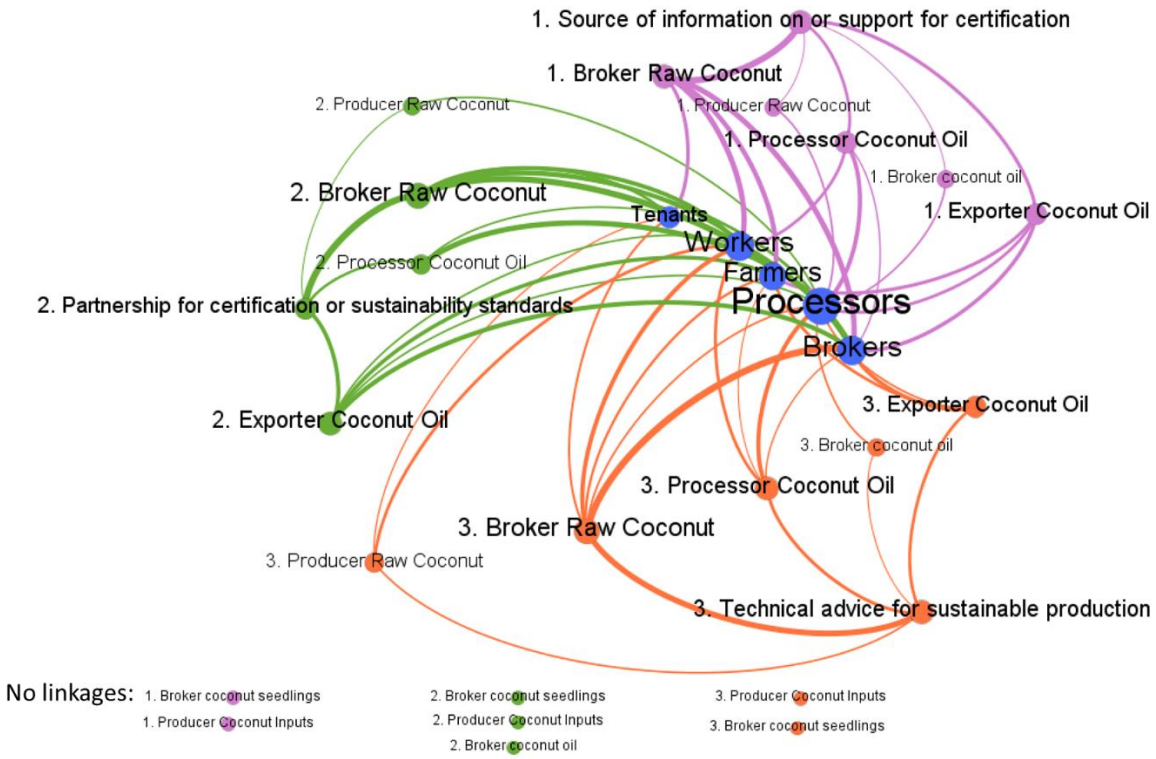


Figure 13. Linkages of actors in the value chain with respect to certification and sustainable *production.*

Note: Larger nodes (circles) and thicker edges (curve lines) imply actors are receiving information on or support for certification, having partnership for certification or sustainability standards, and receiving technical advice for sustainable production from other actors in the value chain. The surveyed actors in the value chain are represented in blue nodes.

Table 8 reveals that around 40 percent of workers and brokers receive information or support from brokers of raw coconut. While the processors have the more diversified sources of information on or support for certification, their main linkages are other processors as well as exporters of coconut oil. After brokers of raw coconut, the exporters of coconut oil are considered important partners for certification or sustainability standards (Figure 13). While

none of the brokers, which include middlemen, have partnership with the producers of raw coconut (Table 8), between 18 and 30 percent of the farmers, workers and tenants consider the middlemen to be their partners for getting their farms certified as organic. Hence, partnership does not represent a mutual perception from both sides. However, none of the farmers and tenants consider the processors as partner for organic certification, which confirms that the producers of raw coconut have more links to middlemen than processors. More than 20 percent of the farmers consider the exporters of coconut oil as not only source of information on or support for certification, but also partner for certification or sustainability standards. There are more farmers than processors who have links to the exporters on these issues because many of the latter export their own coconut oil products in the foreign market. However, about 20 percent of the processors have links to exporters in many aspects of the value chain including organic certification and buyer of coconut oil abroad. These links are reinforced between processors and exporters who are members of the same association.

Table 8. Linkages of actors in the value chain with respect to certification and sustainable production, in percent

Description of links in the value chain	Farmers	Workers	Tenants	Processors	Brokers
1. Source of information on or support for certification					
Producer Raw Coconut	-	-	-	10.00	-
Processor Coconut Oil	-	20.00	-	30.00	6.67
Exporter Coconut Oil	23.08	-	-	20.00	26.67
Broker Raw Coconut	34.62	40.00	25.00	-	40.00
Broker coconut oil	-	-	-	10.00	-
2. Partnership for certification or sustainability standards					
Producer Raw Coconut	-	-	-	10.00	-
Processor Coconut Oil	-	10.00	-	40.00	-
Exporter Coconut Oil	26.92	10.00	-	10.00	33.33
Broker Raw Coconut	30.77	30.00	18.75	20.00	46.67
3. Technical advice for sustainable production					
Producer Raw Coconut	-	20.00	6.25	-	-
Processor Coconut Oil	3.85	20.00	-	30.00	6.67
Exporter Coconut Oil	19.23	-	-	10.00	26.67
Broker Raw Coconut	15.38	30.00	12.50	10.00	53.33
Broker coconut oil	-	-	-	10.00	-

Note: More details are available in Appendix 6.

Processors and exporters of coconut oil are both important sources of technical advice for sustainable production, albeit less important than brokers of raw coconut (Figure *14*). While brokers of raw coconut are important for all other brokers (i.e. middlemen, exporters) in the value chain, processors of coconut oil are important sources of technical advice mainly for other processors. Up to 30 percent of them have links to other processors on not only technical advice, but also all other aspects of the value chain (Table 8). These links could be explained by medium- and large-scale processors that buy coconut oil from small-scale (village) processors and many surveyed processors that are members of the same association. Brokers of coconut oil are only important for the processors of coconut oil, albeit low at only 10 percent of the latter having this link to the former.

Figure 14 presents the linkages of actors in the value chain with respect to production and processing of coconut products. It shows that, except for the tenants, almost all surveyed actors (blue circles) are equally receiving information on production inputs and methods, supply of input and raw materials for the production, and contract agreement for production and processing from other actors in the value chain. Again here, the brokers of raw coconut play an important role in providing information and services on production and processing of coconut products. Producers of coconut seedlings do not have any links to the actors in any aspects of production and processing of coconut products (see bottom part of Figure 14). Coconut seedlings are usually produced by the farmers on their farms or, in case of improved varieties, provided by the government through coconut rehabilitation programs to replace coconut trees damaged by pests or typhoons.

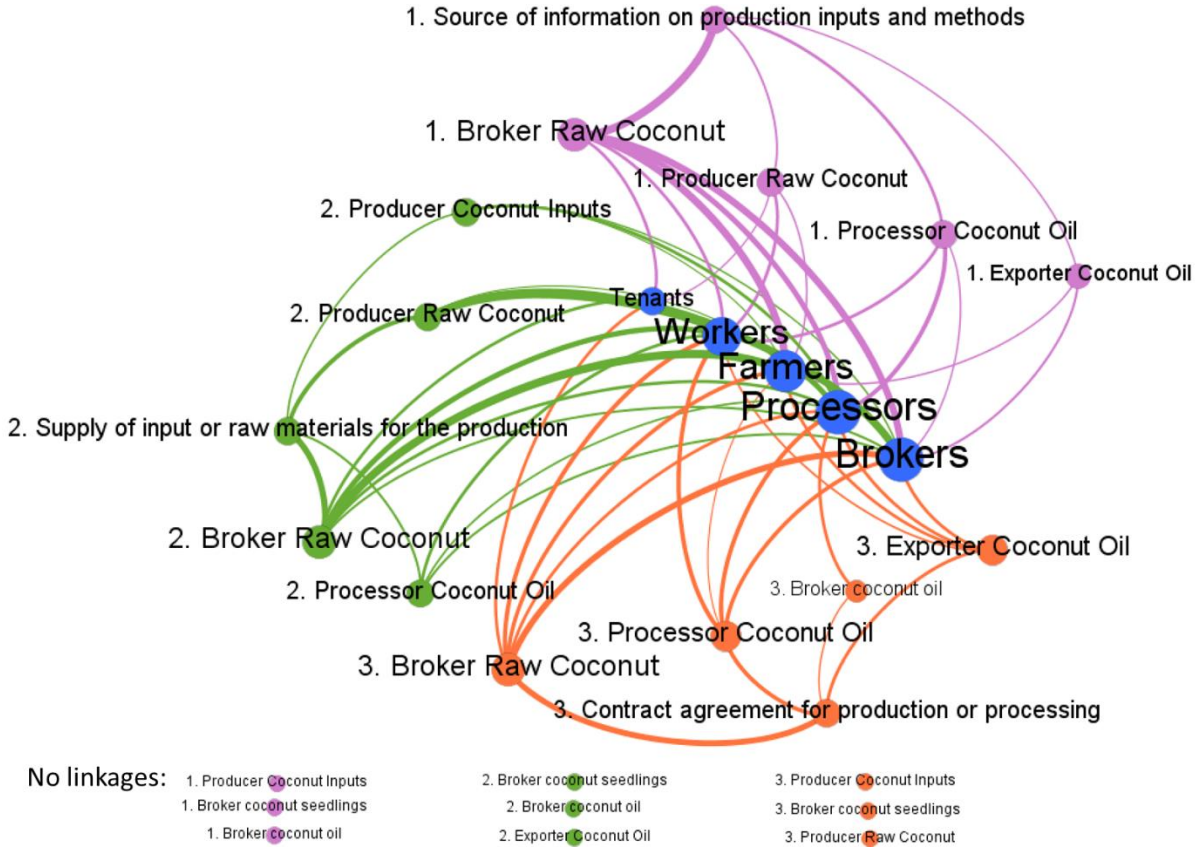


Figure 14. Linkages of actors in the value chain with respect to production and processing of *coconut products.*

Note: Larger nodes (circles) and thicker edges (curve lines) imply actors are receiving information on production inputs and methods, supply of input and raw materials for the production, and contract agreement for production and processing from other actors in the value chain. The surveyed actors in the value chain are represented in blue nodes.

Table 9 presents more details on the links of the actors to the producer of raw coconut (i.e. farmers). While about 20 percent of the workers depend on the farmers on source of information on inputs and methods, only about 6 percent of the tenants have the same links to the farmers. Only a small number of farmers get information on production inputs or methods and supply of raw materials (e.g. seedlings) from other farmers. The producers of

raw coconut are important suppliers of inputs for many processors and brokers, but the latter do not depend on information on production inputs and methods on the former. In case of certified processors, they are the one providing information on production inputs and methods to the producer of raw coconut to ensure compliance to organic standards. The results of the survey emphasize the significant role of middlemen particularly for the producers of raw coconut. A significant number of farmers (65 percent) and workers (40 percent) have links to middlemen who buy raw coconut from them and sell to the processors. But only about 20 percent of the processors have links to the middlemen because many of them directly buy and collect raw coconut from the farms. Although many of the surveyed certified processors and brokers are getting their raw coconut from the surveyed coconut producers (Table 9), only 10 percent of the processors and none of the brokers (including exporters) consider themselves to have a partnership for certification with the latter (Table 8). This implies that the former considers the latter as supplier of their inputs and not as partner in their business operations. Partnership will have advantages for the farmers in terms of higher prices and guaranteed demand for the raw coconuts. Although none of the surveyed processors and brokers has contract agreement with producers of raw coconut, the surveyed farmers and workers are contract growers for other processors and exporters who are not part of the survey (Table 9). However, the number of contract farmers by processors of coconut oil is low at less than 4%.

Table 9. Linkages of actors in the value chain with respect to production and processing of coconut products, in percent

Description of links in the value chain	Farmers	Workers	Tenants	Processors	Brokers
1. Source of information on production inputs and methods					
Producer Raw Coconut	7.69	20.00	6.25	-	-
Processor Coconut Oil	-	20.00	-	30.00	6.67
Exporter Coconut Oil	7.69	-	-	-	13.33
Broker Raw Coconut	57.69	20.00	18.75	40.00	53.33
2. Supply of input or raw materials for the production					
Producer Coconut Inputs	3.85	-	-	20.00	6.67
Producer Raw Coconut	3.85	-	-	40.00	60.00
Processor Coconut Oil	-	20.00	-	10.00	13.33
Broker Raw Coconut	65.38	40.00	18.75	20.00	13.33
Broker coconut oil	-	-	-	-	-
3. Contract agreement for production or processing					
Processor Coconut Oil	3.85	30.00	-	30.00	26.67
Exporter Coconut Oil	19.23	10.00	-	20.00	20.00
Broker Raw Coconut	26.92	30.00	18.75	20.00	46.67
Broker coconut oil	-	-	-	20.00	-

Note: More details are available in Appendix 6.

Figure 15 presents the linkages of actors in the value chain with respect to marketing of coconut products. Brokers of raw coconut are most important sources of information on markets and where to sell products, but not as buyers of product for wholesale or exportation and providers of market support to other actors in the value chain. For the latter two aspects of marketing coconut products, processors and exporters of coconut oil play an equally important role. Producers of raw coconut are also able to provide market support for other

producers like tenants and workers. However, the former are not sources of information on markets and where to sell products and buyers of product for wholesale or exportation (see bottom part of Figure 15). Workers, farmers, processors, and brokers are equally receiving market information and support from almost all actors in the value chain, except for producers of coconut inputs and brokers of coconut seedlings. Thus, the latter actors are most disconnected in the value chain, without any linkages on certification (Figure 13), production (Figure 14, except for sources of information on inputs and methods), and marketing (Figure 15) to the surveyed actors. However, they are very important in ensuring that coconut products are truly organic from field to table (i.e. issues of traceability).

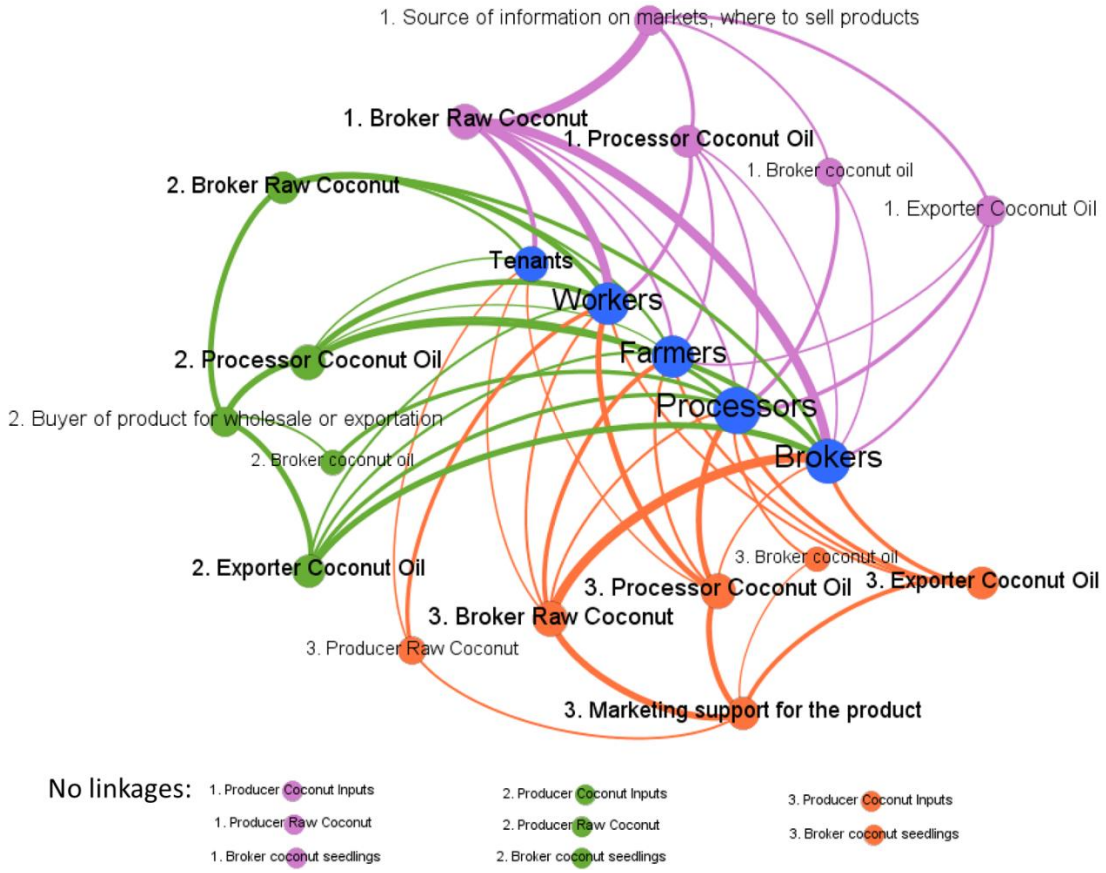


Figure 15. Linkages of actors in the value chain with respect to marketing of coconut products.
Note: Larger nodes (circles) and thicker edges (curve lines) imply actors are receiving information on markets and where to sell products, having buyer of product for wholesale or exportation, and receiving market support from other actors in the value chain. The surveyed actors in the value chain are represented in blue nodes.

Table 10 shows that brokers of raw coconut are sources of information on markets for about half of the surveyed workers and brokers as well as a smaller number of farmers, tenants, and processors. While processors have more diversified sources of information on markets, more than half of the surveyed brokers rely largely on information from brokers of raw coconut. While about 30 percent of the surveyed workers rely on both processors of coconut oil and brokers of raw coconut for wholesale and exportation of coconut products, only 10 percent of them get support from exporter of coconut oil. The surveyed brokers are more linked to processors and exporters of coconut oil for wholesale and exportation. Not only the surveyed brokers, but also farmers are getting significant support from brokers of raw coconut on marketing coconut products. In case of the surveyed workers and processors, main sources

of support for marketing are not the brokers of raw coconut, but the processors of coconut oil. Thus, as compared to the support for certification (Table 8) and production (Table 9), the linkages among the actors for marketing support are more spread across the value chain (Table 10).

Table 10. Linkages of actors in the value chain with respect to marketing of coconut products, in percent

Description of links in the value chain	**Farmers**	**Workers**	**Tenants**	**Processors**	**Brokers**
1. Source of information on markets, where to sell products					
Processor Coconut Oil	11.54	20.00	-	10.00	6.67
Exporter Coconut Oil	7.69	-	-	20.00	13.33
Broker Raw Coconut	11.54	50.00	25.00	10.00	53.33
Broker coconut oil	-	-	-	20.00	6.67
2. Buyer of product for wholesale or exportation					
Processor Coconut Oil	3.85	30.00	6.25	20.00	26.67
Exporter Coconut Oil	11.54	10.00	-	20.00	33.33
Broker Raw Coconut	11.54	30.00	12.50	-	20.00
Broker coconut oil	-	-	-	20.00	-
3. Marketing support for the product					
Producer Raw Coconut	-	20.00	6.25	-	-
Processor Coconut Oil	11.54	30.00	6.25	30.00	6.67
Exporter Coconut Oil	11.54	10.00	-	20.00	20.00
Broker Raw Coconut	23.08	10.00	6.25	10.00	53.33
Broker coconut oil	-	-	-	10.00	-

Note: More details are available in Appendix 6.

The actors were asked to specify “other” links or sources for the same aspects of the value chain (Table 11). Among the producers of raw coconuts, only the farmers indicated “other” links or sources. However, these refers to their “own” (i.e. themselves) as links and sources, except for the technical advice for sustainable production. The farmers have received technical advice from the government agencies such as DTI, DOST, DA, and PCA. For the processors, the “other” links or sources refer mainly to the same government agencies. A higher number of processors have links to these agencies than the farmers and brokers. This can be explained by the close cooperation of the processors’ association with the government agencies to promote the development of the coconut oil sector. Like the farmers, the brokers mainly specify “own” as other links or sources. Only few of them mentioned DTI, DOST, DA, and PCA.

Table 11. Links of the actors to others, in percent

Description of links	Farmers	Workers	Tenants	Processors	Brokers
Source of information on or support for certification	11.54	0.00	0.00	30.00	20.00
Source of information on production inputs and methods	0.00	0.00	0.00	20.00	20.00
Source of information on markets, where to sell products	26.92	0.00	0.00	30.00	20.00
Supply of input or raw materials for the production	0.00	10.00	0.00	0.00	6.67

Buyer of product for wholesale or exportation	23.08	0.00	0.00	30.00	20.00
Contract agreement for production or processing	11.54	0.00	0.00	0.00	6.67
Partnership for certification or sustainability standards	15.38	0.00	0.00	20.00	13.33
Technical advice for sustainable production	34.62	0.00	0.00	40.00	6.67
Marketing support for the product	15.38	0.00	0.00	30.00	13.33

Note: More details are available in Appendix 6.

b. Benefits on actors and community

Figure 16 provides an overview of the impacts of organic certification on both actors and communities. Except for workers and tenants who do not know the answer, all actors think that organic certification has positive impacts on the community including, for example, better quality, healthier and safer products, and good environment. But many of them think that certification does not only have advantages, but also disadvantages to the community such as higher prices for the product. In case of the benefits for the actors in the value chain, the farmers, processors, and brokers think that while certification has positive impacts, it has also some disadvantages. Almost 50 percent of the processors think that certification has disadvantages on the actors and the same percentage of the farmers has the opposite opinion. On the one hand, the advantages include increase demand and income, better market opportunity, and awareness on standards. On the other hand, the disadvantages include higher production costs, more work to comply, and additional costs from recertification and inspection/audits.

Figure 16. Opinion on impacts of certification on actors and communities, by type of actors

Note: Workers and tenants' responses are "I do not know", hence no values are shown for them on the diagram.

Table 12 elaborates on who among the actors gets the highest benefits from certification. The main benefits mentioned by the actors include better awareness, higher income, more export opportunities, and healthier or safer products. All surveyed processors think that middlemen

of raw coconut and the processors of coconut oil benefit most from certification. A minor share of the farmers and brokers (i.e. 37.50 percent) have the opinion that exporters of coconut oil are benefitting the most. The opinion of the institutions only slightly supports that of the brokers, which indicates that different actors in the value chain equally benefit from certification. While some institutions agree on the benefits for different actors, between 42 and 67 percent of them think that the exporters and middlemen get the most benefits from certification. The benefits mentioned by the institutions include higher income and profits for organic products sold in both domestic and export markets, better access to and competitiveness in the global market, availability of marketing support and incentives for organic products, improved negotiating power, better product quality standard, increased confidence and trust on product quality, and more sustainable and safer environment. When it comes to access to multiple certifications (i.e. certification for different products in the farm or firm), all processors and majority of the institutions think that the processors are in best position to access them. But many actors across the value chain and institutions indicate that exporters of coconut oil can easily get multiple certifications.

Table 12. Impacts of certification on value chain actors, in percent

Impacts	Producer of coconut inputs	Producer of raw coconuts	Processor of coconut oil	Exporter of coconut oil	Middlemen supplying raw coconut	All Actors equally benefits*/ None of the actors**
*Who gets the highest benefits from certification?						
Farmers	-	-	-	37.50	-	-
Processors	-	-	100.00	25.00	100.00	-
Brokers	-	-	-	37.50	-	100.00
Institutions	21.43	6.67	18.75	41.94	66.67	24.00
*Who easily gets multiple certification among actors in the value chain?						
Farmers	-	-	-	42.86	-	-
Processors	-	-	100.00	14.29	-	-
Brokers	-	-	-	42.86	-	100.00
Institutions	28.57	35.71	85.71	57.14	-	-
**Who are most disadvantaged from certification?						
Farmers	-	50.00	-	-	-	25.00
Processors	-	25.00	-	-	100.00	25.00
Brokers	-	25.00	-	-	-	50.00
Institutions	21.43	28.89	3.13	-	16.67	28.00
**If the produce gets rejected/is not sold due to failure to meet standards, who are the losers (i.e. bear the risks)?						
Farmers	-	100.00	33.33	-	-	-
Processors	-	-	-	-	-	100.00
Brokers	-	-	33.33	100.00	100.00	-
Institutions	21.43	33.33	34.38	29.03	16.67	4.00
**Do you know of actors who gave up or discontinued their certification?						
Farmers	-	-	-	-	-	25.00
Processors	-	-	-	-	-	37.50
Brokers	-	-	-	-	-	37.50

Institutions	7.14	20.00	6.25	3.23	-	44.00

Note: The values are percent of the respondents who have chosen the corresponding value chain actors to be impacted by the issues raised in the questions.

The opinions of actors and institutions on who are most disadvantaged from certification diverge (Table 12). Half of the surveyed farmers think that they are the most disadvantaged due to low price of coconut. While half of the brokers think that none of the actors is disadvantaged, a significant number also think that farmers are most disadvantaged who remain poor. About a quarter of the surveyed processors and institutions have the opinion that the farmers are disadvantaged, but the same share of both think that none of the actors is disadvantaged. The reasons given for farmers not benefiting from certification include high certifications costs, cumbersome paperwork, low income from certified raw coconuts, premium given only to certified processed products, burden on compliance on the farm level, and labour intensive on organic farming for less money. When specifically asked who bears the risks of certification, e.g. costs when produce gets rejected/is not sold due to failure to meet standards, except for the processors who think that none of the actors bears the costs, all other actors think that they are the one bearing the costs. Despite these issues, none of the actors knows anyone in the value chain who gave up or discontinued certification. About 20 percent of the institutions know farmers who gave up certification.

4.2.2 Power in the value chain

a. Relative importance of the actors

This section aims to assess the relative power of the actors to each other. The assessment is based on the opinion of the respondents on the most important actor(s) in the value chain (Figure 17). Only the institutions think that producer of coconut inputs (i.e. labour, seedlings, etc.) and brokers, who supply coconut seedlings, are most important actors in the value chain. Both institutions (ca. 70 percent) and processors (ca. 30 percent) have the opinion that producers of raw coconuts (i.e. farmers, and their workers and tenants) are the most important actors in the value chain. For all farmers, the brokers (i.e. middlemen), who supply raw coconut to processors of coconut oil, are the most important actors. This confirms the results of the survey on the links of the farmers to middlemen in the value chain (Table 9). Although most of the surveyed processors are either supplying coconut oil to exporters or exporting their own coconut oil in the foreign market, all of them think that brokers supplying coconut oil to exporters are most important actors in the value chain. Their responses tend to emphasize their roles as “brokers” of coconut oil in the foreign market. Among the different actors in the value chain, the processors and exporters of coconut oil turned out to be the most important actors for all respondents. Between 20 and 30 percent of the surveyed institutions, farmers and brokers think that processors and exports are the most important actors in the value chain. While only about 10 percent of the processors think that they (i.e. processors of coconut oil) are the most important actors, about 30 percent of them think that the exporters of coconut oil are the most important actors. It is important to note here again that many of the processors are also exporting coconut oil in the foreign market, implying that they agree of the importance of their role in the value chain.

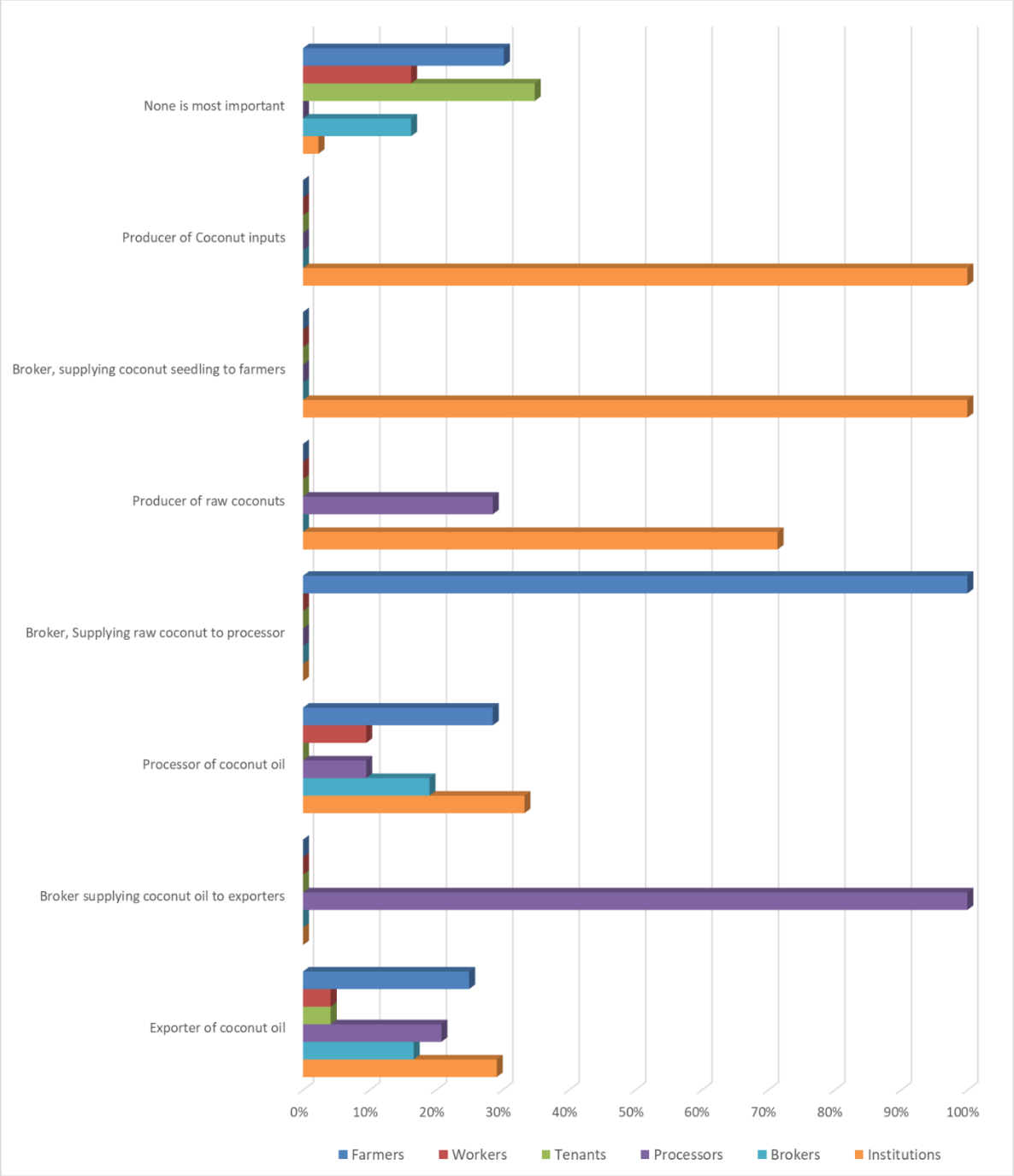


Figure 17. Opinion on most important actors in the value chain, by type of respondents
Note: The percentage refer to the proportion of respondents (i.e. refer to colour legend below the bar graph) who think that specific actor (i.e. refer to the actor's left-hand side of the bar graph) is most important in the value chain. For example, about 70 percent of the institutions and 30 percent of the processors think that the producers of raw coconuts are most important actors in the value chain.

b. Access to information and resources

Figure 18 provides the reasons why the respondents think that specific actors are most important in the value chain. Most of the respondents (i.e. 25-40 percent) considered the exporters of coconut oil as most important actors when it comes to accessing international

buyers or markets, accessing information on and support for certification, building partnership with other actors, and influencing government policy on policy standard. But a significant number of respondents (22 percent) think that only exporters, but also processors of coconut oil have capacity to influence government policy. A larger number of respondents (i.e. 25-40 percent) considered the processors of coconut oil as most important actors as far as influencing production methods/practices, production schedule (e.g. harvest, supply), and quality/quantity of production of other actors in the value chain. Among the different types of brokers, only those supplying raw coconut to processors (i.e. middlemen) are considered most important. Majority of the respondents think that middlemen are the most important actors when it comes to setting and negotiating level of product prices in the value chain, followed by exporters and processors of coconut oil. The farmers are considered only by about 10 to 20 percent of the respondents to be most important in influencing schedule, quality and quantity of production, and accessing sources and suppliers of inputs. The rather insignificant influence of the farmers in the value chain is further verified by the opinion of the respondents on the least important actor (Figure 19). The producers of coconut (i.e. farmers) are considered least important for all types of activities in the value chain by up to 40 percent of the surveyed respondents. They are considered to have very little influence on issues that could improve their bargaining power and income level, for example, in setting or negotiating the level of prices for their products, accessing information on and support for certification, building partnership with other actors in the value chain, and influencing government policy on production standard.

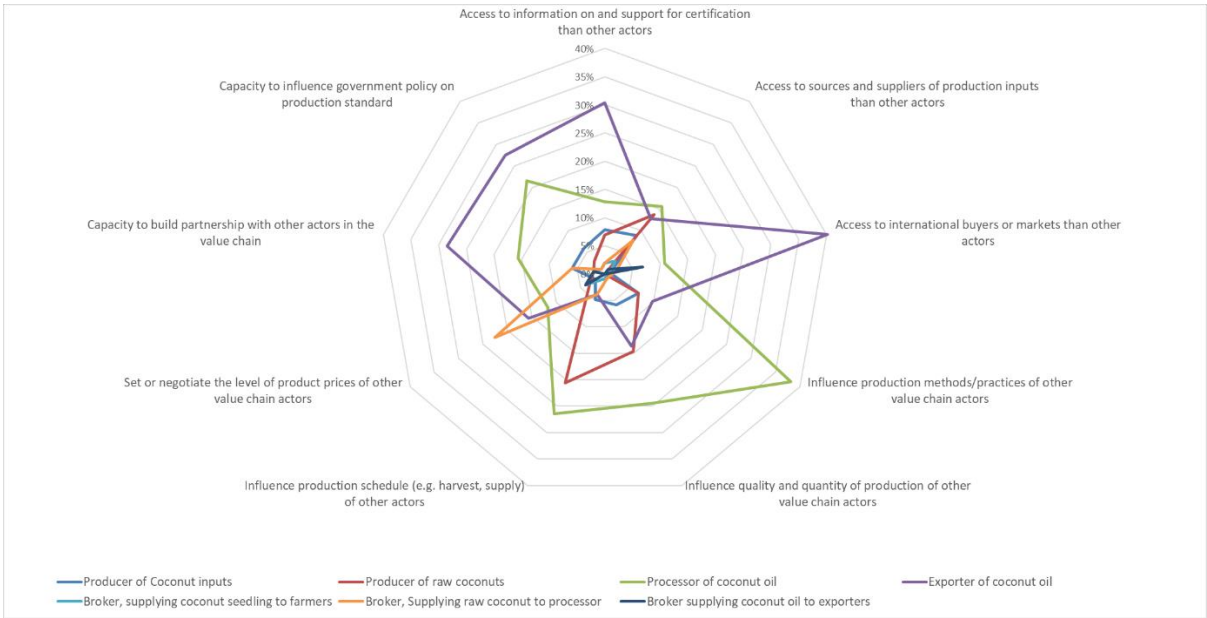


Figure 18. Opinion on most important actors in the value chain, by type of activities
Note: Values in percent refer to the share of the respondents who gave the opinion on the specific issues presented in the diagram

Figure 19. Opinion on least important actors in the value chain, by type of activities
Note: Values in percent refer to the share of the respondents who gave the opinion on the specific issues presented in the diagram

4.2.3 Implications on the role of actors in the value chain

The results revealed that producers of raw coconut are the least embedded and have the least power among the value chain actors. Although they provide the most important raw materials for producing organic coconut oil, other actors do not consider them as partners or do not build partnership with them. They are not well embedded in the value chain in terms of source of information on production inputs and methods as well as technical advice for sustainable development. This is although more than 80 percent of the surveyed producers of raw coconut are practicing and thus knowledgeable of organic production (chapter 4.1.2). The survey also revealed that a significant number of them consider themselves as knowledgeable on technical advice for sustainable development, indicating themselves as "other" sources (Table 11). Nonetheless, the processors who apply for certification send their suppliers (i.e. producers) of raw coconut to attend seminars to be informed about organic production to ensure that they meet the certification requirements (chapter 4.1.1). Not only the farmers, but also other actors in the value chain think that certification brings less benefits to the producers of raw coconut. The lower benefits of the producers of raw coconut from organic certification make them even more less embedded in the value chain. While having low level of embeddedness, the producers of raw coconut are also considered to have the least power in the value chain in terms of their access to information and resources. Unless connectedness in the value chain, benefits from organic certification, and access to information and resources improve, the producers of raw coconut will have little bargaining power to increase prices of their organic products and influence government policy on production standards.

While the middlemen turned out to be the most embedded in the value chain, reaching out to actors across different parts of the value chain, the processors and exporters have the largest power among the actors in the value chain. The producers of raw coconut consider

middlemen to be more valuable sources information on and support for certification than the processors. The processors get information on and support for certification from each other. This confirms the important role of processors' association, where many of the surveyed processors are members to Virgin Coconut Oil Producers and traders Association of the Philippines, Inc. (VCOP) and which provides opportunity to exchange information not only with processors, but also with exporters and OCB. Such an association is just starting to develop for producers of raw coconut and small-scale processors of coconut oil, i.e. QFUC. The QFUC has recently become a member to VCOP, which may improve the embeddedness of few producers of raw coconut in the value chain. Improving embeddedness through participation in association of processors and exporters will also help improve power because it facilitates not only access to information and resources but also partnership. Partnership will not limit the role of producers of raw coconut as merely suppliers of raw materials to processors and exporters, but as partners who are able to negotiate prices for their produce and advise on practical methods for organic production.

4.3 Motivations, barriers, and opportunities in organic certification

4.3.1 Motivations for organic certification

This section discusses the responses on questions in part B of the questionnaire. These questions refer to motivations for getting certification (question 23) and achievement of the expected goals (question 24). In these questions, the respondents rated different motivations based on their level of importance (i.e. very important, important, least important). The motivations cover economic (i.e. income, demand for product), environmental (i.e. conservation), and social (i.e. follow trend, build partnership) aspects as well as external support for production and marketing. This section also discusses motivations (question 26d) and accessibility (question 28d) to multiple certification.

Figure 20 shows the motivations for applying organic certification among certified actors. Increase in income is the most important motivation for about 75% of the certified actors. This is followed by increase in demand for the product, albeit with much lower percentage of actors (ca. 25 percent). However, increase in demand is considered important by more than 40 percent of the certified actors. The decisions of certified actors do not seem to influence those of other actors. Following the trend (i.e. do what others do) on organic certification is the least important motivation for almost 30 percent of the certified actors. Provision of support, both production and marketing, is also not relevant motivation for organic certification. Environment conservation is an important motivation for only less than 10 percent of the certified actors. A significant share of the certified actors (about 19 percent) consider environment conservation as least important motivation. The certified actors were also asked to identify which among the motivations have been realized after getting their farm or firm certified. While about 10 certified processors and brokers mentioned that their income increased after certification, only one certified farmer experienced an increase in income. However, it is important to note here that while many of the farmers as well as their workers and tenants are sources of raw coconut for the certified processors, some of them do not know that they are part of a value chain with organic certification (Although they get instructions to follow organic production by the buyer of their coconut products). Hence, the latter group of farmers did not provide any motivations for organic certification.

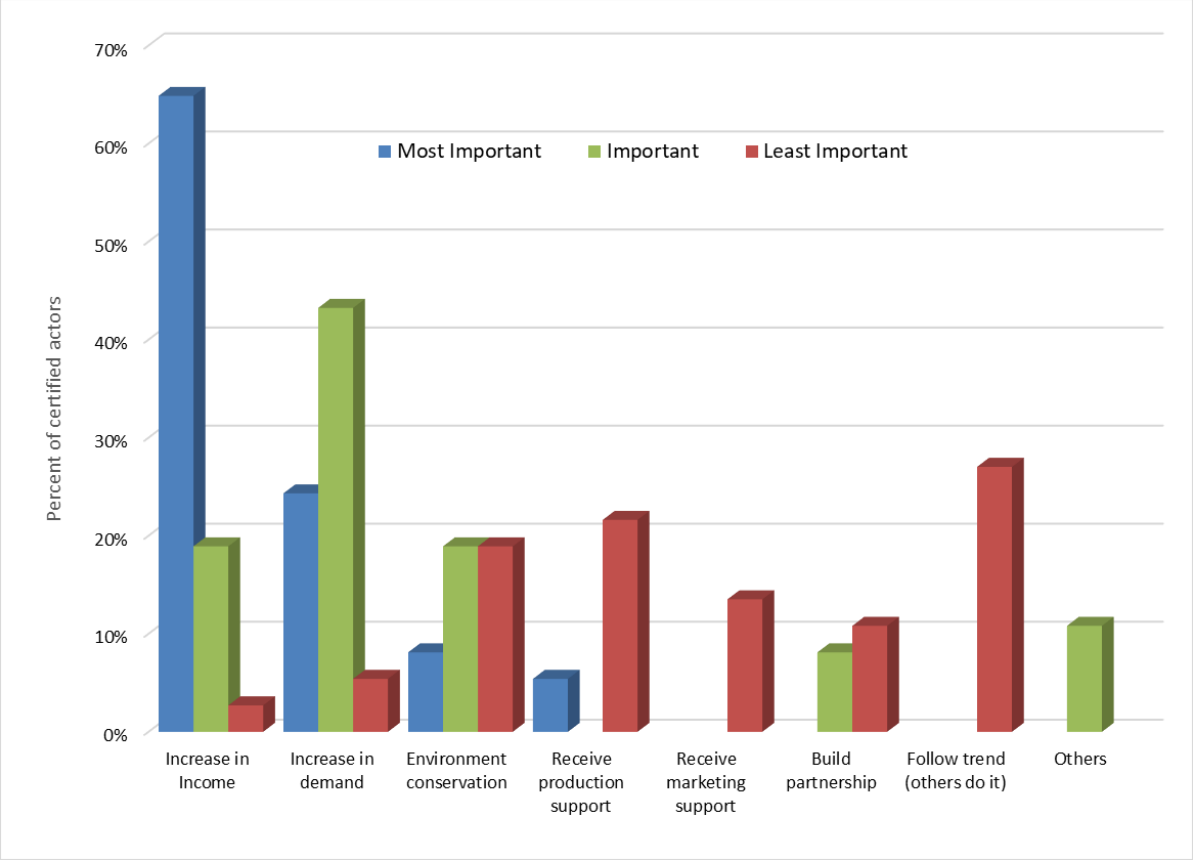


Figure 20. Motivations for organic certification by level of importance
Note: The values refer only to respondents who have applied for organic certification

Figure 21 summarizes the opinion of the certified farmers about obtaining more than one type certification (e.g. not only organic but also Fairtrade, GAP, UTZ, etc. see Table 1). About 40 percent of the farmers and processors think that it is easier to get another certification if they have already one certification. A significant number of the brokers, about 65 percent, have the opposite opinion. Many processors also think that it is not easier to get another certification even though they are already certified. Nonetheless, almost half of the certified processors are interested to get other types of certification. While some farmers and brokers expressed interest in getting other certification, a higher percentage are not. Workers and tenants did not provide any opinion because they do not consider themselves as certified actors or are not aware that they are part of a certified value chain.

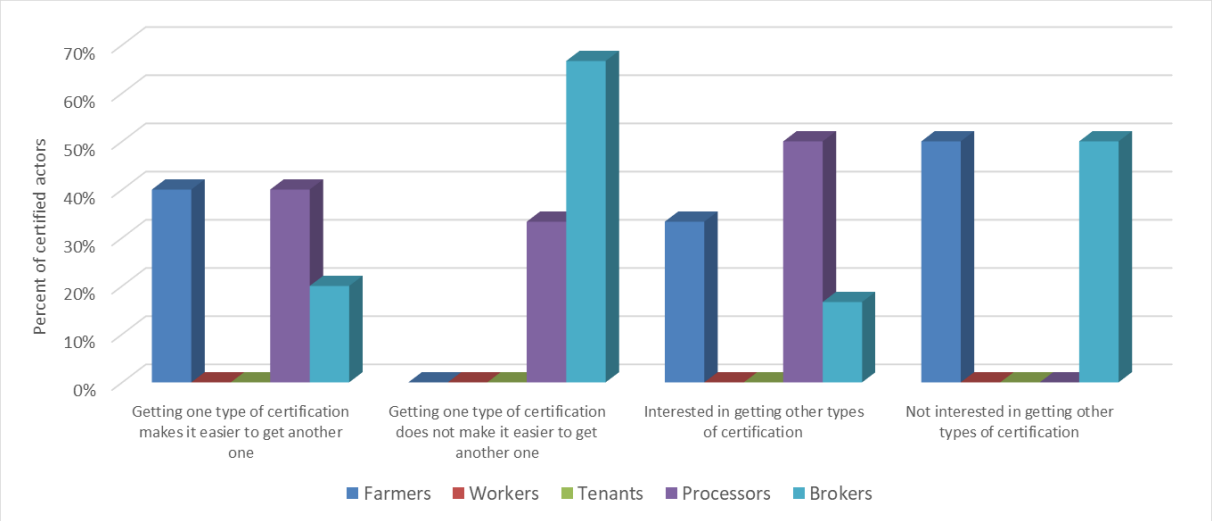


Figure 21. Opinion on obtaining more than one type of certification

4.3.2 Barriers to organic certification

This section discusses the responses relating to barriers and challenges of certification in part B of the questionnaire. The respondents provided reasons for their lack of interest (question 10) and indicated difficulty in getting certification (question 11). Moreover, they rated different difficulties according to level of severity (i.e. not a barrier, moderate or severe barrier) (question 12). The barriers cover issues confronting the actors at the decision-making stage such as costs, time, paperwork, rules, inspection, validity, etc., and implementation stage such as access to information, inputs, finance, and market as well as problems on crops, climate vulnerability, and soil infertility. The respondents also identified the main challenges they encountered when applying for certification (question 25) and in maintaining or keeping their certification (question 29).

Although the processors think that they can easily get multiple certifications (Table 12), they have experienced difficulties in obtaining certification. About 80 percent of them indicated that it is difficult to be certified (Figure 22). Half of the surveyed institutions also agree that it is not easy to get certification. Only about 20 percent of the processors and 40 percent of the institutions think that getting certification is easy. While more than 30 percent of the brokers think the same, the greater share of them do not know if certification is difficult. Majority of the farmers, workers, and tenants do not have an idea about difficulties in obtaining certification. Although most of them are part of certified value chain, the processors who buy their raw coconuts gets the certification for them. To probe deeper on this issue, the respondents were asked about the level and types of barriers they have experienced at the decision-making and implementation stages of certification. Figure 23 shows that a relatively higher number of processors, brokers, and institutions find severe barriers in the former stage of certification. These severe barriers include costs of certification, time, and paper work required for the application (Figure 24a). These barriers have been experienced mainly by the processors and brokers, but which were confirmed by a large share of institutions. At least 40 percent of the latter also indicated severe barriers in length of validity of certification, length of transition period to become certified, and lack of competition among OCBs (i.e. only very few bodies provide certification). Except for length of validity, not many processors and

brokers support the opinion of the institutions. A barrier that is considered severe by almost the same percentage of processors and institutions is the lack of government support for certification.

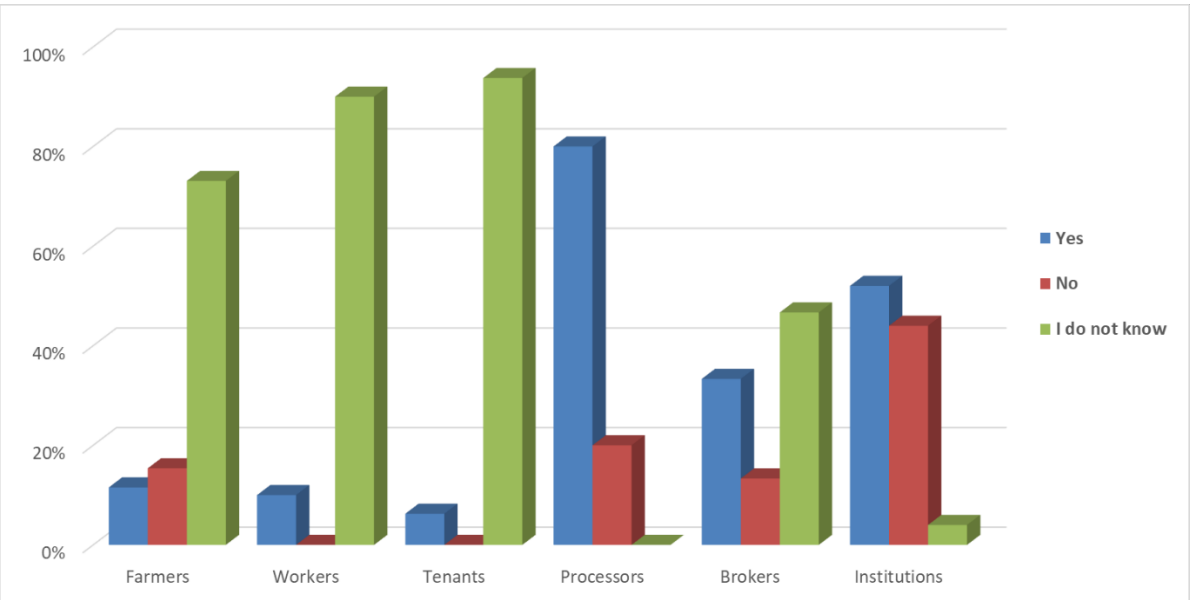


Figure 22. Experience difficulties to obtain certification, by value chain actors and institutions

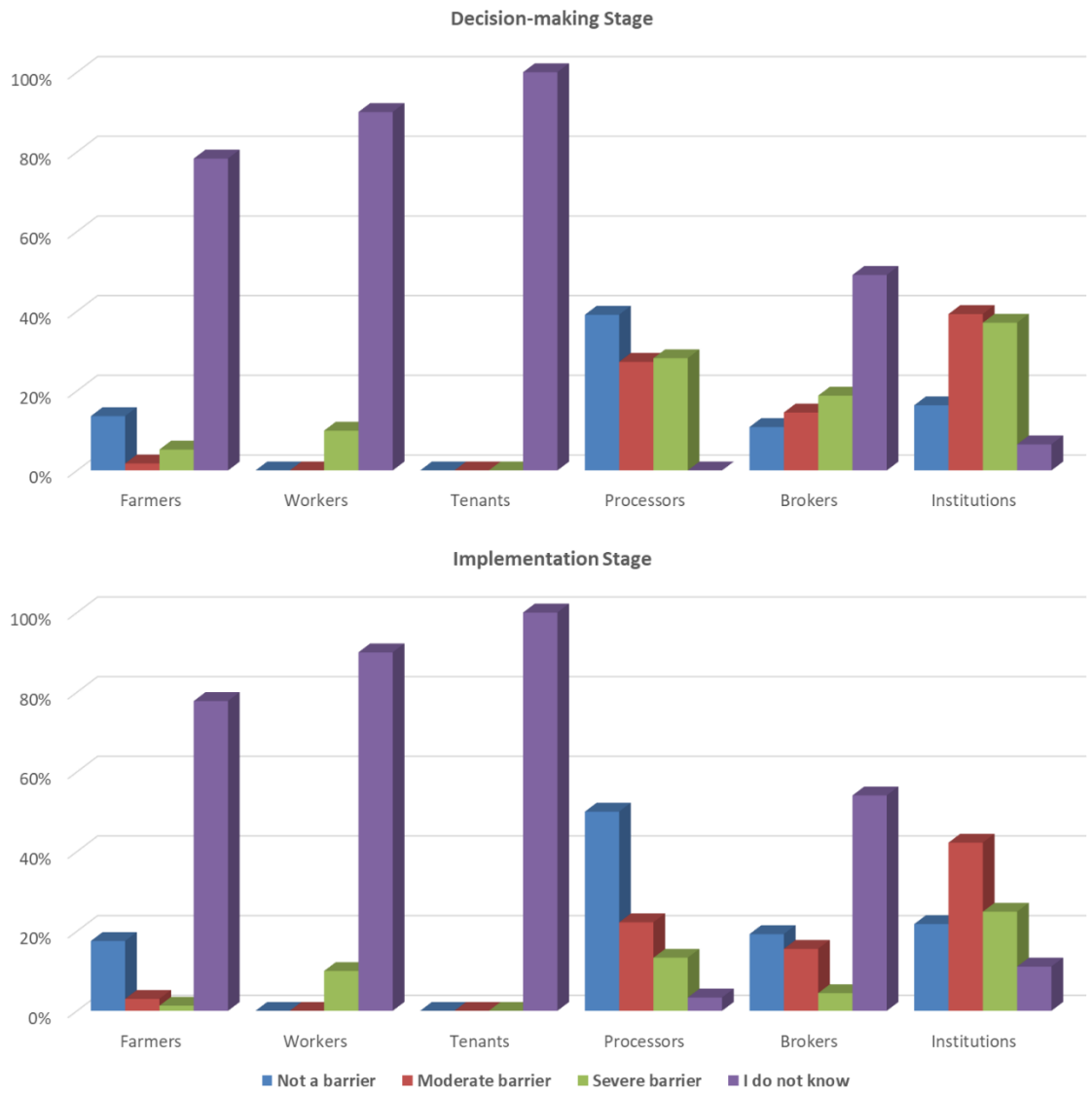


Figure 23. Level of barriers to certification, by value chain actors and institutions

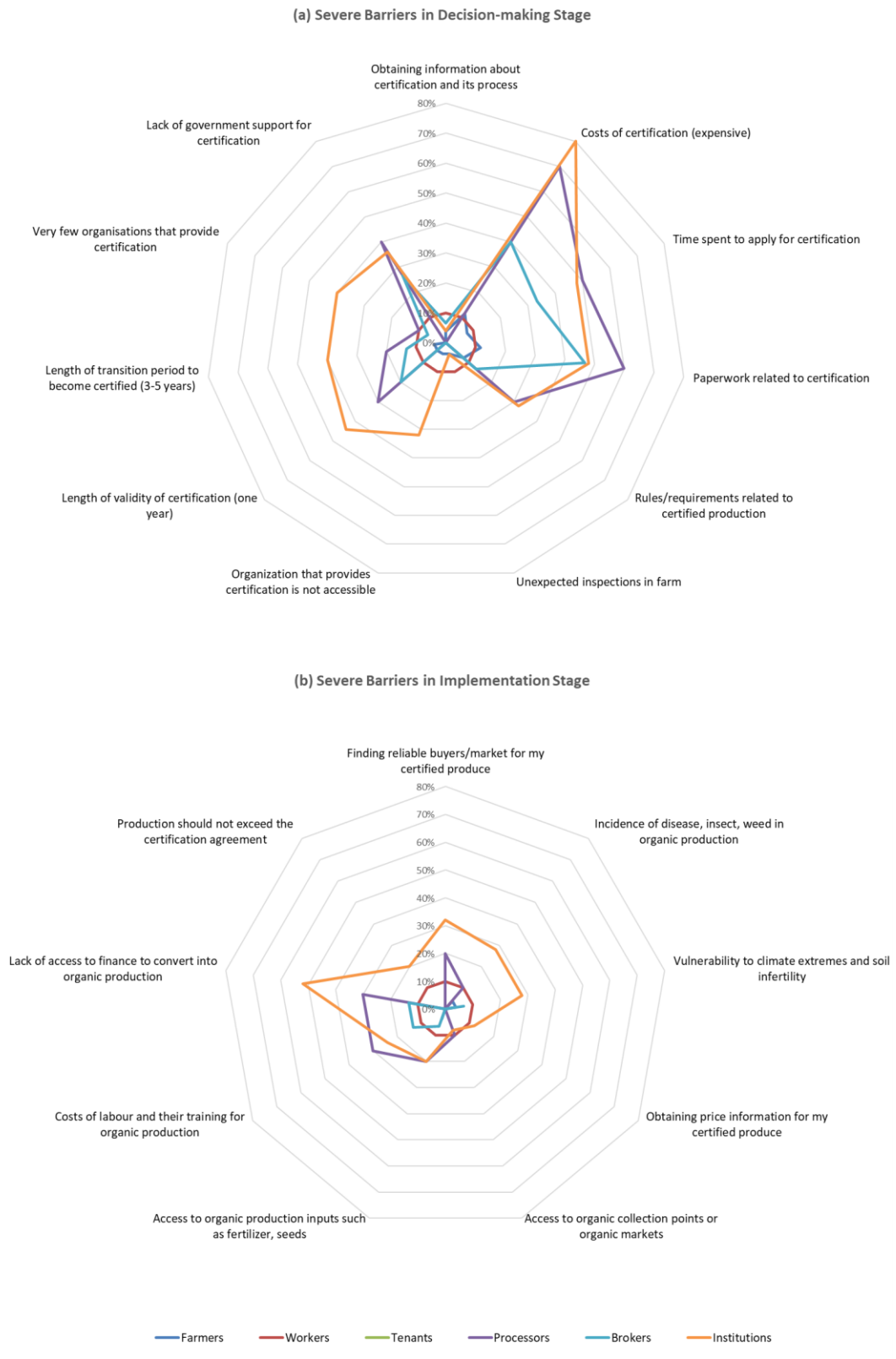


Figure 24. Severe barriers to certification during (a) decision-making and (b) implementation stages, by value chain actors

Note: Values in percent refer to the percentage of actors who consider the issues as severe barriers. See Appendix 9 for details

With regards to barriers to certification during implementation stage, lack of access to finance to convert into organic production is considered severe barrier by about 50 and 30 percent of the surveyed institutions and processors, respectively (Figure 24b). Other barriers that are considered severe by at least a quarter of the institutions include finding reliable buyers and/or market for the certified products, incidence of pest and diseases in certified farms, vulnerability of farm production to climate extremes and soil infertility, and costs of labour and training for organic production. Although these barriers are mainly concern for the producers of raw coconut, only very few (if none) of the farmers consider them as severe barriers. Many of the famers have no knowledge of the barriers to certification (Figure 23, Appendix 9). The only severe barriers identified by the farmers, albeit only insignificant share of them, include incidence of pest and diseases, vulnerability to climate and soil problems, and lack of access to organic production inputs (Figure 24a). Because many of the processors bear the costs of certification for the farmers, who supply raw coconut to their processing plants, the former considers costs of labour and training for organic production as well as lack of access to convert into organic production as severe barriers. Some of the brokers, particularly middlemen who buy raw coconut from farmers and sell to processors, share the same opinion of the processors.

In addition to the barriers presented in Figure 24, the respondents were asked to specify other barriers they can think during the decision making and implementation stages. No other barriers were given for the former stage. For the implementation stage, other problems related to maintaining organic certification were given but mainly by the institutions (Figure 25). This implies that many value chain actors considered the barriers presented to them as the most relevant ones. The three most important problems identified by more than 80 percent of the institutions include low prices for certified products, high demand for non-certified products, and non-compliance to standards by certified producers or processors. While between 60 and 80 percent of the institutions think that there are more other problems in keeping certification, only less than 40 percent of the actors are of the same opinion. About 36 and 23 percent of the processors think that demands for certified products are low and certified production lacks control, respectively. In some of the cases (i.e. certified producers are not following standards, prices for certified products are low), very few or none of the actors consider any problems in keeping certification. In particular, the processors are not of a view that some certified producers do not follow standards, prices for certified products are low, and inputs for organic production are expensive. Both farmers and brokers also do not agree that low price for certified products is a reason for not keeping certification. Moreover, both actors do not think that certification is abandoned because demands for non-certified products are high, demands for certified products are low, and control of certified production is lacking.

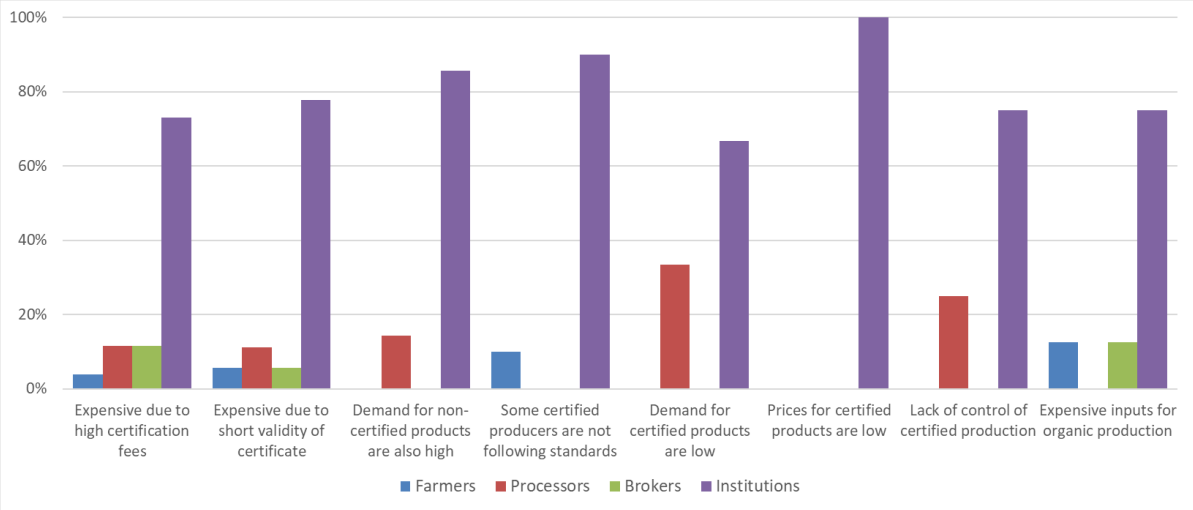


Figure 25. Main problems in maintaining or keeping certification

4.3.3 Opportunities from organic certification

This section discusses the perceptions of the respondents on the economic and non-economic impacts of certification, which were presented in part C of the questionnaire. Economic impacts include, among others, prices of certified products, costs of production, dependency on input suppliers, marketing methods, image of organic products, profitability of organic farming, and importance of financial support. Non-economic impacts include expected changes from certification, health and environmental impacts, reliability of organic markets, etc. To identify the diversity of perceptions, the respondents were asked to indicate their level of dis-/agreement on these impacts (i.e. strongly disagree, disagree, neutral, agree, strongly agree).

Figure 26 presents the share of actors who both agree and strongly agree on the different economic and non-economic opportunities for organic certification. Actors tend to agree with the non-economic rather than economic opportunities generated from participating in organic certification. In terms of economic opportunities, the largest share of the actors, particularly processors and brokers, either agree or strongly agree that financial support/subsidy is important for certified production. Appendix 10 shows that 80 percent of the processors strongly agree on this economic opportunity, which is provided by the government through the DA-BAFS. Other economic opportunities, which most actors agree and strongly agree, include more profits from organic than conventional farming, organic products sell at a premium in markets, and higher prices for certified than conventional products. As compared to processors and brokers, there are fewer farmers who agree that organic farming is profitable (Figure 26). Moreover, while 50 percent of the farmers agree, only 12 percent of them strongly agree on this (Appendix 10). The economic opportunities which are not relevant for the actors (i.e. most actors disagree) include lower operating or production costs for certified producers and producers being independent from suppliers of organic inputs. These economic opportunities received agreement only by less than 13 percent of the actors.

In terms of non-economic opportunities, the three most important for largest share of actors include organics practices are healthier for them and their workers, organic production is

already practiced on the farm, and organic practices are more environmentally sustainable than conventional practices (Figure 26). While the share of processors who strongly agree (about 70 percent) on these economic opportunities are higher than those who only agree, almost similar share of farmers and workers agree and strongly agree (Appendix 10). The non-economic opportunities which received little agreement among the actors are simple process of organic certification (i.e. not confusing) and freedom to make decision despite certification (i.e. do not become dependent on other actors). Only 8 percent of the farmers agree on both (Figure 26).

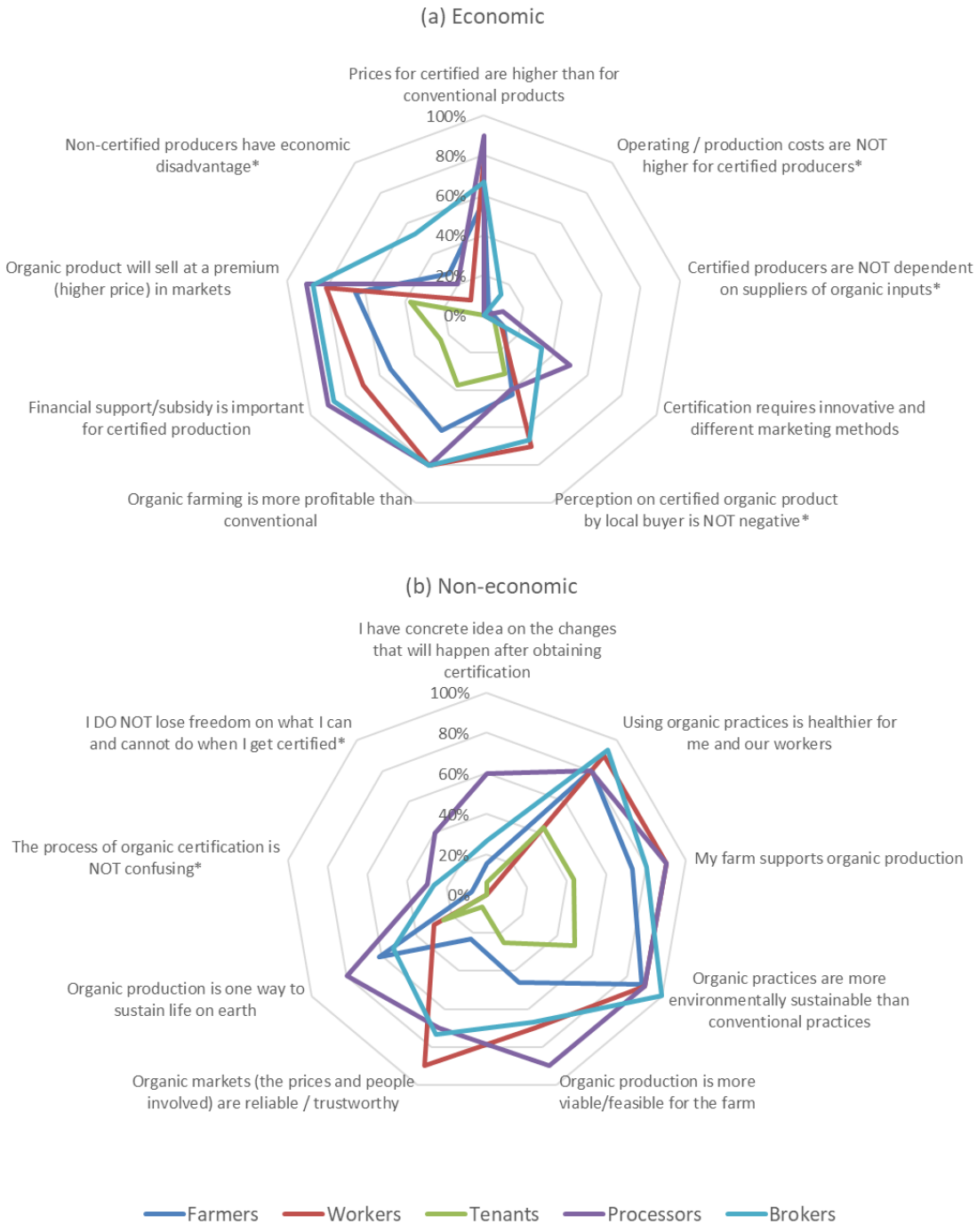


Figure 26. Economic (a) and non-economic (b) opportunities from organic certification, percent of actors who both agree and strongly agree

*The values refer to “disagree” and sentences were made positive to represent opportunities rather than barriers. See Appendix 10 for details.

Figure 27 presents some suggestions by the actors on how to make certification more accessible to and better serve the actors, which will increase their economic and non-economic opportunities from certification. All the tenants could not provide any idea on what would increase opportunities in organic certification for the actors in the value chain. While about 30 percent of farmers suggested that government should provide support on certification including production inputs (e.g. organic fertilizer and seedlings) and building awareness and capacity, 20 percent suggested reducing the certification fees, simplifying certification process, and providing information. The rest of them do not have idea or do not know. About 60 percent of the workers suggested provision of government support would be important, but they did not come up with any other suggestion. All processors provided suggestions on how to improve certification including the reduction of certification fees, compliance to standards, provision of government support, provision of incentives to farmers, and introduction of one standard. Only 33 percent of brokers could provide suggestions on how to increase opportunities from certification, which include support from government, reduced certification fees, and standard compliance. In addition to the suggestions of the actors, the institutions indicated the importance of extending the validity of and strict auditing and monitoring procedure for certification. But the largest number of institutions consider information campaign, reduced certification fees, and government support as key to increasing opportunities from certification.

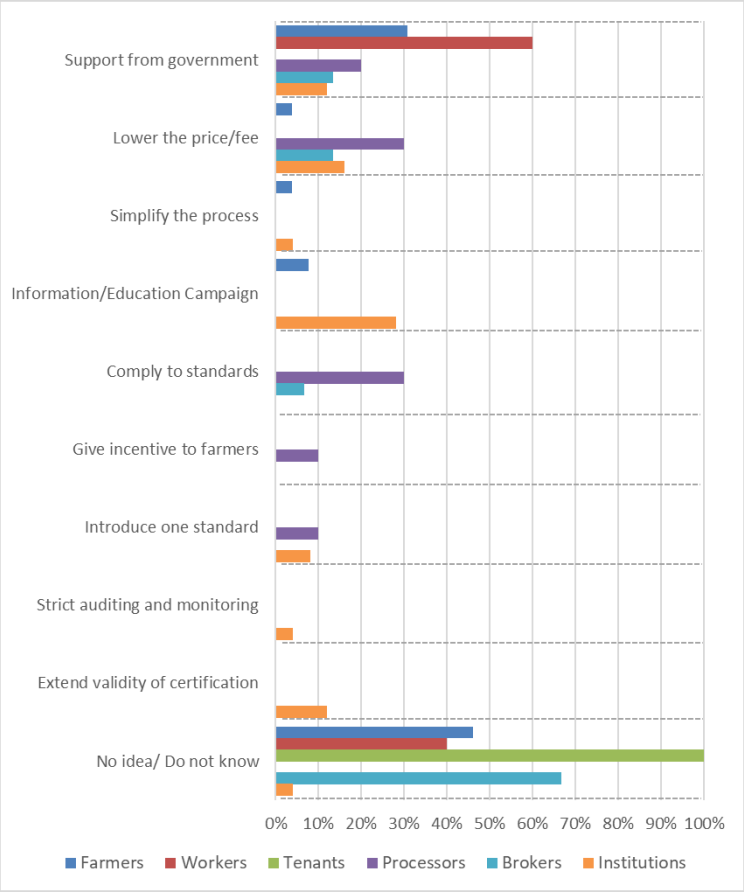


Figure 27. Suggestions on how to increase opportunities in organic certification, percent of actors

4.3.4 Implications on organic certification

Most producers of raw coconut including farmers, tenants, and workers are already following organic production practices (chapter 4.1.2). The most important motivation for organic certification is increase in income. On the one hand, many producers lack motivation to get certification because prices of certified organic raw coconut remain low. On the other hand, processors benefit from higher prices of certified organic coconut oil for export. The economic benefits of certification, so far, do not trickle down to the farm level. The processors consider costs as a severe barrier to organic certification. Because producers of raw coconut cannot afford the costs of organic certification, the processors pay for these costs to get supply of certified organic coconut. This arrangement reduces the ability of the former to bargain for higher prices. To prevent processors from paying certification for their raw coconut producers, it is important to make the costs affordable for the latter. Affordability will encourage multiple certifications because it will provide opportunity for producers to certify not only coconut, but also inter-cropped products. Intercropping is one reason for not practicing organic production among coconut producers (chapter 4.1.2). But then, as long as prices for raw coconut remain low, not to mention the paperwork involved in applying for certification, producers will not have the incentive of paying for high costs of certification.

Most producers of raw coconut have only low-level of education (chapter 4.1.2), so preparing documents for certification can become challenging. They consider building their awareness and capacity as an important form of support for applying certification. This is consistent with the opinion of many institutions who suggested that information and education campaign as an important strategy to increase opportunities from organic certification. Processors of coconut oil are not yet a channel for building awareness because their suppliers (i.e. producers) of raw coconut lack enough information on and about their certification (chapter 4.2.1). The producers of raw coconut suggested the government to provide support on awareness- and capacity-building. However, only few institutions think that government support will increase opportunities from certification. The Department of Agriculture is considering various capacity-building programs (chapter 4.1.1), which may not be sustainable in the long run because of budget constraints. Partnership among the actors in the value chain can help promote capacity-building, where actors learn from one another or provide learning opportunities to others. For example, some processors allow their suppliers of raw coconut to undergo training. The survey revealed, however, there is a lack of motivation among many producers to participate in the trainings. The reason may be due to little economic benefits for the producers from taking part in organic certification.

By covering the costs of certification and training of producers, the processors of coconut oil play a key role in promoting organic certification in coconut farms (chapter 4.1.1). The processors are willing to apply for multiple certification although they experience difficulties in obtaining certification. Reducing their barriers to certifying producers of raw coconut will encourage them to further support certification in coconut farms. The processors' severe barriers are costs, time, and paperwork at the decision-making stage and costs of labour and

training of the raw coconut producers at the implementation stage. Reducing these barriers would require reducing the responsibilities of the processors of coconut oil for farm certification.

4.4 Value chain, VSS and Sustainable Development Goals (SDGs)

4.4.1 Contribution of production and business activities to SDGs

In part A of the questionnaire (questions 11-16), several questions related to SDGs, particularly on ending poverty (SDG-1), achieving food security (SDG-2), achieving gender equality (SDG-5), promoting decent work (SDG-8), ensuring sustainable production and consumption (SDG-12), promoting sustainable use of terrestrial ecosystems (or environmental conservation) (SDG-15), and strengthening means of implementation of partnerships (SDG-17) were raised to the value chain actors during the survey. The aim was to identify how they perceived their production and business activities are contributing to these SDGs. Figure 28 shows that at least 60 percent of the actors consider their production and business to have important contributions to decent employment and environmental conservation. In terms of contributions to decent employment, the actors believe that their workers are earning enough income to support the basic needs (food, housing, health, and education) of their family, they do not allow workers of age below 18 years to work and earn a living in your firm, and they and their workers are not exposed to health hazards in the firm (pesticides, extreme weather, GHG emissions, etc.). In terms of contributions to environmental conservation, they observed no deterioration in soil quality and water quantity, biodiversity loss, and deforestation near their production or business locations. Moreover, at least 80 percent of the raw coconut producers indicated that their farms have access to good quality inputs (i.e. seedlings, raw coconut) and other agricultural inputs (Table 13). The answers related to questions on sustainable production and consumption showed that the actors' production and business activities are not significantly contributing to this SDG, as compared to other SDGs like decent employment and environmental conservation (Figure 28). There are only few actors who seek for advice/support on how to practice sustainable production and diversify production or sources of revenue (i.e. also other products). While half of the farmers diversify their production, only about 31 percent seek for advice/support (Appendix 11). The values are even lower for the tenants at less than 31 percent for both SDG contributions. In the case of contributions to food security, gender equality and partnership, the perception of the actors are very diverse (Figure 28). These are further discussed in detail below.

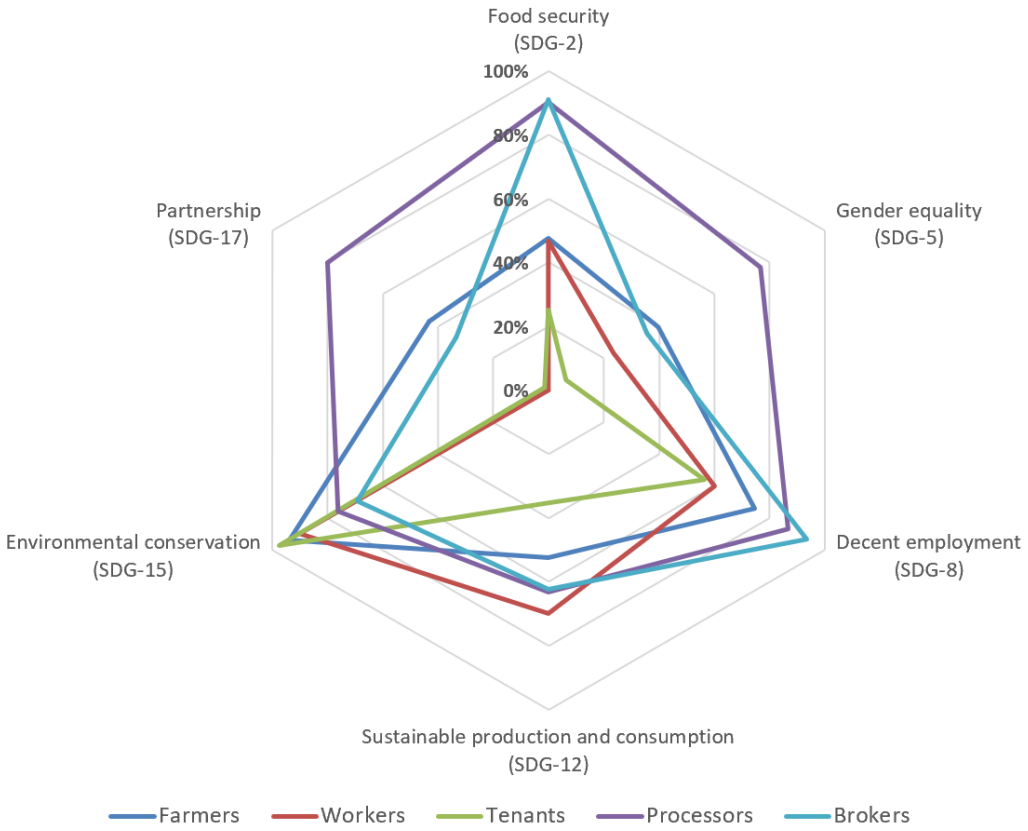


Figure 28. Contribution of the production and business activities to the SDG, by value chain actors

Note: The web diagram shows the percentage of actors who "always" perceived that their production and business activities contribute to the six SDGs. See details in Appendix 11.

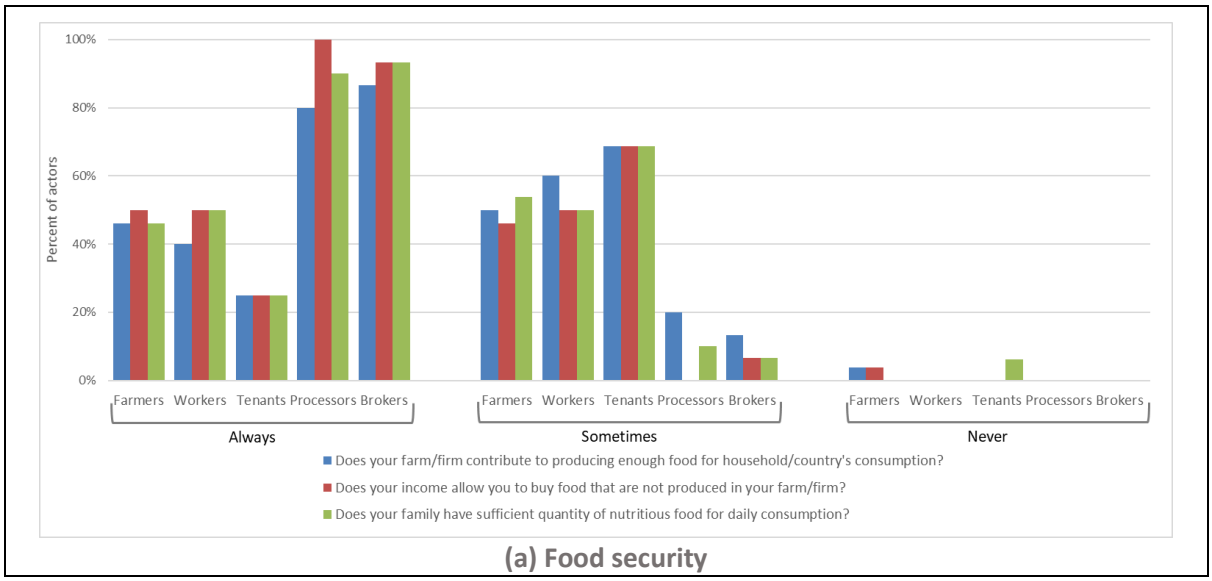
Table 13. Responses on questions related decent employment and environmental conservation, in percent.

Questions on SDGs	Farmers	Workers	Tenants	Processors	Brokers
Decent Employment					
Do you earn enough from your farm to support the basic needs (food, housing, health, and education) of your family? **Answer: Always**	46.15	50.00	18.75	100.00	86.67
Do you allow workers of age below 18 years to work and earn a living in your farm? **Answer: Never**	96.15	100.00	81.25	90.00	93.33
Are you or your workers exposed to health hazards in the farm (pesticides, extreme weather, GHG emissions, etc.)? **Answer: Never**	80.77	30.00	68.75	70.00	100.00
Environmental Conservation					
Did you observe deterioration in soil quality in your farm environment? **Answer: No Change**	88.46	90.00	93.75	90.00	73.33

Did you observe deterioration in water quantity in your farm? **Answer: No Change**	96.15	90.00	100.00	80.00	86.67
Did you observe loss in biodiversity of plants, animals and insects in your farm/firm environment? **Answer: No Change**	92.31	100.00	100.00	80.00	93.33
Did you observe deforestation in your town? **Answer: No Change**	100.00	90.00	100.00	80.00	86.67
Does your farm have access to good quality coconut and other agricultural inputs? **Answer: Yes, significant**	92.31	80.00	93.75	50.00	6.67

Note: Values refer to share of the respondents whose answers to the questions are as indicated in the table. See more details in Appendix 11.

Figure 29(a) shows the percentage of actors who perceived their production and business to be contributing to food security such as producing enough food for the household and/or country, allowing income to buy food that are not produced in the farm/firm, and having sufficient nutritious food for daily consumption. Over 80 percent of the processors and brokers think that they always achieved these sustainability goals relating to food security. Only about half of the farmers and workers think the same, while the rest indicated that these goals are not always (i.e. sometimes) fulfilled. The share of the tenants who can always contribute to these goals are even lower at about 25 percent, with about 5 percent never achieving them. As regards gender equality, e.g. the contributions of the farms and firms to women's level of employment, participation in supervision/decision-making and level of income, at least 60 percent of the processors perceived their firms to be contributing to equality in these three gender issues (Figure 29b). Participation in supervision and/or decision-making is almost equal for both women and men in about 90 percent of the surveyed processing firms. However, a significant percentage of processors admitted that the income of women remains lower than men. In most of the gender issues, the farmers, workers, and brokers indicate that men have more advantages than women. More than half of them admitted that women receive lower income than men.



(a) Food security

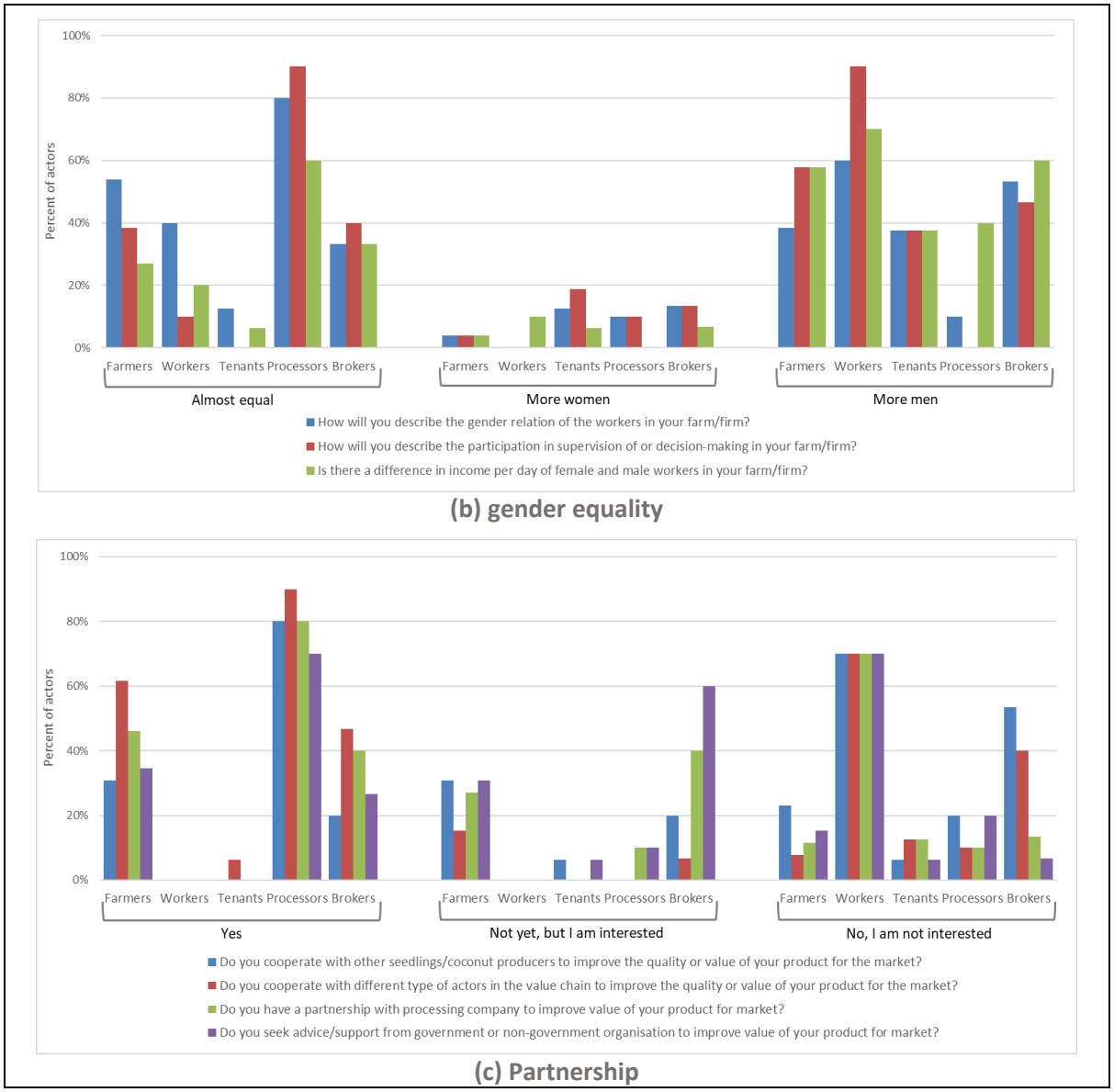


Figure 29. Contribution of the production and business activities to (a) food security, (b) gender equality and (c) partnership, by value chain actors

Finally, Figure 29(c) shows that only processors feel they are contributing to partnership. About 90 percent of them are cooperating with different types of actors in the value chain to improve the quality or value of products for the export market. About 80 percent are cooperating with raw coconut producers to improve the quality or value of your product for the export market and building partnership with exporters to increase export of product in foreign market. About 70 percent are seeking advice/support from government or non-government organisations to improve value of products. Indeed, many of them are members of an association of processors, exporters, and OCBs that are actively seeking advice from various institutions. While lower percentage of the farmers are actively contributing to partnership, a significant number of them would be interested to build partnership with coconut seedling producers, coconut oil processors, and government and non-government organisations to improve their products for exports. In the case of the brokers, they are only interested to build partnership with processing company and government/non-government organizations to improve the value of their products. Majority of the workers (70 percent) are

not interested partnership and almost all tenants consider it irrelevant for their farm activities.

4.4.2 Role of organic certification in promoting the SDGs

This section presents responses in part C of the questionnaire which discusses the perceptions of the actors on the influence of organic certification on selected SDGs (questions 19-24). The questions aimed to identify the diversity of perceptions by asking the respondents to indicate their level of dis-/agreement on these impacts (i.e. strongly disagree, disagree, neutral, agree, strongly agree).

Figure 30 shows that the least number of surveyed respondents (i.e. actors and institutions) are convinced of the role of organic certification in promoting food security, followed by gender equality. The opinion of the respondents is quite diverse, with most institutions having favourable opinion on the role of certification in environmental conservation, sustainable production and consumption, decent employment, and partnership. The processors are most convinced that organic certification have positive impacts on gender equality, which supports the equal gender structure of surveyed processing firms (Figure 29b). However, after the tenants, the processors are least certain about the positive impacts of certification on environmental conservation. While almost all of them think that their business activities contribute to environmental conservation (Figure 28), Appendix 12 reveals that significant number of them think certification cannot help to protect and preserve soil and water (30 percent), protect biodiversity and reduce deforestation (40 percent), and reduce impacts of climate change (20 percent disagree). There are two possible reasons for these perceptions: (a) Many of the non-certified producers of raw coconut are already practicing organic farming, so certification will not change their farm practices only their administrative management such as record keeping; (b) Most of the actors observed no deterioration in soil quality and water quantity, biodiversity loss, and deforestation near their production or business locations (Table 13), so these are not challenges that certification needs to address. After tenants, the farmers are the most uncertain about the role of certification in promoting SDGs particularly gender equality. Only about 11 percent of the farmers think that VSS can help to promote gender equality in the coconut oil value chain (Figure 30). More than half of the tenants have no knowledge on the role of organic certification, thus, the very low share of them agreeing to the positive impacts promoting SDGs. In the case of the impacts on partnership, all of them do not know whether certification can help actors to organize themselves into associations and work better together, provide opportunities to create partnership with other value chain actors (e.g. farmer and processors), and help actors to avail more trainings (e.g. shared technology, finance and expertise).

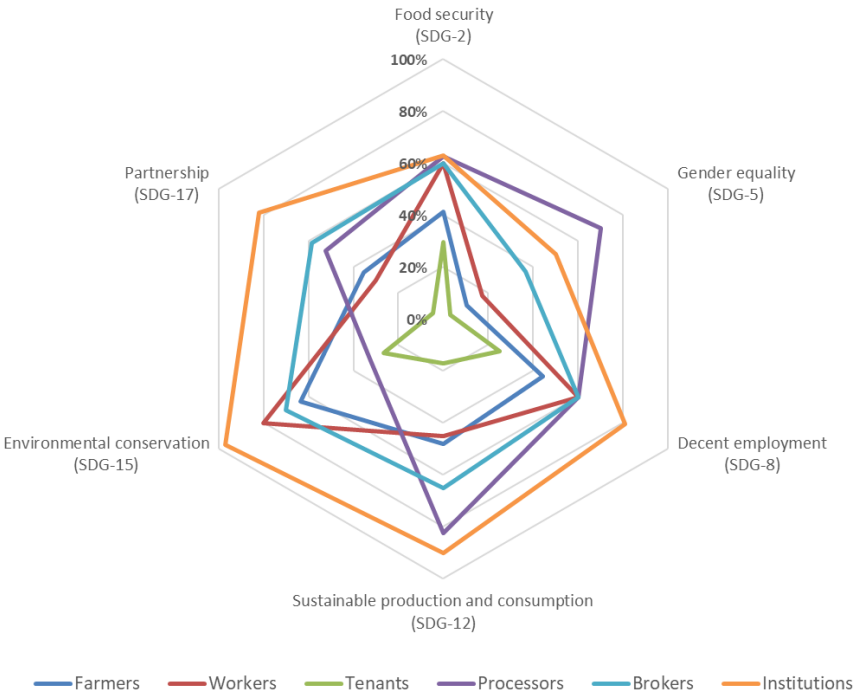
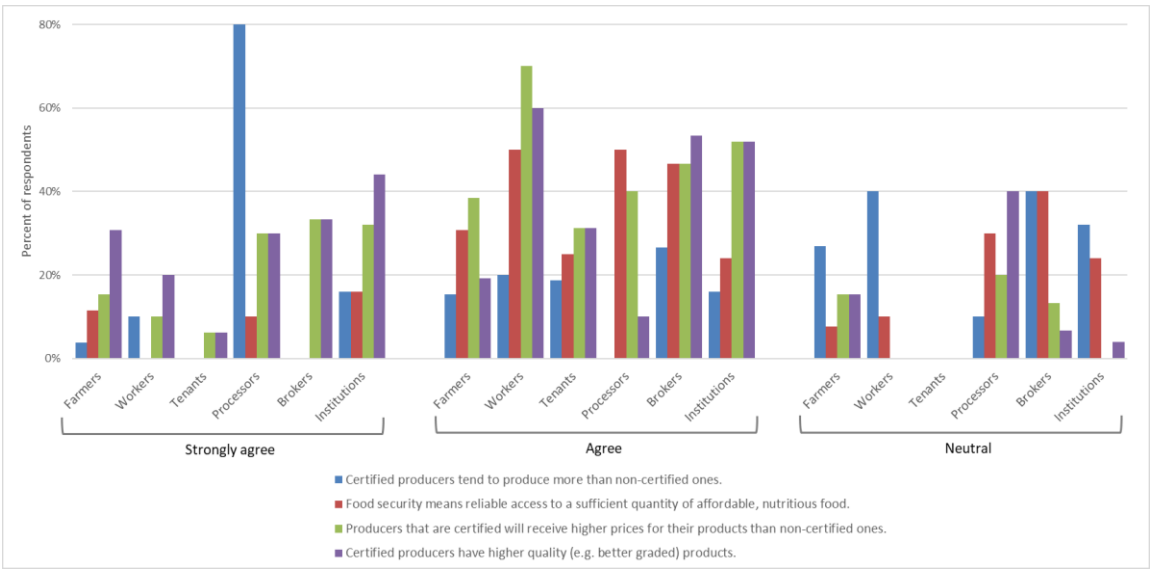


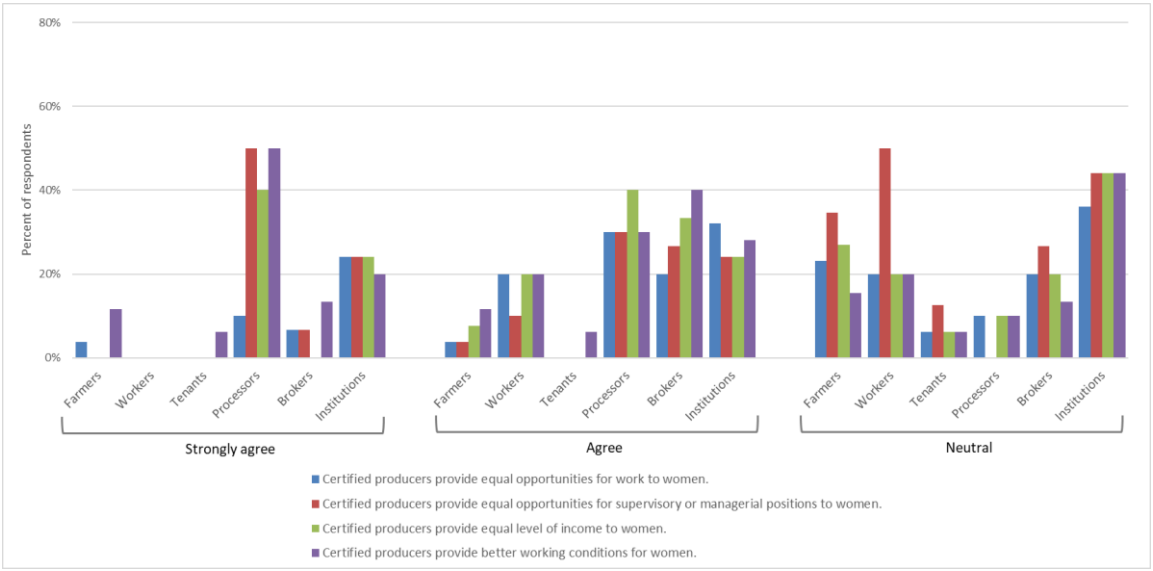
Figure 30. Proportion of actors and institutions who agree and strongly agree on the contribution of VSS to the SDG, in percent

Note: The web diagram shows the percentage of respondents who agree and strongly agree on the role of VSS in promoting the six SDGs. See details in Appendix 12.

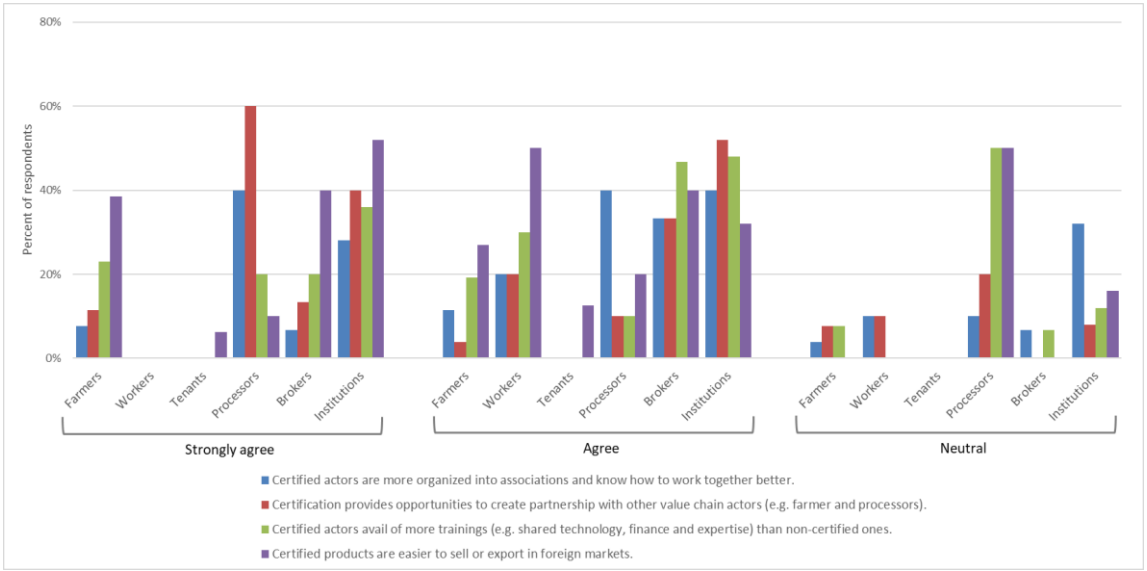
Overall, the promotion of food security, gender equality, and partnership is considered to have least positive link to organic certification (Figure 30). Figure 31(a) shows that there are less actors and institutions who strongly agree than agree to the positive influence of certification on food security. Only exception is with certification encouraging certified producers to produce more than non-certified ones, where almost 80 percent of the processors strongly agreeing to this impact. There are also slightly more farmers who strongly agree (25 percent) than only agree (20 percent) that certified products have higher quality than non-certified products. Among the different impacts of certification on food security, most of the actors and institutions agree that certified producers receive higher prices than non-certified producers, which can encourage increase in production by expanding land use for organic products. Figure 31(b) shows that only processors and, to lesser extent, institutions strongly agree that certification can promote gender equality. However, while at least 40 percent of the processors strongly agree that certified producers provide women equal opportunities as men to take supervisory or managerial positions, receive same level of income, and better working conditions, only less than 10 percent strongly agree that certified producers provide equal work opportunities to women. The largest share of the institutions (i.e. about 43 percent) do not have any opinion (i.e. neutral) on the impacts of certification on gender equality. At least 40 percent of the workers, 58 percent of the farmers, and 81 percent of tenants have knowledge on the link between certification and gender equality (Appendix 12).



(a) Food security



(b) Gender equality



(c) Partnership

Figure 31. Perceptions on the influence of certification on (a) food security, (b) gender equality and (c) partnership, by actors and institutions

Finally, Figure 31(c) shows that, except for workers and tenants, there are almost equal share of respondents who strongly agree and agree on the favourable influence of certification on partnership. Among the different issues on partnership, ease of exporting certified products in foreign markets is the strongest argument for certification for significant share of farmers, brokers, and institutions. For the processors, many strongly agree on the partnership created among actors in the value chain through certification. A larger share of the workers, brokers and institutions do not strongly agree (i.e. only agree) that certification provides more opportunities for sharing technology, finance, and expertise. About half of the processors have only neutral opinion on the impacts of certification on sharing technology, finance and expertise as well as ease of selling certified products in foreign markets.

4.4.3 Implications on sustainable development

Some actors do not consider certification as important in promoting few SDGs such as environmental conservation, food security, and gender equality. Even without certification, actors across the value chain already recognize the positive impacts of organic practices on environmental conservation. Because actors who are already practicing organic production do not expect certification to further conserve the environment (chapter 4.4.2), environmental conservation is not a main motivation to certify production (chapter 4.3.1). Many producers of raw coconut do not consider certification to contribute to food security of their families and achieve food security in the SDG. The certified producers inform OCBs about quantity of production under agreed organic practices. This quantity serves as a threshold for organic production so any significant increase in quantity without increasing farmland may suggest adoption of nonorganic practices. Economically, producers of raw coconut do not significantly benefit from certification because, while prices for their produce remain low, it restricts them from increasing production. In contrast, processors receive higher prices for their certified coconut oil and are motivated to increase production. Thus, they believe that certification contributes to food security because it encourages certified processors to increase production of coconut oil.

Certified processors, who are employing significant number of women, consider certification to promote gender equality. In processing companies, women take various tasks including technical and managerial. However, all other actors in the value chain are not expecting certification to improve the role of women in production and local trading of raw coconut. Farming and trading tasks such as harvesting and delivery of raw coconut are labour-intensive and need physical efforts that can be strenuous for women. Increasing women employment through certification will require a shift from traditional to innovative farm management. For example, certification has auditing and other related activities that need specific farm and business managerial responsibilities where women can take a role. But regardless of gender, there is a need to build managerial skills. Like in any other agricultural production that are based on tradition and family labour, farm producers do not record their capital flows. Capacity-building on book-keeping and other related tasks need to be provided either through support from the government or partnership with other value chain actors. This will help organic certification to significantly promote gender equality at the farm level.

Most actors in the value chain expect organic certification to enhance partnership. At present, the producers of raw coconut have very limited partnership with the other actors in the value chain (section 3.2.3). However, a significant number of the coconut farmers are interested to build partnership with not only other value chain actors, but also government and non-government organizations. There are opportunities to build partnership with the former through membership in associations of producers, processors, and exporters (e.g. VCOP, QFUC). Similarly, there are opportunities for partnership with the government through programs such as the DAR-NGO-PO mechanism of the DAR and NGO such as Producer-Consumer Partnership of the IFOAM (section 3.1.1.b). However, considering the large number of small coconut farmers in the Philippines, such partnership will be more sustainable if they are quasi-institutionalized, for example, through integration of partnership as a requirement for certification.

4.5 Policy challenges and implications on organic certification

This section analyses the policy constraints that were raised by the value chain actors and institutions during the survey (Table 14). It links to the responses to the survey questionnaire as presented in chapters 4.1-4.4 and highlights the issues that require solutions through various policy options as presented in chapter 5.1 below.

Table 14. Challenges for certification that were identified by actors in the value chain

Challenges for certification	**Value Chain Actors**		
	a. Producers	**b. Processors**	**c. Brokers**
1. Prerequisites for/Transition to certification	Not qualify with non-organic inter-crops; Lack knowledge on certification (4.5.1.a) Long transition period to organic (4.5.2); Source of organic inputs (4.5.1.a)	Costs for training producers (4.5.1.b), but many lack motivations to participate in seminars (4.5.1.a)	No government support for international certification or export of certified products (4.5.1.c; 4.5.3)
2. Costs of certification	Not affordable; Short validity (4.5.2)	Pay for costs of producers (4.5.2) Not affordable for SMSEs (4.5.1.b), esp. with short validity	Pay for costs of producers (4.5.1; 4.5.2)
3. Application requirements	Cumbersome paperwork; Renewal require the same documents (4.5.2)	Time consuming, Renewal require the same documents (4.5.2) OCBs not easily accessible (4.5.3)	Time consuming for exporters; Different standards of importers (4.5.2)
4. Inspection/Quality compliance	Difficult to keep record (4.5.1.a)	Non-compliance of producers because inspection once per year and randomly (4.5.2)	Business risks for exporters due to image in global market (4.5.1.c)

5. Contract compliance	Cannot increase production per hectare (4.5.2)	Certified producers sell to others who pay better (4.5.1.b)	Exporters get inconsistent quality and unstable quantity of coconut oil from SMSEs (4.5.1.c)
6. Economic benefits	Labour intensive but low price for certified organic raw coconut (4.5.1.a); Low demand for organic products in national market (4.5.1.b)	Higher price for coconut oil but processors pay costs of certification for producers; Low competitiveness of SMSEs (4.5.1.b)	Middlemen set price; National standards not aligned to export standards in global markets (4.5.1.c)
7. Government subsidies	Requires three years of organic practices; Lack of national OCBs to provide guarantee on organic practices (4.5.3)	Requires three years of organic practices; Not affordable for SMSEs because subsidies in form of reimbursements (4.5.3)	Exporters do not qualify for subsidies (4.5.3)
8. Pest and diseases	Reduce harvest; Forced use of pesticide (4.5.1.a)	Affected supply (4.5.1.a)	Affected image of exporters in global market (4.5.1.c)
9. Low productivity	Low harvest due to senile trees, poor soil quality, conversion to built-up areas (4.5.1.a)	Unstable supply of raw coconut (4.5.1.a)	Middlemen has unstable supply of raw coconut (4.5.1.a)
10. Climate change impacts	Rehabilitation of typhoon-destructed coconuts in remote areas; Lack of knowledge to respond to climate impacts leading to low productivity (4.5.1.a)	Unstable supply of raw coconut (4.5.1.a)	Middlemen has unstable supply of raw coconut (4.5.1.a)
11. Impacts on SDGs	Low farm productivity does not support food security (4.5.1.a, 4.5.2)	Partnership do not extend to producers of raw coconut (4.5.4)	Labour-intensive trading of raw coconut difficult to support women employment (4.5.4)

Note: Numbers in parentheses refer to the sections below where the challenges are discussed in details.

4.5.1 Value chain

The policy challenges in the value chain are discussed for three major parts of the value chain – at the producer (i.e. farmers, tenants and workers), processor (i.e. coconut oil), and broker (i.e. middlemen, exporters) levels.

a. Producer level

At the ***producer level***, the low level of education and high number of old people among the producers of raw coconut are causing a big challenge for all actors in the value chain (chapter 4.2.2). For the producers, completing the documents required for applying certification and record keeping for auditing during inspection are difficult tasks. Unlike in firms, farmers do not keep records of their farming activities. Their lack of compliance to record keeping causes problem for the processors or exporters who applied certification for them.

According to the survey, lack of education is also one of the reasons for not attending or not understanding the information given during the seminars, which are organized for famers to train them on organic certification. Old people may also be less enthusiastic about innovation and new standards. Some of the processors who requested the seminars for the farmers complained that the latter did not take the seminars seriously, they often get out of the seminar rooms. The trainings aimed to inform the producers of the appropriate practices for organic certification. While traditional practices of coconut production are organic by default (no fertilizer use, no soil improvement) or neglect (i.e. keep trees to grow on their own), certified organic practices require more time and labour to implement better farm management practices (e.g. organic intercropping) and farm business skills (e.g. record keeping).

In the Calabarzon region, low productivity and quality of coconut are due to old trees (senile). Many areas also suffer from soil erosion due to unsustainable practices of cutting of perennial trees and reduction in productive land due conversion into built-up areas. According to the interviews with government experts, about 75 percent of the coconuts are senile. Although there are government programs for replanting and fertilization, they can cover only small portion of the very large coconut farming communities. Coconut farms with low productivity provide only small income to the farmers. If they do not get premium from organic certification, there are no incentives for them to apply farming practices that can increase productivity. Based on the survey, the most important motivation for certification for all actors in the value chain is increase in income (chapter 4.3.1). Unlike Fairtrade, organic certification does not guarantee higher income for the farmers. Although some processors or exporters offer higher prices to the farmers, these are not a general practice. Thus, the former is mostly getting the premium for organic products. The results of the survey reveal that the middlemen, who has direct link to the farmers, are often setting the prices and farmers have no negotiating power. Among the actors in the value chain, the farmers gain the least in the value chain and from certification (chapter 4.2.2). Moreover, due to low productivity and thus low income, many farmers intercrop to have other sources of farm income. Although coconut trees are grown without fertilization (organic by default), intercropping of fruit trees or other value crops requires fertilization to increase productivity. This is one of the important reasons for not using organic practices (chapter 4.1.2). However, there is lack of organic fertilizers and other inputs for organic farming not only for coconut but also for intercrops. Coconut farms that use fertilizers for intercropping do not qualify for organic certification, unless the other crops are also certified organic. There are only few coconut farms that apply mono-cropping.

Like any agricultural crops, coconuts are challenged by the influence of the nature and humans. In recent years, pest and diseases have devastated many coconut farms in the

Calabarzon region (chapter 4.3.2). The incidence of coconut scale insects (CSI) forced many farmers to use pesticides. The PCA supported farmers to stop CSI by spraying or injecting chemicals, which are not organic. There are two issues raised by the actors during the interview; one is that the injection caused inner root of the coconut tree to rot causing decrease in production; and second is the damage that both pest infestation and the government solution caused on the coconut industry in the international market. Typhoon devastations also caused problems in many coconut farms, which require replanting to replace damaged trees. Many of the coconut farms are in remotes areas, which are not easily accessible for rehabilitation programs like seedlings or planting materials. And for the coconut areas that are easily accessible, many have been converted into built-up (e.g. residential, commercial) areas. Climate change is causing increase in not only intensity of typhoons and rainfall during rainy season, but also length of duration of drought and high temperature. Currently, while farmers are adapting their production practices (e.g. no irrigation, preserve soil moisture) to respond to the latter climatic problem for other crops, they are not doing the same for coconuts. Their lack of understanding and awareness on impacts of climate change on coconut is contributing to low productivity. Low productivity affects the supply of raw coconut for processing and exports.

b. Processor level

At the ***processor level***, the processing companies cover the expenses of the farmers on organic certification and for organizing seminars to educate them on certification (chapter 4.1). According to the survey, some certified processors are challenged by their relationship with the farmers, particularly with respect to compliance to standards and requirements. Farming practices are not always compliant to the standards because inspection is done only once a year. Some farmers are buying from non-certified farmers to increase the volume of their produce. In case of the contract growers, they sell to other buyers who offer higher prices despite the certification contract. Some processors pay the farmers in advance to avoid this problem, but this also can give the former some disadvantages because of price fluctuations in the market. This is particularly problematic for micro- and small processing companies which have to compete with larger companies in the export markets. Demand in the national market is, however, low because of the "perception" that organic products are expensive. There are also many other challenges for certification for the processors, particularly for the MSMEs, including costs of certification as well as time and paper work required for the application (chapter4.3.2). These barriers have been experienced mainly by the processors and brokers because they are also responsible for applying for the farmers, who in most cases have difficulties complying to the requirements.

c. Broker level

At the ***broker level***, middlemen play an important role in the Philippine coconut industry due to the large number of coconut farmers who are spread across the country, many of them located in remote areas. They provide diverse support to the actors in the value chain including sources of information for certification, production inputs and methods, and markets. As direct buyers of raw coconut from the farmers and direct sellers to processors, they play an important role in facilitating contract agreement between farmers and processors and among processors (from micro to large scale). As middlemen between actors

in the value chain, they have the power to set prices in the market particularly for raw coconut (chapter 4.2.1). While there are many small-scale middlemen in domestic market, only few engage in brokerage at the international level. There is currently no government support to enhance capacity and competitiveness of local exporters in the global market. According to the surveyed exporters, however, their main challenge is the issue of the image of Philippine organic products and certification system, which are considered by the foreign buyer as business risks. Partnership with MSMEs can be challenging because there are cases where quality of coconut oil is inconsistent and quantity of production is unstable. Thus, exporters have the problem of meeting the standards and demand of the foreign buyers. Moreover, exporters must comply with different standards because different importing countries and companies set their own standards. The government has started to realign national standards with Asian standards, but the bigger markets for coconut oil are in Europe and USA.

4.5.2 Certification system

The fees and validity of certification are the largest challenges in the certification system, with more than 30,000 Pesos (600 USD) per year for national and about 300,000 Pesos (6,000 USD) per year for international certification (based on interview). This amount is very high relative to the average annual income of the farmers:

> *"Because the average farm gate price of one coconut has fallen by 64 percent from P12.50 to P4.50, our 3.4 million farmers are suffering. This is because a coconut farmer's average annual income is only P20,000 a year. Since these farmers will now earn only P7,200 yearly, many are now cutting their coconut trees and selling them just to survive."* Philippine Daily Inquirer, July 26, 2018 (Ordoñez, 2018)

The transition period from conventional to organic farming takes about 3-5 years because of the shifting and inspection in farm practices (chapter 4.3.2). Moreover, the certification renewal means going through the same process of preparing many documents and paying the same amount. This system is very costly in terms of time and money, particularly for the small farmers and firms. The organic certificate includes details such as name of product, land area, and estimated crop production. The produce should not exceed the amount indicated in the certificate because it may imply anomalies in production and noncompliance to organic production (e.g. use of non-organic fertilizer and chemical to increase productivity). Thus, there is no incentive for many farmers to increase productivity using non-organic practices due to this rule.

Because fees are not affordable for the farmers, the surveyed processors and/or exporters are applying and paying for certification for the entire value chain. In this case, the certifiers are processing and exporting firms and not the raw coconut producers, whose name are included only in the annex of the certification contract. Unlike in Fairtrade where farmers play a key role in certification, the role of farmers in the value chain of certified organic coconut oil is reduced to being input suppliers. The processors, particularly larger companies, buy raw coconut from different farmers to satisfy demand in the foreign market (chapter 4.2.1). The annual inspection of the OCBs is done randomly among several suppliers (i.e. producers) of raw coconut. As the number of certified farmers increases, the burden of inspection for the OCBs also increases especially if number of available inspectors are limited. This increases the

risk in terms of infrequency and inefficiency in inspection, particularly if many of the producers are in remote areas. This contributes to non-compliance because the producers and processors know that the chances of being inspected are very low.

4.5.3 Support structure

The importance of subsidy in certification of organic production is considered essential (chapter 4.3.3). The government subsidy program for organic certification is aimed at the domestic market. The MSMEs that would like to export their products to the foreign market do not qualify and get support for certification. The program requires that the producers and processors have been following organic practices for three years. The national OCBs provide the guarantee for such practices for the actors in the value chain. This implies that the producers and processors have first to cover the certification expenses, and then get reimbursed for the full costs when they passed the DA-BAFS assessment for the subsidy support. There are only two accredited national OCBs in the Philippines (one is currently applying for renewal so not in operation), which accreditation at times was suspended due to anomalies in certification or validity of its issuance. With only two OCBs catering to the actors in the value chain in the entire country, there are constraints in accessibility and competition which are affecting the costs of certification (chapter 4.3.2). The government has no control of the certification fees because they are set by these private certification companies.

4.5.4 Achieving SDGs

Many processors think that their businesses contribute to the different SDGs. The farmers are only convinced of the positive impacts of their farming activities to environmental conservation and decent employment, but much less to gender equality, food security, and partnership (chapter 4.4.1). Addressing the issues of low farm productivity and poor links to the export value chain will help achieve the two latter goals. While farmers consider themselves as partners of brokers, processors, and exporters in the value chain, the other actors do not think the same. Farmers are the least embedded in the value chain with little opportunities for partnership (chapter 4.2.1). Achieving these SDGs are even more critical for workers and tenants, who think they are not contributing not only to food security and partnership, but also to gender equality. The contributions of organic certification to these three SDGs are also viewed by most actors, particularly farmers and tenants, with scepticism (3.5.2). For organic certification to be inclusive, it should be able to promote these SDGS, which are critical to improving the poor standard of living in rural areas.

5. POLICY OPTIONS AND RECOMMENDATIONS

5.1 Policy options for a National Action Plan

This section suggests options to overcome the main challenges in organic certification in the Philippines. Table 15 summarizes these policy options and informs about the level of priority and sources of support for implementation. These options are discussed in more details below. Unless reference is made to previous sections, the analyses are based on the assessment of the authors.

Table 15. Summary of policy options to address the challenges in organic certification

Policy options	Type of action	Level of priority	Sources of support	Challenges to address*
1. Enhance knowledge of producers				
• Producers' key role in certified value chain	Build public awareness	Short- to medium-term	Government, NGO	1a, 1b, 4a, 10a, 11b
• Mobilize community to create knowledge	Organic education in schools	Medium- to long-term	Government, NGO, Academic	1a, 7a, 8a, 9a
2. Provide access to resources and facilities				
• Production of organic inputs	Build capacity and integrate in livelihood programs	Medium- to long-term	Government, NGO	1a, 4c, 10a
• Small-scale processing facilities	Create accessibility at affordable rates (i.e. rental, sharing)	Medium- to Long-term	Government, NGO, Associations	6a, 6b, 11b
3. Strengthen partnership				
• Shift away from traditional production	Provide entrepreneurial skills/support	Short- to Medium-term	Government, NGO, Academic	4a, 6a, 9a, 10a, 11c
• Get support from entrepreneurs	Provide extension services, Membership in associations		Government, NGO, Associations	1a, 3a, 3b, 5a, 5b, 6b, 11b
4. Competitive OCB sector				
• Accreditation of OCBs	Accessibility of accreditation offices	Short- to Medium-term	Government	2a-c, 3b, 4b 7a,
• Capacity building for OCBs	Education and training on accreditation	Medium- to Long-term	Government, NGO, Private	2a-c, 3b, 4b 7a,
5. Innovative certification system				
• Create incentives	Provide premium to producers Sharing costs of certification	Short-term	Government, Processors/ exporters	1b, 1c, 2a-c
• Simplify requirements	Reduce paperwork Less documents for renewal Align standards	Short- to Medium-term	Government, Private	1a, 3a-c, 4a, 5a, 7c
• Knowledge sharing	Online platform for best practices	Short- to Medium-term	Government, NGO, Academic, Private	1a-b, 3a-c, 4a, 8-10

6. Create domestic market				
• Increase demand	Processed organic products affordable for local consumers	Short- to Medium-term	Private	5a, 6a, 11a
• Change consumer behaviour	Increase awareness Marketing strategies for organic products	Medium- to Long-term	Government, Private	5a, 6a, 11a
7. Consolidate support				
• Link to other programs	Integrate organic practices in livelihood and productivity programs	Medium- to Long-term	Government	8-11
• Improve subsidy programs	Provide to farmers and MSMEs during transition period	Short- to Medium-term	Government	1c, 7

*These refer to the challenges listed in Table 14.

5.1.1 Enhance knowledge on organic practices

Knowledge can empower farmers and other producers of raw coconut in the value chain. They need to be informed about the value of organic certification for them, their communities and environment. The farmers received seminars from the OCBs through the support of the processors applying for certification (chapter 4.1.1). But if the farmers are not convinced, not even other actors in the value chain, about the economic benefits of certification for the farmers, then they will not be motivated to participate in these seminars. So, building knowledge on organic practices do not have to be a requirement for certification, but part of a general initiative to inform farming communities of their key role in certified value chain. Organic Education, a government initiative planned through awareness program at the local community level is a good step to creating knowledge. Training will then be for each community or group of farmers regardless of their interest on or participation in organic certification. The livelihood component of the training on organic practices may have to be emphasized to motivate farmers and other coconut producers to attend the training. Moreover, the training can be conducted in partnership with academic, NGOs, and associations to emphasize that concern on organic practices cut across different parts of the society. The youths are important carrier of and medium for transfer of knowledge in their families, communities, and older people. Moreover, the youths of today are future leaders, producers, and entrepreneurs. Organic education, both conceptual and practical, can be made part of the school curriculums to emphasize its significance in the society. Creating "organic knowledge" can help to transform social behaviour and mobilize farmers to participate in this movement.

5.1.2 Provide access to resources and facilities

Access to resources and facilities can empower farmers and other producers of raw coconut in the value chain. The farmers need to be capacitated to produce inputs for organic production (i.e. good quality seedlings, organic fertilizer, etc.) and production of inputs can be made part of livelihood diversification programs. The survey revealed that producers of

coconut inputs and brokers of coconut seedlings are not integrated in the value chain (chapter 4.2.1). the producers of raw coconut (i.e. farmers, tenants, workers) could take up these roles in the value chain. This will enhance sustainability of input supply for organic production and end dependence of farmers on government or other supplier of organic inputs. The analysis of value chain shows that there is a network for micro-/small scale processors supplying coconut oil to medium-/large-scale processors (chapter 4.1.2). The farmers need to be capacitated to participate in value adding chain, not only as supplier of inputs (e.g., seedlings, labour, coconut). Investment on small-scale processing facilities in communities and training on how to use them can be a useful livelihood program. The facilities, which can be owned and maintained by private investor or an association, can be rented out to the farmers at an affordable and reasonable rate. This will enable the farmers to participate in the value chain with higher value products. Similar system works for other crops such as rice where there are small-scale private millers providing milling services to farmers, or production of wine and vinegar from nipa trees where small-scale distilleries are owned by producers' association and rented to the farmers (e.g. Infanta, Quezon). Livelihood programs like these will incentivize farmers to practice organic production and participate in organic certification.

5.1.3 Strengthen partnership in value chain

Producers of raw coconut are the least embedded and lack power to bargain their position in the value chain (chapter 4.2.1). Strengthening their partnership with other actors in the value chain will help improve their level of embeddedness and power. Many recognized the important and indispensable role of farm producers as supplier of raw inputs in the organic coconut oil sector. The predominantly traditional and small-scale production of raw coconut make building partnership with producers very challenging for other actors in the value chain. Producers will have to learn to operate like small entrepreneurs, practicing innovative and proactive organic farming in coconut farms (not by default or neglect, i.e. not doing anything) to gain economic benefits. Training on entrepreneurship will have to be given to them either by the government, NGOs, or farm associations. The LGUs often have extension services, mostly agriculturist, to provide farmers with technical knowledge on sustainable practices. With technical support from agri-business managers, such extension services programs could provide support on modernizing farms to operate like small business. Membership of producers in associations could provide them more opportunity to build partnership with other actors in the value chain. But the leaders of associations will have to possess entrepreneurial skills, acting as farm managers and enabling them to negotiate for the small-scale producers who lack those skills.

5.1.4 Develop a competitive sector of OCBs

To develop a market for organic certified products, there is a need to create a competitive sector for OCBs that will cater to large number of and widely dispersed coconut farming communities as well as potential coconut oil micro-processing companies in the Philippines. Creating competition in certification sector will reduce costs of certification. An effective and efficient way of accreditation system will have to be put in place to increase number of local OCBs that cater to both domestic and international markets. The OCBs are sources of green jobs and require appropriate strategy to promote it as a new employment sector. Accreditation can be made at the regional or provincial offices of the DA-BAFS to increase

accessibility to the system. Capacity building can be offered to organizations or associations that are interested to enter certification business. Managerial and practitioner courses for OCBs can be offered in technical universities to create manpower for this emerging sector. The local OCBs need to be increasingly capacitated to cater to organic value chain not only at the national, but also international markets. This can be promoted through alignment of national to global organic standards (chapter 4.1.1). But alignment would be very challenging because different importing countries and companies have different standards. Improving national standards to organic certification of coconut oil to meet requirements of few major importers (i.e. USA, EU, Japan) will allow more SMSEs to access the bigger markets.

5.1.5 Create innovative but affordable certification system

The current system of certification is not suitable to the Philippines coconut industry which is characterized by large number of small and poor coconut producers who are not gaining from certification and micro-/small-scale coconut oil processing industries that cannot compete with large multinational corporations. The system needs to be simplified to become more accessible to these farmers and industries by, for example, providing a premium to the farmers similar to that of Fairtrade (or Fairtrade can be made an integral component of organic certification), supporting group certification to allow cost sharing, developing a simple procedure for renewal of certification (i.e. do not to require submission of the same amount of documents as in first application), increasing the years of validity of certification, realigning national to international standards to build capacity to export in foreign markets, and creating a competitive market that will lower certification costs. The preparation of the documents for certification can be supported through extension services of the government or free on-field services of the OCBs. An interactive online platform on certified producers and processors needs to be created where best practices on organic certification can be published and which allows producers and processors to exchange experience and learn from each other.

5.1.6 Create domestic market for organic products

There is no incentive to practice organic farming because of lack of local demand or domestic market for organic products (chapter 4.3.2). Creating a market for organic would increase prices and encourage processors and middlemen to pay higher prices to farmers, which will increase supply and eventually make organic products more affordable for consumers. It would also help MSMEs that cannot compete in international market to sell their products locally. Strategies to change consumer behaviour and increase preference for organic products will be needed to create a market in the Philippines. An important strategy is to increase awareness among consumers through promotion programs, commercial advertisements, school and college curriculums, etc. Putting emphasis on organic products in supermarkets by reserving a separate corner for organic products. Organizing weekend markets in municipal plazas or places where people gather to sell and showcase locally produced organic products. Shifting consumer preferences in favour of organic agricultural products, not only coconut oil, will encourage application of organic practices in intercropped coconut plantations. As supply increases in response to growth in local demand, ability to produce organic products will be developed and prepare local producers to export in the foreign market.

5.1.7 Consolidate government support programs

Various government agencies implement projects and programs that support agricultural productivity (e.g. pest and diseases, seedlings, replanting, facilities, etc.) and rural development (e.g. improved farm and intercropping practices) that provide valuable support to organic production. These projects and programs can be consolidated under the organic production and livelihood programs to enhance their efficiency and benefits to the coconut producers and capacitate them to apply for certification. A program dedicated to enhancing organic certification could be implemented and linked, for example, to DA's other ongoing rural development projects. The support for certification needs not be limited to creating awareness, but includes aspects where producers have very limited capacity such as preparation of documents (e.g. in the form of extension services). The pre-conditions for availing subsidy need not depend on the three-year certification performance, which assumes upfront that producers can afford certification fees and comply with the paper requirements. The initial stage of certification is the most difficult to overcome and this is where the support needs to come. Government support on certification will need to be oriented for both domestic and international market to enable MSMEs to access the growing organic market abroad, which are currently dominated by large processing and exporting companies. Such support can be tied up, for example, to DTI's programs on export promotion of local products.

5.2 Options and recommendations for a Multi-Stakeholder Platform

5.2.1 Rationale for a Multi-Stakeholder Platform

VSS is an innovative mechanism to promote green exports, but its broad and effective implementation requires concerted action among stakeholders including value chain actors, related government institutions, and civil society. The challenges need to be addressed and overcome to realize its benefits particularly in relation to the SDGs. It is widely recognized that multi-stakeholder partnerships (MSPs) are effective means for scaling up innovation, resources, and action to deliver the SDGs (Dahiya & Okitasari, 2018; Hazlewood, 2015; MacDonald, Clarke, & Huang, 2018; Stibbe & Prescott, 2016). The value of partnerships in promoting sustainable development has been recognized by the United Nations as early as 2002 (Box 3), when it set up the so-called Type II partnerships at the Johannesburg World Summit on Sustainable Development in 2002 (Eisenmayer, 2018). The formal recognition of the MSPs as a tool to achieve sustainable development was accentuated with the inclusion of partnerships as one of the SDGs, recognizing the roles of private sector, foundations and civil society as essential partners to achieve sustainable development and eradicate poverty (UNDP 2018). But while achieving the SDGs should aim to "involve those who are able to contribute to sustainable development", MSPs "cannot substitute government responsibilities and commitments" (UN DESA 2015 as cited in Eisenmayer, 2018: p.37). MSPs are instrumental in addressing complex social or environmental challenges (MacDonald et al., 2018), which affect people in different sectors of the economy and parts of the society. While people participating in MSPs may "share a common problem or aspiration, they also have different 'stakes' or interests" (Brouwer, Woodhill, Hemmati, Verhoosel, & Vugt, 2015). A stakeholder refers to "any individual, organization, sector or community that has a "stake" or interest in the outcome of a given decision, process or partnership" (Dahiya & Okitasari, 2018: p.9).

MSPs have three main categories based on their objectives: sharing knowledge, providing services, and setting standards (Box 3). (Loveridge & Wilson, 2017) considered multi-stakeholder platforms as distinct type of partnership and with knowledge-sharing or standard-setting as main objective. Platforms facilitate transformation of shared knowledge into innovative standards. Brouwer et al. (2015) referred to MSPs as an overarching concept for all other types of partnerships' interactions and processes, i.e. from coalitions, alliances, and platforms, to participatory governance, stakeholder engagement, and interactive policy-making. In many cases, multi-stakeholder partnerships and multi-stakeholder platforms are used interchangeably and considered to equally play an important role in achieving the SDGs. In this report, the term VSS Platforms refers to the engagement of multiple stakeholders in sharing knowledge and setting standard for VSS, in general, and organic certification, in particular. According to Beisheim & Simon (2016: p.3), standard-setting MSPs "need to be inclusive towards stakeholders when developing their voluntary standards". Examples of standard-setting MSPs include World Commission on Dams, REDD+, and Forest Stewardship Council and knowledge-sharing include Global Water Partnership; Global Partnership for Forest Landscapes Restoration (Engberg-Pedersen, 2014). In the Philippines, the preparation of the Philippine National REDD-plus Strategy was participated by large number of stakeholders from government, non-government, civil society, researchers, and private institutions (DENR–FMB, 2017). The Philippine Organic Agriculture Information Network (Phil-Organic) can be considered an MSP for knowledge sharing (http://www.pcaarrd.dost.gov.ph/home/momentum/philorgagri/), but none exist so far for standard-setting in the Philippines.

The United Nationals Forum on Sustainability Standards (UNFSS), a prime intergovernmental forum formed under collaborative initiative of five UN Agencies[9] to support the advancement of VSS, applies the concept of multi-stakeholder platforms to engage various stakeholders to participate in improving the standards and implementation of VSS in developing countries (UNFSS, 2018). The UNFSS identified national platforms as one policy interventions to influence VSS through informed policy dialogues. The functions of these national platforms can range from knowledge-sharing to standard-setting, with the latter playing an important role in facilitating a "system change" in the value chain. According to Stibbe & Prescott, (2016), MSPs are essential vehicle to cause a system change, which is required to create new sustainable agricultural value chains. They provide "an overarching common vision and the necessary coordination and support for collaboration of multiple actors each playing essential parts and together building a new, functioning, sustainable system" (Stibbe & Prescott, 2016: p.2). The UNFSS started collaboration with public institutions to support the establishment of national VSS platforms in India, Brazil, China, and Mexico in 2016, with Indonesia and South Africa ready to follow the same collaborative VSS efforts (UNFSS, 2018). Under the initiative of UNCTAD, this project aims to support the establishment of national VSS platform in the Philippines. Specifically, the challenges identified from the survey of multiple stakeholders (section 4.5) and options identified from the analysis of these challenges (section 5.1) will support initial steps to establishing a Philippine VSS Platform for the coconut sector. The next section provides an overview on the opinions of the value chain actors and institutions on the

[9] Food and Agriculture Organization of the United Nations (FAO), the International Trade Centre (ITC), the United Nations Conference on Trade and Development (UNCTAD), the UN Environment Programme (UN Environment), and the United Nations Industrial Development Organization (UNIDO).

establishment of Multi-stakeholder Platform for organic certification in the Philippines.

Box 3 Definitions of Multi-Stakeholder Partnerships (MSPs)

Partnerships are defined as voluntary and collaborative relationships between various parties, both public and non-public, in which all participants agree to work together to achieve a common purpose or undertake a specific task and, as mutually agreed, to share risks and responsibilities, resources and benefits" (UN General Assembly, 60th session, Report of the Secretary General, UN Doc A/60/214, 2002).

Multi-stakeholder partnership is a very broad term that describes groupings of civil society, the private sector, the public sector, the media and other stakeholders that come together for a common purpose. The partners have a shared understanding that they play different roles and have different purposes, but that they can pursue collective goals through collaboration and common activities to achieve such goals. These partnerships are voluntary, with participation driven by the perceived benefits they may see emerging from the process. (Adam, James, & Wanjira, 2007: p.5)

Multi-stakeholder partnerships involve organisations from different societal sectors working together, sharing risks and combining their unique resources and competencies in ways that can generate and maximise value towards shared partnership and individual partner objectives, often through more innovative, more sustainable, more efficient and / or more systemic approaches (Stibbe & Prescott, 2016: p.1).

Multi-stakeholder partnerships are defined as voluntary and collaborative relationships between stakeholders across different sectors that enable sharing of common interest and approaches, leveraging responsibilities, risks, resources and benefits towards achieving sustainable development (Dahiya & Okitasari, 2018: p.10).

The characteristics of well-functioning MSPs include shares and defines 'problem situation' or opportunity, engages all key stakeholders in the partnership, works across different sectors and scales, follows an agreed but dynamic process and timeframe, involves stakeholders in establishing their expectations for a good partnership, works with power differences and conflicts, fosters stakeholder learning, balances bottom-up and top-down approaches, and makes transformative and institutional change possible (Brouwer et al., 2015: p.14-15).

Three main categories of MSPs based on their objectives (Loveridge & Wilson, 2017: p.13-14):

- Knowledge-sharing – sharing information is critical to development because, while the solutions to problems may already exist, information about solutions is not shared and ability to replicate them at scale is lost.
- Standard-setting – aim to design, strengthen and enforce norms and standards because of the difference in terms of the strength of stakeholders' obligations, internal verification and compliance procedures, and formality.
- Service providing – seek to address market failures by providing goods and services, mobilising resources or enabling innovation and the development of products and markets.

5.2.2 Opinions on a Platform based on the survey

A Multi-Stakeholder Platform can be a useful venue to debate on the policy options and collaborate on developing a National Action Plan. The Platform can be used as a venue for sharing and exchanging information and finding opportunities for partnership initiatives. Figure 32 shows that majority of the respondents agree on the usefulness of establishing such a platform, with processors and stakeholders showing about 99 percent agreement. However, the willingness to participate in this Platform is high only among the processors and stakeholders, almost 100 and 80 percent, respectively. About 50 percent of the farmers and only 18 percent of the brokers are interested to join the Multi-Stakeholder Platform. The main reason for actors and institutions' participation is to gain knowledge (Table 16). Specially, the farmers would like to know more about exportation and certification support and the processors would like to get more insights on the coconut industry and role of certification on it. Some producers of raw coconut (i.e. farmers, tenants, workers) will be willing to participate in a multi-stakeholder platform on the condition that it will be for "free" (i.e. no expenses on their part). The main constraint for the actors and institutions to participate in a platform will be time due to their busy work. Most tenants think they lack the capacity and knowledge to contribute to the discussion in a platform and some simply do not have interest to participate. Many farmers and brokers will only attend if they receive an invitation to participate in a platform.

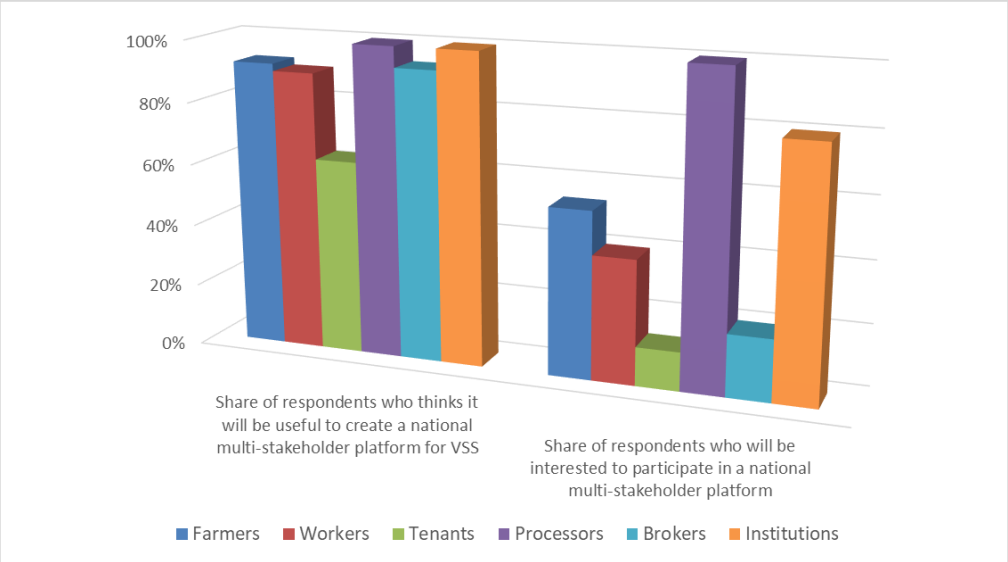


Figure 32. Opinions on establishment of a multi-stakeholder platform for VSS

Table 16. Reasons to participate and not to participate in a multi-stakeholder platform

	Farmers	Workers	Tenants	Processors	Brokers	Institutions
Reasons to participate						
Gain more knowledge	x	x	x	x	x	x
Benefits from certification	x			x		
Benefits of organic food to people						
Contribute in the discussion				x		

Improve certification process				x		
Relevant to work and responsibilities						x
Share knowledge and experience						x
If participation is for free	x	x	x			
Reasons not to participate						
Lack of time	x	x	x	x	x	x
Processors/managers should attend	x	x	x			
Lack of capacity		x	x			
Lack of knowledge			x			x
Lack of interest			x			
Additional expenses				x		
Only if receive invitation	x				x	

Other interests of institutions in a multi-stakeholder platform refer to the relevance of organic certification to their work and responsibilities as well as the opportunity to share their knowledge and experience to the actors in the value chain. Below are some specific thoughts shared by the respondents from key institutions:

> *"Participation in a multi-stakeholder platform is recommended to gather the inputs of the VCO chain actors on the usability of the standards, relevant policies, and regulations under BAFS jurisdiction (official accreditation of organic certifying bodies, registration of organic producers and products, validation activities – pre-registration, monitoring and post-market surveillance). This information will help us define the level of relevance of the existing guidelines".*

> *"As part of the agency that regulates certifying bodies for organic agriculture and as the standard setting agency for primary and post-harvest agriculture and fishery products and machineries, it would be beneficial for us to be involved in this multi-stakeholder platform. This would aid us in addressing the challenges in the industry for organic agriculture and to validate if the standards developed by our agency are appropriate to the needs of the stakeholders."*

> *"It is deemed important to encourage multi-stakeholder participation in formulating programs, projects and policies that will affect stakeholders. I believe that participating in this kind of platform is an opportunity to acquire more knowledge from other stakeholders, and also a chance to influence the direction and implementation of certain programs, projects and policies by conveying our agency's comments and recommendations."*

Figure 33 shows the respondents' suggestions on the participants for the Platform. Almost 50 percent of the institutions suggest that government and all value chain actors should participate and about 30 percent of them suggest either producers/managers or government only. While almost 70 percent of the workers think that farmers are the main participants in the Platform, only 33 percent of the farmers are of the same opinion. A higher share of the respondents suggests that all actors in the value chain should participate in the Platform.

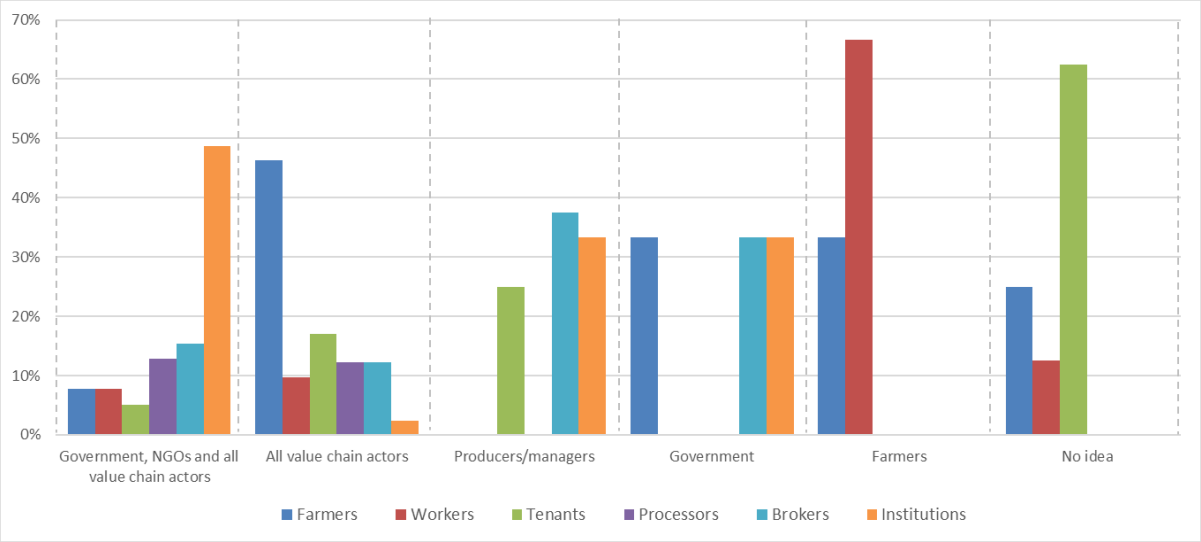


Figure 33. Suggestions on participants in the multi-stakeholder platform for VSS

The respondents from institutions were asked about their opinion on the issues that need to be tackled in the Multi-Stakeholder Platform. Many of the suggestions, which are related to the policy options discussed in the previous chapter (5.1), cover the following topics on organic certification.

- Evaluation needs of actors, institutions, and decision-makers
- Roles of the institutions to establish, implement, monitor, and sustain VSS
- Gaps and challenges in the adoption of national and international standards
- Regulatory policies, VSS agreements and implementation
- Government agencies mandated to accredit and support certification
- System of certification including application costs, equal sharing of benefits, compliance, credibility, and traceability
- Links of organic certification to other VSS including Fairtrade, GAP, etc.
- Research and development for innovations, health benefits, CSI, etc.

Several operational issues were suggested for the Platform including LGU representations at various levels, assign coordinating body (e.g. Secretariat), select facilitator for the meetings, create a technical working group, initiate a public-private partnership, etc. As for the schedule of the meetings, there was a range of suggestion from monthly, bi-annually, and annually. It was also suggested to conduct the Platform meetings in strategic locations (i.e. where most coconut farming communities are located) in three main islands of the country (i.e. Luzon, Visayas and Mindanao).

5.2.3 Options and recommendations for a National VSS Platform

While there is a general support among the surveyed actors and institutions to establish a national multi-stakeholder platform in the Philippines, it will be necessary to create a structure that will encourage their participation. Based on the analysis of the challenges of

certification and reasons not to participate in a multi-stakeholder platform, this section highlights issues to be taken account in establishing national VSS platform in the country.

a. Goals

Goals need to be more targeted and adapted to the local contexts (Beisheim & Simon, 2016; Treichel, Höh, Biermann, & Conze, 2017). With lack of knowledge being an important reason for actors not to participate in a platform (Table 16), the goals of the national VSS platform should progress from knowledge-sharing to standard-setting. This aligns with the definition of multi-stakeholder platforms that range from a mere consultative process to a more transformative one (Badibanga, Ragasa, & Ulimwengu, 2013). Transformation aiming to improve the structure and standards of certification will be very useful to affect a system change, which the coconut value chain needs to make benefits of organic certification trickle down to the producers of raw coconut. The topics suggested by the value chain actors for the national multi-stakeholder platform reflect their desire to transform the policies and system for certification (chapter 5.2.2). The goals of the platform should deal with "inclusive and cross-cutting issues" (Adam et al., 2007), so that concerns of the actors along the entire value chain will be addressed. At the same time, the issues should be organized according to level of priorities, focusing first on problems affecting actors who are least embedded in the value chain and most disadvantaged in the current certification system (i.e. producers of raw coconut). Karaki & Medinilla, (2016: p.36) suggested that "transformational potential and inclusive development outcomes often depend on the level of embeddedness of a partnership approach, in a sector, in the local and national economy and in society".

Goals also need to create sense of "country-ownership" (Beisheim & Simon, 2016; Loveridge & Wilson, 2017). While harmonizing certification standards to those of the main importing countries could help enhance Philippine coconut oil, this will remain a big challenge because different countries have different standards. This will also not directly support the development of organic market for coconut oil in the Philippines, which will have the potential to support the business of MSMEs. The UNFSS shared experience of successfully introducing locally tailored VSS in Asia (UNFSS, 2018: p.32):

> *"Promotion of home-grown VSS means that governments offer businesses a locally contextualized standard for making production contribute to SDGs. These standards are often more basic in orientation than standards developed in OECD countries, thereby offering broader access to certification for businesses. By promoting new standards, of course governments at first sight would appear to be making the standard market more complex. Compared to existing VSS systems that frequently originate in OECD member countries, some standards from emerging economies appear to be designed to complement existing standards. ... Global buyers that otherwise would demand certification from VSS systems such as Utz or the Rainforest Alliance accept these domestic VSS."*

The Philippine VSS platform could aim to learn from this experience and set up (or improve current) national standards and certification system that will have major impacts on addressing the SDGs.

b. Representation

While the national platform needs to be inclusive, it should be primarily represented by those with "stake" in achieving the goals (Treichel et al., 2017). Opening opportunity for representation of target groups will not only help to better achieve the platform's goals but also improve "recognition and legitimacy" of its work (Beisheim & Simon, 2016: p.6). Participation of institutions that will be instrumental in transforming the certification system (i.e. government, CBOs) will be very important. In the case of coconut oil value chain, the actors at all levels should have adequate representation in the national VSS platform. The reasons for the farmers, workers, tenants, and brokers unwillingness to participate in a multi-stakeholder platform will need to be addressed (Table 16). The value of the platform should be well communicated when inviting them to participate. For the raw coconut producers, who belong to the poorest and weakest segment of the society, it will be important to provide financial support for their participation (i.e. travels) and give them a "voice" during the discussions. Dahiya & Okitasari (2018: p.38) emphasized the importance of "active participation of weak(er) stakeholders in the decision-making process and equity in the partnership structure" in multi-stakeholder partnerships. Because they lack knowledge and capacity to participate, trainings could be provided to producers of raw coconut to prepare them in their active engagement in the platform. Managers of farm associations that will represent not only farmers, but also workers and tenants will need to have a common understanding about what they need to propose on how to improve raw coconut producers' embeddedness in the value chain and benefits from an improved system of organic certification. To achieve SDGs on gender equity and decent employment, "balanced representation by occupation, gender and age group" is important (Badibanga et al., 2013: p.8). Badibanga et al. (2013) emphasized that underrepresentation of some groups can result to weak participation.

c. Power balance

Power balance is a closely related issue to representation that needs special attention due the asymmetries in knowledge, capacity, resources, and embeddedness among the value chain actors. Boström & Hallström (2013) identified four types of power in standard-setting MSPs – material power refers to stakeholders' access to financial resources, symbolic is the stakeholders' power associated to its logo and name, cognitive refers to stakeholders' language, technical and argumentative competencies, and social power is the level of embeddedness in networks not only within, but also outside the value chain. The producers of raw coconut have least of all these types of power. So even they are represented in a platform, there is a danger of them being side stepped in the decision making. The SMSEs have also much less power than the multinational coconut oil producers and exporters. HLPE (2018: p.71) noted the "immense power asymmetries among actors" in food supply chains, where power has now become concentrated "in the hands of few transnational corporations". Multinational food corporations have already caused closure of many local and traditional VCO producers as the former realized the potential of the export industry (section 3.1.2). But competition may exist not only at the level of value chain actors, but also key institutions in organic certification, i.e. local versus international CBOs. The latter are also organized and operate like any other profit-oriented multinational corporations. The following are corporate power that could influence the standard-setting in favour of

multinational corporations (HLPE, 2018), which could further damage local coconut oil industries in the absence of power balance:

- *instrumental power, which reflects corporations' capacity to directly influence policy processes and decisions (e.g. through lobbying);*
- *structural power, which refers to the influence exerted by corporations on states through their position in the economy or through their participation in MSPs; and*
- *discursive power, which designates corporations' capacity to frame the issues, and develop narratives and norms that reinforce their position and legitimacy.*

Power dynamics will have to be managed effectively for MSPs to support delivery of SDGs (Brouwer, Hiemstra, Vugt, & Walters, 2013). A national VSS platform can gain from asymmetries in power by sharing the material, symbolic, cognitive, and social power of few powerful to many less powerful stakeholders to reach common goals. Transforming goals from knowledge-sharing to standard-setting will entail resources, which more powerful stakeholders could contribute to the platform. "Tipping the power balance requires mutual respect and trust among key actors" (Hiemstra et al., 2012: p.15). Trust among stakeholders must be built up in the very beginning of establishing a national multi-stakeholder platform.

d. Leadership

Finally, effective leadership is crucial in setting goals that address multiple interests, win trust of stakeholders, and take the partnership process forward (Adam et al., 2007; Loveridge & Wilson, 2017; Mineo, 2014). Collective leadership is important in multi-stakeholder contexts and achieving sustainability goals (Gauthier, 2006; Kuenkel, 2016). It is defined as a "group of people working together toward a shared goal" and calls for "shared responsibility and decision making, accountability and authentic engagement" (O'Neill & Brinkerhoff, 2018: p.1-2). The leaders should represent views of all actors, including those who are underrepresented and have weak voice. Collective leadership can enhance power balance. MSP leadership will need support from an independent and well-resourced secretariat (Loveridge & Wilson, 2017). This is in line with the suggestions of the actors and institutions on the need to identify Secretariat for the National Multi-stakeholder Platform in the Philippines.

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APPENDICES

Appendix 6. Direct relationship or immediate link among actors in the value chain, in percent

Relationship with other actors in the value chain	Farmers	Workers	Tenants	Processors	Brokers
I DONT KNOW					
Source of information on or support for certification	26.92	40.00	75.00	-	6.67
Source of information on production inputs and methods	26.92	40.00	75.00	-	6.67
Source of information on markets, where to sell products	23.08	30.00	75.00	-	-
Supply of input or raw materials for the production	26.92	30.00	81.25	-	-
Buyer of product for wholesale or exportation	26.92	30.00	81.25	-	-
Contract agreement for production or processing	26.92	30.00	81.25	-	-
Partnership for certification or sustainability standards	26.92	50.00	81.25	-	6.67
Technical advice for sustainable production	26.92	30.00	81.25	-	6.67
Marketing support for the product	26.92	30.00	81.25	-	-
NO LINK WITH OTHER ACTORS					
Source of information on or support for certification	34.62	40.00	25.00	-	40.00
Source of information on production inputs and methods	57.69	20.00	18.75	40.00	53.33
Source of information on markets, where to sell products	11.54	50.00	25.00	10.00	53.33
Supply of input or raw materials for the production	65.38	40.00	18.75	20.00	13.33
Buyer of product for wholesale or exportation	11.54	30.00	12.50	-	20.00
Contract agreement for production or processing	26.92	30.00	18.75	20.00	46.67
Partnership for certification or sustainability standards	30.77	30.00	18.75	20.00	46.67
Technical advice for sustainable production	15.38	30.00	12.50	10.00	53.33
Marketing support for the product	23.08	10.00	6.25	10.00	53.33
PRODUCER OF COCONUT INPUTS					
Source of information on or support for certification	-	-	-	-	-
Source of information on production inputs and methods	-	-	-	-	-
Source of information on markets, where to sell products	-	-	-	-	-
Supply of input or raw materials for the production	3.85	-	-	20.00	6.67
Buyer of product for wholesale or exportation	-	-	-	-	-
Contract agreement for production or processing	-	-	-	-	-
Partnership for certification or sustainability standards	-	-	-	-	-
Technical advice for sustainable production	-	-	-	-	-

Marketing support for the product	-	-	-	-	-
PRODUCER OF RAW COCONUT					
Source of information on or support for certification	-	-	-	10.00	-
Source of information on production inputs and methods	7.69	20.00	6.25	-	-
Source of information on markets, where to sell products	-	-	-	-	-
Supply of input or raw materials for the production	3.85	-	-	40.00	60.00
Buyer of product for wholesale or exportation	-	-	-	-	-
Contract agreement for production or processing	-	-	-	-	-
Partnership for certification or sustainability standards	-	-	-	10.00	-
Technical advice for sustainable production	-	20.00	6.25	-	-
Marketing support for the product	-	20.00	6.25	-	-
PROCESSOR OF COCONUT OIL					
Source of information on or support for certification	-	20.00	-	30.00	6.67
Source of information on production inputs and methods	-	20.00	-	30.00	6.67
Source of information on markets, where to sell products	11.54	20.00	-	10.00	6.67
Supply of input or raw materials for the production	-	20.00	-	10.00	13.33
Buyer of product for wholesale or exportation	3.85	30.00	6.25	20.00	26.67
Contract agreement for production or processing	3.85	30.00	-	30.00	26.67
Partnership for certification or sustainability standards	-	10.00	-	40.00	-
Technical advice for sustainable production	3.85	20.00	-	30.00	6.67
Marketing support for the product	11.54	30.00	6.25	30.00	6.67
EXPORTER OF COCONUT OIL					
Source of information on or support for certification	23.08	-	-	20.00	26.67
Source of information on production inputs and methods	7.69	-	-	-	13.33
Source of information on markets, where to sell products	7.69	-	-	20.00	13.33
Supply of input or raw materials for the production	-	-	-	-	-
Buyer of product for wholesale or exportation	11.54	10.00	-	20.00	33.33
Contract agreement for production or processing	19.23	10.00	-	20.00	20.00
Partnership for certification or sustainability standards	26.92	10.00	-	10.00	33.33
Technical advice for sustainable production	19.23	-	-	10.00	26.67
Marketing support for the product	11.54	10.00	-	20.00	20.00
BROKER, SUPPLYING RAW COCONUT TO PROCESSOR					

Source of information on or support for certification	34.62	40.00	25.00	-	40.00
Source of information on production inputs and methods	57.69	20.00	18.75	40.00	53.33
Source of information on markets, where to sell products	11.54	50.00	25.00	10.00	53.33
Supply of input or raw materials for the production	65.38	40.00	18.75	20.00	13.33
Buyer of product for wholesale or exportation	11.54	30.00	12.50	-	20.00
Contract agreement for production or processing	26.92	30.00	18.75	20.00	46.67
Partnership for certification or sustainability standards	30.77	30.00	18.75	20.00	46.67
Technical advice for sustainable production	15.38	30.00	12.50	10.00	53.33
Marketing support for the product	23.08	10.00	6.25	10.00	53.33
BROKER, SUPPLYING COCONUT OIL TO EXPORTERS					
Source of information on or support for certification	-	-	-	10.00	-
Source of information on production inputs and methods	-	-	-	-	-
Source of information on markets, where to sell products	-	-	-	20.00	6.67
Supply of input or raw materials for the production	-	-	-	-	-
Buyer of product for wholesale or exportation	-	-	-	20.00	-
Contract agreement for production or processing	-	-	-	20.00	-
Partnership for certification or sustainability standards	-	-	-	-	-
Technical advice for sustainable production	-	-	-	10.00	-
Marketing support for the product	-	-	-	10.00	-
OTHERS (e.g. Institutions)					
Source of information on or support for certification	11.54	-	-	30.00	20.00
Source of information on production inputs and methods	-	-	-	20.00	20.00
Source of information on markets, where to sell products	26.92	-	-	30.00	20.00
Supply of input or raw materials for the production	-	10.00	-	-	6.67
Buyer of product for wholesale or exportation	23.08	-	-	30.00	20.00
Contract agreement for production or processing	11.54	-	-	-	6.67
Partnership for certification or sustainability standards	15.38	-	-	20.00	13.33
Technical advice for sustainable production	34.62	-	-	40.00	6.67
Marketing support for the product	15.38	-	-	30.00	13.33

Appendix 7. Opinion on most important actors in the value chain, by type of respondents and activities, in percent

Type of activities	None is most important	Producer of Coconut inputs	Producer of raw coconuts	Processor of coconut oil	Exporter of coconut oil	Broker, supplying coconut seedling to farmers	Broker, Supplying raw coconut to processor	Broker supplying coconut oil to exporters	I do not know
Most important for farmers									
More access to information on and support for certification than other actors	-	-	-	30.77	22.58	-	50.00	-	35.90
More access to sources and suppliers of production inputs than other actors	-	-	21.43	31.25	15.38	33.33	12.50	-	36.84
More access to international buyers or markets than other actors	-	-	0.00	36.36	17.07	-	50.00	-	36.84
Influence production methods/practices of other value chain actors	-	-	28.57	20.51	30.00	-	-	-	35.14
Influence quality and quantity of production of other value chain actors	-	-	20.00	24.00	21.43	-	-	-	35.90
Influence production schedule (e.g. harvest, supply) of other actors	-	-	19.05	29.63	25.00	-	-	-	33.33
Set or negotiate the level of product prices of other value chain actors	-	-	33.33	16.67	12.50	25.00	30.43	-	35.14
Capacity to build partnership with other actors in the value chain	-	-	50.00	25.00	17.24	50.00	16.67	-	36.84
Capacity to influence government policy on production standard	50.00	-	-	27.27	17.86	-	-	-	35.90
Most important for workers									
More access to information on and support for certification than other actors	-	-	-	15.38	6.45	-	-	-	15.38
More access to sources and suppliers of production inputs than other actors	-	-	-	25.00	-	-	-	-	15.79
More access to international buyers or markets than other actors	-	-	-	18.18	4.88	-	-	-	15.79
Influence production methods/practices of other value chain actors	-	-	-	10.26	-	-	-	-	16.22

Influence quality and quantity of production of other value chain actors	-	-	-	16.00	-	-	-	-	15.38
Influence production schedule (e.g. harvest, supply) of other actors	-	-	-	14.81	-	-	-	-	15.38
Set or negotiate the level of product prices of other value chain actors	-	-	-	8.33	6.25	-	8.70	-	16.22
Capacity to build partnership with other actors in the value chain	-	-	-	6.25	10.34	-	-	-	15.79
Capacity to influence government policy on production standard	-	-	-	4.55	10.71	-	-	-	15.38
Most important for tenants									
More access to information on and support for certification than other actors	-	-	0.00	-	3.23	-	-	-	38.46
More access to sources and suppliers of production inputs than other actors	-	-	7.14	-	-	-	-	-	39.47
More access to international buyers or markets than other actors	-	-	0.00	-	2.44	-	-	-	39.47
Influence production methods/practices of other value chain actors	-	-	14.29	-	-	-	-	-	40.54
Influence quality and quantity of production of other value chain actors	-	-	-	4.00	-	-	-	-	38.46
Influence production schedule (e.g. harvest, supply) of other actors	-	-	4.76	-	-	-	-	-	38.46
Set or negotiate the level of product prices of other value chain actors	-	-	-	-	-	-	4.35	-	40.54
Capacity to build partnership with other actors in the value chain	-	-	-	-	3.45	-	-	-	39.47
Capacity to influence government policy on production standard	-	-	-	-	3.57	-	-	-	38.46
Most important for processors									
More access to information on and support for certification than other actors	-	-	28.57	7.69	19.35	50.00	-	-	-
More access to sources and suppliers of production inputs than other actors	-	-	14.29	6.25	38.46	-	25.00	-	-

More access to international buyers or markets than other actors	-	-	-	-	17.07	100.00	-	28.57	-
Influence production methods/practices of other value chain actors	-	-	28.57	17.95	10.00	-	-	-	-
Influence quality and quantity of production of other value chain actors	-	16.67	13.33	-	50.00	-	-	-	-
Influence production schedule (e.g. harvest, supply) of other actors	-	-	9.52	22.22	50.00	-	-	-	-
Set or negotiate the level of product prices of other value chain actors	-	-	-	16.67	31.25	-	8.70	25.00	-
Capacity to build partnership with other actors in the value chain	-	16.67	-	12.50	20.69	-	-	50.00	-
Capacity to influence government policy on production standard	-	16.67	-	13.64	14.29	100.00	100.00	-	-
Most important for brokers									
More access to information on and support for certification than other actors	-	-	14.29	23.08	19.35	50.00	50.00	-	7.69
More access to sources and suppliers of production inputs than other actors	-	11.11	7.14	12.50	23.08	-	62.50	100.00	5.26
More access to international buyers or markets than other actors	-	-	-	27.27	17.07	-	50.00	28.57	5.26
Influence production methods/practices of other value chain actors	-	-	-	23.08	30.00	-	100.00	-	5.41
Influence quality and quantity of production of other value chain actors	-	-	20.00	28.00	14.29	-	-	-	7.69
Influence production schedule (e.g. harvest, supply) of other actors	-	20.00	19.05	18.52	25.00	-	-	-	10.26
Set or negotiate the level of product prices of other value chain actors	-	-	-	33.33	6.25	25.00	30.43	-	5.41
Capacity to build partnership with other actors in the value chain	-	16.67	-	12.50	31.03	-	16.67	-	5.26
Capacity to influence government policy on production standard	-	-	-	13.64	32.14	-	-	-	7.69
Most important for institutions									

More access to information on and support for certification than other actors	-	100.00	57.14	23.08	29.03	-	-	-	2.56
More access to sources and suppliers of production inputs than other actors	-	88.89	50.00	25.00	23.08	66.67	-	-	2.63
More access to international buyers or markets than other actors	100.00	100.00	-	18.18	41.46	-	-	42.86	2.63
Influence production methods/practices of other value chain actors	100.00	100.00	28.57	28.21	30.00	-	-	-	2.70
Influence quality and quantity of production of other value chain actors	100.00	83.33	46.67	28.00	14.29	100.00	100.00	-	2.56
Influence production schedule (e.g. harvest, supply) of other actors	100.00	80.00	47.62	14.81	-	100.00	100.00	-	2.56
Set or negotiate the level of product prices of other value chain actors	100.00	100.00	66.67	25.00	43.75	50.00	17.39	75.00	2.70
Capacity to build partnership with other actors in the value chain	100.00	66.67	50.00	43.75	17.24	50.00	66.67	50.00	2.63
Capacity to influence government policy on production standard	50.00	83.33	100.00	40.91	21.43	-	-	-	2.56

Appendix 8. Opinion on least important actors in the value chain, by type of respondents and activities, in percent

Type of activities	None is most important	Producer of Coconut inputs	Producer of raw coconuts	Processor of coconut oil	Exporter of coconut oil	Broker, supplying coconut seedling to farmers	Broker, Supplying raw coconut to processor	Broker supplying coconut oil to exporters	I do not know
Least important for farmers									
More access to information on and support for certification than other actors	-	16.67	30.00	-	-	-	-	-	33.33
More access to sources and suppliers of production inputs than other actors	25.00	-	28.57	-	20.00	-	33.33	-	33.33
More access to international buyers or markets than other actors	25.00	-	28.21	-	-	-	25.00	-	35.14
Influence production methods/practices of other value chain actors	33.33	-	31.58	-	-	-	-	-	32.43
Influence quality and quantity of production of other value chain actors	33.33	-	31.25	-	25.00	-	-	-	31.71
Influence production schedule (e.g. harvest, supply) of other actors	44.44	-	36.00	-	-	-	-	-	30.95
Set or negotiate the level of product prices of other value chain actors	28.57	-	29.27	-	-	-	-	-	30.77
Capacity to build partnership with other actors in the value chain	28.57	-	28.21	-	-	-	-	-	34.21
Capacity to influence government policy on production standard	28.57	-	29.73	-	-	-	-	-	33.33
Least important for workers									
More access to information on and support for certification than other actors	-	-	10.00	-	-	-	-	-	15.38
More access to sources and suppliers of production inputs than other actors	-	-	11.43	-	-	-	-	-	15.38
More access to international buyers or markets than other actors	-	-	10.26	-	-	-	-	-	16.22
Influence production methods/practices of other value chain actors	-	-	10.53	-	-	-	-	-	16.22

Influence quality and quantity of production of other value chain actors	-	-	12.50	-	-	-	-	-	14.63
Influence production schedule (e.g. harvest, supply) of other actors	-	-	16.00	-	-	-	-	-	14.29
Set or negotiate the level of product prices of other value chain actors	-	-	9.76	-	-	-	-	-	15.38
Capacity to build partnership with other actors in the value chain	-	-	10.26	-	-	-	-	-	15.79
Capacity to influence government policy on production standard	-	-	10.81	-	-	-	-	-	15.38
Least important for tenants									
More access to information on and support for certification than other actors	-	-	2.50	-	-	-	-	-	38.46
More access to sources and suppliers of production inputs than other actors	-	-	-	-	20.00	-	-	-	38.46
More access to international buyers or markets than other actors	-	-	2.56	-	-	-	-	-	40.54
Influence production methods/practices of other value chain actors	-	-	-	-	33.33	-	-	-	40.54
Influence quality and quantity of production of other value chain actors	-	-	3.13	-	-	-	-	-	36.59
Influence production schedule (e.g. harvest, supply) of other actors	-	-	-	-	-	-	-	-	38.10
Set or negotiate the level of product prices of other value chain actors	-	-	-	-	-	-	-	-	41.03
Capacity to build partnership with other actors in the value chain	-	-	2.56	-	-	-	-	-	39.47
Capacity to influence government policy on production standard	-	-	2.70	-	-	-	-	-	38.46
Least important for processors									
More access to information on and support for certification than other actors	25.00	50.00	12.50	-	-	-	-	11.11	-
More access to sources and suppliers of production inputs than other actors	25.00	66.67	14.29	100.00	-	-	-	9.09	-

More access to international buyers or markets than other actors	25.00	33.33	12.82	33.33	-	-	-	-	-
Influence production methods/practices of other value chain actors	16.67	66.67	13.16	50.00	-	-	-	12.50	-
Influence quality and quantity of production of other value chain actors	16.67	50.00	12.50	50.00	-	-	-	16.67	-
Influence production schedule (e.g. harvest, supply) of other actors	11.11	25.00	20.00	50.00	-	-	-	25.00	-
Set or negotiate the level of product prices of other value chain actors	14.29	50.00	12.20	50.00	-	-	-	25.00	-
Capacity to build partnership with other actors in the value chain	14.29	50.00	12.82	50.00	-	-	-	20.00	-
Capacity to influence government policy on production standard	14.29	50.00	13.51	100.00	-	-	-	14.29	-
Least important for brokers									
More access to information on and support for certification than other actors	-	-	27.50	-	-	-	-	11.11	7.69
More access to sources and suppliers of production inputs than other actors	-	-	31.43	-	-	-	-	9.09	7.69
More access to international buyers or markets than other actors	-	11.11	30.77	-	-	-	-	-	5.41
Influence production methods/practices of other value chain actors	-	-	28.95	-	33.33	-	-	-	8.11
Influence quality and quantity of production of other value chain actors	-	-	25.00	-	-	25.00	-	-	14.63
Influence production schedule (e.g. harvest, supply) of other actors	-	-	20.00	50.00	20.00	-	20.00	12.50	14.29
Set or negotiate the level of product prices of other value chain actors	-	-	29.27	-	-	-	-	-	7.69
Capacity to build partnership with other actors in the value chain	-	-	30.77	-	-	-	-	20.00	5.26
Capacity to influence government policy on production standard	-	-	29.73	-	-	-	-	14.29	7.69
Least important for institutions									

More access to information on and support for certification than other actors	75.00	33.33	17.50	-	100.00	100.00	100.00	77.78	5.13
More access to sources and suppliers of production inputs than other actors	50.00	33.33	14.29	-	60.00	100.00	66.67	81.82	5.13
More access to international buyers or markets than other actors	50.00	55.56	15.38	66.67	-	100.00	75.00	100.00	2.70
Influence production methods/practices of other value chain actors	50.00	33.33	15.79	50.00	33.33	100.00	100.00	87.50	2.70
Influence quality and quantity of production of other value chain actors	50.00	50.00	15.63	50.00	75.00	75.00	100.00	83.33	2.44
Influence production schedule (e.g. harvest, supply) of other actors	44.44	75.00	8.00	-	80.00	100.00	80.00	62.50	2.38
Set or negotiate the level of product prices of other value chain actors	57.14	50.00	19.51	50.00	100.00	100.00	100.00	75.00	5.13
Capacity to build partnership with other actors in the value chain	57.14	50.00	15.38	50.00	100.00	100.00	-	60.00	5.26
Capacity to influence government policy on production standard	57.14	50.00	13.51	-	100.00	100.00	100.00	71.43	5.13

Appendix 9. Opinion on barriers to certification that can affect decisions to become certified, in percent

Barriers to certification that can affect decisions	Farmers	Workers	Tenants	Processors	Brokers	Institutions
NOT A BARRIER						
Decision-making stage						
Obtaining information about certification and its process	15.38	-	-	70.00	26.67	24.00
Costs of certification (expensive)	11.54	-	-	10.00	6.67	8.00
Time spent to apply for certification	11.54	-	-	10.00	6.67	4.00
Paperwork related to certification	11.54	-	-	10.00	-	4.00
Rules/requirements related to certified production	11.54	-	-	20.00	-	12.00
Unexpected inspections in farm	15.38	-	-	50.00	13.33	44.00
Organization that provides certification is not accessible	15.38	-	-	70.00	6.67	16.00
Length of validity of certification (one year)	11.54	-	-	40.00	13.33	16.00
Length of transition period to become certified (3-5 years)	15.38	-	-	60.00	20.00	20.00
Very few organizations that provide certification	15.38	-	-	40.00	20.00	16.00
Lack of government support for certification	15.38	-	-	50.00	6.67	16.00
Implementation stage						
Finding reliable buyers/market for my certified produce	19.23	-	-	50.00	40.00	24.00
Incidence of disease, insect, weed in organic production	19.23	-	-	50.00	13.33	24.00
Vulnerability to climate extremes and soil infertility	15.38	-	-	60.00	13.33	24.00
Obtaining price information for my certified produce	19.23	-	-	50.00	20.00	24.00
Access to organic collection points or organic markets	19.23	-	-	50.00	26.67	24.00
Access to organic production inputs such as fertilizer, seeds	15.38	-	-	40.00	26.67	20.00
Costs of labour and their training for organic production	19.23	-	-	40.00	6.67	20.00
Lack of access to finance to convert into organic production	15.38	-	-	50.00	13.33	16.00
Production should not exceed the certification agreement	15.38	-	-	60.00	13.33	20.00
MODERATE BARRIER						
Decision-making stage						
Obtaining information about certification and its process	7.69	-	-	20.00	20.00	68.00
Costs of certification (expensive)	-	-	-	20.00	6.67	8.00
Time spent to apply for certification	3.85	-	-	40.00	13.33	40.00
Paperwork related to certification	3.85	-	-	30.00	6.67	44.00

Rules/requirements related to certified production	-	-	-	40.00	26.67	48.00
Unexpected inspections in farm	-	-	-	40.00	20.00	48.00
Organization that provides certification is not accessible	-	-	-	20.00	26.67	48.00
Length of validity of certification (one year)	-	-	-	30.00	6.67	32.00
Length of transition period to become certified (3-5 years)	-	-	-	10.00	6.67	24.00
Very few organizations that provide certification	-	-	-	40.00	13.33	36.00
Lack of government support for certification	3.85	-	-	10.00	13.33	36.00
Implementation stage						
Finding reliable buyers/market for my certified produce	3.85	-	-	20.00	13.33	40.00
Incidence of disease, insect, weed in organic production	3.85	-	-	20.00	13.33	44.00
Vulnerability to climate extremes and soil infertility	3.85	-	-	30.00	13.33	36.00
Obtaining price information for my certified produce	-	-	-	30.00	13.33	56.00
Access to organic collection points or organic markets	3.85	-	-	20.00	13.33	52.00
Access to organic production inputs such as fertilizer, seeds	3.85	-	-	20.00	6.67	48.00
Costs of labour and their training for organic production	-	-	-	30.00	26.67	44.00
Lack of access to finance to convert into organic production	7.69	-	-	10.00	20.00	24.00
Production should not exceed the certification agreement	-	-	-	20.00	20.00	36.00
SEVERE BARRIER						
Decision-making stage						
Obtaining information about certification and its process	3.85	10.00	-	-	6.67	4.00
Costs of certification (expensive)	11.54	10.00	-	70.00	40.00	80.00
Time spent to apply for certification	7.69	10.00	-	50.00	33.33	48.00
Paperwork related to certification	11.54	10.00	-	60.00	46.67	48.00
Rules/requirements related to certified production	7.69	10.00	-	30.00	13.33	32.00
Unexpected inspections in farm	3.85	10.00	-	-	-	4.00
Organization that provides certification is not accessible	3.85	10.00	-	-	-	32.00
Length of validity of certification (one year)	3.85	10.00	-	30.00	20.00	44.00
Length of transition period to become certified (3-5 years)	3.85	10.00	-	20.00	13.33	40.00
Very few organizations that provide certification	-	10.00	-	10.00	6.67	40.00
Lack of government support for certification	-	10.00	-	40.00	26.67	36.00
Implementation stage						
Finding reliable buyers/market for my certified produce	-	10.00	-	20.00	-	32.00

Incidence of disease, insect, weed in organic production	3.85	10.00	-	10.00	-	28.00
Vulnerability to climate extremes and soil infertility	3.85	10.00	-	-	6.67	28.00
Obtaining price information for my certified produce	-	10.00	-	-	-	12.00
Access to organic collection points or organic markets	-	10.00	-	10.00	-	8.00
Access to organic production inputs such as fertilizer, seeds	3.85	10.00	-	20.00	6.67	20.00
Costs of labour and their training for organic production	-	10.00	-	30.00	13.33	24.00
Lack of access to finance to convert into organic production	-	10.00	-	30.00	13.33	52.00
Production should not exceed the certification agreement	-	10.00	-	-	-	20.00
I DO NOT KNOW						
Decision-making stage						
Obtaining information about certification and its process	73.08	90.00	100.00	-	40.00	4.00
Costs of certification (expensive)	76.92	90.00	100.00	-	40.00	4.00
Time spent to apply for certification	76.92	90.00	100.00	-	40.00	8.00
Paperwork related to certification	73.08	90.00	100.00	-	40.00	4.00
Rules/requirements related to certified production	80.77	90.00	100.00	-	53.33	4.00
Unexpected inspections in farm	80.77	90.00	100.00	-	60.00	4.00
Organization that provides certification is not accessible	80.77	90.00	100.00	-	60.00	4.00
Length of validity of certification (one year)	80.77	90.00	100.00	-	53.33	8.00
Length of transition period to become certified (3-5 years)	80.77	90.00	100.00	-	53.33	16.00
Very few organizations that provide certification	80.77	90.00	100.00	-	53.33	4.00
Lack of government support for certification	76.92	90.00	100.00	-	46.67	12.00
Implementation stage						
Finding reliable buyers/market for my certified produce	76.92	90.00	100.00	-	40.00	4.00
Incidence of disease, insect, weed in organic production	73.08	90.00	100.00	-	66.67	4.00
Vulnerability to climate extremes and soil infertility	76.92	90.00	100.00	-	60.00	12.00
Obtaining price information for my certified produce	80.77	90.00	100.00	10.00	60.00	8.00
Access to organic collection points or organic markets	76.92	90.00	100.00	10.00	53.33	16.00
Access to organic production inputs such as fertilizer, seeds	76.92	90.00	100.00	10.00	53.33	12.00
Costs of labour and their training for organic production	80.77	90.00	100.00	-	46.67	12.00
Lack of access to finance to convert into organic production	76.92	90.00	100.00	-	46.67	8.00
Production should not exceed the certification agreement	80.77	90.00	100.00	-	60.00	24.00

Appendix 10. Perception on various economic and non-economic issues on organic certification, by level of dis-/agreement, in percent

Relationship with other actors in the value chain	Farmers	Workers	Tenants	Processors	Brokers
STRONGLY DISAGREE					
Economic issues					
Prices for certified are higher than for conventional products	-	-	-	-	-
Operating / production costs are higher for certified producers	-	-	-	-	-
Certified producers are dependent on suppliers of organic inputs	-	-	-	-	-
Certification requires new and different marketing methods	-	-	-	-	-
Perception on certified organic product by local buyer is negative	3.85	10.00	-	-	6.67
Organic farming is more profitable than conventional	-	-	-	-	-
Financial support/subsidy is important for certified production	-	-	-	-	-
Organic product will sell at a premium (higher price) in markets	-	-	-	-	-
Non-certified producers have no economic disadvantage	3.85	-	-	-	-
Non-economic issues					
I have concrete idea on the changes that will happen after obtaining certification	-	-	-	-	-
Using organic practices is healthier for me and our workers	-	-	-	10.00	-
My farm supports organic production	-	-	-	10.00	-
Organic practices are more environmentally sustainable than conventional practices	-	-	-	-	-
Organic production is more viable/feasible for the farm	-	-	-	-	-
Organic markets (the prices and people involved) are reliable / trustworthy	-	-	-	-	-
Organic production is one way to sustain life on earth	-	-	-	-	-
The process of organic certification is confusing	3.85	-	-	-	-
I lose freedom on what I can and cannot do when I get certified	3.85	-	-	-	-
DISAGREE					
Economic issues					
Prices for certified are higher than for conventional products	-	10.00	-	-	26.67
Operating / production costs are higher for certified producers	3.85	-	-	-	13.33
Certified producers are dependent on suppliers of organic inputs	3.85	-	-	10.00	-
Certification requires new and different marketing methods	3.85	-	-	10.00	-
Perception on certified organic product by local buyer is negative	38.46	60.00	31.25	40.00	60.00
Organic farming is more profitable than conventional	-	-	-	20.00	-
Financial support/subsidy is important for certified production	3.85	-	-	-	-
Organic product will sell at a premium (higher price) in markets	-	-	-	-	-

Non-certified producers have no economic disadvantage	23.08	10.00	-	20.00	53.33
Non-economic issues					
I have concrete idea on the changes that will happen after obtaining certification	-	10.00	-	-	-
Using organic practices is healthier for me and our workers	-	-	-	-	-
My farm supports organic production	-	-	-	-	-
Organic practices are more environmentally sustainable than conventional practices	-	-	-	10.00	-
Organic production is more viable/feasible for the farm	-	-	-	10.00	-
Organic markets (the prices and people involved) are reliable / trustworthy	3.85	-	-	20.00	-
Organic production is one way to sustain life on earth	-	-	-	10.00	-
The process of organic certification is confusing	3.85	-	-	30.00	26.67
I lose freedom on what I can and cannot do when I get certified	3.85	-	-	40.00	20.00
NEUTRAL					
Economic issues					
Prices for certified are higher than for conventional products	11.54	-	12.50	10.00	6.67
Operating / production costs are higher for certified producers	15.38	20.00	12.50	30.00	6.67
Certified producers are dependent on suppliers of organic inputs	23.08	30.00	18.75	20.00	20.00
Certification requires new and different marketing methods	11.54	30.00	12.50	40.00	33.33
Perception on certified organic product by local buyer is negative	15.38	-	-	10.00	26.67
Organic farming is more profitable than conventional	3.85	-	6.25	-	20.00
Financial support/subsidy is important for certified production	3.85	-	-	10.00	6.67
Organic product will sell at a premium (higher price) in markets	7.69	-	6.25	10.00	6.67
Non-certified producers have no economic disadvantage	15.38	30.00	6.25	60.00	20.00
Non-economic issues					
I have concrete idea on the changes that will happen after obtaining certification	19.23	20.00	18.75	40.00	13.33
Using organic practices is healthier for me and our workers	7.69	-	6.25	10.00	6.67
My farm supports organic production	19.23	-	6.25	-	20.00
Organic practices are more environmentally sustainable than conventional practices	-	-	-	-	-
Organic production is more viable/feasible for the farm	15.38	10.00	6.25	-	26.67
Organic markets (the prices and people involved) are reliable / trustworthy	3.85	-	6.25	10.00	6.67
Organic production is one way to sustain life on earth	15.38	10.00	6.25	10.00	33.33
The process of organic certification is confusing	-	10.00	6.25	20.00	-
I lose freedom on what I can and cannot do when I get certified	11.54	10.00	18.75	30.00	20.00
AGREE					

Economic issues					
Prices for certified are higher than for conventional products	34.62	70.00	37.50	10.00	40.00
Operating / production costs are higher for certified producers	26.92	10.00	18.75	50.00	40.00
Certified producers are dependent on suppliers of organic inputs	11.54	-	6.25	40.00	26.67
Certification requires new and different marketing methods	3.85	10.00	6.25	20.00	33.33
Perception on certified organic product by local buyer is negative	7.69	-	-	30.00	6.67
Organic farming is more profitable than conventional	50.00	70.00	25.00	30.00	46.67
Financial support/subsidy is important for certified production	34.62	30.00	12.50	40.00	40.00
Organic product will sell at a premium (higher price) in markets	53.85	60.00	12.50	40.00	46.67
Non-certified producers have no economic disadvantage	-	-	6.25	20.00	6.67
Non-economic issues					
I have concrete idea on the changes that will happen after obtaining certification	11.54	-	6.25	50.00	26.67
Using organic practices is healthier for me and our workers	38.46	60.00	25.00	10.00	46.67
My farm supports organic production	34.62	40.00	25.00	20.00	40.00
Organic practices are more environmentally sustainable than conventional practices	42.31	60.00	37.50	20.00	53.33
Organic production is more viable/feasible for the farm	30.77	50.00	25.00	50.00	40.00
Organic markets (the prices and people involved) are reliable / trustworthy	11.54	70.00	6.25	40.00	40.00
Organic production is one way to sustain life on earth	57.69	10.00	25.00	30.00	40.00
The process of organic certification is confusing	15.38	-	6.25	30.00	20.00
I lose freedom on what I can and cannot do when I get certified	3.85	-	-	20.00	20.00
STRONGLY AGREE					
Economic issues					
Prices for certified are higher than for conventional products	23.08	10.00	-	80.00	26.67
Operating / production costs are higher for certified producers	11.54	10.00	-	20.00	20.00
Certified producers are dependent on suppliers of organic inputs	3.85	10.00	-	30.00	13.33
Certification requires new and different marketing methods	7.69	-	-	30.00	-
Perception on certified organic product by local buyer is negative	-	-	-	20.00	-
Organic farming is more profitable than conventional	11.54	10.00	12.50	50.00	33.33
Financial support/subsidy is important for certified production	19.23	40.00	12.50	50.00	46.67
Organic product will sell at a premium (higher price) in markets	11.54	20.00	25.00	50.00	40.00
Non-certified producers have no economic disadvantage	-	-	-	-	-
Non-economic issues					
I have concrete idea on the changes that will happen after obtaining certification	3.85	-	-	10.00	-

Using organic practices is healthier for me and our workers	42.31	30.00	18.75	70.00	46.67
My farm supports organic production	38.46	50.00	18.75	70.00	40.00
Organic practices are more environmentally sustainable than conventional practices	46.15	30.00	12.50	70.00	46.67
Organic production is more viable/feasible for the farm	15.38	20.00	-	40.00	26.67
Organic markets (the prices and people involved) are reliable / trustworthy	11.54	20.00	-	30.00	33.33
Organic production is one way to sustain life on earth	3.85	20.00	-	50.00	13.33
The process of organic certification is confusing	11.54	10.00	-	20.00	6.67
I lose freedom on what I can and cannot do when I get certified	3.85	10.00	-	10.00	-
I DO NOT KNOW					
Economic issues					
Prices for certified are higher than for conventional products	30.77	10.00	50.00	-	-
Operating / production costs are higher for certified producers	42.31	60.00	68.75	-	20.00
Certified producers are dependent on suppliers of organic inputs	57.69	60.00	75.00	-	40.00
Certification requires new and different marketing methods	73.08	60.00	81.25	-	33.33
Perception on certified organic product by local buyer is negative	34.62	30.00	68.75	-	-
Organic farming is more profitable than conventional	34.62	20.00	56.25	-	-
Financial support/subsidy is important for certified production	38.46	30.00	75.00	-	-
Organic product will sell at a premium (higher price) in markets	26.92	20.00	56.25	-	6.67
Non-certified producers have no economic disadvantage	57.69	60.00	87.50	-	20.00
Non-economic issues					
I have concrete idea on the changes that will happen after obtaining certification	65.38	70.00	75.00	-	60.00
Using organic practices is healthier for me and our workers	11.54	10.00	50.00	-	-
My farm supports organic production	7.69	10.00	50.00	-	-
Organic practices are more environmentally sustainable than conventional practices	11.54	10.00	50.00	-	-
Organic production is more viable/feasible for the farm	38.46	20.00	68.75	-	6.67
Organic markets (the prices and people involved) are reliable / trustworthy	69.23	10.00	87.50	-	20.00
Organic production is one way to sustain life on earth	23.08	60.00	68.75	-	13.33
The process of organic certification is confusing	65.38	80.00	87.50	-	46.67
I lose freedom on what I can and cannot do when I get certified	73.08	80.00	81.25	-	40.00

Appendix 11. Opinion on contribution of the production and business activities to the SDG, in percent

Questions on Sustainable Development Goals (SDGs)	Answer	Farmers	Workers	Tenants	Processors	Brokers
FOOD SECURITY						
Does your farm produce enough food for your household consumption?	Always	46.15	40.00	25.00	80.00	86.67
Does your farm income allow you to buy food that are not produced in your farm?		50.00	50.00	25.00	100.00	93.33
Does your family have sufficient quantity of nutritious food for daily consumption?		46.15	50.00	25.00	90.00	93.33
Does your farm produce enough food for your household consumption?	Sometimes	50.00	60.00	68.75	20.00	13.33
Does your farm income allow you to buy food that are not produced in your farm?		46.15	50.00	68.75	-	6.67
Does your family have sufficient quantity of nutritious food for daily consumption?		53.85	50.00	68.75	10.00	6.67
Does your farm produce enough food for your household consumption?	Never	3.85	-	-	-	-
Does your farm income allow you to buy food that are not produced in your farm?		3.85	-	-	-	-
Does your family have sufficient quantity of nutritious food for daily consumption?		-	-	6.25	-	-
Does your farm produce enough food for your household consumption?	Question not relevant	-	-	6.25	-	-
Does your farm income allow you to buy food that are not produced in your farm?		-	-	6.25	-	-
Does your family have sufficient quantity of nutritious food for daily consumption?		-	-	-	-	-
GENDER EQUALITY						
How will you describe the gender relation of the workers in your farm?	Almost equal	53.85	40.00	12.50	80.00	33.33
How will you describe the participation in supervision of or decision-making in your farm?		38.46	10.00	-	90.00	40.00
Is there a difference in income per day of female and male workers in your farm?		26.92	20.00	6.25	60.00	33.33
How will you describe the gender relation of the workers in your farm?	More women	3.85	-	12.50	10.00	13.33
How will you describe the participation in supervision of or decision-making in your farm?		3.85	-	18.75	10.00	13.33
Is there a difference in income per day of female and male workers in your farm?		3.85	10.00	6.25	-	6.67
How will you describe the gender relation of the workers in your farm?	More men	38.46	60.00	37.50	10.00	53.33
How will you describe the participation in supervision of or decision-making in your farm?		57.69	90.00	37.50	-	46.67
Is there a difference in income per day of female and male workers in your farm?		57.69	70.00	37.50	40.00	60.00
How will you describe the gender relation of the workers in your farm?	I do not know	3.85	-	37.50	-	-
How will you describe the participation in supervision of or decision-making in your farm?		-	-	43.75	-	-
Is there a difference in income per day of female and male workers in your farm?		11.54	-	50.00	-	-
DECENT EMPLOYMENT						
Do you earn enough from your farm to support the basic needs (food, housing, health, and education) of your family?	Always	46.15	50.00	18.75	100.00	86.67
Do you allow workers of age below 18 years to work and earn a living in your farm?		3.85	-	-	-	-
Are you or your workers exposed to health hazards in the farm (pesticides, extreme weather, GHG emissions, etc.)		7.69	-	-	20.00	-

Do you earn enough from your farm to support the basic needs (food, housing, health, and education) of your family?	Sometimes	50.00	50.00	62.50	-	13.33
Do you allow workers of age below 18 years to work and earn a living in your farm?		-	-	18.75	10.00	6.67
Are you or your workers exposed to health hazards in the farm (pesticides, extreme weather, GHG emissions, etc.)		11.54	70.00	31.25	10.00	-
Do you earn enough from your farm to support the basic needs (food, housing, health, and education) of your family?	Never	3.85	-	18.75	-	-
Do you allow workers of age below 18 years to work and earn a living in your farm?		96.15	100.00	81.25	90.00	93.33
Are you or your workers exposed to health hazards in the farm (pesticides, extreme weather, GHG emissions, etc.)		80.77	30.00	68.75	70.00	100.00
Do you earn enough from your farm to support the basic needs (food, housing, health, and education) of your family?	I do not know	-	-	-	-	-
Do you allow workers of age below 18 years to work and earn a living in your farm?		-	-	-	-	-
Are you or your workers exposed to health hazards in the farm (pesticides, extreme weather, GHG emissions, etc.)		-	-	-	-	-
SUSTAINABLE CONSUMPTION/PRODUCTION						
Do you follow sustainable practices to increase farm production?	Always	80.77	100.00	62.50	90.00	80.00
Do you seek for advice/support on how to practice sustainable farming?		30.77	70.00	12.50	60.00	53.33
Do you diversify your farm production or your sources of income (i.e. also non-agricultural)?		46.15	40.00	31.25	40.00	53.33
Do you follow sustainable practices to increase farm production?	Sometimes	11.54	-	6.25	10.00	-
Do you seek for advice/support on how to practice sustainable farming?		50.00	10.00	18.75	10.00	6.67
Do you diversify your farm production or your sources of income (i.e. also non-agricultural)?		30.77	20.00	31.25	20.00	13.33
Do you follow sustainable practices to increase farm production?	Never	7.69	-	31.25	-	20.00
Do you seek for advice/support on how to practice sustainable farming?		19.23	20.00	62.50	30.00	33.33
Do you diversify your farm production or your sources of income (i.e. also non-agricultural)?		23.08	40.00	37.50	40.00	33.33
Do you follow sustainable practices to increase farm production?	I do not know	-	-	-	-	-
Do you seek for advice/support on how to practice sustainable farming?		-	-	6.25	-	6.67
Do you diversify your farm production or your sources of income (i.e. also non-agricultural)?		-	-	-	-	-
ENVIRONMENTAL CONSERVATION						
Did you observe deterioration in soil quality in your farm environment?	Yes, significant	7.69	10.00	-	10.00	6.67
Did you observe deterioration in water quantity in your farm?		-	-	-	10.00	6.67

Did you observe loss in biodiversity of plants, animals and insects in your farm/firm environment?		7.69	-	-	10.00	-
Did you observe deforestation in your town?		-	-	-	10.00	6.67
Does your farm have access to good quality coconut and other agricultural inputs?		92.31	80.00	93.75	50.00	6.67
Did you observe deterioration in soil quality in your farm environment?	Yes, but insignificant	3.85	-	6.25	-	13.33
Did you observe deterioration in water quantity in your farm?		3.85	10.00	-	10.00	-
Did you observe loss in biodiversity of plants, animals and insects in your farm/firm environment?		-	-	-	10.00	-
Did you observe deforestation in your town?		-	10.00	-	10.00	-
Does your farm have access to good quality coconut and other agricultural inputs?		7.69	10.00	6.25	40.00	60.00
Did you observe deterioration in soil quality in your farm environment?	No change	88.46	90.00	93.75	90.00	73.33
Did you observe deterioration in water quantity in your farm?		96.15	90.00	100.00	80.00	86.67
Did you observe loss in biodiversity of plants, animals and insects in your farm/firm environment?		92.31	100.00	100.00	80.00	93.33
Did you observe deforestation in your town?		100.00	90.00	100.00	80.00	86.67
Does your farm have access to good quality coconut and other agricultural inputs?		-	10.00	-	10.00	26.67
Did you observe deterioration in soil quality in your farm environment?	I do not know	-	-	-	-	6.67
Did you observe deterioration in water quantity in your farm?		-	-	-	-	6.67
Did you observe loss in biodiversity of plants, animals and insects in your farm/firm environment?		-	-	-	-	6.67
Did you observe deforestation in your town?		-	-	-	-	6.67
Does your farm have access to good quality coconut and other agricultural inputs?		-	-	-	-	6.67
PARTNERSHIP						
Do you cooperate with other seedlings/coconut producers to improve the quality or value of your product for the market?	Yes	30.77	-	-	80.00	20.00
Do you cooperate with different type of actors in the value chain to improve the quality or value of your product for the market?		61.54	-	6.25	90.00	46.67
Do you have a partnership with processing company to improve value of your product for market?		46.15	-	-	80.00	40.00
Do you seek advice/support from government or non-government organization to improve value of your product for market?		34.62	-	-	70.00	26.67
Do you cooperate with other seedlings/coconut producers to improve the quality or value of your product for the market?	No yet, but I am interested	30.77	-	6.25	-	20.00
Do you cooperate with different type of actors in the value chain to improve the quality or value of your product for the market?		15.38	-	-	-	6.67

Do you have a partnership with processing company to improve value of your product for market?		26.92	-	-	10.00	40.00
Do you seek advice/support from government or non-government organization to improve value of your product for market?		30.77	-	6.25	10.00	60.00
Do you cooperate with other seedlings/coconut producers to improve the quality or value of your product for the market?	No, I am not interested	23.08	70.00	6.25	20.00	53.33
Do you cooperate with different type of actors in the value chain to improve the quality or value of your product for the market?		7.69	70.00	12.50	10.00	40.00
Do you have a partnership with processing company to improve value of your product for market?		11.54	70.00	12.50	10.00	13.33
Do you seek advice/support from government or non-government organization to improve value of your product for market?		15.38	70.00	6.25	20.00	6.67
Do you cooperate with other seedlings/coconut producers to improve the quality or value of your product for the market?	I do not know	15.38	30.00	87.50	-	6.67
Do you cooperate with different type of actors in the value chain to improve the quality or value of your product for the market?		15.38	30.00	81.25	-	6.67
Do you have a partnership with processing company to improve value of your product for market?		15.38	30.00	87.50	-	6.67
Do you seek advice/support from government or non-government organization to improve value of your product for market?		19.23	30.00	87.50	-	6.67

Appendix 12. Perceptions on the influence of certification on sustainable development, in percent

Barriers to certification that can affect decisions	Farmers	Workers	Tenants	Processors	Brokers	Institutions
STRONGLY DISAGREE						
Food Security						
Certified producers tend to produce more than non-certified ones.	-	-	-	-	-	8.00
Food security means reliable access to a sufficient quantity of affordable, nutritious food. Certified producers have more food security for their family than non-certified ones.	-	-	-	-	-	8.00
Producers that are certified will receive higher prices for their products than non-certified ones.	-	-	-	-	-	-
Certified producers have higher quality (e.g. better graded) products.	-	-	-	-	-	-
Gender Equality						
Certified producers provide equal opportunities for work to women.	-	-	-	-	-	-
Certified producers provide equal opportunities for supervisory or managerial positions to women.	-	-	-	-	-	-
Certified producers provide equal level of income to women.	-	-	-	-	-	-
Certified producers provide better working conditions for women.	-	-	-	-	-	-
Decent Employment						
Certification offers higher income to support higher standard of living for the families.	-	-	-	-	-	-
Certification will prevent children from working in farms in exchange for salaries (in cash or kind).	-	-	-	-	-	-
Certification creates safe and secure working conditions in farms.	-	-	-	-	-	-
Certification can help reduce the negative health impacts of agricultural production (e.g. from chemical application) on the farmer, his family and workers.	-	-	-	-	-	-
Sustainable Consumption/Production						
Certification can help to promote sustainable farming practices that can increase farm production.	-	-	-	-	-	-
Certification provides opportunities for producers to get advice/support on sustainable practices.	-	-	-	-	-	-
Certification can help promote farm diversification or diversify sources of income (i.e. also non-agricultural).	-	-	-	-	-	-

Certification can help in sustainable use of farm inputs and resources.	-	-	-	-	-	-
Environmental Conservation						
Certification will help protect and preserve soil and water (i.e. reduce land and water degradation).	-	-	-	-	-	-
Biodiversity refers to the variety of life in an ecosystem. Certification contributes to protect the biodiversity in the farm.	-	-	-	-	-	-
Certification can help reduce deforestation.	-	-	-	-	-	-
Certification could help slow down or reduce the impacts of climate change (e.g. increase temperature, intensity of typhoons).	-	-	-	10.00	-	-
Partnership						
Certified actors are more organized into associations and know how to work together better.	-	-	-	-	-	-
Certification provides opportunities to create partnership with other value chain actors (e.g. farmer and processors).	-	-	-	-	-	-
Certified actors avail of more trainings (e.g. shared technology, finance and expertise) than non-certified ones.	-	-	-	-	-	-
Certified products are easier to sell to export markets.	-	-	-	10.00	-	-
DISAGREE						
Food Security						
Certified producers tend to produce more than non-certified ones.	7.69	-	-	-	13.33	24.00
Food security means reliable access to a sufficient quantity of affordable, nutritious food. Certified producers have more food security for their family than non-certified ones.	-	-	-	-	-	20.00
Producers that are certified will receive higher prices for their products than non-certified ones.	-	-	-	10.00	-	8.00
Certified producers have higher quality (e.g. better graded) products.	-	-	-	20.00	-	-
Gender Equality						
Certified producers provide equal opportunities for work to women.	7.69	-	-	40.00	-	4.00
Certified producers provide equal opportunities for supervisory or managerial positions to women.	3.85	-	-	10.00	-	4.00
Certified producers provide equal level of income to women.	3.85	-	-	-	-	4.00
Certified producers provide better working conditions for women.	3.85	-	-	-	-	4.00
Decent Employment						

Certification offers higher income to support higher standard of living for the families.	-	-	-	20.00	-	-
Certification will prevent children from working in farms in exchange for salaries (in cash or kind).	7.69	-	-	-	6.67	4.00
Certification creates safe and secure working conditions in farms.	-	-	-	-	-	-
Certification can help reduce the negative health impacts of agricultural production (e.g. from chemical application) on the farmer, his family and workers.	-	-	-	-	-	-
Sustainable Consumption/Production						
Certification can help to promote sustainable farming practices that can increase farm production.	-	-	-	-	-	-
Certification provides opportunities for producers to get advice/support on sustainable practices.	-	-	-	10.00	-	-
Certification can help promote farm diversification or diversify sources of income (i.e. also non-agricultural).	-	-	-	10.00	-	-
Certification can help in sustainable use of farm inputs and resources.	-	-	-	-	-	-
Environmental Conservation						
Certification will help protect and preserve soil and water (i.e. reduce land and water degradation).	-	-	-	30.00	-	-
Biodiversity refers to the variety of life in an ecosystem. Certification contributes to protect the biodiversity in the farm.	-	-	-	40.00	-	-
Certification can help reduce deforestation.	-	-	-	40.00	-	-
Certification could help slow down or reduce the impacts of climate change (e.g. increase temperature, intensity of typhoons).	-	-	-	20.00	-	-
Partnership						
Certified actors are more organized into associations and know how to work together better.	-	-	-	-	-	-
Certification provides opportunities to create partnership with other value chain actors (e.g. farmer and processors).	-	-	-	-	-	-
Certified actors avail of more trainings (e.g. shared technology, finance and expertise) than non-certified ones.	-	-	-	10.00	-	-
Certified products are easier to sell to export markets.	-	-	-	10.00	-	-
NEUTRAL						
Food Security						

Certified producers tend to produce more than non-certified ones.	26.92	40.00	-	10.00	40.00	32.00
Food security means reliable access to a sufficient quantity of affordable, nutritious food. Certified producers have more food security for their family than non-certified ones.	7.69	10.00	-	30.00	40.00	24.00
Producers that are certified will receive higher prices for their products than non-certified ones.	15.38	-	-	20.00	13.33	-
Certified producers have higher quality (e.g. better graded) products.	15.38	-	-	40.00	6.67	4.00
Gender Equality						
Certified producers provide equal opportunities for work to women.	23.08	20.00	6.25	10.00	20.00	36.00
Certified producers provide equal opportunities for supervisory or managerial positions to women.	34.62	50.00	12.50	-	26.67	44.00
Certified producers provide equal level of income to women.	26.92	20.00	6.25	10.00	20.00	44.00
Certified producers provide better working conditions for women.	15.38	20.00	6.25	10.00	13.33	44.00
Decent Employment						
Certification offers higher income to support higher standard of living for the families.	15.38	-	6.25	60.00	13.33	16.00
Certification will prevent children from working in farms in exchange for salaries (in cash or kind).	19.23	10.00	6.25	30.00	13.33	32.00
Certification creates safe and secure working conditions in farms.	11.54	-	-	10.00	-	8.00
Certification can help reduce the negative health impacts of agricultural production (e.g. from chemical application) on the farmer, his family and workers.	3.85	-	-	-	-	-
Sustainable Consumption/Production						
Certification can help to promote sustainable farming practices that can increase farm production.	3.85	-	6.25	-	6.67	12.00
Certification provides opportunities for producers to get advice/support on sustainable practices.	7.69	40.00	6.25	-	13.33	-
Certification can help promote farm diversification or diversify sources of income (i.e. also non-agricultural).	-	20.00	12.50	10.00	20.00	20.00
Certification can help in sustainable use of farm inputs and resources.	-	10.00	-	10.00	13.33	-
Environmental Conservation						
Certification will help protect and preserve soil and water (i.e. reduce land and water degradation).	-	-	6.25	20.00	6.67	-

Biodiversity refers to the variety of life in an ecosystem. Certification contributes to protect the biodiversity in the farm.	-	-	12.50	30.00	6.67	-
Certification can help reduce deforestation.	15.38	-	18.75	30.00	-	4.00
Certification could help slow down or reduce the impacts of climate change (e.g. increase temperature, intensity of typhoons).	3.85	10.00	-	30.00	6.67	4.00
Partnership						
Certified actors are more organized into associations and know how to work together better.	3.85	10.00	-	10.00	6.67	32.00
Certification provides opportunities to create partnership with other value chain actors (e.g. farmer and processors).	7.69	10.00	-	20.00	-	8.00
Certified actors avail of more trainings (e.g. shared technology, finance and expertise) than non-certified ones.	7.69	-	-	50.00	6.67	12.00
Certified products are easier to sell to export markets.	-	-	-	50.00	-	16.00
AGREE						
Food security						
Certified producers tend to produce more than non-certified ones.	15.38	20.00	18.75	-	26.67	16.00
Food security means reliable access to a sufficient quantity of affordable, nutritious food. Certified producers have more food security for their family than non-certified ones.	30.77	50.00	25.00	50.00	46.67	24.00
Producers that are certified will receive higher prices for their products than non-certified ones.	38.46	70.00	31.25	40.00	46.67	52.00
Certified producers have higher quality (e.g. better graded) products.	19.23	60.00	31.25	10.00	53.33	52.00
Gender Equality						
Certified producers provide equal opportunities for work to women.	3.85	20.00	-	30.00	20.00	32.00
Certified producers provide equal opportunities for supervisory or managerial positions to women.	3.85	10.00	-	30.00	26.67	24.00
Certified producers provide equal level of income to women.	7.69	20.00	-	40.00	33.33	24.00
Certified producers provide better working conditions for women.	11.54	20.00	6.25	30.00	40.00	28.00
Decent Employment						
Certification offers higher income to support higher standard of living for the families.	30.77	60.00	25.00	10.00	46.67	56.00
Certification will prevent children from working in farms in exchange for salaries (in cash or kind).	7.69	10.00	-	50.00	26.67	44.00
Certification creates safe and secure working conditions in farms.	42.31	70.00	25.00	10.00	60.00	52.00

Certification can help reduce the negative health impacts of agricultural production (e.g. from chemical application) on the farmer, his family and workers.	38.46	40.00	25.00	20.00	60.00	48.00
Sustainable Consumption/Production						
Certification can help to promote sustainable farming practices that can increase farm production.	42.31	60.00	31.25	20.00	53.33	44.00
Certification provides opportunities for producers to get advice/support on sustainable practices.	38.46	30.00	18.75	50.00	46.67	64.00
Certification can help promote farm diversification or diversify sources of income (i.e. also non-agricultural).	23.08	30.00	6.25	40.00	40.00	44.00
Certification can help in sustainable use of farm inputs and resources.	42.31	30.00	12.50	30.00	46.67	60.00
Environmental Conservation						
Certification will help protect and preserve soil and water (i.e. reduce land and water degradation).	50.00	60.00	18.75	20.00	60.00	56.00
Biodiversity refers to the variety of life in an ecosystem. Certification contributes to protect the biodiversity in the farm.	42.31	60.00	25.00	10.00	60.00	52.00
Certification can help reduce deforestation.	30.77	70.00	12.50	10.00	60.00	52.00
Certification could help slow down or reduce the impacts of climate change (e.g. increase temperature, intensity of typhoons).	42.31	40.00	18.75	10.00	53.33	60.00
Partnership						
Certified actors are more organized into associations and know how to work together better.	11.54	20.00	-	40.00	33.33	40.00
Certification provides opportunities to create partnership with other value chain actors (e.g. farmer and processors).	3.85	20.00	-	10.00	33.33	52.00
Certified actors avail of more trainings (e.g. shared technology, finance and expertise) than non-certified ones.	19.23	30.00	-	10.00	46.67	48.00
Certified products are easier to sell to export markets.	26.92	50.00	12.50	20.00	40.00	32.00
STRONGLY AGREE						
Food Security						
Certified producers tend to produce more than non-certified ones.	3.85	10.00	-	80.00	-	16.00
Food security means reliable access to a sufficient quantity of affordable, nutritious food. Certified producers have more food security for their family than non-certified ones.	11.54	-	-	10.00	-	16.00

Producers that are certified will receive higher prices for their products than non-certified ones.	15.38	10.00	6.25	30.00	33.33	32.00
Certified producers have higher quality (e.g. better graded) products.	30.77	20.00	6.25	30.00	33.33	44.00
Gender Equality						
Certified producers provide equal opportunities for work to women.	3.85	-	-	10.00	6.67	24.00
Certified producers provide equal opportunities for supervisory or managerial positions to women.	-	-	-	50.00	6.67	24.00
Certified producers provide equal level of income to women.	-	-	-	40.00	-	24.00
Certified producers provide better working conditions for women.	11.54	-	6.25	50.00	13.33	20.00
Decent Employment						
Certification offers higher income to support higher standard of living for the families.	11.54	20.00	-	-	13.33	24.00
Certification will prevent children from working in farms in exchange for salaries (in cash or kind).	3.85	-	-	10.00	6.67	16.00
Certification creates safe and secure working conditions in farms.	11.54	10.00	12.50	70.00	6.67	36.00
Certification can help reduce the negative health impacts of agricultural production (e.g. from chemical application) on the farmer, his family and workers.	30.77	30.00	12.50	70.00	20.00	48.00
Sustainable Consumption/Production						
Certification can help to promote sustainable farming practices that can increase farm production.	15.38	20.00	-	70.00	20.00	44.00
Certification provides opportunities for producers to get advice/support on sustainable practices.	11.54	-	-	40.00	20.00	36.00
Certification can help promote farm diversification or diversify sources of income (i.e. also non-agricultural).	11.54	-	-	30.00	13.33	28.00
Certification can help in sustainable use of farm inputs and resources.	7.69	10.00	-	50.00	20.00	40.00
Environmental Conservation						
Certification will help protect and preserve soil and water (i.e. reduce land and water degradation).	26.92	30.00	12.50	20.00	13.33	44.00
Biodiversity refers to the variety of life in an ecosystem. Certification contributes to protect the biodiversity in the farm.	26.92	20.00	6.25	10.00	13.33	48.00
Certification can help reduce deforestation.	15.38	20.00	6.25	20.00	13.33	40.00
Certification could help slow down or reduce the impacts of climate change (e.g. increase temperature, intensity of typhoons).	19.23	20.00	6.25	30.00	6.67	36.00

Partnership						
Certified actors are more organized into associations and know how to work together better.	7.69	-	-	40.00	6.67	28.00
Certification provides opportunities to create partnership with other value chain actors (e.g. farmer and processors).	11.54	-	-	60.00	13.33	40.00
Certified actors avail of more trainings (e.g. shared technology, finance and expertise) than non-certified ones.	23.08	-	-	20.00	20.00	36.00
Certified products are easier to sell to export markets.	38.46	-	6.25	10.00	40.00	52.00
I DO NOT KNOW						
Food Security						
Certified producers tend to produce more than non-certified ones.	46.15	30.00	81.25	10.00	20.00	4.00
Food security means reliable access to a sufficient quantity of affordable, nutritious food. Certified producers have more food security for their family than non-certified ones.	50.00	40.00	75.00	10.00	13.33	4.00
Producers that are certified will receive higher prices for their products than non-certified ones.	30.77	20.00	62.50	-	6.67	4.00
Certified producers have higher quality (e.g. better graded) products.	34.62	20.00	62.50	-	6.67	-
Gender Equality						
Certified producers provide equal opportunities for work to women.	61.54	60.00	93.75	10.00	53.33	4.00
Certified producers provide equal opportunities for supervisory or managerial positions to women.	57.69	40.00	87.50	10.00	40.00	4.00
Certified producers provide equal level of income to women.	61.54	60.00	93.75	10.00	46.67	4.00
Certified producers provide better working conditions for women.	57.69	60.00	81.25	10.00	33.33	4.00
Decent Employment						
Certification offers higher income to support higher standard of living for the families.	42.31	20.00	68.75	10.00	26.67	4.00
Certification will prevent children from working in farms in exchange for salaries (in cash or kind).	61.54	80.00	93.75	10.00	46.67	4.00
Certification creates safe and secure working conditions in farms.	34.62	20.00	62.50	10.00	33.33	4.00
Certification can help reduce the negative health impacts of agricultural production (e.g. from chemical application) on the farmer, his family and workers.	26.92	30.00	62.50	10.00	20.00	4.00
Sustainable Consumption/Production						

Certification can help to promote sustainable farming practices that can increase farm production.	38.46	20.00	62.50	10.00	20.00	-
Certification provides opportunities for producers to get advice/support on sustainable practices.	42.31	30.00	75.00	-	20.00	-
Certification can help promote farm diversification or diversify sources of income (i.e. also non-agricultural).	65.38	50.00	81.25	10.00	26.67	8.00
Certification can help in sustainable use of farm inputs and resources.	50.00	50.00	87.50	10.00	20.00	-
Environmental Conservation						
Certification will help protect and preserve soil and water (i.e. reduce land and water degradation).	23.08	10.00	62.50	10.00	20.00	-
Biodiversity refers to the variety of life in an ecosystem. Certification contributes to protect the biodiversity in the farm.	30.77	20.00	56.25	10.00	20.00	-
Certification can help reduce deforestation.	38.46	10.00	62.50	-	26.67	4.00
Partnership						
Certification could help slow down or reduce the impacts of climate change (e.g. increase temperature, intensity of typhoons).	34.62	30.00	75.00	-	33.33	-
Certified actors are more organized into associations and know how to work together better.	76.92	70.00	100.00	10.00	53.33	-
Certification provides opportunities to create partnership with other value chain actors (e.g. farmer and processors).	76.92	70.00	100.00	10.00	53.33	-
Certified actors avail of more trainings (e.g. shared technology, finance and expertise) than non-certified ones.	46.15	70.00	100.00	10.00	26.67	4.00
Certified products are easier to sell to export markets.	34.62	50.00	81.25	-	20.00	-