Philippine Cavendish Banana Value Chain: Exploring Potential for Fair Trade Certification

I. Introduction

a. Background

The Philippines is one of the largest exporters of Cavendish banana in the world. It is a major industry in Mindanao as the island produces more than 90% of total production in the country. Total investments in this industry is estimated to be more than USD 2.2 B based on a USD investment per hectare for development, production, logistics and marketing. As such, many depend on it as a source of employment employing more than 200,000 workers in the production and packing of banana.

The capacity of the Cavendish banana industry to generate investments and employment involving small growers is high because of the strong forward and backward linkages in the chain. While the industry is dominated largely by multinational companies, it plays an important role for small growers who are linked with these large companies through contract growing and leasing.

The industry continues to expand production in response to increasing demand in the global market. In 2017, production area for Cavendish banana has grown to an estimated 80,000-100,000 hectares from 71,000 in 2013 (PSA). Davao region contributes more than 2 million MT or 62 percent of the banana's produced in the country with Davao del Norte and Compostella Valley contributing 86 percent of that volume. Expansion efforts continue by adding more areas in SOCCSKSARGEN, CARAGA, and Region X in Bukidnon however it has been limited by development costs needed to fulfill contract. Cavendish Banana in Davao del Norte has a total planted area of 26,297 hectares making up 36.9 percent of the entire industry. Production areas are found in Panabo (28%), Sto. Tomas (25%), Tagum (13%), and Kapalong (11%). There are six types of growers in Davao del Norte and they are the corporate growers (leaseback), multinational growers (managed farm), corporate growers, cooperative growers, independent growers, and individual growers (MNC-contracted). Yield in the region has stagnated at 54 MT per hectare from 2014-2016 following a big drop from 60 metric tons per hectare back in 2012 which was the result of being hit hard by Typhoon Pablo and the spread of Fusarium Wilt continuing to affect 16,000 hectares of banana plantation.

Given its competitiveness and expansion, there are several issues in sustainability for the Cavendish banana chain. A clamor exists to achieve a more equitable and inclusive business for small growers and laborers particularly those engaged with large multinational companies. In the Philippines, standards that promote environmental protection and sustainability for MNC, corporate growers, cooperative growers include GlobalGap, ISO, and Rainforest Alliance. These are standards which are commonly required by buyers in the Asian market. Individual growers selling to spot markets commonly don't have any certification. TADECO, a corporate grower (leaseback) has a Fairtrade certification for Hired Labor and is in process of getting Fairtrade

certification for SPO in preparation for direct exports. This study examines the potential of Fairtrade certification in the Philippine Cavendish banana industry.

b. Objectives

Specifically, the study aims to:

1. Map the Philippines Cavendish key businesses and supply chains, include actors and their functions and inter-relationship

2. Provide detailed pictures on key production areas/region, its growthpotential, market trends and competitiveness of selected value chains including its future prospects within export/ overseas market.

3. Provide detailed value analysis in each of the stages of processing from the different production areas.

4. Provide detailed pictures on the Philippines Cavendish export products and export destinations, and historical export price

5. Understand the global market landscape for bananas and evaluate and prioritize the potential markets that are ripe for selling Philippines's Cavendish.

6. Provide field data from different production areas with regards tothe cropping pattern and cycles, information on the farmers, production process and systems; and the crop details

7. Identify the underlying policy, institutional, and infrastructural issuesthat affect the competitiveness of the Cavendish value chain from the selected geographies.

8. Study the Philippines key retailers, which may include fresh-fruitbrand owners, and prioritise two retail chains with well laid out strategies to introduce and develop sustainable bananas in those retail chains

9. Assess the feasibility of Fairtrade criteria for workingwith/certification of farmers in the various production areas

10. Provide recommendation on approaches and strategy on how Fairtrade can effectively engage in the sustainable Cavendishbusiness in the Philippines

c. Methodology

To address the objectives of the study, the analytical approach used is the value chain framework. The markets for Cavendish banana are examined and how the actors in the production, processing and distribution nodes of the chain respond to opportunities in the market.

Both primary and secondary data were collected. Primary data included key informant interviews among various actors in the Cavendish Banana value chains. A total of 39 informants were interviewed about the industry and their perceptions and thoughts about fair trade certification. A summary of the sectors they represent in the industry is presented in Table 1 and the list appears in Appendix 1. Secondary data were also used particularly farmer data from surveys conducted in Santo Tomas, Davao del Norte in 2012 and 2016 to understand the issues of small farmers and producer organizations in the production and marketing of their produce. Data from previous studies, PBGEA, local government units and online government databases such as the Philippine Statistics Authority.

Table 1. Key informants interviewed, 2018

Key informants	Number
Banana associations	3
Company/exporters/retailer	7
Cooperatives (Growers)	18
Individual growers/laborers	4
Local government units	4
National government agencies	3
Total	39

The study focused on Mindanao since 98 percent of the country's production of Cavendish banana comes from the island. In particular, the study focused on Davao del Norte since this is the province with the largest production of Cavendish banana in the country. Most of of the small growers in the industry are also located in this province particularly those under contract growing arrangements. Majority of these small growers are agrarian reform beneficiaries organized into cooperatives. Various types of contract arrangements also exist in the province unlike other provinces where only lease arrangement exists.

II. Cavendish Banana Value Chain

a. Global

The key major global players in the banana industry are Dole, Del Monte Produce and Chiquita (FAO, 2014). All three are multinational trading companies with Chiquita controlling 18.7 percent of the global export aft er acquiring Fyffes, a major supplier to the European market (FAO, 2014). Del Monte controls 12.2 percent while Dole controls 11.4 percent of the export market. Banana operations in the world ends up in the US (47%) and Europe (46%) with the remaining markets in Asia accruing a meager seven percent share (FAO, 2014).

Bananas are one of the most exported fresh fruit in the world, excluding plantain, global export volume has reached 18.1 million tons in 2017 (FAO, 2017). The banana industry has provided income to millions of rural households particularly those residing in Ecuador, Costa Rica, Guatemala, Colombia, and the Philippines who controlled 82 percent of the total export volme in the world in 2017 (FAO, 2017).

i. Global players and market share

Approximately 1000 banana varieties are grown in 150 countries worldwide but 95 percent of the commercially-sold banana all over the world is of the Cavendish variety (National Geographic, 2017). In 2014, the ten largest producers of Cavendish banana contributed 76% of the global volume. India led banana production by producing 24% of the world's total production followed by China (mainland),the Philippines, and Brazil who produced 10%, 7%, and 6%, respectively.

Table 2. Top producers of Banana in the World, 1962-2016

	Production						Area (ha)	Yield (ton/ha)
			Growth rates (%)					
Country	Volume (ton)	% to total Volume	1962-2016	2007-2016	2012-2016	2015-2016		
India	29124000	23.00	5.10	3.55	0.59	-1.01	846000	37.95
China	13324337	10.52	10.50	6.58	4.55	4.97	430046	34.15
China, mainland	13066778	10.32	17.32	6.70	4.76	5.27	416439	34.59
Indonesia	7007125	5.53	5.18	4.52	4.77	6.08	139964	55.19
Brazil	6764324	5.34	1.91	-0.24	-1.56	-1.37	469711	15.87
Ecuador	**6529676**	**5.16**	**2.35**	**1.09**	**-2.03**	**-1.38**	**180337**	**39.91**
Philippines	**5829142**	**4.60**	**3.78**	**-0.58**	**-7.49**	**1.07**	**456641**	**14.07**
Angola	3858066	3.05	6.39	13.75	7.92	5.26	131455	32.35
Guatemala	**3775150**	**2.98**	**5.35**	**7.10**	**5.66**	**5.14**	**78206**	**53.21**
United Republic of Tanzania	3559639	2.81	13.95	1.19	3.43	5.80	468470	8.38
Rwanda	3037962	2.40	2.14	1.66	0.23	2.58	322009	10.40
Costa Rica	**2409543**	**1.90**	**3.80**	**1.02**	**2.78**	**0.27**	**42410**	**62.63**
Mexico	2384778	1.88	3.03	0.99	2.26	5.31	78322	33.56
Colombia	**2043668**	**1.61**	**2.70**	**1.15**	**0.38**	**7.55**	**84637**	**26.62**
Viet Nam	1941935	1.53	3.27	3.75	2.23	2.27	120041	17.83
Total Top 10 Producers	104656123	82.66						
Total Volume	126604642	100						

However, among the five top exporting countries (Table 2), the Philippines is last in terms of yield producing only 14.7 tons/ha which is less than half of the yield of Costa Rica which is at 62.63 tons/ha. Following Costa Rica is Guatemala at 53.21 tons/ha, Ecuador at 39.91 tons/ha and Colombia at 26.62 tons/ha. From 1962-2016, all five exporters had a positive average growth rates. However, the more recent 2012-2016 period showed a negative average growth rate for the Ecuador (-7.49%) and the Philippines (-2.03%). Guatemala had the highest growth rate for the same period at 5.14 percent followed by Costa Rica (2.78%) and Colombia (0.38%).

Table 3. Price of banana exported from top five exporting countries (in USD)

Year	Price (USD/ tonne					PhP/tonne
	Colombia	Costa Rica	Ecuador	Guatemala	Philippines	
2004	246.20	290.40	124.00	217.08	106.30	5957.04
2005	231.50	272.31	116.00	210.81	119.00	6555.17
2006	266.00	309.70	117.30	205.41	121.10	6214.16
2007	320.70	319.70	138.00	213.29	144.50	6668.44
2008	375.90	359.80	170.00	227.98	162.40	7222.67
2009	363.00	395.60	240.00	280.27	182.50	8693.79
2010	390.70	413.30	240.00	257.58	218.60	9860.97
2011	413.10	425.10	250.00	304.95	213.10	9230.03
2012	442.40	431.70	200.90	312.99	228.20	9636.61
2013	449.60	452.80	220.20	313.66	256.00	10866.22

Average value of Philippine banana was at $175.17 per ton which less than half of the average value of bananas from Colombia and Costa Rica (Table 3). Average price of PH banana is closer to the average price of bananas from Ecuador.

ii. World Trends in production and exports

The economic benefit of the intensification of production in the banana industry through the expansion of farms and use of more modern input technologies was at the expense of the environment. From 1994 to 2016 the area planted for banana rose from 3.8 million hectares to 5.9 million hectareswith farms heavily relying on synthetic fertilizers and pesticides, especially in monoculture crops, resulting to pesticide-resistant pests.

Table 4. Production share and growth rates of top exporters of banana in the world (1962-2016)

	2015		2016		Growth rates (%)			
Country/Exporter	Volume (ton)	Share to total production (%)	Volume (ton)	Share to total production (%)	1962-2016	2007-2016	2012-2016	2015-2016
Ecuador	7194431	5.62	6529676	5.16	2.35	1.09	-2.03	-1.38
Guatemala	3796115	2.97	3775150	2.98	5.35	7.10	5.66	5.14
Costa Rica	2208853	1.73	2409543	1.90	3.80	1.02	2.78	0.27
Philippines	5840124	4.56	5829142	4.60	3.78	-0.58	-7.49	1.07
Colombia	1997422	1.56	2043668	1.61	2.70	1.15	0.38	7.55
Total of Top 5	21036945	16.44	20587179	16.26				
World Production	127979641	100	126604642	100				

Table 4 shows that among the top exporters of Cavendish banana in the world the Philippines ranks number 2 exporting more than 5.83 million tons of banana in 2016 which is 4.6% of the

global export volume. Ecuador controlled 5.16 percent of the production placing them at the top spot supported by an annual growth rate of 1.09 percent from 2007 to 2016. Following Ecuador and the Philippines, Guatemala (2.98%), Costa Rica (1.90%), and Colombia (1.61%)s, respectively.

Table 5. Area growth rates of top 5 exporters in the world (1962-2016)

Country	2015		2016		Growth rates (%)			
	Area (ha)	Share to total area (%)	Area (ha)	Share to total area (%)	1962 - 2016	2007-2016	2012-2016	2015-2016
Ecuador	185489	3.16	180337	3.04	1.85	-1.25	-1.02	-0.47
Guatemala	75061	1.28	78206	1.32	3.54	6.70	3.49	4.69
Costa Rica	43024	0.73	42410	0.72	1.57	-0.07	0.20	-0.59
Philippines	443370	7.55	456641	7.71	1.29	0.64	0.30	1.59
Colombia	76374	1.30	84637	1.43	2.72	1.57	1.70	7.11
Total of Top 5	823318	14.03	842231	14.22				
Total of World	5869845	100	5924051	100				

As shown in Table 5, the total area planted for banana across top five exporters in the world 842,318 hectares. In the period 1962-2016, all five showed a positive average growth rate for hectarage. However, the top five exporters show a low share in area at an estimated 14 percent of the total land area planted for banana in the world. Ecuador is the only country who registered a negative growth rate across three time periods from 2007-2016. All of the other four exporters registered positive growth rates with Colombia and Guatemala registering the largest growth in area among them.

Table 6. Volume of Banana Exported from Ecuador per market destination and their corresponding growth rates and market share (1987-2013)

	2013		Growth rates				Share			
Country/Importer	Volume (ton)	Share to total (%)	1987-2013	2004-2013	2009-2013	2012-2013	1986-2013	2004-2013	2009-2013	2012-2013
Russian Federation	1328133	24.82	10.57	3.81	-0.08	4.09	13.88	23.21	22.49	23.46
United States of America	822672	15.37	-2.25	-1.06	-2.14	-10.73	29.12	19.83	18.73	15.88
Turkey	520751	9.73	159.09	143.76	97.58	69.32	1.36	2.62	3.84	7.30
Germany	402761	7.53	-1.66	-1.28	-3.69	-15.30	8.98	9.26	8.67	7.75
Chile	361106	6.75	4.31	9.93	18.64	-5.14	4.60	4.87	5.80	7.22
Belgium	285226	5.33	2.40	4.08	-6.47	-8.79	3.30	5.91	6.02	5.63
Italy	244322	4.57	1.26	-12.62	-21.04	-41.38	14.59	16.93	12.29	7.23
Ukraine	156953	2.93	84.99	192.93	167.21	141.24	0.34	0.71	1.26	2.68
Netherlands	154214	2.88	220.36	50.90	23.92	15.29	0.90	1.48	2.34	2.85
United Kingdom	138688	2.59	12207.75	173.16	197.00	17.66	0.43	0.93	1.73	2.37
Argentina	98490	1.84	22.37	14.71	12.89	81.49	3.28	2.55	2.03	1.33
Greece	77978	1.46	138.53	124.44	57.92	1.60	0.65	0.68	1.05	1.46
Algeria	69787	1.30	174.35	30.69	109.69	2.24	0.38	0.73	1.21	1.72
Georgia	53325	1.00	30.63	56.75	161.25	35.04	0.10	0.24	0.47	0.87
Libya	50855	0.95	4513.7	9924.1	12430.	24146.	0.13	0.25	0.47	1.03

			6	0	13	64				
Saudi Arabia	50445	0.94	17.38	5.77	28.90	28.30	1.39	0.86	0.67	0.83
Japan	41261	0.77	-3.42	-9.54	-2.70	7.71	3.43	1.33	0.82	0.73
China, mainland	33495	0.63	264.71	243.78	143.96	157.28	1.37	0.22	0.35	0.76
New Zealand	29592	0.55	-0.67	-1.97	1.02	13.30	1.35	0.62	0.52	0.49
Total Top 20	5072129	94.77					89.80	93.76	91.85	93.28
Total Export	5352003	100								

Table 6 shows that Ecuador exports that bulk of its banana to the USA and Europe with Russia and the USA as its main buyers. However, it can also be notices that imports from China and Middle Eastern countries are growing at a fast rate as well. Producers from Ecuador are already exporting to China, Japan, and the Middle East with competitive costs and pricing encroaching on the previously PH-dominated regional markets.

b. Philippines

i. Demand

The Philippines grow numerous varities of banana. Dessert type bananas such as *Lakatan, Latundan, Bungula*n, *and Senorita;* and plaintains such as *Pitogo, Inabaniko and Inarnibal, Morado, Tindok,* and *Saba/Cardaba* are mainly supplied to local markets while the dessert type Cavendish group of cultivars such as *Giant Cavendish, Grand Naine, Umalag, Williams, and Tall Williams* are exported (IFC).

Table 7. Volume (2016), percentage share (2002-2016), and growth rate (2003-2016) of banana production in Philippines by variety

	2016		Growth rate (%)				Share to Total (%)			
	Volume (ton)	Share to Total (%)	2003-2016	2007-2016	2012-2016	2015-2016	2002-2016	2007-2016	2012-2016	2015-2016
Banana	8,903,684	100	3.96	2.91	-0.52	0.13	100	100	100	100
Banana Cavendish	4,638,328	52.09	7.36	5.62	-0.06	2.11	45.77	49.81	50.45	51.18
Banana Lakatan	898,515	10.09	2.10	0.77	-0.55	-2.89	11.17	10.49	10.50	10.39
Banana Saba	2,474,199	27.79	1.58	0.85	-1.07	-1.75	31.44	29.15	28.77	28.35

Based on Table 7, Cavendish production is much higher than Lakatan and Saba. But, the latter is not bought in the domestic market due to a variety of reasons. Despite the continuous rise of food sales in retail outlets (convenience stores, supermarkets, hypermarkets) local Cavendish banana is still only sold for niche markets in key cities mostly because other local varieties such as Lakatan are preferred by consumers and supermarkets exercise price control on Cavendish bananas which discourages producers to sell locally.

Domestic consumption of banana in the Philippines has grown over the last decade. Lakatan priced at P700 per box is the main variety grown for domestic production (Dwyer & Digal, 2010). Consumption of banana chips has also grown in the past years. Large supermarkets and specialty stores are the main sellers in the local market. Aside from being sold in the market,

domestic consumption also includes the feeding programs initiated by the government. However, the domestic market for Cavendish banana is very small relative to the exports market.

ii. Supply

Production in the Philippines is predominantly small scale with some 6 million households relying on it for part of their income. Three quarters of all banana producers concentrate almost 90 percent of their agricultural land area planted to this crop. Most are small family farms where banana is cultivated in small yards together with staples and other cash crops. Their produce is consumed at home or traded locally. Only a relatively small percentage of the total land planted to bananas is bound for export markets which is cultivated using high input/output technologies. The average annual land yield for the country is 9.4 t/ha but big plantations produce about 40 t/ha.

Table 8. Average growth rate and share of area and volume per region (2007-2016)

Region	Average growth rate				Average share			
	Area (ha)		Volume (mt)		Area (ha)		Volume (mt)	
	07-16	15-16	07-16	15-16	07-16	15-16	07-16	15-16
PHILIPPINES	0.05	0.05	4.22	1.56	100.00	100.00	100.00	100.00
Cagayan Valley	1.77	1.00	1.94	27.34	0.01	0.02	0.00	0.01
CALABARZON	21.35	-4.55	110.20	3.42	0.04	0.04	0.01	0.02
Western Visayas	-6.41	0.00	-1.13	6.98	0.19	0.18	0.03	0.03
Central Visayas	1.24	2.60	47.60	-34.77	0.12	0.13	0.03	0.04
Eastern Visayas	39.58	-27.85	24.49	10.00	0.03	0.03	0.00	0.00
Zamboanga Peninsula	13.34	0.00	20.51	-15.00	0.05	0.02	0.01	0.00
Northern Mindanao	12.63	-15.00	19.45	3.08	20.54	20.02	23.85	26.68
Davao Region	1.24	0.50	1.17	1.15	58.73	56.70	61.70	56.80
SOCCSKSARGEN	1.08	2.27	3.45	-0.74	12.75	14.05	10.40	10.37
Caraga	3.73	-2.68	28.36	5.62	1.84	2.94	0.97	2.16
ARMM	25.23	0.00	7.29	1.85	5.69	5.84	2.99	3.87
Negros Island Region	2.22	0.80	0.00	0.00	0.00	0.03	0.00	0.00

Production area for Cavendish banana has grown to 86,668 hectares in 2016 with 57 percent found the Davao Region, 20 percent in Northern Mindanao and 14 percent in SOCCSKSARGEN (refer to Table 8). The Philippine Banana Industry has experienced an average growth rate (AGR) of 4.22 percent in volume from 2007-2016. Davao Region contributes more than 60 percent of the volume in the Philippines and recorded a 1.17 average growth rate from 2007-2016. Northern Mindanao is the faster growing region recording a 19.45 percent average growth rate in the same period. In the Davao Region, Davao del Norte is responsible for 60 percent of the production in the region.

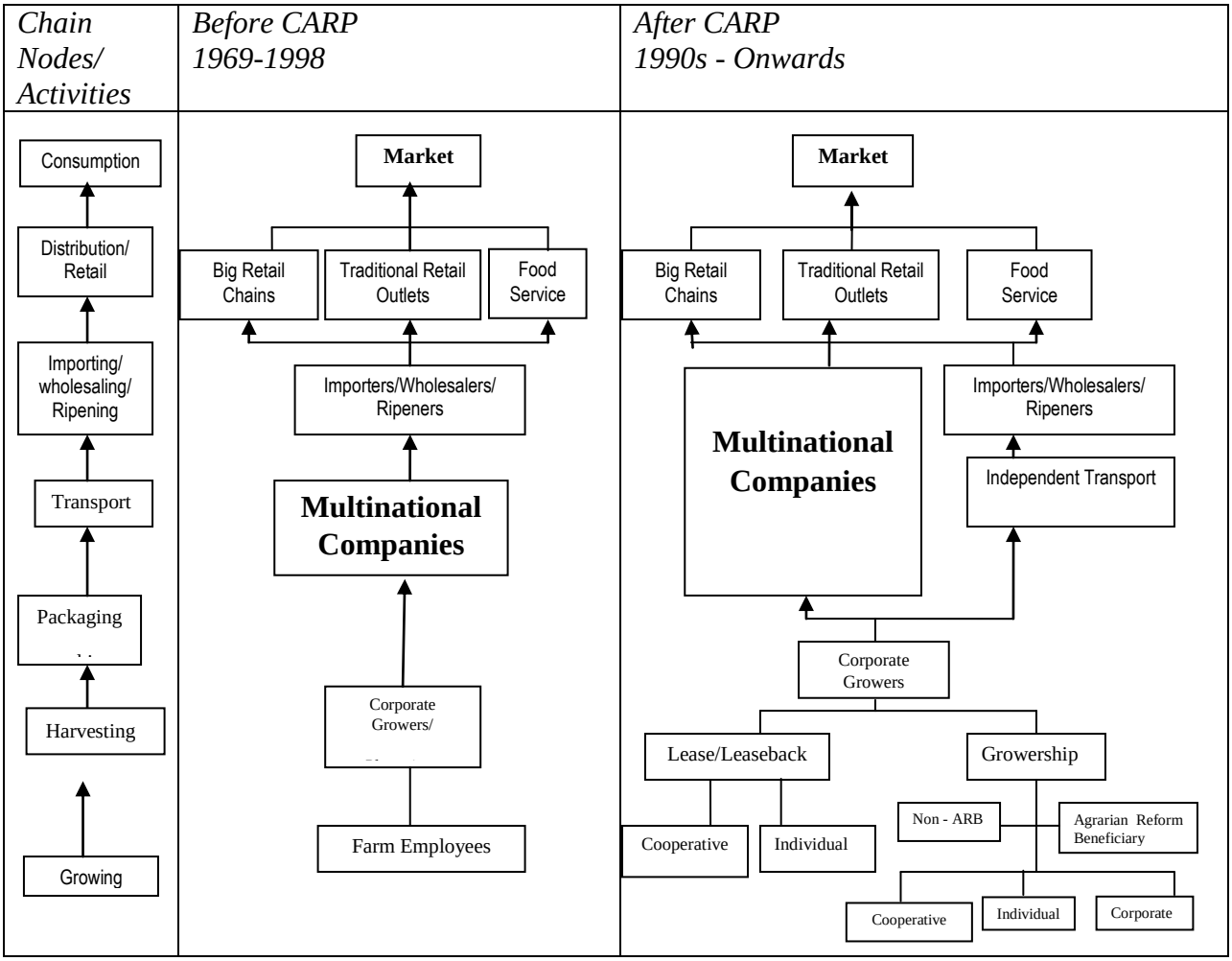
Prime Fruits International Inc. in Kuambugan, Tagum is the only corporate banana chips producer that uses Cavendish banana as the ingredient. Based on KIs, there is a potential for Cavendish banana local market. In fact, organic fresh bananas from FEDCO are currently

displayed in some of the groceries in Davao City. However, the primary consumers are only foreigners/expats. The market for fresh Cavendish banana is mainly in Metro Manila because of the expat/tourist segment. But the market for processed banana – eg banana flour for food and industry grade and banana chips is being explored by researchers with programs from DTI, DOST, and DA looking to support endeavors focused on it.

iii. Value Chain Map of Cavendish Banana in the Philippines

The Cavendish Banana value chain involves growing, harvesting, packaging, transport, importing/wholesaling/ripening, distribution/retail, and consumption. From a vertically integrated structure stemming from control of multinational companies, CARP redistributed corporate-owned agricultural land to farmer-workers.

Figure 1. Comparison of Cavendish Banana Value Chain Before and After CARP



Source: (Dwyer & Digal, 2010)

1. Inputs

Tissue cultured bananas, labor, fertilizer and fungicides, crop protection products such as tree bags, and propping systems and materials are essential inputs for banana farms. Inputs required for packaging and logistics include boxes, vacuum bags, pallet board, foam, and poly liners. The suppliers of these inputs can be contractors, cooperatives, or certified input suppliers (Digal, 2015). Export companies can also provide inputs to contract growers, and deduct the cost from the sales proceeds of the grower. Some cooperatives set aside funds to buy inputs and distribute to its members (Digal, 2015).

Banana nurseries in Sto. Tomas provide tissue cultured banana seedlings to growers. These nurseries can supply 50,000 seedlings per month with a 1,400 sq. m. growing area. Around 2,000 seedlings, at 15 pesos per seedling are supplied to every hectare of land.

Fruiting banana plants are supported by bamboo poles. Banana trees needs two poles for support per tree. These poles are bought from a 70-hectare bamboo plantation within the province of Davao del Norte.

Fertilizer and pesticide companies trade imported chemicals to banana plantations in the country. All the agro-chemicals are sourced by banana producers from these companies. As a response to the call of environmentalists, a patented organic fungicide product was made for banana plantations. It also brought in several issues for input suppliers including stricter standards in international markets on chemical residue.

There is no shortage Research and Development (R&D) facilities and services provided by MNCs and large individual growers. It facilitates the evaluation of diseases, discovery of causes and remedies in stimulating banana plant growth and developing better farm practices. As an example, a recent study recommends and prescribes a new crop protection program for the diseases hitting the farms. At the outset of the project, the research team in coordination with their production managers will provide banana seedlings to the growers as part of the development package. Tissue culture laboratories and nurseries managed by MNCs such as Dole Stanfilco (Musatech) and Lapanday Foods Corporation, follow this example. Some nurseries also buy tissue cultured seedlings from large companies (Digal, 2015).

2. Growers

Production of banana for exports is sourced from farms under contract growing, independent farms, and farms leased or managed by exporters. Farms under contract growing are owned by small individual farmers, organized farmers, and large corporations. Independent growers are those who supply to spot market, large or plantation type farms under contract with multinational exporters, and may at the same time directly export. Organized farmers are agrarian reform beneficiaries who structured themselves into cooperative. These agrarian reform cooperatives particularly in Davao del Norte and Compostela Valley directly export and at the same time

supply to multinational exporters. Lastly, large exporters also lease area for banana production, these are called managed farms. There are also farms under leaseback arrangement such as the case of Tagum Development Corporation (TADECO). The corporate farm was turned over to the agrarian reform beneficiaries and was leased-back by the corporation.

Santo Tomas, the second largest producing municipality in Davao del Norte, with over 8,000 hectares of Cavendish farm showed some variation in farm sizes across different contractual arrangements. The average size of ARBs under cooperative is one hectare and those leased under cooperative is 2 hectares.

Producers responsible for 51 percent of the Cavendish banana production in the country are members of PBGEA with MNC members such as DOLE, Lapanday, and Sumifru and the largest corporate grower in the PH banana industry, TADECO, being stationed in the province.

3. Labor

More than 300,000 workers can be found in the Cavendish Banana industry and a significant part of this sector continues to receive well below the minimum wage of P280 in Region XI for plantations. There are reports of child labor in the farms of independent growers who hire laborers from unaccredited labor suppliers.

Farmers employed in plantations are reportedly still subjected to excessive working hours and heavy work load without proper compensation for their work outside their normal working hours. Working conditions is dangerous especially during aerial spraying because the chemicals are sprayed during working hours which means employees still doing their tasks might get exposed to the toxic chemicals if they don't have on safety equipment. Certifying bodies involved in the banana industry seek to lessen the reliance hazardous practices in farms to protect workers and communities.

4. Marketing Cost

Currently, each box of banana is valued at $14 per box with an average production of 3,500 boxes per hectare. Export quality bananas undergo grading classified into Class A, B, and C through strict quality assessment. Rejects which account for six to ten percent of the total volume are processed to products such as banana flakes, flour and chips or will be used for feeding programs by the government for typhoon-affected areas or marginalized communities. According to a key informant, production/harvest for spot market and direct exporters peaks during the 2nd half of the year which reduces the price during that period.

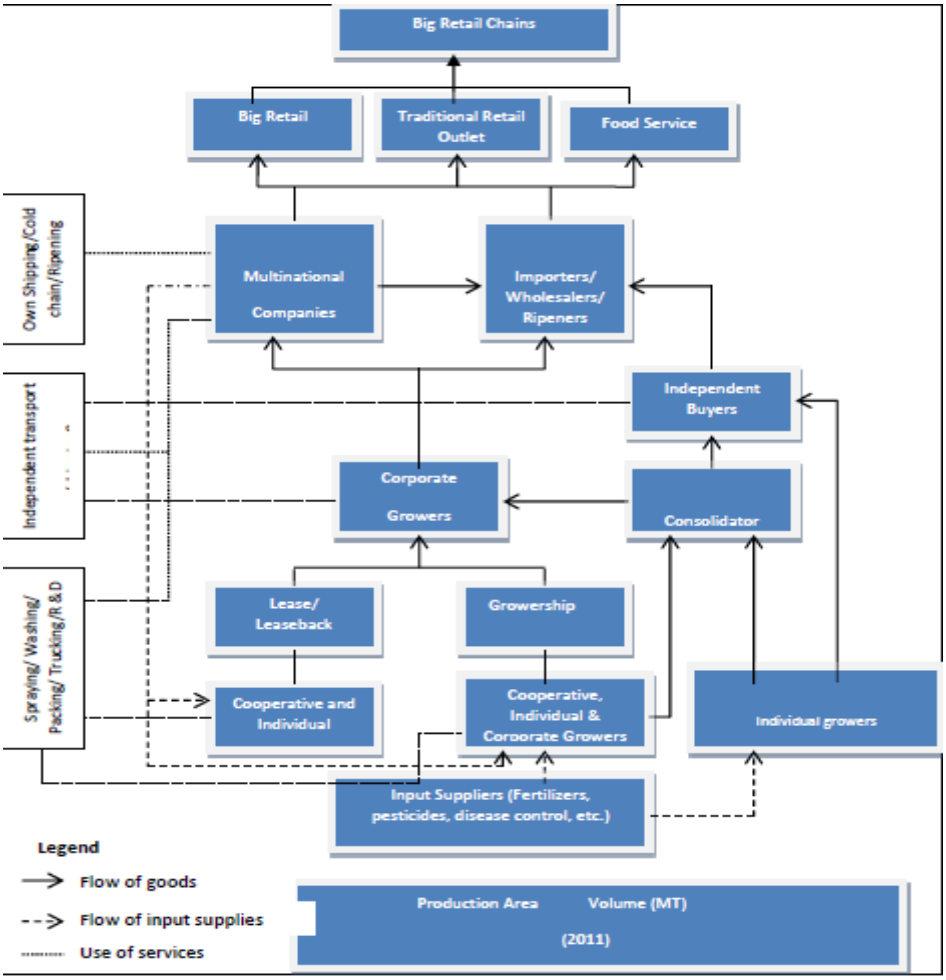
Marketing cost of growers also vary depending on the type of contract they have with the exporting company. This may be Ex-patio, Ex-packing plant or Ex-wharf contract arrangement. In ex-patio arrangement, buying is at the patio. Both the classifier and the owner can check the quality of the banana. Currently, some growers have a contract price of $2.54/box ex-patio. In Ex-packing arrangement, grower's responsibility is extended up to the washing, de-handing,

branding and packing of banana. Some growers under this contract receive $2.94/box. (Dwyer & Digal, 2010) Growers with packing plant have this type of contract. Ex-packing is actually promoted by one exporting company to do away with labor. But one issue arising here is the doubts of growers in the classification of their banana because they are not involved during classification. In Ex-wharf contract, the grower has to deliver the boxed bananas to wharf. However, this arrangement transfers the risk and the cost of transporting to the grower. Risks include truck breakdowns, bad road condition, and other factors that can delay the delivery of banana to the wharf. This type of contract was stopped by one of the exporting company because they think they can better handle the trucking of banana and would lessen damages, shorten the time of transporting banana outside reefer and prevent rejects.

iv. Cavendish Banana Value Chain in Davao del Norte

With farmers becoming landowners, the dynamics in the production node changed creating six new growership strands which are (a) corporate grower (leaseback), (b) multinational company, (c) corporate contract grower, (d) cooperative contract grower, (e) individual non-contract grower or independent grower, (f) contracted individual grower.

Figure 2. Value Chain Map of Cavendish Banana in the Philippines



Contracted growers (corporate growers, individual growers, and cooperative growers) send their produce directly to MNC. Non-contracted volume is either sent to consolidators or independent buyers who create the spot market. There are cooperative growers and corporate growers who engage in direct export activities as well.

Table 9. % share of types of growers in Mindanao and Davao del Norte

Type of growers	Areas in Hectare			
	Davao del Norte	% Share	Mindanao	% Share
Independent (indiv. w/o contract)	2,682	9	2,682	3
Individual (w/ contract)	7,632	27	7,632	9
Leaseback (Tadeco)	6,600	10	6,600	8
Cooperative	5,665	20	5,665	7
Corporate Growers (lease)	8,297	29	20,420	25
Multinational Companies	1,685	6	38,383	47
Total	32,561	100	81,381	100

Source: PAGRO (2016)

Cavendish Banana in Davao del Norte has a total planted area of 32,561 hectares with the main production areas are found in Sto. Tomas (30%), Panabo (26%), Tagum (10%), and Kapalong (9.7%) (refer to Table 9).

Sto. Tomas has overtaken Panabo in terms of hectarage in 2016 reaching 10,180 hectares planted area for banana (PAGRO, 2016). Cavendish banana in Mindanao has MNCs controlling 47 percent of the total planted area. However, in Davao del Norte MNC's have a relatively small presence at 6 percent because the hectarage is distributed among Corporate Growers (leaseback) (29%), independent growers (27%), and cooperative growers (20%).

Table 10. Yield of Cavendish production in Davao Region by province/city (mt/ha) from 2007 to 2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Ave. growth rate
Davao Region	55	60	61	61	61	60	51	54	54	54	0
Davao del Norte	41	47	50	52	52	51	52	53	53	52	3
Davao del Sur	49	49	50	50	49	49	49	50	52	52	1
Davao Oriental		13	13	12	35	28	50	57	21	11	19
Compostela Valley	85	90	86	83	82	80	46	54	57	57	-3
Davao City	59	63	65	67	67	68	69	70	58	58	0

Table 10 shows that Davao del Norte registered a yield of 52 MT per hectare which was third only to Davao City and Compostela Valley, however, it should be noted that Davao del Norte accounts for 60 percent of the total land area compared to the 26 percent of Compostela Valley and 6 percent of Davao City. Davao del Norte's average growth rate for yield from 2007 to 2016 was at 3 percent which indicates small improvements in productivity.

v. Global Players and market share

An estimated 95 percent of Philippine Cavendish banana production volume is exported to regional markets in Asia (Japan and China) and the Middle East (Iran, Saudi Arabia) where producers have established relationships with buyers due to geographic proximity.

Table 11. Volume and market share of MNC-members of PBGEA (2016)

Exporter	Total Exported Volume*	% Market Share
Dole-Stanfilco	404,515	30
Del Monte	308,996	23
SUMIFRU	263,682	19
Lapanday Group	114,250	8
Unifrutti	110,601	8
Others	126,677	9

*Estimated based on industry information about exporters

Multinationals such as DOLE, Delmonte, and Chiquita-Unifrutti are still well represented in the PH Cavendish Banana exporters. According to key informants, using PBGEA data these three control 61 percent of the export volume from the country.

vi. Trends and market Potential

They face competition in regional markets with the entry of Ecuador who has growing exports to Japan, China, and the Middle East. Certified-organic Cavendish banana sold in retail markets receive their farm inputs, packing materials, and materials for logistics from accredited suppliers. Post-harvest and packing facilities are also required to have organic certification.

Table 12. Growth rate of export destinations of PH Cavendish banana

Country/Destination	Volume (ton) 2013	Share to Total (%)	Growth rates			
			1987-2013	2004-2013	2009-2013	2012-2013
Japan	1080738	33.07	0.0001	0.0001	0.0001	0.0001
China (Mainland)	501379	15.34	0.0089	0.0008	0.0011	0.0003
Republic of Korea	409815	12.54	0.0583	0.0007	0.0008	0.0006
United Arab Emirates	406687	12.45	0.0022	0.0011	0.0017	0.0006
Singapore	181611	5.56	0.0307	0.0033	0.0011	0.0012
Iran	166188	5.09	0.0050	0.0006	0.0007	0.0017
Kuwait	103332	3.16	124.3291	59.4445	0.0079	0.0016
Saudi Arabia	99196	3.04	7.0891	21.2566	0.0513	0.0007
United States of America	69828	2.14	2120.5358	4239.2626	162.7457	0.6320
China (Hong Kong)	62761	1.92	0.4980	0.0099	0.0151	0.0008
Total Exported to Top 10 countries	3081535	94.31				
Total Exported to World	3267560	100				

Industry contacts have identified China to be the main destination for Cavendish banana sold in the spot market. However, Japan, Korea, and the Middle East still import the most volume based on the FAO data from 2013 in Table 11. The table also shows that countries in the Middle East are the fastest growing export volume from 1987-2013 (refer to Table 12).

Cross-checking with PBGEA data from 2014-2016 in Table 13, Japan continues to be the number 1 export destination with 40 percent of the volume going to the country followed by the Middle East (30%), Korea (16%) and China (8%).

Table 13. Export Volume and Market Share per market destination from 2014-2016

Market	**In Metric Ton**	**% Share of Total Export Volume**

Destination						
	2014	**2015**	**2016**	**2014**	**2015**	**2016**
Japan	622,908	615,081	550,063	38	39	40
Middle East	444,494	433,963	403,220	27	28	30
China	165,393	155,596	107,489	10	10	8
Korea	262,974	259,606	224,192	16	17	16
Hongkong	50,355	44,821	42,771	3	3	3
New Zealand	34,545	24,474	12,810	2	2	1
Singapore	18,357	18,339	14,596	1	1	1
Russia	13,641	1,706	788	1	0.11	0.06
Egypt	61	15	-	0.001	0.001	-
Malaysia	10,354	9,922	7,540	1	1	1
Thailand	20	-	-	0.001	-	-
Vietnam	110	308	-	0.01	0.02	-
Indonesia	460	-	-	0.03	-	-
India	1,638	-	-	0.1	-	-
Mongolia	1,110	1,165	1,173	0.07	0.07	0.09

Source: Confidential Industry Contact

The number market outlets for Philippine Cavendish banana has gone down over the years. Volume of banana producers who are members of PBGEA has also dropped to 1.5 million tonnes in 2016 from more than 2 million tonnes in 2011. The country still has Japan, the Middle East, China, Korea, and Hongkong as the main destination for exports and the market share of these countries has not . Volume going to Japan has stagnated with a set volume requirement for years as shown in its market share staying at 39 percent for 2016. Middle East stays second recording a 30 percent market share in 2016. China is third at 8 percent market share which is a figure that is inconsistent from the accounts of key informant interviews because they identified China to be a stronger market for the Philippines because spot buying is mainly in China and the demand for banana is higher with increasing purchasing power of the Chinese and strengthening diplomatic relations between both countries.

Table 14. Top Cavendish banana exporters in the Philippines (2016)

Exporter	Total Exported Volume*	% Market Share
Dole-Stanfilco	404,515	30
Del Monte	308,996	23
SUMIFRU	263,682	19
Lapanday Group	114,250	8
Unifrutti	110,601	8
Others	126,677	9

*Estimated based on industry information about exporters

PBGEA data for 2016 (refer to Table 14) ranks DOLE-Stanfilco number 1 in market share shipping 30 percent of the export volume to various destinations followed by Del Monte (23%), SUMIFRU (19%), Lapanday (8%), and Unifrutti (8%). All five corporations account for 91 percent of the total exports of the country.

III. Small Growers and laborers in the Cavendish Banana Value Chain

a. Small growers

Davao del Norte, particularly in Santo Tomas, was the place chosen for the survey for the Cavendish Banana Value Chain because it provides a better picture the industry as a whole from the perspective of the small grower. Sto. Tomas has the largest planted area for banana in the Philippines among municipalities. It also has the best diversity in terms of growership and contractual arrangements among all the provinces that produce banana. According to (Digal, 2015), 85 percent of the Cavendish banana growers in this municipality classified either as individual growers or agrarian reform cooperative members.

Survey data from 2012 and 2016 were used to derive the net margins of the nodes per chain. It indicates the performance of small growers relative to the chain where they participate in. Comparisons across chains were made and each type of grower was assigned label where contracted growers were classified as line 1. Independent growers were classified into line 2 where they aren't under contract and sell to the spot market. Cooperative growers were classified in line 3 where the cooperative is the direct exporter. Agrarian Reform Cooperatives who are contracted by MNCs or corporate growers were classified under line 4.

i. Net Income: Production

A comparison of productivity, price, and profitability of small Cavendish banana growers was made across different chains. The data available have also identified the profitability of small growers in three types of contractual arrangements namely Individual Contract Growers, Individual Non-Contract Growers, and Cooperative Growers.

Table 15. Comparison of Individual Growers

Farm Characteristics	2012-2013	2016-2017
Contract Arrangement		
Individual Grower with contract (%)	41	27
Individual Grower without contract (%)	28	71
Cooperative Member with contract (%)	30	2
Average Total Area (hectares)	54.33	57.47

Farms under contract are significantly less in number in 2016 than in 2012 due to many farmers not renewing their contract because of low profitability and the lure of higher prices in spot markets (refer to Table 15).

Table 16. Profitability of small holder per type of contractual arrangement (2012 & 2016)

	Individual Contract			Individual Non-Contract			Cooperative		
Profitability PhP/ha/yr	2012	2016	Difference (%)	2012	2016	Difference (%)	2012	2016	Difference (%)
Profit	84,936	54,514	(36)	(62,562)	83,822	234	125,450	174,200	39
Revenue	381,250	117,093	(69)	202,020	220,969	9	390,648	434,200	11
Cost	287,242	62,579	(78)	263,015	139,542	(47)	273,310	260,000	(5)

Revenue is down by 69 percent for contracted growers while non-contracted growers and cooperative growers saw an increase in profit of 9 and 11 percent, respectively (refer to Table 16). Across the board, individual growers who are contracted got lower profit and revenue. Cooperative growers were able to reduce cost by 5 percent and was able to increase profit and revenue by 39 and 11 percent.

Table 17. Comparison of produtivity, price, and profitability of Cavendish banana growers across chain

Indicators	**Line 1** (Contracted grower)	**Line 2** (Independent grower)	**Line 3** (Cooperative grower w/o contract)	**Line 4** (Contracted Cooperative grower)
Average production cost per ha	248,598	221,414	259,632	219,660
Average production Cost per box	84	88	110	75
Average productivity (box/ha)	3,367	2,741	2,521	3,318
Average price (PhP)	123.38	84.67	189	126.01
Average margin/box (PhP)	22	-23	62	36
Average income/ha (PhP)	169,390	-66,509	262,184	223,290

Source: (University of the Philippines Mindanao, 2014)

Independent growers get -23 pesos per box average margins resulting to negative income which is the worst standing among four types of growers analyzed with cooperative growers without contract recording the highest average margin at 62 php/box (refer to Table 17). Independent growers had not only recorded a negative farm margin, but also experience reduced profitability and productivity compared to contracted growers and cooperative growers. Cooperative growers are the top income earners with an average income of 262,184 php per hectare. Grower cost was lowest at 75 php per box for cooperative growers contracted by MNCs. The highest grower cost was at 110 php per box recorded by cooperative growers without contract. Average logistics cost for growers (packing, transport, and harvesting) was highest for the contracted grower and

independent grower at 28.2 php per box and 27.7 php per box, respectively. Independent growers are more affected by high logistic cost because unlike contract growers who have contractors to shoulder processing costs and can use MNC facilities, these growers have to account for their own costs and suffer from lack of economies of scale. In general, organized growership are more profitable and enjoy lower cost margins that non-organized or individual growers. It should also be noted that small players in the industry continue to suffer from inefficient cost structures and unequal distribution of income due to lower farm margins relative to the end price of banana after travelling through the supply chain.

Table 18. Average Revenue, Average Price, and Percentage of box produced by Type of Arrangement (2012 and 2016)

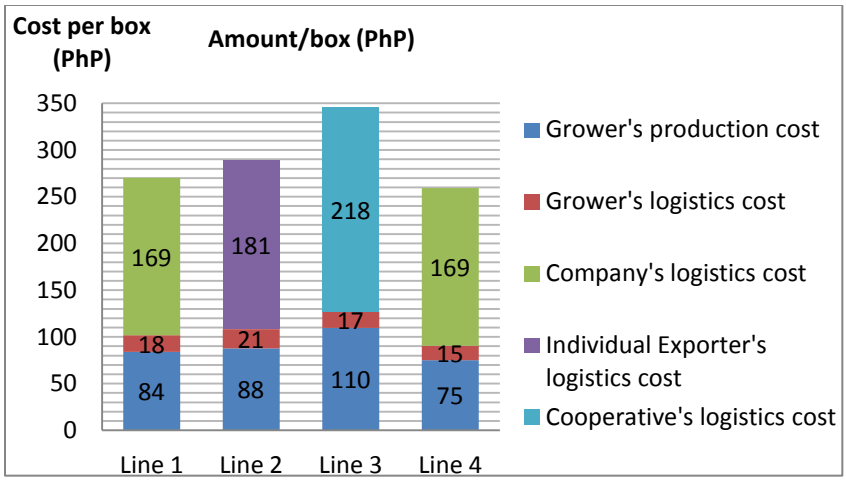
	Individual Contract			Individual Non-Contract			Cooperative		
	2012	2016	Difference (%)	2012	2016	Difference (%)	2012	2016	Difference (%)
Revenue PhP/ha/yr	381,250	117,093	(69)	202,020	220,969	9	390,648	434,200	11
Total Boxes	3,384	762	(77)	2,741	2,822	3	3,179	2,340	(26)
% of Banana produced per Class									
Class A	3,037	594	(80)	2,208	2,203	(0)	3,021	2,080	(31)
Class B	321	103	(68)	353	397	13	150		(100)
Cluster	26	65	151	180	222	23	7	260	3,370
Price PhP/bx/ha									
Class A	124	109	(12)	85	230	171	126	200	59
Class B	42	11	(75)	33	25	(25)	33	70	110
Cluster	25	9	(65)	7	26	262	7		(100)

In terms of prices, independent growers get 230 pesos per box on average for Class A bananas while cooperative growers sell at an average of 200 pesos per box and contracted growers sell at an average of 109 pesos per box (refer to Table 18).

ii. Post-production

An expanded version of the production cost would look at the grower's logistics and production cost, company's logistics cost, individual exporter's logistics cost, and cooperative's logistics costs.

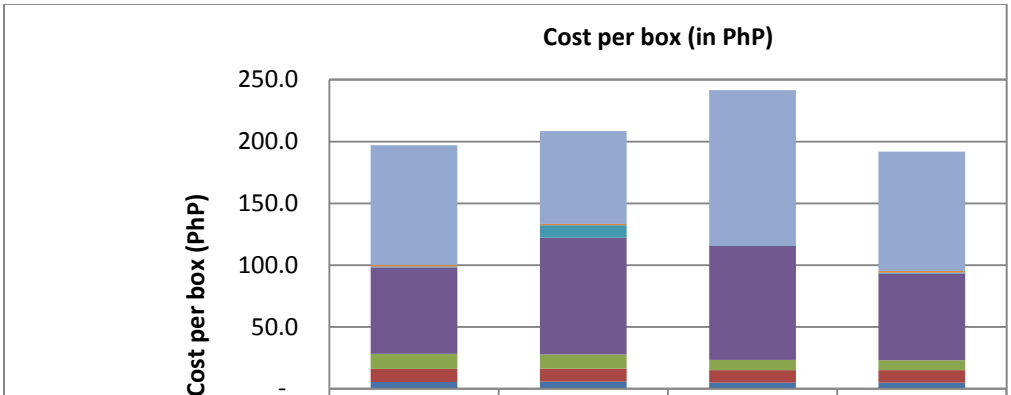
Figure 3. Cost breakdown of growers across lines



The contracted growers in line 1 and 4 whether contracted agrarian reform cooperatives or contracted growers showed the lowest cost of production per box (refer to Figure 3). Line 4 had the lower cost per box of the two since the growers incur less logistic and production cost.

Line 3 represents FEDCO who identified co-loading as a major issue in their logistics cost. Low productivity forces the cooperative to co-load with produce from the MNC who charge them an additional $0.50 per box. The additional 20 percent cost is implemented during shipment using a chartered vessel.

Figure 4. Logistics cost per box across lines



	Line 1	Line 2	Line 3	Line 4
shipping (per box)	96.7	75.18	126	96.66
Stevedoring & arrastre (per box)	1.3	1		1.28
Buyer's transport (per box)*	0.9	10		0.85
Buyer's packing cost (per box)	70.0	94.5	92.4	70.02
Grower's packing cost (per box)	12.0	11.3	8.2	8.2
Grower's transport/hauling (per bunch)	10.7	10.62	10.02	9.9
Grower's harvesting (per bunch)	5.5	5.81	5.04	5.04

Figure 4 shows that the logistics cost incurred by both line 1 and 4 benefit from delivering via a chartered vessel. Although line 2 growers incur more costs that line 1 and 4, they incur significantly lowers costs than line 3 because shipping costs are a lot cheaper. It is through co-loading that they get their bananas shipped to their spot buyers. Line 2 growers use an open truck

to transport their bananas from the farm to its destination which is the cheaper third party service in the industry. Packing cost for lines 2 and 3 growers include hustling cost on top of the standard packing services which is needed in order to get their produce shipped as scheduled. They pay additional hustling fee to the loaders at the wharf which gives their produce higher priority. A problem that MNC's avoid since they have their own shipping vessel. Port congestion is also a problem especially during peak season. Quality claims is also an issue for shipments that are on CIF basis because it reduces their price due to added rejects after arriving on the port of the destination country.

iii. Marketing/Trading

Figure 5.Comparing components of export prices across lines/chains

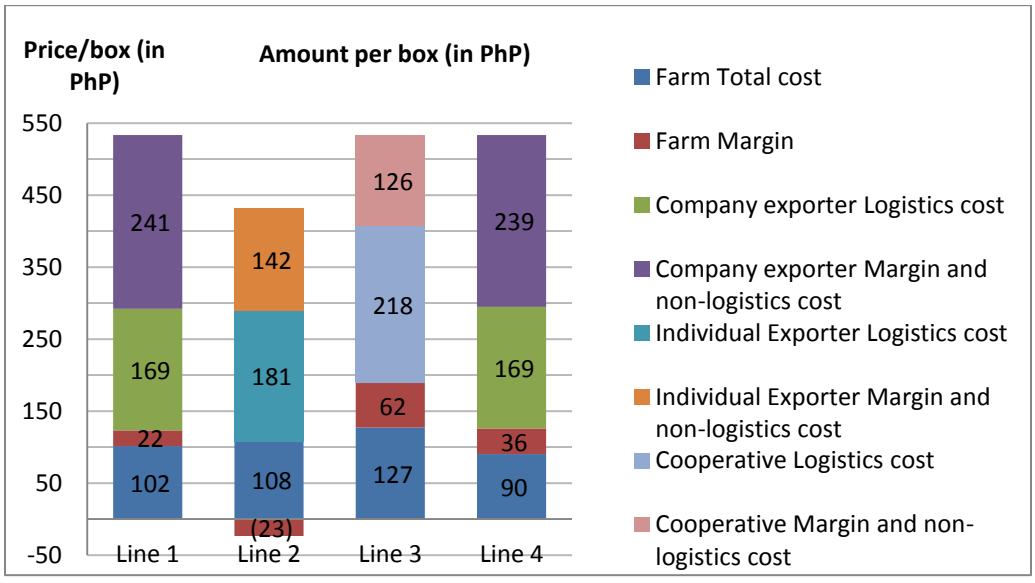


Figure 5 shows that contracted growers, individual and cooperative, showed the highest margin for cost at 241 php/box and 239 php/box for non-logistics cost and 169 php/box for logistics cost of company exporter showing a huge discrepancy from the farm margin.

iv. Laborers

An agricultural worker in a banana plantation can be classified under two job types which are the single task and multi-tasker (Center for Trade Union and Human Rights, 2013). Specialized tasks are assigned to single tasks workers which might include chemical application for a large area done over the course of a week. These workers can be found in managed farms that have a few owners such as Philippine Fresh Fruit Corporation. Multi-taskers are found in farms contracted by MNC such as Dole-Stanfilco or those who deliver on an FOB basis. These types of workers work only a small area (~2 has) however they do multiple tasks such as deleafing, chemical application, deflowering, defingering, among others (Center for Trade Union and Human Rights, 2013). These can cut across different tasks in plant and fruit care in plantations.

The nature of plantations who hire labor is based on the seasonality of supply of banana in the Philippines. A typical banana plantation has it's most productive months during the 3rd and 4th month of the season. This is where hiring of labor is bigger because there is a need for jobs in harvesting, hauling, transport, and packing. Although, the planting season for Cavendish banana, which happens during the first quarter of the year, requires labor. It doesn't require the same number of manpower during peak production (Puyod, 2018).

Plantations rely on labor providers such as Asiapro and other labor cooperatives who provide workers. These labor cooperatives were a result of the implementation of CARP where MNCs and/or corporate growers got into an agreement into the newly-formed cooperatives not only with farm management but also labor services for job security. MaGrow or the Maragusan Dole Banana Growers Cooperative, another labor cooperative, has growers as members and also offer their supply of manpower to Dole-Stanfilco. There are also independent workers who don't fall under the management of these labor cooperatives. Independent growers are the ones who hire these workers.

Many of these workers have been working in plantations owned by MNCs or corporate growers for several decades. They usually transfer from one banana producer to the next to get their job. It is an unstable source of income for workers since they have to transfer from one job to the next. This set-up also doesn't give them the incentives that regular employees would be getting which include leave credites, retirement benefits, and senior pay (Center for Trade Union and Human Rights, 2013).

Workloads are also a big issue for FOB farms and Dole-Stanfilco managed farms because most workers are physically taxed in order to finish their work. There are cases where workers are required to work larger areas for their tasks. Some male worker haul heavy boxes and bunches to distances as far as three kilometers to load bananas from the farm to the company's truck. Women who work in plant and fruit care perform all tasks in a banana operation which include

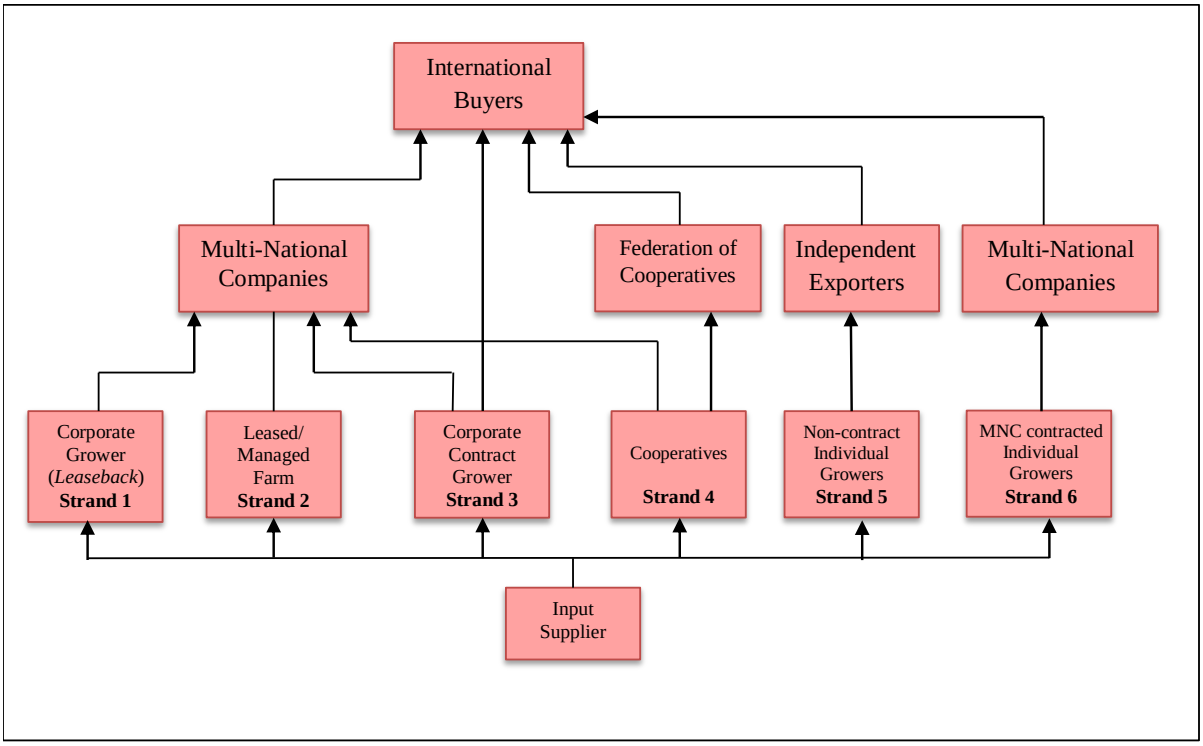
planting, bagging, deflowering, sanitizing, defingering, deleafing, propping, and weed control for a minimum of two hectares (Center for Trade Union and Human Rights, 2013). Increasing the workload during low production months allows these farms to reduce labor costs. They get to assign workers to multiple tasks to save money. All of this at the expense of their workers health condition.

v. Job Generation by node of the chain

Employment in any value chain analysis has not been well studied particularly when measuring development. Interest in job creation for investments has grown over the years to stress impact on jobs of private investments within the context of a value chain analysis. The goal being to create an enabling environment and establish relationships in the value chain with these investments (Digal, 2015).

In Sto. Tomas, the jobs generated by the Cavendish banana industry may be analyzed into six strands namely corporate grower with leaseback arrangement (strand 1), a multinational company with leased or managed farm (strand 2), a corporate contract grower (strand 3), cooperative contract grower (strand 4), and individual non-contract grower or independent grower (strand 5) and contracted individual grower (strand 6). Data from these analyses will estimate the total employment in the municipality, province, and entire Mindanao.

Figure 6. Jobs analysis across each value chain strand in Sto. Tomas



Comparison between six types of growers

The six strands are compared in terms of the job generation potential and job quality. Given the scale of operations and technology applied across these chains it also includes differences between buyers and markets, it is expected that the job generation per hectare and quality of jobs will vary.

The estimated FTE includes jobs generated from input suppliers. However, the estimations were limited to only banana tissues, bamboo poles, and chemical companies. It also includes jobs generated from banana chipping of rejected Cavendish banana. The estimations however did not include jobs generated from land development, shipping, and other indirect labor of other input suppliers (except for indirect labors from packaging materials which are part of the estimates). Considering the limitations on the data gathered, it would be more appropriate to compare job generation across chains for production, packing and overhead. The FTE estimates for other activities in the chain particularly cold storage, packaging materials, trucking and port services were derived only from the case of corporate grower under leaseback arrangement. While FTE estimates for input suppliers were used in all chains except for bamboo poles because corporate growers under leaseback and multinational companies used cable wires.

Comparing the total jobs generated per hectare across chains for inputs, plant and fruit care, harvesting, packing and overhead, the multinational company's managed farm (strand 2) is the most efficient. It employs 1.73 jobs per hectare followed by the corporate grower under leaseback arrangement with 1.81 jobs (strand 2). This is followed by the cooperative grower (strand 4), independent grower (strand 5) and corporate grower (strand 3) with 2.09, 2.21 and 2.32 jobs per hectare respectively. Individual growers contracted by the company (strand 6) assumes the FTE of MNC from packing to chipping.

With the exception of strand 3, the first two are large farms with cables and good infrastructure facilities which explains the level of efficiency. Corporate grower under leaseback arrangement operates 6,600 has and a packing house caters to 400 hectares generating 0.29 job per hectare (FTE). Packing houses of the multinational company also caters to 250-300 hectares generating 0.29 job per hectare. It is different from the cooperative and independent growerwho operates only 44 and 6 hectares respectively and their packing house services only 20 to 22 hectares. Hence, the average job per hectare generated (FTE) for packing is 0.42 which is higher compared to the large firms because of the smaller scale of operations.

While the number of jobs required per hectare is smaller for large growers, the number of workers employed is much higher because of the large area planted. Also, in terms of the compensation received by employees, higher wage and benefits are received by those employed in larger companies particularly for strands 1 and 2.

Table 19. Comparison of quality of jobs by type of grower (strand), Davao del Norte 2015

Criteria	Corporate Grower Leaseback	Multinational grower (managed farm) (Strand 2)	Corporate grower	Cooperative grower (Strand 4)	Independent Grower	Individual Contract grower	Labor Service cooperative

	(Strand 1)		(Strand 3)		(Strand 5)	(Strand 6)	
Size of farm (ha)	6,600	-	330	44	6	5	260
Capacity of packing house (PH)	1PH:400 ha	1PH: 275ha	-	1PH:22ha	1PH:20ha	-	-
Wage rate	At least min wage for rank & file (RF)	At least min wage for rank & file (RF	At least minimum wage	At least minimum wage	P230/day Harvesting: piece rate Packing: piece rate	P250/day Harvesting: piece rate	Piece rate to meet min wage
Benefits	13th month, SSS,Philhealth, Pag-ibig P1,000 per month for supervisors up P750 per month for rank	13th month, SSS,Philhealth, Pag-ibig	13th month, SSS,Philhealth, Pag-ibig	13th month, SSS,Philhealth, Pag-ibig	half of the SSS, Philhealth and Pagibig premium by employer	For workers under the MNC: 13th month, SSS,Philhealth, Pag-ibig	13th month, SSS,Philhealth, Pag-ibig
Employment status	52% regular 48% probationary status/non-reg.	All regular employees for managed farms	30% regular 70% contracted (Asiapro)	ARB members regular	Not regular	Plant & fruitcare: Not regular	ARB members regular
Others		No union	Full time employees for harvesting				

Source: Key informant survey 2015

Based on the table, the larger growers (Strand 1-4) pay their workers minimum wage. Strand 5 and strand 6 employ workers at 250 php per day for harvesting and rely on a piece rate system. Across the six strands the corporate grower (leaseback) which is TADECO is the only grower that provides additional benefits for supervisors and workers (according to rank). Other growers pay for standard health, housing, and social security benefits. But, for the independent grower, they only pay half of the money required for the benefits. MNCs, Corporate growers, and Cooperative employ have a policy of regularization for their workers. Independent growers don't have regular workers and rely on abusive independent labor providers for their labor needs. Contracted individual growers have regular workers who are employed by the MNC but workers who perform planting and fruit care tasks are not regular workers.

IV. Constraints and opportunities by node of the chain

Low productivity is a product of the following issues: (a) pole vaulting, (b) limited access to credit for small growers, (c) inadequate access to irrigation and proper drainage networks, (d)

poor site selection and application of standard technology, (e) poor road conditions, (f) aerial spray ban, (g) Panama disease, (h) inadequate agricultural technology transfer and research issues, (i) limited investments due to stricter regulations of Agribusiness venture agreements.

Post-harvest issues include sub-standard post-harvest packing facilities, and expensive banana boxes and packing materials for small growers.

Marketing issues include limited access to private port and cold storage facilities, stricter international market standards on chemical residue, high shipping cost, lack of space in containers, lack of market and price information, limited access to cold chain facilities and third-party logistics providers for small growers.

The threat of Ecuador's competitiveness in the Asian market is going to cut into the market share of the country.

Policies such as endo and the TRAIN law are going to decrease net margins and profitability because they add to the labor cost, input cost, and transport cost.

Policies for Cavendish Banana have been identified as a major constraint especially for ease of doing business in the country. Agribusiness Venture Agreement (HB 5085) and LGU implemented moratoriums have been identified as inconsistent with the current drive of government to expand banana planted areas.

Financial packages from MFIs, Government banks, and other financing institutions are still inaccessible to thousands of farmers affecting quality of banana during peak season. The newly passed Tax Reform for Acceleration and Inclusion (TRAIN) Law presently concerns some stakeholders because they see inputs becoming more expensive with the rise in fuel costs.

Exchange rate policies affect production cost and market price while interest rate policies affect grower-exporters credit access. Currency depreciation caused huge losses in Cavendish banana especially with contracts having fixed dollar prices. Growers resorted to pole vaulting and dealing in the spot market to make up for the losses.

Weak property laws and slow resolutions of disputes on ownership and land value have caused fragmented farms. This causes losses due to inefficient farms since fragmentation leads to loss of economies of scale.

Bans on aerial spraying will force banana growers to use ground spraying which is the more expensive method. Fusarium continues to be a problem because the resistant varieties (GCTCV-218 and GCTCV-219) available are not as productive as other varieties.

Lack of market price information puts smallholders at a disadvantage on deals because they come in not being able to bargain more reasonable costs for inputs. Information on market threats is also limited which does not help address emerging market issues like competition from Ecuador.

Rules on site selection have not been implemented creating more farms with low yield and high costs. Road sector development are under investment in the road network and inefficiency in

resource utilization. Land access to loading ports was found to contribute a significant amount to the cost of getting banana products to their respective markets. Less investments on farm infrastructure such as large irrigation and systems have affected yield. Cost considerations keep farmers from having better production capabilities. Substandard facilities and product process flows reduce quality of fruits and adhering to environmental standards adds to cost.

Developing standards and certification procedures for post-harvest packing facilities is crucial to complying with standards without incurring higher costs. Power supply in Mindanao is low due to drought, lack of power infrastructures, and peace and order risks. Government-run logistics platform for banana are in bad condition and privately-owned product logistics platforms are expensive. Smallholders are forced to sell to owners of cold storage facilities or integrated facilities at prevailing prices.

Spot pricing to consolidators or buyers is also disadvantageous. Inability to meet volume commitments result in higher freight rates for smallholders. Higher prices for cartons and other packing materials charged to smallholders also adds to their cost to export which is due to their low volume.

Road networks connecting farms to packing stations, warehouses, cold storage facilities, container yards, inputs distributors and plants and to the ports are either lacking or in bad condition which adds to more transport cost, less cost-efficient farms and lower quality of produce. Privately-owned infrastructure is cost-efficient but not all smallholders have access to it.

Spatial mapping has discovered higher poverty incidence and determined the concentration of key infrastructures used for the Cavendish Banana industry in production areas. End of contractualization is also seen as a threat since banana production has seasonal need for labor which means looming regularization of workers would make companies force companies to incur more costs.

A SWOT analysis was developed to capture the status of the industry. It highlights the strengths and weaknesses of the industry from the perspective of a small grower. The areas where the country can gain an advantage and the current threats to its continued development are also identified. Ecuador was identified as the biggest competitor for the Philippines in the world. The analysis puts PH and Ecuador side by side to initiate a more nuanced examination of the proper use of resource and capacity as well as outside prospects for the two countries.

Table 20. Cavendish Banana SWOT Analysis - PH vs Ecuador

STRENGTH		***WEAKNESS***		***OPPORTUNITY***		***THREAT***	
Philippines	***Ecuador***	***Philippines***	***Ecuador***	***Philippines***	***Ecuador***	***Philippines***	***Ecuador***

Source of income in excess of $912M in FOB export sales in 2008	*Source of income in excess of $1.4B in FOB export sales in 2008*	*Limited direct market access and very labor intensive*	*Lack of resources for direct loans and financing for small growers*	*Improve farm per unit production by rehabilitation of marginal areas through improved basic agricultural practices*	*Execute annual agreements between producers and exporters which provide affair annual average price*	*Unresolved agrarian reform issues* *TRAIN law increases cost of fuel and inputs*	*High costs of fuel, inputs and taxes*
Availability of technology, logistic support and manpower	*Social benefit for direct and indirect employment and job creation*	*Lack of access to finance and infrastructure constraints* *Small farmers dominate the industry and suffer from high production and logistics costs due to lack of economies of scale when not under contract.*	*Small farmers which make up 71% of the growers have inefficient low producing farms yielding 24MT per ha/yr*	*Add value and forward integrate to develop retail chain partnership with niche products such as consumer packs for Japan retailers*	*Maintain current markets and try to recover those lost due to high costs (China and ME)*	*Ecuador entry in established regional markets of the country*	*More buyer certification required by supermarket and regulators*
Institutional producers have an organization including PBGEA, MFBGEA. and FEDCO	*Tax revenues generated of $ 62M* *Producers have strong producer association A.E.B.E*	*Disease issues; bunchy top, Moko/bacterial wilt, Fusarium /Panama Disease Race 4.Mosaic BBTV, and sigatoka resistant strains*	*Non-observance of social and environmental regulations is common as marginal areas continue to be planted*	*Improve farm level traceability by proper application of agricultural chemicals and look toward GlobalGap certification as tool to add value*	*Improve farm per unit production by rehabilitation of marginal areas through improved basic agricultural practices*	*Land use issues aerial spray ban issues and NGO's*	*No strategy to promote Ecuador country brand to match competitors*
Close proximity to large markets in the region with strong demand	*More than 40 export companies which allows for better price offer and no monopolies or price fixing by buyers* *Government support through infrastructure facilities and technology.*	*Prone to advocacy issues raised by NGOs*	*Middlemen often take advantage of small growers with low prices below official levels*	*Target lower production costs through better recovery at pre and post harvest stages*	*Be more competitive and efficient as productivity increases*	*Increasing income reliance of growers to highly volatile spot market* *Irregular spot market traders who encourage pole vaulting*	*EU tariff regime still unsettled makes fruit expensive*
Established competitiveness of product in Asia with growers being able to meet quality requirments of markets such as Japan	*Entry into Asian markets such as Japan and China* *Improved delivery capability with faster shipping vessels allowing transport to*	*Land disputes affecting productivity via CARP beneficiaries and investments*	*Official price not related to worldwide market conditions – offer vs. demand and fruit can be expensive on spot basis*	*Respect fruit purchase contracts in order to maintain price stability and avoid pole vaulting practices which create spot market pricing and lower*	*Target reduction of high costs for export including customs procedures high port costs, Add value and forward integrate to*	*High costs of inputs and low producing farms with more low-priced Class B fruit sold to export markets*	*Banana commercial chain is burdened by many layers of middlemen which constrain profitability at farm level*

	Asia			*export quality*	*develop retail chain partnership with niche products*		

The SWOT analysis in Table 30 compares the current positions of Philippine Cavendish banana to Ecuador. As mentioned in Dwyer and Digal (2010), the geographic proximity of the Philippines to the Asian and Middle East regional markets gave it advantages in quality, freshness and cost. Recently, they face increased presence of Ecuador in the same regional markets particularly in Japan and China (Montecillo, 2018). Based on key informant interviews, exporters from Ecuador enjoy lower shipping costs because of the lower price of bunker fuel used to power their shipping vessels (Montecillo, 2018) and the delivery time is shorter because these new ships can reach Asian destinations within 21 days (Puyod, 2018). Shipping lines bringing Ecuador banana to their destinations also practice backloading which further reduces the cost. Strong government support in the Ecuador banana industry via production technology and post-harvest facilities allows them to meet the quality requirements needed by the aforementioned regional markets. A minimum reference price system was also set by the Ecuadorian government to give growers an advantage in offering better prices to a more diverse set of buyers (Dwyer & Digal, 2010).

Smallholder farmers in Ecuador and Philippines face similar issues. Limited access to credit for farm production (inputs, materials, and labor) lessen their productivity. This becomes an even bigger problem in the Philippines which has implemented the TRAIN Law projected to increase prices of farm inputs. An impending regulation for agribusiness venture agreements by MNC and ARB/Cs through House Bill 5161 will introduce bureaucracy to contractual partnerships which could limit investment to managing new farms and distribution of cost efficient technical programs that are implemented by MNCs.

There are more opportunities for the Philippines to improve its competitiveness in the world market. Targeting to improve the costs of production and logistics of smallholders should be the target of government programs and private investments. The presence of international certifying organizations (e.g. Fairtrade, GlobalGAP, ISO) in the country should bea priority since it brings improvement in the farm but it also directly and indirectly brings equitable distribution of earnings to farmers, laborers, and other stakeholders. Certifications will also open new markets by forging new partnerships with retail markets through the certification.

Panama disease outbreak continues to be a threat to the productivity of the banana industry affecting more and more farms each year. Entry of new competitors, demand-driven traders, and the volatility of the spot market are threats to banana trading that need to be addressed as well. There is also the controversial aerial spray ban issue which continues to be fought between environmental groups, private stakeholders, and the government.

V. Ethical/Ecolabelling in the Cavendish Banana Industry

a. Global Ecolabelling

The Fairtrade Foundation has a vision where each person participating in agricultural trade can work to sustain their families and live in their communities with dignity. A vision that has produced the Fairtrade mark which is recognized all over the world as an ethical label attributed to the Fairtrade foundation (Smith, 2010).

Fairtrade offers a global strategy in improving and evolving the fairtrade mark across the globe. The foundation has set goals in product labelling all the way to developing programs that enable business in identified crops. This movement will be centered on their guiding principles for sustainable development of empowerment, capacity, transparency and fair pricing. They also see to strengthen connections between producers and consumers from which the concept is founded on (Fairtrade International, 2016).

Crop production under the Fairtrade system has become a lucrative industry generating €4.8 billion in sales in agriculture. This has allowed the label to generate more than €80 million in Fairtrade Premium to be used as funding for programs and projects to help the same farmers that generated the produce to upgrade their living conditions (Fairtrade Foundation, 2014).

b. Ecolabelling in the Cavendish Banana Industry

Fairtrade International partnered with Sustainable & Inclusive Growth Network for Asia (SIGNAsia) to establish the Fairtrade Marketing Organization in the country. Its role is to promote Fairtrade products in the market and assist small-medium producer organizations in getting their Fairtrade certification (MetroCebu.news, 2015). The goal is to collaborate with commercial businesses and producers in the country including those in the Cavendish banana industry. Initially, FMO is looking to provide credit access to farmers to develop land and sustainable farms under international standards.

Fairtrade gives three certifications Hired Labor, Commercial, and Trader. Hired Labor certification requires certified organization to provide “living wage” to their workers and follow international labor standards which include no child labor and upholding the rights of migrant workers (Smith, 2010). Aside from sustainable agricultural practices, Commercial Fairtrade Certification assures traceability of the produce. It prevents quality claims imposed by importers on small producers because it will help identify the nodes in the supply chain that was responsible for the damages and losses during the trip (Bonghanoy, 2018). Trader certification is given to importers who are authorized to use the Fairtrade mark to sell their banans in the market.

Each certification costs 150,000 pesos for the interested party (Bonghanoy, 2018). The SPO, company, or cooperative will be inspected by an auditor. The auditor will do a surprise inspection and have a detailed checklist of the standards that need to be passed to qualify for

consideration of the certification. The FLO certifying body based in Germany will be the ones to approve or disapprove the application. Certified companies will also gain benefits in joining the Fairtrade organization network and be assisted by the Fairtrade Marketing Organization in the Philippines to promote their product.

In the banana industry, complying to Fairtrade standards continues to be a challenge. the first company to try Fairtrade was NEH-Philippines who got Fairtrade certification for their farms, particularly Yoshida Farms. It was motivated by the large volume projections of Fairtrade exports expected from Japanese demand. However, their venture was discontinued because of low demand from the Japanese market. SPOs in the Philippines will find it hard to get their Fairtrade certification mainly due to the sheer cost of the certification which can be discouraging to small banana producers.

Tagum Development Cooperative is currently the only organization that applied for Fairtrade certification and have passed the standards for certification in the Philippines. One of their cooperative growers (leaseback) is the recipient of the Hired Labor certification, the cooperative controls 427 hectares of the production area in TADECO. The cooperative supplies bananas to DOLE under contract and the company carries the Fairtrade Hired Labor mark in their package for the products that were sourced from this farm.

Table 21. Fairtrade perception of Grower-exporter Association (GEA)

Name of organization	Aware about Fairtrade?	Issues with certification	Potential benefits
MBGEA	Yes	• Not willing to apply • Not required by buyers • Industry price controlled by MNCs • Expensive certification	
PBGEA	Yes	• Not required by buyers in Asia • Demand only in Americas and Europe • Lack of focus on quality; market requirement • Expensive for small-medium growers • Long documentation process • Lack of direct benefits for growers	• Additional markets for banana • Indirect certification for growers • Technical assistance for growers based on Fairtrade standards

Grower-exporter associations in Mindanao such as MBGEA and PBGEA, which have majority of the producers in the island as members, have shown an unwillingness to apply tp Fairtrade. The main drivers for their lack of interest is the lack of demand, concerns for growers, and current landscape of the Cavendish Banana industry. Asian buyers don't require Fairtrade certification for their bananas not like the buyers from Europe and America. Since Fairtrade doesn't focus on quality as much as other certifications do, there is no overlap with the needs of the market. The growers associations have also identified the reluctance of small growers because it adds to their already high costs and they see a lack of direct benefit to their endeavors. Although they see that joining Fairtrade will add more markets for their produce and they can get technical assistance to improve their production standards in order to comply with Fairtrade requirements, they still see minimal benefit compared to the cost it will incur.

Table 22. Fairtrade perception of Multinational Corporations (MNCs) and Corporate Growers

Name of organization	Aware about Fairtrade?	Issues with certification	Potential benefits
NEH	Yes, Fairtrade-certified 4-5 years ago.	• Low demand (Japan)	• Initial volume projections were huge
PhilFresh	Yes	• Not required by buyers in Asia	• Strong market in Europe
Unifrutti	Yes	• Not required in any of Unifrutti's major market	• Alignment with the company's core values and current certification/s

As mentioned earlier, NEH had gotten Fairtrade Certification around 4-5 years ago but the venture was discontinued. Aside from NEH, PhilFresh, a corporate grower, and Unifrutti,

another MNC is aware of Fairtrade certification. In the case of PhilFresh, their buyers don't require Fairtrade certification for their bananas. The company only distributes in Asia and they saw that the Fairtrade market is in Europe which is not a viable market for them due to cost considerations (Puyod, 2018). Unifrutti, on the other hand, has said that they could get Fairtrade certified because they already employ most, if not all, of the production standards and labor standards required by the organization (Montecillo, 2018). However, the major markets of Unifrutti Philippines demand high quality and only look for Rainforest Alliance and ISO certified bananas.

Table 23. Fairtrade perception of Cooperative Grower and Independent Grower (w/o contract*)*

Name of organization	Aware about Fairtrade?	Issues with certification	Potential benefits
LGBC	No	• No seminars on Fairtrade certification	
MARBCO	No	• No awareness campaign	
KINSAN MPC	No	• Requires government support to avail of Fairtrade	
SIFARBCO	No	• Don't know about Fairtrade	
CASMI MPC	Yes	• Not required by their market	
MIFARBCO	No	• Lack of knowledge about the certification	
SIFARBCO	No	• Lack of knowledge about Fairtrade	
DARBCO	No	• Lack of awareness	
SFARBEMCO	No	• Priority is rehabilitating farms hit by typhoon and protecting it from effects of Fusarium Wilt	
BSBG MPC	No	• Lack of support of agencies • No awareness campaigns	
TUFFAPCO	No	• No government support	
AMS-MARBMCO	No	• Lack of awareness • No support from agencies	
AMSEFPCO	Yes	• Lack of information on the certification before	• Receive assistance from DTI and Fairtrade
UFARBMCO	Yes	• Requires government support	• Growers will receive assistance

Key informants that fall under the coopeative grower and independent grower without contract strand in the value chain have expressed a lack of awareness in Fairtrade certification. Information on the certification has not reached their farms. The seminar/s attended by growers involve other certifications such as ISO and sustainable agricultural practices in banana but were not tied with Fairtrade. They also rely on government and other agencies to educate them about Fairtrade and other certifications in general. AMS Employees Fresh Fruit Producers Cooperative (AMSEFPCO) is the only cooperative that has expressed willingness to get certified by

Fairtrade. It is driven by their awareness of the label which was due to the assistance they received from DTI in the past.

Table 24. Fairtrade perception of other institutions

Name of organization	Aware about Fairtrade?	Issues with certification	Potential benefits
FARMCOOP	Yes, and willing to adopt	• No clear monetary benefit for farmer's cooperative • Companies prefer ISO certification	• Fairtrade premium benefits workers/growers • Auditing of Fairtrade premium allocation • Fairtrade label builds eco-friendly reputation • Capture Fairtrade market in Japan • Command 20-30 percent higher price
DAMARB MPC	No	• Have not attended seminar or Fairtrade	
MinDA	Yes, built partnership between Fairtrade and Mindanao Connective Trademark	• Certification cost (150,000 php) isn't feasible for small-medium sized growers	• Projected monetary benefit of Fairtrade being part of MCT initiative • Existing Fairtrade market in China • Capacity building to improve production and management systems in farms • Marketing arm of Fairtrade to assist farmers

The other institutions that were interviewed were FARMCOOP, DAMARB MPC, and MinDA which are business development service provider, labor cooperative, and a government agency, respectively. DAMARB MPC, a labor cooperative, is not aware of the Fairtrade certification for Hired Labor which would be appropriate for their business. Nobody from the organization has attended a seminar that explained Fairtrade certification.

FARMCOOP is a business development service provider who have grower members. They are currently looking into getting a Fairtrade certification. It is driven by the higher price that they can adopt when they sell Fairtrade banana to the market they have identified in Japan. Although they see no clear monetary benefit to their cooperative, the groups sees Fairtrade as a way to help their growers with the higher prices and properly allocating their collection of the Fairtrade Premium.

The Mindanao Development Authority (MinDA) is the government institution that has partnered with the Fairtrade Marketing Organizaiton in the Philippines through their Mindanao Connective Trademark (MCT). Fairtrade Certification is one of the six voluntary standards that producers and exporters can apply to, so they can use the Mindanao trademark. The other certifications in

the standard include GlobalGap, Rainforest Alliance, Organic, Halal, and Marine Stewardship Council. Among the six, Fairtrade is the least expensive at an estimated 150,000 pesos which is six times less expensive than the Marine Stewardship Council certification estimated to cost 900,000 pesos (Bonghanoy, 2018). The MinDA initiative is also looking to upgrade the production systems and management systems used by growers, exporters, and traders in the Cavendish Banana industry. MinDA is also pushing for Fairtrade labelling because of the market they've identified in China (Bonghanoy, 2018) which is the fastest growing market for Cavendish Banana from the Philippines (Montecillo, 2018).

Table 25. List of PBGEA members and their certifications

Certification	Certified company	Notes
Rainforest	Unifrutti	Common certification among MNCs
Fairtrade	NEH	Discontinued in 2015
Global GAP	Tadeco, Del Monte, Dole	Common certification among MNCs and corporate growers in banana industry; DA and DTI advocating PhilGAP
ISO	Remaining PBGEA members	Common certification among MNCs
Fairtrade	TADECO	Hired Labor; looking to get SPO certification

Certifications common in the industry are GlobalGAP, ISO, and Rainforest Alliance which is required by buyers from Asia. Individual growers selling to spot markets commonly don't have any certification. One of TADECO's cooperative, who supplies to DOLE, is currently the only Fairtrade-certified banana grower in the country and it is for Hired Labor.

c. Potential/Demand for Fairtrade labelling

Sourcing decisions for banana buyers/retailers in the major markets of the Philippines such as Japan, Middle East, China, South Korea, and Hongkong can vary with the needs of the market. Key informants have detailed that it is based on price, product appearance, overall quality, reliability of supply, and for niche markets, the certifications needed to supply to that market. Japanese markets purchase bananas that have zero defect, inside cluster packs, and are fresh when they get to the dining table (Montecillo, 2018). Middle East buyers are more about reliability in supply and pricing than anything else. This is motivated by their lack of supply of food sources due to being predominantly in a desert biome. Millions of boxes of banana imported by the Middle East are consume by their army which will require suppliers to meet their volume commitments.

Many small producers and cooperative growers sell to spot markets where vulnerability is in the up and down spikes in price. Those who pay to buy Fairtrade products are responsible for paying the exporters they have contacted (The Fairtrade Foundation, 2011). Negotiating with buyers looking for the Fairtrade label can be adjusted to the relevant market price if it is higher than the FLO minimum price or vice versa. This is advantageous for farmers because the price they get from the market will match the seasonality of the crop. Peak production where prices are low will most likely adopt the FLO minimum price in negotiations with buyers. During the first and second quarter of the year, where prices are high, it would be more likely that the prevailing market price would be adopted. Giving small producer organizations the ability to negotiate in international trading will only improve their livelihood.

Independent growers have use the ExWorks price to sell their produce. Although the price is much lower than the ExWharf price and FOB used previously, these growers were able to avoid quality claims by buyers when it reaches the destination which reduces their income because when they do this there tend to be a huge volume of rejects or downgrading of banana classification from previously Class A bananas to Class B which are sold at much lower price. The ability to negotiate better ExWorks price with Fairtrade shall empower SPOs to export directly.

For banana chip exporters, Fairtrade would be able to assist them in expanding their markets to Europe and America through the label. A key informant has tagged Prime Fruits International Inc. in Kuambugan, Tagum and Four Seasons Fruits Corporataion in Apokon Tagum as suitable exporters to get Fairtrade certification. Prime Fruits directly exports banana chips made from Cavendish banana while Four Seasons exports Cardava banana chips to the Middle East. Banana chip producers are a viable option due to lesser requirements on quality and the identified producers are established corporations within the industry.

Low profitability is a problem for contract growers in Davao del Norte. Small producer organizations can enter into the short-term contracts provided by Fairtrade when exporting. Volume commitments should be met with the price set on the contract but with a favorable length of contract producers can negotiate better prices before signing another contract with a Fairtrade buyer. Contractors and contracted farms can also agree to cancel contracts when the market situation is favorable but it needs both to sign in order for the agreement to cancel to hold water. These options allow small producer organizations to avoid enduring years of low profits because of fixed prices for several years.

Key informants have expressed their lack of interest in the Fairtrade label because of the lack of markets. Although, Fairtrade is popular in Europe, PH banana producers sell their produce mostly to China. This reduces their willingness to adopt a certain label because it doesn't provide them additional markets and will only increase their cost of production, marketing, and logistics. The recent failure of NEH Phils trying to adopt Fairtrade became a deterrent because it change the perception of growers about the label. However, it was recently revealed that there is a market in Japan that is requesting for Fairtrade certification of FARMCOOP (Apuzen, 2018). Ìt will effectively pair the organic production already practiced by FARMCOOP with the Fairtrade certification adding more value to their banana. Fairtrade minimum price for organic Fairtrade is

the highest under the pricing standards they set. Although wage and benefit standards need to be checked first, it is projected to improve livelihood in the community by expanding to a new niche market in Japan adding to the stagnating volume of bananas sent to the country.

Addressing the current issues faced by labor organizations in the banana industry will be a task that aligns with the objective of Fairtrade. Hired labor standards of this label brings attention to labor dynamics, union establishment, and improved livelihood of workers. Fairtrade can bring attention to the high workload that banana plantation workers get, lack of breaks, and the discrepancy in pay received by contracted laborers of a middleman (labor supplier) and regular workers. Recognition of these problems will provide solutions to improve the situation of laborers in banana farms.

Table 26. Frequency distribution of certification acquired by grower per crop in Mindanao

Type of Certification	Banana	Banana Chips	Coconut	Cacao	Herbal Teas	Pineapple	Total
Organic	**2**	**1**	17	1	1	0	22
Fairtrade	**1**	0	3	0	0	0	3
Food Safety	**2**	0	4	0	0	2	8
Rainforest Alliance	**12**	0	1	0	0	4	17
Social Standards	**0**	0	2	0	0	1	3
Global GAP	**12**	0	0	0	0	2	14
Total	**29**	**1**	27	1	1	9	68

In general, growers lack of information about Fairtrade. It has led to a lack of understanding on how Fairtrade can help them. This creates a big hurdle for the organization especially when you add in the limited market for the label in established markets for PH banana. GlobalGAP and Rainforest Alliance remain to be the more popular certification for growers over Fairtrade.

d. Factors affecting demand for Fairtrade Certification

This section discusses the possible factors that would attract or discourage producers to get certified under the Fairtrade label. It highlights how each factor might affect the decision to be made by small producer organizations, laborers, and traders in the Philippines to become Fairtrade certified.

i. Variability of Price

Figure 7. Semestral Average Price from 2013-2017

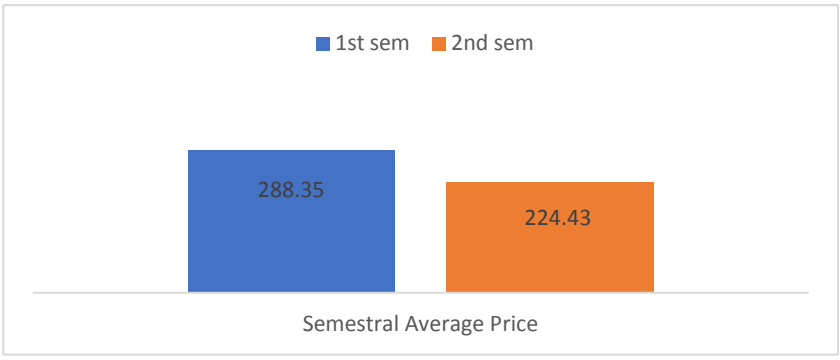


Figure 9 shows that there is a difference between the prices during the first half and second half of the year in the spot market. This accounts for the shift of a large regional market like China from relying on supply from the Philippines to buying from their local producers. Winter time forces spot buying from Chinese traders.

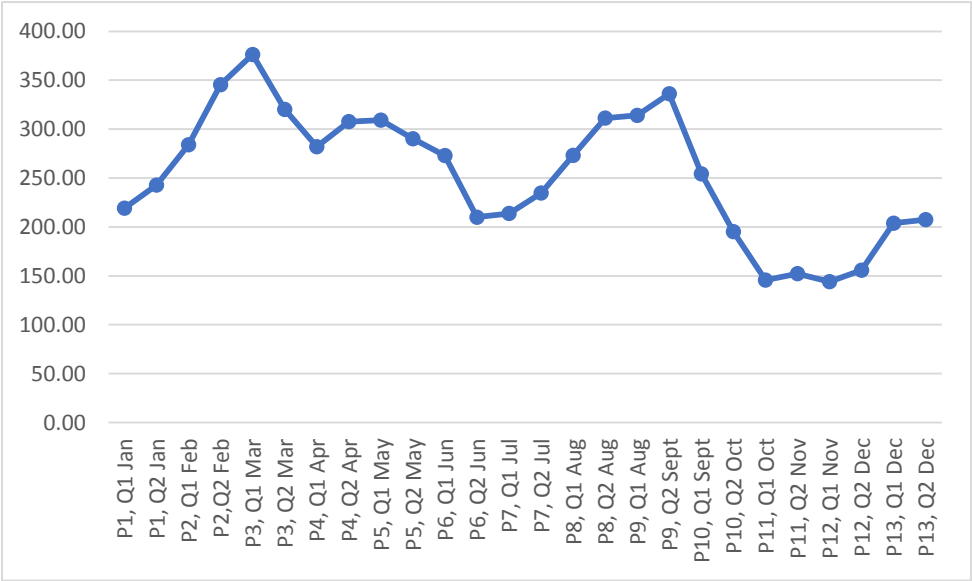
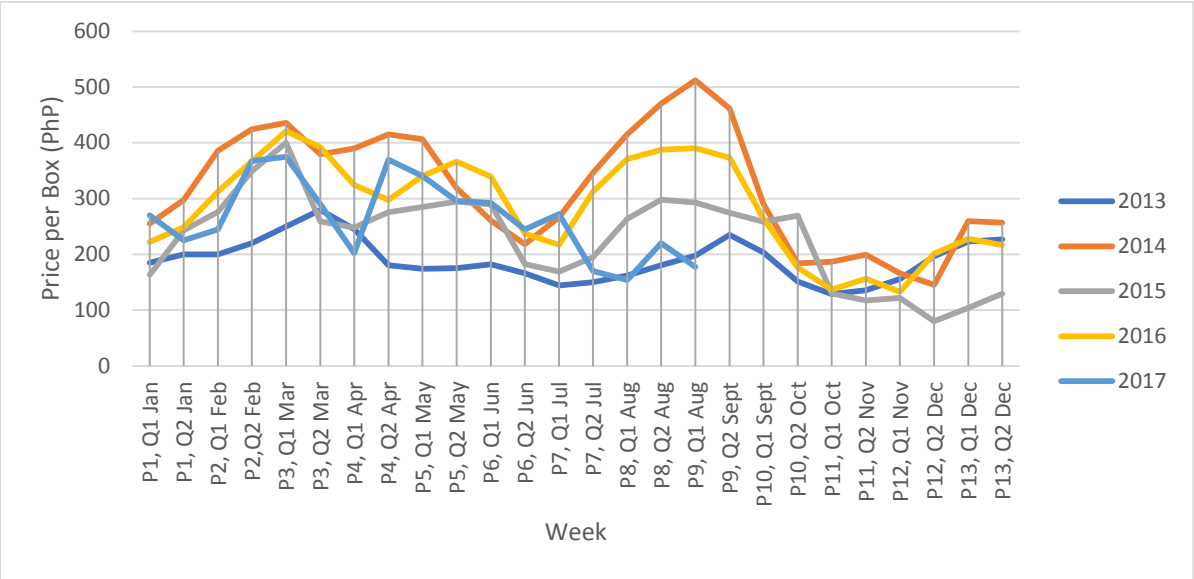


Figure 8. Cavendish Banana Average Price (2013-2017)

Based on figure 8, average price from 2013 to 2017 is highly variable. The movement of the price starts to pick-up during the first month of the year and peaks during March. Prices after the month of March are trending down but are still relatively high for the average price of banana at 258 php. For the second semester, average monthly price for all periods are below the average

price of banana. However, the price rises during August and peaks at September before a large drop from October to November. It starts to rise again by the end of the year.

Figure 9. Cavendish Banana Bi-weekly Average Price (2013-2017)



Looking at the bi-weekly trend of prices in Figure 9, there is high variability of price across all years. These trends show that price in the spot market is highly dependent on the current supply source situation of the buying country. Since spot buying creates the spot market, there will continue to be variability since buyers tend to only look to the Philippines when their domestic sources can't supply them with banana during winter time as the case in China.

It leaves small growers vulnerable when they try to directly export to buyers. Growers could get certified with Fairtrade to gain a level of control over their prices through the FLO minimum price and the ability to negotiate prices with buyers. During periods when prices are low, a grower can leverage the FLO minimum price requirement of Fairtrade whenever it's higher to get higher profits than what they would otherwise get relying on the price set by the buyer. When peak season comes, they can renegotiate their price on the next volume commitment to get a higher price if the FLO minimum is much lower than the prevailing market price. A prices peak, they can adopt this strategy. Empowering small growers by allowing them to negotiate price in international trade will eventually improve their livelihood.

ii. Capacity of growers/laborers/traders

Farmer-growers in general are older and support a family. These same growers have gotten out of their contract so they can become a player in the spot market to chase higher prices. A 71 percent increase in the number of growers without contract also means that many didn't renew their contracts because of the perceived disadvantages and reduced revenue generation when under a contract. But, despite more farmers opting out of their contracts to supply to spot buyers their profitability is still lower because their productivity is low and cost of production is

accounts for a much higher percentage of their profit margin. This does not bode well for growers who are looking to get certified under the Fairtrade label. It shows that independent growers will find it difficult to pay the fee for certification which costs an estimated 150,000 pesos (Bonghanoy, 2018). Low productivity caused by crop diseases such as Fusarium will make getting a Fairtrade certification less of a priority for growers as well. Although, Fairtrade-certified buyers don't impose the quality standards required in Japan, the low productivity will be a deterrent when a buyer requires a certain volume of commitment. Being an independent grower, might also pose a challenge when trying to consolidate produce from multiple farms. An independent grower who relies on independent labor suppliers will not get Fairtrade Labor certified as well because the latter is not compliant with Fairtrade standards since many have been found to pay workers lower wages and send child laborers to work for independent growers.

There are labor cooperatives and growers who pay above the minimum wage, spend on benefits, and provide regular work. MNC's and Corporate growers (leaseback) employ regular workers while labor cooperatives supply to corporate growers, cooperative growers, and individual growers. Many of the large growers are already Fairtrade labor compliant because their wage rate, employment status, and benefits match the requirements of Fairtrade.

For independent growers and contracted growers, they rely on labor service cooperatives and independent labor suppliers that don't pay minimum wage, offer non-regular work, and shoulder little to none of the standard health and social benefits. There is also evidence of child labor in these farms. These farms can't get the Fairtrade Labor certification because they both lack the capacity and the quality of their jobs won't comply with the standards.

iii. Existing certifications

Key informants have identified Rainforest, Fairtrade, GlobalGAP, and ISO as the eco-labels they are aware exist in the banana industy. Only TADECO is a Fairtrade certified banana producers in the Philippines. One of TADECO's leaseback cooperative was certified under Fairtrade Labor Standards. Aside from TADECO, only NEH was certified under their Yoshida Farms however it was discontinued. Other than those two cases, Fairtrade has not been popular in the Cavendish banana industry.

Table 27. Frequency distribution of certification acquired by grower per crop in Mindanao

Type of Certification	Banana	Banana Chips	Coconut	Cacao	Herbal Teas	Pineapple	Total
Organic	**2**	**1**	17	1	1	0	22
Fairtrade	**1**	0	3	0	0	0	3
Food Safety	**2**	0	4	0	0	2	8
Rainforest Alliance	**12**	0	1	0	0	4	17
Social Standards	**0**	0	2	0	0	1	3
Global GAP	**12**	0	0	0	0	2	14

Total	**29**	**1**	27	1	1	9	68

Rainforest Alliance and GlobalGAP are the common certifications for Cavendish banana growers in the country (refer to table 37). The main driver for this is the requirement of the market which pushes firms with the capacity to get certified under these labels. Organic isn't a label of choice for growers because many have experienced a huge drop in production when organic farming is implemented in a plantation-type setting.

Although, many of the large growers have the capacity to get certified under Fairtrade, the markets they supply to don't require the label. They require Rainforest and GlobalGAP more which is the main certification of MNC's such as Unifrutti for RA and DOLE and Del Monte for GlobalGAP. There are substitutes for Fairtrade in the Cavendish banana industry which is driven more of demand requirements. Building partnerships with Fairtrade markets around the world can create a demand for the label among large growers.

Small grower perception for Fairtrade is generally not aware of the label. Cooperatives and small growers either lack understanding of the concept of Fairtrade, minimal knowledge on the process of getting certified, and even a general lack of awareness to the existence of Fairtrade. Fairtrade SPO, Labor, and Trader standards can provide benefit to these small growers by raising their standards of production, improve capacity to organize, increase their income, and empower them to export directly.

iv. Expand to new markets

Philippine Cavendish Banana exporters have established regional markets in Asia particularly Japan, China, and Middle East. They face new competition from Ecuador in these markets because of the increased capability of exporters from the country to reach farther markets such as Japan and China and still be more competitive than bananas from the Philippines. Fairtrade labelling can attract more growers because the label is a form of product differentiation. All bananas are classified by grade in the export market and adding the Fairtrade mark to the packaging of even the Class A banana will add more value to the product.

Market access is another crucial benefit of getting Fairtrade certified. Japan, China, and New Zealand all within geographical proximity with the Philippines have reportedly a retail market for Fairtrade bananas. Getting Fairtrade certified will expand the market share of large exporters and possibly small growers from the Philippines into these countries. Fairtrade is a niche market in Europe and the USA and getting Fairtrade certification will establish new relationships with importers from these large markets especially in Europe. It will strengthen the small growers to make use of resources to improve production processes, infrastructure, and achieve volume and quality requirements in new markets. Many markets are left untapped because they require Fairtrade certification.

v. Price Premium

Many small farmers get unfair pricing in the market. Contracted individual farmers are bound by the fixed contract prices that MNC's stipulated in their contract. Small growers who engage in spot buying are also susceptible to the price that is dictated by traders from foreign countries. The lack of certification limits their profitability especially since these systems provide a price premium for certified banana products.

The Fairtrade premium is an attractive prospect for banana growers because it implement the FLO minimum price which protects them from price volatility and unfair pricing. Certified organizations are also the recipients of the Fairtrade premium which means they can use the money for social, economic, and environmental gains. Many have used it to fund infrastructure projects to improve the capacity of banana farmers. A workplan can also be created for proper budgeting of the Fairtrade premium to be used on the priority issues of the organizations. It can be used to bring better benefits for workers, fund business development services, and even as a contingency fund for unforeseen operational costs.

Fairtrade markets continue to grow each year which is why there are new initiatives from government to promote the label to banana growers. The Mindanao Connective Trademark of MinDA is the main program that includes the Fairtrade label as one of the labels they're promoting along with five other labels.

VI. Recommendation on approaches and strategy for Fairtrade

Applying measures to address productivity in the input, farm care, and post-harvest nodes of banana production is crucial. Expansion efforts for the banana industry must be facilitated by government programs and policies to allow production to grow. The additional supply will be the target for Fairtrade certification. Promoting equitable income distribution in the banana industry can be done through Fairtrade. Growers will be made more aware of the labor policies regarding wage, child labor, workload, health and safety because of Fairtrade. They should align themselves with good labor practices before they can get certified. Increasing wages and handing social benefits are a priority of Fairtrade because it strives to get workers their living wages. Achieving economies of scale by pooling together resources, infrastructure, and technology between small and medium growers through SPOs will increase production and reduce production costs which is a priority since net margins for banana producers put them at a disadvantage and income is higher for organized growers. Sourcing plans in Fairtrade agreements dictate the volume requirements for Fairtrade producers. Strategies to better consolidate small holder production through industry cluster plans must be developed to reduce cost and improve productivity through knowledge sharing and economies of scale. Existing certifications (GlobalGap, ISO, RA) of producers can also be aligned with the planned Fairtrade certification to make it easier to get Fairtrade-certified, add value to produce, and get better prices with multiple certifications. Supporting the drive of MinDA with the Mindanao Connective Trademark should also be a priority as it includes Fairtrade as one of the six labels it accepts. Pricing should be readily available as well, so that SPOs can properly negotiate with Fairtrade buyers on the pricing for their bananas which can either be the FLO minimum price or the prevailing market price depending on which ones higher. The Philippine government should implement policies on market regulations to avoid price and information asymmetry. Predictive models for price can also be developed to help SPOs better negotiate prices when trading under Fairtrade standards. Fairtrade should also advocate for stability in pricing through the FLO minimum price and empowering growers with contract negotiation which is welcome in the industry due to the volatility of prices. Since many small growers lack the capacity to pay the certification fee, Fairtrade and PH agencies should come up with strategies that encourage organization of farmers or provide subsidies for the fee.

To promote and enhance buy-in of Fairtrade certification, the following options maybe considered:

- Conduct awareness campaign particularly among producer organizations about fair trade certification to highlight the benefits and requirements for certification
- Partner with government such as the Mindanao Development Authority,, the Department of Trade and Industry and the LGU (Davao del Norte provincial agricultural office who expressed interest to support fair trade certification in the conduct of workshops to enhance awareness of the target clientele about fair trade

- Explore other possible collaborations with these interested agencies such as information of exchange and partnership in implementation of activities such as training of resource persons on labelling/standards for certification (eg under Mindanao collective Trademark)
- Explore further discussions with those who are interested to be certified and those who are interested to know more about Fairtrade certification (list and contact details appear in section VII).

VII. List of potential organizations for partnership with Fairtrade

Fairtrade is viewed as a high investment but low return option for banana farmers in the Philippines. Many farmers and cooperatives are not aware of Fairtrade certification or don't know the process of getting certified. There is also a disconnect between producers to the viability of Fairtrade in the current market with one grower considering it as an obsolete concept and other importers preferring certifications such as Global GAP and ISO over Fairtrade certification especially since MNC's in the country export to Asian countries.

Table 28. Potential partner organizations for Fairtrade

Name of Organization	Location
Unifrutti	Tefasco Wharf, Tibungco Davao City
FarmCoop	Garcia Compound, JP Laurel Avenue, Bajada, Davao City
Dole-Stanfilco	Dona Socorro str., Belisario Heights Subdivision, Davao City
MARBCO	Santo Tomas, Davao del Norte
Prime Fruits International Inc.	Kuambugan, Tagum City
AMSEFPCO	Kapalong, Davao del Norte
JHG Trading Inc	Tagum, Davao del Norte

According to FARMCOOP, there is a certain market for Fairtrade bananas in Japan. The certification will improve the economic condition of laborers and growers and will bring 'pride' to the cooperative. However, the cooperative will not get monetary returns from the premium price despite spending for the certification. In table 28, the Unifrutti, FarmCoop, Dole-Stanfilco, MARBCO, Prime Fruits International Inc, AMSEFPCO, and JHG Trading Inc are the possible organizations that Fairtrade can partner with.

Table 29. Other potential organizations that are willing to adopt Fairtrade (FT) certification

Institution	Awareness of FT certification	Name of Respondent	Position	Mobile No.	Remarks (Conditions/Reasons/ Suggestions)
Foundation for Agrarian Reform Cooperatives in Mindanao, Inc. (FARMCOOP)	Aware	Koronado Apuzen	CEO and President	(082) 222 3212	Not demanded in Asia (which is the main market of Philippines)

Kinamayan San Miguel Multi-purpose Cooperative (KINSAN MPC)	Not aware	Antonino Enaro	General Manager	9067406894	The cooperative is willing to avail FT as long as there is an agency that will assist them.
AMS Employees Fresh Fruit Producers Cooperative (AMSEFPCO)	Aware	Rizalie Calma	Manager	9496582526	Willing to avail FT certification. DTI assisted the cooperative before.
United Farmworkers ARB Multi-Purpose Cooperative (UFARBMCO)	Aware	Gerson Peña	Chairman	09359864783	Willing to avail FT certification since the government will assist the growers. DTI assisted the cooperative before.

Aside from FARMCOOP, there is AMSEFPCO who received assistance from DTI with regards to Fairtrade and are looking to get certified (refer to Table 29). A DOLE-contracted cooperative who is part of TADECO is already Fairtrade certified under the Hired Labor Standards. TADECO is also preparing to get certified under Fairtrade in preparation for their direct export endeavor.

Table 30. List of organizations that are willing to know more about FT certification

Institution	Awareness to FT certification	Name of Respondent	Position	Mobile No.	Remarks (Conditions/Reasons/ Suggestions)
Marsman Agrarian Reform Beneficiaries Cooperative (MARBCO)	Not aware	Avito Magdalaga/ Dionisio Malaya	Chairman	9498265395 9357852892	
Sto. Tomas Individual Farmers Agrarian Reform Beneficiary Cooperative (SIFARBCO)	Not aware	Josefa Presno / Emilia Bautista	Secretary / Treasurer	9096306704 9363055549	Currently on leaseback arrangement but is planning to be producer/grower.
Marsman Individual Agrarian Reform Beneficiaries Cooperative (MIFARBCO)	Not aware	Leonila Agol / Jennifer Pedeno	Manager / Secretary	9757807534 / 9353181596	Interested to know more about Fairtrade (the advantages and disadvantages)
Dapco Agrarian Reform Beneficiaries Cooperative (DARBCO)	Not aware	Victoria Tomas		9102612198	They are interested to know more about FT if there is invitation.
Bagong Silang Banana Growers Multi-Purpose Cooperative (BSBG MPC)	Not aware	Beverly Tuazon	Secretary	9095516535	Interested to know more about FT (through seminar, etc) if fare and registration are free.
Tubod Free Farmers Producer	Not aware	Reynaldo Loag Sr.	Former Manager	9093138102	Interested with FT, it would be better if there is support from

Cooperative (TUFFAPCO)					the government.
AMS-Magatos Agrarian Reform Benficiaries Multi-purpose Cooperative	Not aware	Maricor Hinay	Secretary	9507609411/ 9101818607	Interested to know more about FT. This may help them from the damaged caused by Fusarium Wilt. The cooperative want somebody to visit their cooperative and give additional information regarding the certification.

Finally, Table 30 above identified theo organizations who expressed interest to know more about Fairtrade certification. The list shows the name of the cooperative, name of the representative, contact number, and the reason behind their interest in learning more about Fairtrade.