

A Primer on PEF's  
Priority Commodities:  
Industry Study on  
Coffee

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## LIST OF ABBREVIATIONS

AFMA	Agriculture and Fisheries Modernization Act
BAS	Bureau of Agricultural Statistics
BSU	Benguet State University
DA	Department of Agriculture
DTI	Department of Trade and Industry
GATT	General Agreements on Tariffs and Trade
ICO	International Coffee Organization
kg	Kilogram
MT	Metric Ton
NATCCO	National Confederation of Cooperatives
NGO	Non-Government Organization
NSCB	National Statistical Coordination Board
PCA	Philippine Coffee Alliance
PCBI	Philippine Coffee Board, Inc.
QR	Quantitative Restriction
R&D	Research and Development
RDE	Research, Development, and Extension
RH	Relative Humidity
RMCC	Rocky Mountain Coffee Company
SWOT	Strengths, Weaknesses, Opportunities, Threats
TRICOM	Tri-People Concern for Peace, Progress, and Development for Mindanao
USD	US Dollars
WTO	World Trade Organization

## INTRODUCTION

A goatherd first discovered coffee in the Ethiopian Highlands. Noticing that his goats were eating berries that kept them energetic, the goatherd informed the local monastery and made a drink out of the berries. The brew allowed drinkers to have longer periods for prayers at night. The report reached the Arabian Peninsula, where the first cultivation and trading of coffee began. Thereafter, the trade expanded to Yemen in 15<sup>th</sup> century and Persia, Egypt, Syria, and Turkey in the 16<sup>th</sup> century.

Today, coffee is known worldwide and has ranked second to oil in terms of global demand. About 25 million people worldwide, mostly small farmers, depend on coffee farming for livelihood. Based on 2013 figures of the International Coffee Organization (ICO), 145 million bags (@60 kg/bag) of coffee were produced by exporting countries valued at US \$ 21 billion. Around 34% of the total produce came from Brazil, followed by Vietnam and Indonesia, with 18% and 8% contributions, respectively. The Philippine coffee production accounted for less than one percent (1%).

From the 145 million bags produced, 110 million bags (75.8%) were exported from April 2012 to March 2013, with *Robusta* as the leading coffee variety (38%), followed by *Brazilian Naturals* (29%). Based on 2013 data from Euromonitor, Netherlands is the top coffee-drinking country with per capita consumption of 2.4 cups per day, followed by Finland with 1.8 cups. Although Brazil is the world's top coffee-producing country, it ranked within the fourth tier of per capita consumption with 0.48 cups per day, while the Philippines ranked within the third level with 0.608 cups per day.

## ORIGIN OF THE PHILIPPINE COFFEE INDUSTRY

In 1740, a Spanish Franciscan monk introduced the first coffee tree in Lipa, Batangas that easily caught the attention of neighboring towns. Coffee training started in Batangas in 1860, catering to both the US and European markets. Coffee production expanded to Cavite in 1870 with the first tree planted in the town of Amadeo. By 1880, the Philippines became the fourth largest coffee exporter and even became the only source of beans when coffee rust hit Brazil and Africa during the period. But the heyday lasted only until 1889 when coffee rust, along with insect infestation, hit the country.

The industry recovered in the 1950s when the Americans introduced more resistant coffee varieties. This is also the period when the first instant coffee was produced commercially which resulted in an increased demand for coffee beans. With perceived stability in the demand side of the coffee market in the 1960s, farmers went back to coffee farming. However, the surge in coffee output coincided with a rise in global output resulting in a supply glut. The Philippines imposed a ban on coffee imports just to protect local producers. Today, Brazil maintains its stature as the top coffee producing country in the world.

# SITUATION OF THE PHILIPPINE COFFEE INDUSTRY

## What coffee varieties are grown in the Philippines?

The Philippines is one of the few countries in the world that produces all four varieties:-Robusta, Arabica, Liberica, and Excelsa. Small farmers are at the forefront, producing coffee in small farms averaging one to two hectares.

Each variety has its own characteristics and requirement for cultivation.

1. **Arabica** –locally known as *Kapeng Tagalog*. It is considered by most countries as the best coffee due to its excellent flavor and aroma. An early bearer, it produces fruits two to three years from planting. It is suitable in tropical uplands and sub-tropic areas at up to 24 degrees latitude and 13°C to 24°C average temperature. Optimal rainfall is also needed ranging from 1,000 to 2,000 mm but there should be two to three drier months for harvesting, rest, and flower initiation. The ideal soil for this variety is a well-drained, fertile, humic loam of lateritic or volcanic origin and pH ranging from 5.5 to 6.5, with a required elevation of 900 m.
2. **Robusta** – a high-yielding variety with a high level of tolerance to pests and diseases. It grows in lowland areas and requires 1,500 to 2,500 mm of rainfall as well as dry period for flower initiation. It can be cultivated to a wide range of soils with pH condition of 5.5 to 6.5. Gestation period is two to three years.
3. **Liberica** – locally known as *Kapeng Barako*. This variety is tolerant to drought and can grow to wider soil types but bears fruits after four to five years from transplanting.
4. **Excelsa** – is drought-resistant but starts to bear fruit four to five years after transplanting.

## What is the current state of the industry and contribution to the economy?

Based on 2012 data of the Bureau of Agricultural Statistics, the country has 119,999 hectares of land devoted to coffee with an estimated 83.5 million fruit-bearing trees. The bulk of production is in Mindanao with 64% of the total land area and 69% of total number of fruit-bearing trees, respectively. SOCCKSARGEN has the largest coffee farm area with 25,223 hectares, followed by Davao Region with 25,166 hectares, ARMM with 13,746 hectares, CALABARZON with 13,563 hectares, and Northern Mindanao with 11,837 hectares (see Table 1).

**Table 1. Top 5 Provinces as per Allocation of Land for Coffee Production, 2012**

Province	Land Area devoted to Coffee Production (has)	Number of Fruit-bearing Trees
Sultan Kudarat	19,079 (76%)	14,227,315.00 (79%)
Compostela Valley	10,750 (43%)	9,088,711.00 (44%)
Bukidnon	9,029 (76%)	4,511,865.00 (76%)
Cavite	8,335 (61%)	7,683,770.00 (74%)
Maguindanao	4,281 (31%)	3,076,779.00 (35%)

Source. Bureau of Agricultural Statistic (BAS, 2012)

In terms of production (Table 2), an average of 93,173 MT of dried berries were produced from 2008-2012, of which *Robusta* contributed 71.7%, followed by Arabica with 20.7%. In 2012, total production increased by 0.47% from the 2011 figures; however, this did not compensate for the 6% decrease in production from 2010 to 2011. The top-producing regions were SOCKSARGEN accounting for 31% of total production in 2012, followed by Davao Region with 21%, ARMM with 12%, CALABARZON with 10%, and Western Visayas with 6%.

**Table 2. Five Year Coffee Production by Variety in MT**

	2008	2009	2010	2011	2012
Dried Berries	97,427.99	96,432.95	94,536.01	88,526.09	88,943
Robusta	70,117.83	69,357.11	67,933.06	62,978.41	63,824.62
Arabica	19,676.97	19,654.69	19,420.53	19,002.27	18,783.2
Excelsa	6,763.23	6,571.72	63,53.78	5,915.8	57,36.81
Liberica	666.38	652.17	633.4	629.62	598.37

Source: Department of Agriculture – BAS 2008-2012

Table 3 shows the top 5 provinces in terms of dried berries production. SOCKSARGEN is still on top with Sultan Kudarat as top producer of dried berries in the region and in the entire country.

The Cordillera Administration Region (CAR) contributed 6.37% to the national output, with Kalinga contributing 68% to the regional output. The province's major produce was Robusta with 3,784 MT, while Arabica output only reached 58MT.

A bigger land area for coffee does not mean more berries. Although Northern Mindanao has a land area for coffee which is 19% bigger than Western Visayas, the latter produced 9% more dried berries. Similarly, although Maguindanao has a larger hectareage for coffee than Sulu, the latter produced more dried berries by 48 percent.

**Table 3. Top 5 Provinces for Dried Berries Produce for 2012 (in MT)**

Region	Production	Province	Production
SOCKSARGEN	27,868.53	Sultan Kudarat	22,709.43 (81%)
Davao Region	18,949.88	Compostela Valley	8,596.79 (45%)
CALABARZON	8,568.05	Cavite	7,085.95 (83%)
ARMM	10,628.57	Sulu	4,985.25 (47%)
Western Visayas	56,94.68	Iloilo	3,198.47 (56%)

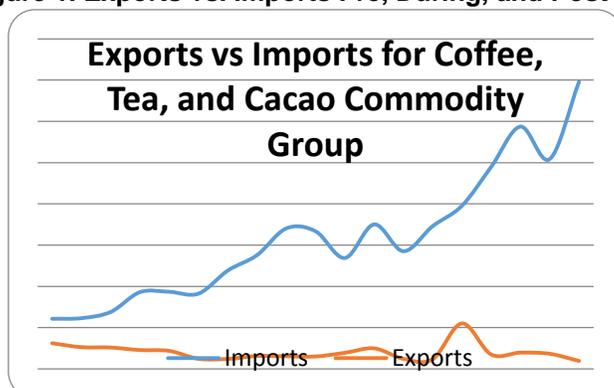
Source. Bureau of Agricultural Statistics (BAS) 2012

Despite its potential, coffee does not contribute much to the gross value of agriculture in the country. From 2011 to 2013, the gross value of coffee output was valued at PHP 5.8 million annually, on average. Based on data from the National Statistical Coordination Board (NSCB), a decreasing rate on gross value of coffee was recorded from 2011-2013. Moreover, from the

1.2% contribution of the agriculture and forestry sector to the country's Gross Domestic Product (GDP) in 2013, coffee contributed a mere 0.5% to total gross value.<sup>1</sup>

Because the national output is insufficient relative to demand, the gap is filled in by imports. In 2011, the Philippines imported 24,200 MT of raw and single-serve sachets from Vietnam and Indonesia valued at US \$ 55.9 million. Essentially, the Philippines is a net importer of coffee, with a 45% dependency ratio in 2011. DTI figures in 2013 also show that coffee beans exports, particularly Arabica, was only valued at US\$128,650 while coffee beans imports (a combination of Arabica, Excelsa, and Robusta) was valued at US\$49M at Freight on Board (FOB) Prices.<sup>2</sup>

**Figure 1. Exports vs. Imports Pre, During, and Post-AFMA**



Source. Bureau of Agricultural Statistics, Coffee, Tea, and Cacao Commodity Group Export and Import Data

### Who are the leading coffee manufacturers in the Philippines?

Three companies are well known for coffee processing: (a) Nestle Philippines, Inc, which accounts for 80% of the instant coffee market; (b) Universal Robina Corporation; and, (c) Commonwealth Foods Corp. Other industry players rely on the Cordilleras for their supply of Arabica. Based on data from the Benguet State University and the DA-CAR-AMAD<sup>3</sup>, at least six industry players get their Arabica from the CAR with an aggregate demand of 2,343 MT per year, representing 12% of total national Arabica output in 2012.

Other Industry Players	Arabica Demand (MT/yr)
Cafex International	144
Figaro Inc.	50
Rocky Mountain Co	60
Gourmet	84
Cordillera Coffee	5
Negros Coffee and Grains	2000
<b>Total</b>	<b>2,343</b>

<sup>1</sup>GDP is the value of all the finished goods and services produced within a country's borders in a specific time period.

<sup>2</sup>FOB means price that includes goods plus the services of loading those goods onto some vehicle or vessel at a named location.

<sup>3</sup>Department of Agriculture- Cordillera Administrative Region- Agribusiness and Marketing Assistance Division

## How do you produce coffee?

Coffee is grown for about two to five years before it generates income. Seeds are planted in a nursery for six months to one year prior to transplanting in an open field. It will begin to flower and produce berries on the second up to the fifth year, depending on the variety. The production process is labor-intensive and requires a keen eye for details.

The production process consists of seven key steps prior to brewing: planting, harvesting, processing and drying, milling, tasting, roasting, grinding.

- 1. Planting.** Seeds are first grown in a nursery for about six months to one year prior to replanting to an open field. This stage requires frequent watering and shading from sunlight until the plant reaches maturity.

To produce *Arabica* coffee, one has to follow the following cultural management practices:

- a) Proper seed selection
  - b) Nursery establishment with 10M length and 30cm depth for each plot
  - c) Care and management of germinated seeds. Seeds will germinate within a month after sowing in favorable conditions (21-27°C and 75%-85% RH). Otherwise, germination will take three months. This will also require removal of mulch, fertilization, and crop protection practices.
  - d) Pricking and potting of seedlings. The recommended plastic bag size for potting is 8cm x 25cm or 3" x 10".
  - e) Care of potted seedlings. Placing the potted seedlings under a partial shade or shade-trees will help them grow better.
  - f) Field planting. Cleaning the area and lay-outing are done prior to replanting, taking note that the sloping area requires the use of A' frame for lay-outing.
    - The planting distance for Arabica is 3m x 3m or 4m x 4m.
    - Dig a 50cm wide x 50cm deep size hole for planting.
    - Before planting, put compost or well decomposed animal manure at 2-5 kg per hole as basal fertilizer.
  - g) Care and management after field planting
  - h) Weed management
  - i) Fertilization. This should be done during the rainy season for non-bearing and bearing trees.
  - j) Pest and disease management. This is directly linked to correct planting distance, weeding, fertilization, and pruning. It requires the following key steps:
    - a. Rejuvenate old trees
    - b. Apply insecticides using proper dosage. Systemic insecticide is for coffee stem and coffee berry borer; contact insecticide is for mealy bug and scale insects.
    - c. Follow proper aeration during storage of coffee beans to prevent coffee bean weevil.
    - d. Apply fungicides at recommended rates. For instance, for coffee leaf rust-copper-based fungicides like *Cupravitis* is recommended.
- 2. Harvesting.** Coffee trees do not bear fruits exactly at the same time; some may be late, while some may bear fruits earlier. Hence, most coffee farmers practice hand picking to ensure that fruits are selected accordingly, although this practice is labor-intensive. There are two types of harvesting techniques: strip-picked and selective-picked. Strip-picking is

either done by hand or by machine, and all berries are harvested at one time. Selective picking is only done by hand and only ripe berries are harvested.

3. **Processing and Drying.** There are two types of drying method: (a) wet or washed-process and (b) dry method. The latter is an old method and done in areas with limited water resources while the former requires a substantial amount of water.
  - *Dry Method.* This would take several weeks in order to reach the 11% moisture content. The freshly picked cherries are spread out in a patio to let them dry through the sunlight. It also requires regular raking and turning so as not to spoil the cherries. Cherries which underwent this process can produce a heavily-bodied cup of coffee.
  - *Wet Method.* The pulps are removed from the cherries through a depulper and washed away with water, usually to be dried and used as mulch. The beans are then separated by weight and as they are conveyed through water channels, bad beans will float while good beans will sink. The good beans will then be transported to a water-filled tank for fermentation. After fermentation which would take about two days, the beans will be rinsed with clean water in preparation for drying until 11-12% moisture content is reached.
4. **Milling.** There are three sub-steps to this process which are hulling, polishing, and sorting.
  - *Hulling.* Through a machine, the parchment layer or endocarp is removed from wet-processed cherries, while the entire dried husk is removed from the dry-processed cherries.
  - *Polishing.* While an optional step, polished beans are considered premium than unpolished beans.
  - *Sorting.* This is being done especially if coffee is intended for export. Coffee beans are sorted according to weight and size (ranging from a scale of 10-20), even color and other physical characteristics.
5. **Tasting.** Also known as “cupping”, this process determines the quality of coffee being produced. This includes taste, flavor, aroma and fragrance.
6. **Roasting.** This process turns the green coffee bean into the brown coffee bean which is available in the market. The green beans are placed in roasting machines with a temperature of about 550°F and should remain moving until an internal temperature of about 400° is reached. The beans become brown once roasted, releasing the oil locked inside them.
7. **Grinding.** This is the final step prior to brewing which aims to get the most flavors out of the coffee bean. Usually, a finer ground coffee is easier to prepare. An espresso machine requires much finer grinding than a drip system.

### **Is there income from coffee?**

Based on data from the Bureau of Agricultural Statistics (BAS), one-hectare of coffee land can yield an average of 767 kilograms of dried-coffee beans. At current prices, this translates to PHP 61 per kilogram at the farm gate, roughly a potential gross income of PHP 46,787 per hectare. Based on 2008-2012 estimates, a farmer would need an average of PHP 27,700 for

production cost per hectare. These include cash, non-cash and imputed costs. Based on cost-return studies of the BAS from 2008 to 2012, a one hectare farm can generate a net return ranging from PHP 17,000 to PHP 22,000.

**Table 4. Cost-Return of Coffee Production per Hectare**

<b>Items</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011R</b>	<b>2012P</b>
<b>CASH COSTS</b>	19,910.00	18,142.00	18,106.00	19,654.00	20,997.00
✓ Fertilizer	7,409.00	5,396.00	4,594.00	5,459.00	5,989.00
✓ Pesticides	160.00	152.00	154.00	151.00	152.00
✓ Hired Labor	9,789.00	9,953.00	10,598.00	11,138.00	11,825.00
✓ Land Tax	614.00	620.00	626.00	632.00	638.00
✓ Rentals	41.00	38.00	39.00	43.00	44.00
✓ Fuel and Oil	212.00	196.00	222.00	250.00	266.00
✓ Transport of Inputs	155.00	148.00	156.00	170.00	174.00
✓ Interest on Crop Loan	464.00	510.00	561.00	617.00	679.00
✓ Food Expenses	560.00	593.00	611.00	636.00	650.00
✓ Repairs	506.00	536.00	545.00	558.00	580.00
<b>NON-CASH COSTS</b>	1,005.00	896.00	917.00	1,004.00	1,031.00
✓ Hired Labor Paid in Kind	163.00	179.00	191.00	200.00	213.00
✓ Landlord's Share	20.00	17.00	17.00	20.00	20.00
✓ Harvester's Share	618.00	526.00	532.00	581.00	592.00
✓ Lease Rental	204.00	174.00	177.00	203.00	206.00
<b>IMPUTED COSTS</b>	7,435.00	7,072.00	7,209.00	7,572.00	7,784.00
✓ Operator and Family Labor	3,871.00	3,935.00	4,190.00	4,404.00	4,676.00
✓ Exchange Labor	90.00	91.00	97.00	102.00	109.00
✓ Depreciation	327.00	327.00	327.00	327.00	327.00
✓ Interest on Operating Capital	1,521.00	1,328.00	1,177.00	1,110.00	1,015.00
✓ Rental Value of Owned Land	1,626.00	1,391.00	1,418.00	1,629.00	1,657.00
<b>ALL COSTS</b>	28,350.00	26,110.00	26,232.00	28,230.00	29,812.00
<b>GROSS RETURNS</b>	50,860.00	43,277.00	43,739.00	47,745.00	48,624.00
<b>RETURNS ABOVE CASH</b>	30,950.00	25,135.00	25,633.00	28,091.00	27,627.00

Items	2008	2009	2010	2011R	2012P
COST					
RETURNS ABOVE CASH AND NON-CASH COSTS	29,945.00	24,239.00	24,716.00	27,087.00	26,596.00
NET RETURNS	22,510.00	17,167.00	17,507.00	19,515.00	18,812.00
NET PROFIT-COST RATIO	0.79	0.66	0.67	0.69	0.63
Cost Per Kilogram in Pesos	35.89	33.22	33.67	38.15	40.23
Yield Per Hectare in Kilograms	790.00	786.00	779.00	740.00	741.00
Farm gate Price in Pesos Per Kilogram	64.38	55.06	56.15	64.52	65.62

Source. Bureau of Agricultural Statistics (BAS)

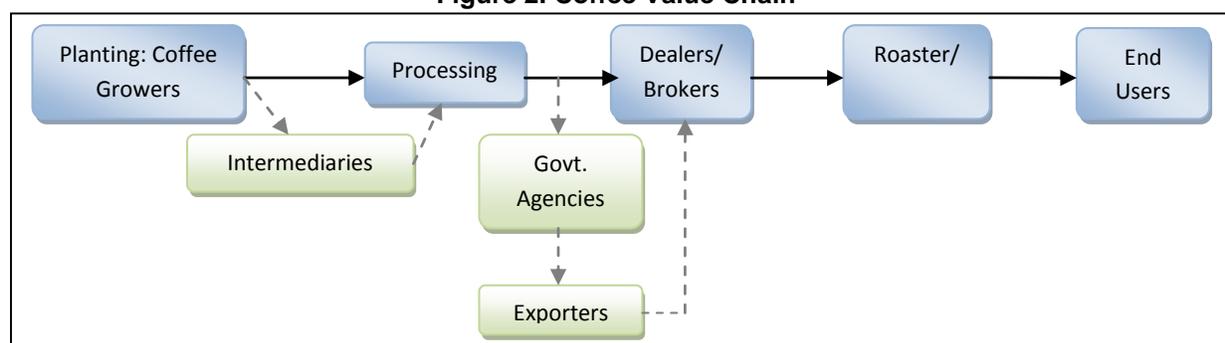
## How do you engage the market and add value to raw produce?

Meaningful and beneficial engagements in the coffee markets necessitate understanding the playing field; specifically, the competing goals, interests, strategies and resources of the various actors in the value chain. One has to understand and appreciate how the value chain system works.

Figure 2 below illustrates a general value chain with key actors engaged in the coffee industry. Each actor has his/her respective roles and in some cases, one actor may take several roles within a value chain.

- Coffee Growers. Either working on a small-scale or large-scale coffee production. They can also conduct primary processing like drying or de-pulping.
- Processing. Can be done by farmers or non-farmers engaged in transforming the dried cherries into green beans.
- Intermediaries. They may be involved in the primary stage of coffee processing between dried cherries to green beans.
- Government Agencies. They may be involved in trading by buying bulk of the green beans at a fixed price and selling it to exporters.
- Dealers/Brokers. They are either small or big-scale traders who buy green beans at an agreed price and then sell it to the roasters.
- Exporters. Can buy directly from the processors or through a government-led auction and then sell it to the dealers.
- Roasters and Grinders. Like Nestle, they transform green beans to roasted beans, ground coffee, and instant coffee ready for distribution in the market.
- End-user. Either an individual who buys directly from roasters/grinders or a market place such as shopping malls or groceries that offer ground coffee and instant coffee.

Figure 2. Coffee Value Chain



The actors in the supply base are mainly small farmers whose participation in the value chain is limited to engagements with intermediaries, mainly traders. The incomes are limited to the farm gate price of un-husked berries or dried beans. In most cases, traders gain the most from added value due to their capacity for drying and storage. Without storage capacity, coffee growers often succumb to sudden shifts in farm gate prices, not to mention foregone income from the high cost of credit provided by the traders themselves.

### **Types of coffee products and actor preferences**

Understanding the various types of coffee products and buyer preferences is another requisite for effective participation in the value chain system.

- *Green Beans* are preferred by industrial users for further processing into roasted and ground beans as well as instant coffee.
- *Roasted Beans* are mainly intended for grinding and have a high demand from industrial buyers.
- *Ground Coffee*. is processed after roasting the beans. Local coffee shops and private companies prefer ground coffee for brewing due to its better taste and aroma. In coffee-growing provinces like Cavite, Batangas and Benguet, it is sold in public markets.
- *Instant Coffee*. An industrial product, this is widely marketed in different forms like 3-in-1 mixtures (coffee, creamer, and sugar), or 5-in-1 mixtures with added ingredients for health benefits such as ginseng and ganoderma (mushroom) extracts. By far, this is the most popular product in the Philippines with market penetration up to the rural areas.

There's also specialty coffee made from high quality green beans which are roasted and brewed according to well-established standards. This can be a mixture of Arabica blends, organic coffee, Civet coffee (Alamid coffee).It caters to the middle and upper income coffee lovers and is highly preferred by specialty coffee shops such as Starbucks and Figaro.

### **Philippine National Coffee Standards**

Still another requisite for effective participation in the coffee value chain system are the Philippine National Coffee Standards. The following are the general requirements based on the Philippine National Standards specific for green coffee beans.

1. The moisture content of green beans shall be within the range of 9% to 12%.
2. Green coffee beans shall be free from musty, moldy, other foreign odour and taste.
3. Green coffee beans shall be fairly uniform in size. Not more than 10% shall pass through sieve no. 13 round with an opening having a nominal diameter of 5 mm as described in PNS/ISO 4150.
4. Green coffee beans shall be of homogenous species.
5. Green coffee beans shall be free from insects and other foreign matters.
6. The grading system is based on the percentage of defects<sup>4</sup> contained in a 300-gram sample.

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<sup>4</sup> Defects may be any of the following: pea bean, discoloured bean other than bluish-green bean, shriveled/ sunken bean, triangular bean, pest/ disease infected bean, dried hull/ pulped, stones and other foreign objects mixed in the sample.

**Table 5. . Grading system, as per maximum % defects for 300g sample**

<b>Grade</b>	<b>Arabica</b>	<b>Robusta</b>	<b>Excelsa</b>	<b>Liberica</b>
1	7	8	10	10
2	15	15	15	15
3	20	17	25	25

*Source. PNS-BAFPS 01-2012*

The observance of standards gives coffee growers and exporters better leverage in demanding a good price. Most often, the problem occurs at the farm gate and local trading houses where traders capriciously determine the Grade of coffee beans.

### **What is the policy environment on coffee?**

In 1960, the Philippine coffee policy was highly protectionist with Republic Act No. 2712 (An Act to Inhibit the Importation of Coffee in 1960) which prohibited coffee importation and worked to protect the domestic industry. Coupled with the Philippine membership in the International Coffee Organization (ICO), the domestic production and export grew considerably. However, the supply glut in the global market of coffee led to the collapse of the International Coffee Agreement (ICA) in 1989.

In line with the Philippine government's accession to the GATT-WTO<sup>5</sup>, the country entered into a new global trade regime that lifts quantitative restrictions (QRs) on coffee. The removal of QRs and its conversion to tariffs have provided imports with two opportunities: a) tariff has declined from 50% to 45% in 2000 on imports within the minimum quota and b) for imports outside minimum quota, it has declined from 100% to 60% tariff rate. Foreign investments were liberalized as early as 1996 with the enactment of RA 8179 or the Act to Further Liberalize Foreign Investments. To modernize domestic agriculture and fisheries, Congress passed the Agriculture and Fisheries Modernization Act (AFMA) in 1997. This law aims to enhance the global competitiveness of the country's agricultural exports, provide enabling mechanisms to encourage farmers to shift to more profitable crops, and protect small farmers from unfair competition such as monopolistic and oligopolistic practices. The AFMA also outlines the development of the Agriculture and Fisheries Modernization Plan headed by the Department of Agriculture. This plan focuses on five key concerns: food security, poverty alleviation and social equity, income enhancement and profitability especially for farmers and fisherfolk, global competitiveness, and sustainability.

Until now, the major impact of the new trade regime is the continuous entry of coffee products from other countries like Vietnam and Indonesia, which are cheaper than our locally-produced coffee. This trend is supported by data plus the fact that the Philippines is still a net importer of coffee despite its potential.

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<sup>5</sup>General Agreement on Tariffs and Trade-World Trade Organization

## **What are the relevant structures that promote the coffee industry?**

At least two national organizations are relevant to the growth of the coffee industry: the Philippine Coffee Board Inc. (PCBI) and the Philippine Coffee Alliance (PCA).

The PCBI is a private-led organization established in May 2002. The institution aims to provide technical assistance and credit options for coffee farmers, as well as carry out the marketing of coffee domestically and abroad. It also conducts researches in partnership with the Cavite State University, Department of Trade and Industry, Department of Agriculture, and regional offices of government agencies. The organization currently implements a flagship program called Kape Isla, a Philippine coffee quality seal to accredited roasters, merchants and retailers. PCBI has been successful in providing opportunities to promote coffee through activities such as coffee farming courses, coffee shop seminars, trade shows, farm tours, and its annual Coffee Origins festival.

The PCA, on the other hand, is a private organization that serves as a network of different coffee farmer clusters with associate members such as cooperatives, NGOs, and the academe, and are all engaged on improving the country's coffee industry. PCA aims to strengthen the Philippine coffee industry and promote its sustainable expansion in a market-based environment. It also aims to improve the situation of the industry through partnership with different organizations. PCA provides support to projects such as the Kape't Buhay project initiated by Bote Central, whose task is to ensure the supply of coffee through its farmer-clusters. Also, it has partnered with the Department of Agriculture in terms of providing insights on how to sustain the increasing demand for coffee. In fact, DA Secretary Proceso Alcala presented the coffee roadmap during PCA's first general assembly in July 2013.

## **What other initiatives provide a push to coffee industry growth?**

The Kape't Buhay project initiated by Bote Central is anchored on a sustainable and inclusive development entrepreneurship framework, wherein all farmers are encouraged, mentored, and coached to become entrepreneurs serving their own coffee produce in their localities. It is a partnership project with government agencies, non-government, and private organizations, where each has a specific role to play. The project aims to:

- Increase the supply of improved quality green beans to reduce imports;
- Generate increased income opportunities for farmers by providing the necessary post-harvest support and processing technologies;
- Generate income opportunities for rural/urban poor women; and
- Educate consumers on the benefits of their continuous patronage of locally produced coffee products to local coffee growing communities.

Rocky Mountain Coffee Company (RMCC), a corporation engaged in coffee production and the commercialization of Arabica Coffee, uses environment-friendly technologies. It operates in the Northern Luzon and Mindanao areas, specifically in Benguet and Baguio, and Bukidnon, and Sarangani. In 2011, in partnership with the National Confederation of Cooperatives (NATCCO) and Benguet State University, RMCC set up a modern processing facility to produce export-quality Arabica coffee beans. The tripartite partnership aims to boost coffee production not just in the province but in the entire Cordillera region. It also aims to provide benefits to coffee

farmers and to improve the situation of coffee farming communities. The processing facility is located in Benguet State University Bektey pilot farm.

There are also other coffee-based enterprises that promote fair trade practices.

- Greentropics Coffee is a wholesale supplier and producer of quality coffee. Their coffee is grown in over 400 hectares of land in Mt. Matutum, Polomolok, South Cotabato where Arabica and Robusta are two major varieties planted with a specialty coffee named KafeBalos Mindanao Civet Coffee. The enterprise provides support to the sustainable livelihood of coffee farmers and workers through fair trade.
- Cordillera Coffee is a coffee shop driven by a mission to make a difference in the coffee industry. It is founded on the goal of promoting local coffee and the country's rich culture. It promotes Coffee for a Cause, and because one of the owners is a native of Kalinga, Cordillera Coffee has been extending support to coffee-farming communities. COFFEE AID, its outreach arm, directly provides fair trade prices to 100 farmers for their quality coffee. The province of Benguet alone supplies Cordillera Coffee with five to 12 tons of coffee annually.

Still others, like the Tri-People Concern for Peace, Progress, and Development for Mindanao (TRICOM), use coffee as a platform to promote and protect the rights of Indigenous Peoples (IP), Bangsamoro, and settlers towards the attainment of peace and development in Mindanao. One of their programs is providing support to Manobo-Dulangan Coffee farmers in Kulaman, Sultan Kudarat. They help the Kulaman Manobo-Dulangan Organization improve production through the use of appropriate technologies for sustainable production. They also help establish joint ventures with social enterprises that adhere to the triple bottom line principles of profitability, sustainability and environmental protection.

With the support of ICCO and in collaboration with Kaisampalad Inc. and Alternate Forum for Research in Mindanao (AFRIM), TRICOM provided the opportunity to pump prime coffee production through production loans given to 100 IP coffee farmers. The initiative has been supported by the DA. TRICOM was able to acquire a complete set of processing facilities (roasting machine, de-hulling machine, grinding machine, and packaging machine), and materials including funding allocation for the establishment of a storage and drying facility for coffee processing worth PhP1.2 million.

## **What are the challenges and opportunities?**

The current configuration of the industry presents a mix of challenges and opportunities. The apparent constraints such as low domestic supply versus demand are in themselves opportunities that need to be seized. The following are the priority challenges and opportunities that need to be addressed for the short to medium term:

### **1. Enabling Policy Environment**

The AFMA is one of the major policies that are supposed to improve agricultural performance, specifically on exports. However, the country remains a net importer of coffee. From 1994 to

2012, the annual average import is almost eight times the volume of export.<sup>6</sup> Below is a SWOT analysis on coffee as presented by the Department of Agriculture, which has a direct link to policies that would promote the industry.

**Table 6. SWOT Analysis as presented by the DA**

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• The country produces all four varieties of coffee.</li> <li>• The country, being a member of the International Coffee Organization, has access to global market and information on technologies and agricultural practices.</li> <li>• There are existing coffee plantations especially in larger provinces as well as milling operations.</li> <li>• Many organizations such as PCB and PCA are pushing for the promotion and development of the coffee industry to make it more competitive worldwide.</li> </ul>
<b>Weakness</b>	<ul style="list-style-type: none"> <li>• Insufficient supply despite its potential in the country; hence, high dependency on coffee importation</li> <li>• Lack of accredited/certified mother clonal gardens and nurseries</li> <li>• Limited information, education, and campaign program for nursery establishment and proper handling of seedlings</li> <li>• Lack of market access</li> <li>• Unorganized production</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Availability of improved production and processing technologies</li> <li>• Coffee diversification to provide additional income to farmers</li> <li>• Coffee rejuvenation to improve production</li> <li>• Growing market for specialty coffee and increasing demand for coffee</li> <li>• Positive impacts to the environment through sustainable farming practices</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>• Impacts of climate change</li> <li>• Land conversion</li> <li>• Cheaper price and better quality of imported coffee</li> <li>• Lack of access to quality and affordable planting materials of small farmers</li> </ul>

Source. *Crop Commodity Profile – Coffee, Department of Agriculture*

Nonetheless, the government has been making some headway in strengthening the industry’s potential. In 2012, the Department of Agriculture announced an allocation of PHP 192M for Coffee and Cacao Agribusiness Zone Development as support to the so called “mocha trend”. This budget allocation included the improvement of coffee production to make it competitive internationally and locally. The DA partnered with Nestle Philippines in putting up a mother plant in Cagayan Valley for the production of 200,000 Robusta coffee seedlings per year through the Cagayan Valley Upland Research Outreach Station in Aglipay, Quirino. Furthermore, coffee is listed as a priority commodity for the 2011-2016 Research, Development and Extension (RDE) program of the department under the Bureau of Agricultural Research. The program aims to improve the facilities of the National Coffee RDE, housed at the Cavite State University.

The DA presented the Master Plan for the Philippine Coffee Industry during the industry conference in 2013. The roadmap under the High Value Crops Development Program aims to increase competitiveness of the industry using environment-friendly technologies. It also outlines the difference between typical and modern coffee growing, gaps in the value chain that need to be addressed, good farming and management practices, and support services which include financing, logistics, and research and development. In the CAR, the DA aims to increase

<sup>6</sup>Data for 2012 is still preliminary based on DA-BAS

coffee production and to improve the quality of planting materials and coffee products given that the Cordillera region envisions itself to be the preferred source of coffee.

The 2014 budget allocation shows that the DA has devoted PHP 68B for the Agriculture and Fisheries Modernization Program, of which priority will be given to small farmers for the implementation of high value commercial crops which includes coffee.

In terms of Research and Development (R&D), PCCARD has ,“Special Coffee To Go”, a project which aims to rehabilitate the existing Arabica, Liberica, and Excelsa coffee farms (11,000 has) and to rejuvenate 3,000 hectares with senile trees in the Cordillera Administrative Region, Regions 4, 6, 10, 11, and 12. This has a budget support of PhP150M to be implemented from 2013 to 2015. The project will provide capacity building to improve coffee production technologies. It will also include an aggressive marketing strategy to promote the coffee industry along with market researches to explore marketing options. This aims to increase the yield level to 800-1000kg of coffee within the target areas, which would translate to about PHP1.36B gross value of coffee beans annually.

Lastly, other than the DA’s industry roadmap and R&D program, the Department of Trade and Industry (DTI) also promotes coffee production through the agency’s trade fairs, like the recently held SikatPinoy National Food Fair, where coffee was highlighted as one of the main commodities of the country. The agency also offers specific strategies to market coffee which has a competitive advantage relative to other food products.

## **2. Narrowing the Gap between Demand and Supply**

That demand is higher than supply is a big market opportunity. However, the challenge is how to narrow the gap and reduce imports. Based on data, the country is 55% self-sufficient and 45% import-dependent, which is still far from the government’s goal of reducing imports. Using the 2011 coffee production data as reference, it can be inferred that the net disposal ready for local consumption is only 48,689 MT, while imports from Vietnam and Indonesia cover the 45% deficiency. The local demand for coffee could increase to 100,000MT in the coming years but with local capacity at 25,000MT annually, the country would never get out of coffee importation.

Since 97% of coffee growing is done by small farmers, the Philippine Coffee Alliance (PCA) proposes that farmers should evolve from being commodity suppliers to becoming coffee entrepreneurs. The transformation will enhance their role in the value chain. Also, PCA took note that the country should develop an average of 13,000 hectares of land per year in the next five years and 20,000 hectares per year in the next 20 years to match the demand being supplied by imported coffee.<sup>7</sup>In the Cordillera region, DENR has already allocated 9,000 hectares of land for coffee production.

In terms of support from the private sector, Nestle Philippines has nine (9) buying stations located in Silang, Cavite, Lipa City, Batangas, Tuguegarao City, Cagayan Valley, Dumaguete City, Negros Oriental, Tagbina, Surigaodel Sur, Cagayan de Oro City, Tagum City, Davao del Norte, General Santos, South Cotabato, and Iloilo City. The setting up of buying stations aims to provide an opportunity to local farmers to sell their own green beans. According to Mr. John Miller, Chairman and CEO of Nestle Philippines, *“coffee farmers are the central platform for*

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<sup>7</sup>Quoted from an article published by Philippine Daily Inquirer, November 25, 2013: Farmers Urged to be part of the Value Chain

*shared value; hence, 70% of the coffee requirements of Nestle will be sourced in the Philippines by 2020.*<sup>8</sup>

Still another opportunity is to promote coffee rejuvenation rather than replanting due to a lesser gestation period. Rejuvenation is already an accepted practice worldwide, where the cutting of vertical stems of old trees is done to provide space for new sprouts. The method is done at the start of the rainy season specifically in areas with distinct wet and dry periods to have sufficient water. This provides favorable growing conditions to support the new shoots, while it may be done after harvesting particularly in irrigated areas. Thus, if done properly, the new sprouts will bear fruits within one year.

### **3. Enhancing Resilience to Price Fluctuations**

An oversupply of coffee in the market could lead to a sudden decline in prices, like what happened during the collapse of the International Coffee Agreement in 1989. The presence of imports in the country which are relatively cheaper than locally-produced coffee also result in the destabilization of market prices as previously discussed. Since the entry of Vietnamese coffee in 1990, the price of coffee has significantly declined from PhP450/MT to PhP180/MT. Below are some strategies to address this concern:

- a) **Diversification.** This strategy reduces risks and enhances the sustainability of farming systems. One option is to intercrop coffee with corn or coconut to provide alternative livelihood to coffee farmers in case of a major fall in coffee prices. In terms of cost and return analysis for diversification, there is a need to gather firsthand information and data from PEF partners and networks that are into this practice. The analysis would further augment the benefits of crop diversification in the coffee sector. In line with its Sustainable Agriculture Initiatives, Nestle Philippines has developed a sustainable farming system which allows farmers to plant other crops in between rows as an additional source of income. However, it still needs to publish evidence-based reports on cost and return information.
- b) **Certification.** To make a product more competitive worldwide, certification is seen as a solution to ensure quality due to compliance to certain standards on farm management and growing practices; however, one must find a balance that while certification adds value to the product, it does not necessarily mean that such a product would fetch premium prices.

In June 2012, four towns in Mindanao namely Sen. Ninoy Aquino, Kalamansig, and Lebak in Sultan Kudarat, and Tagbina, Surigao del Norte were awarded with international certification by 4C (Common Code for the Coffee Community) Association for their sustainable coffee production, and adherence to environmental, social, and economic considerations in coffee production. These areas are covered by Nestle's operations and have members of 150-coffee producing groups worldwide. The certification has a validity of three years and comes with a 4C incentive package. The farmer groups can earn additional income from being 4C coffee-compliant and have access to information and tools on good agricultural practices.

The 4C verification process starts upon the completion of three key documents (self-aggregate assessment form, mapping of business partners and an organizational chart).

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<sup>8</sup>Quoted from Mr. Miller's interview in ANC Headstart, May 26, 2014

Once submitted, a 4C unit will contact a 4C approved verifier to visit and conduct the verification in the area. The process includes interviews with farmers, collection of evidences, and a random check of all organization partners included in the business partners' mapping. If the result is positive (or when an average of yellow level is achieved), a license will be given to sell 4C-compliant coffee. Then, the organization/individual must annually update documents and complete a self-assessment form, and submit these to the 4C secretariat. In terms of cost, there is no set price since this varies due to several factors such as area to be certified, travel, and transportation costs. However, based on 4C's experience, verification may cost around USD3,800 or PhP163,400 (at PhP43.00/dollar exchange rate.). However, there's a need to get firsthand information and data from an organization or individual who has undergone the certification process to share lessons learned from being 4C certified.

- c) **Fair Trade Coffee.** Launched in 1988 in the Netherlands, fair trade is the partnership of small farmer communities with alternative trade organizations, producers, and associations. Fair trade coffee meets certain standards such as the application of sustainable practices. In return, the coffee farmers are paid fair prices according to the quality of their coffee. Compared to organic and shade-grown coffee, certification for fair trade coffee is not costly to small farmers.
- d) **Value Adding Coffee Products.** The growing demand for specialty coffee is seen as a good opportunity to address the fluctuation in coffee prices.<sup>9</sup> Given that most specialty coffee comes from other countries, coffee farmers should evolve from selling dried berries to offering their own roasted beans. This could result in a better negotiated price.

According to the PCA, a coffee farmer can increase his income by 150% from selling green beans to adding the roasting process in their produce. During a coffee conference in Baguio, the PCA presented a summary of financials, comparing the income from solely selling green beans vis-à-vis income if a farmer takes on and adds the roasting process.

**Table 7. Financial Comparison of Green Beans Production vs Value Addition of Roasting Process**

<b>Green Beans Production/ Farmer-Level</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Value Addition of Roasting Process</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>
Income from Green Beans: 200/kilo at 300 grams x 1000 trees				60,000.00	Income from Roasted Coffee: 600/kilo at 300 grams x 1000 trees x 0.8 factor				144,00.00
Expenses Initial Inputs: 10/seedlings @ 1000 trees/ha	10,000.00				Expenses Green Beans: 300 Kilos total yield				60,000.00
De-Hulling Services 10/kilo				3,000.00	Roasting Services 35/kilo @ 300 kilos				10,500.00
					Other				3000

<sup>9</sup>Specialty coffee is a coffee bean that comes from specific geographic locations and with special environment characteristics to produce such an identity.

Green Beans Production/ Farmer-Level	Y1	Y2	Y3	Y4	Value Addition of Roasting Process	Y1	Y2	Y3	Y4
					Expenses				
<b>Net Income</b>				<b>47,000.00</b>	<b>Net Income</b>				<b>70,500.00</b>

Source. WISE-Coffee Conference in Baguio, Presentation of PCA

#### 4. Enhancing Contribution to Ecological Balance and Environmental Sustainability

Coffee is typically grown at high-elevations or mountainous regions and there are different arguments regarding the impacts of coffee production to the environment. According to ICO, coffee production has both positive and negative impacts to the environment. On the positive side, coffee is an important contributor to carbon sequestration and contributes to soil stabilization and enhanced biodiversity in an area. Conversely, wet processing negatively affects the country's water resources due to substantial amounts of water needed. Some argue that since most coffee varieties are grown via the "sun coffee" method, trees are being cut so that coffee gets maximum direct sunlight. This decreases forest canopy and puts biodiversity at risk. While both arguments may be true to specific situations and conditions, there are emerging options to address these concerns, along with the threats of climate change.

- **Shaded-coffee production.** Rather than removing forest canopy, coffee is planted under the shade of trees to maintain the habitat of species including migratory birds and insects. This method protects the plants from too much rainfall and sunlight through the shade-trees, thus maintaining the quality of soil. This also reduces soil erosion and helps in pest control.
- **Organic farming.** One of the major sectors that contribute to GHG<sup>10</sup> emission is agriculture. The application of commercial fertilizer adds to the country's GHG emission. A holistic farm management system must be set in place which includes the application of compost, control of shade, and biological pest control. Most coffee buyers opt for organic coffee not just because of its health benefits but also because of its positive impacts to the environment.

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<sup>10</sup>Greenhouse Gas

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