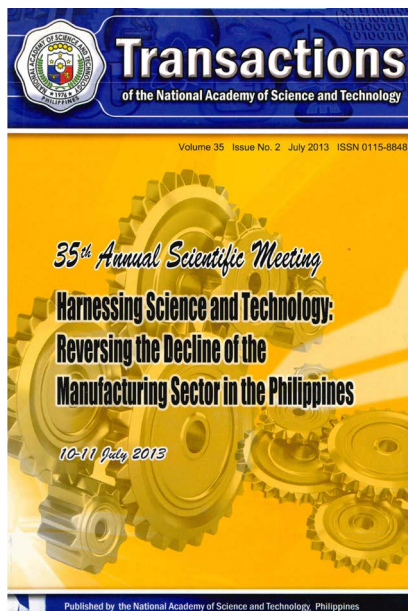


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Strategic Sourcing Options for Ensuring Raw Material Supply for the Philippine Food Manufacturing Sector

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Keywords

food manufacturing, raw material supply, strategic sourcing practices, strategic sourcing options

STRATEGIC SOURCING OPTIONS FOR ENSURING RAW MATERIAL SUPPLY FOR THE PHILIPPINE FOOD MANUFACTURING SECTOR

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Abstract

This paper presents the raw material sourcing issues of the Philippine food-manufacturing sector, the sourcing practices adopted by selected food manufacturing companies, and the strategic options available to food manufacturing firms. Raw material sourcing is one of the most important issues besetting the food-manufacturing sector. There are volume, cost, quality and sustainability concerns in this sector. These issues were brought about by the generally weak agricultural base of the country coupled with climate changes contributing to shortages of local raw materials and dependence on the foreign suppliers. Several strategic options are available to the local food-manufacturing firm with contract growership as one model proven to be a viable option to ensure raw material supply. Sourcing from foreign markets is inevitable because of the demand for processed products for which raw materials are not available locally. In addition, this is a good strategy in addressing raw material shortages. Food companies are moving towards more sustainable raw material sourcing strategies, putting more emphasis on their long-term relationship with raw material suppliers and how these suppliers will be benefitted in the long-run.

Keywords: food manufacturing, raw material supply, strategic sourcing practices, strategic sourcing options

Introduction

Food manufacturing is the biggest component of the Philippine manufacturing sector accounting for 8% of the GDP and 45% of the total manufacturing sector’s share. It is an important forward link of the agriculture sector. This sector is growing at an increasing rate of 11.2% as compared to the 9.7% growth of the total manufacturing in the first quarter of 2013 (Figure 1).

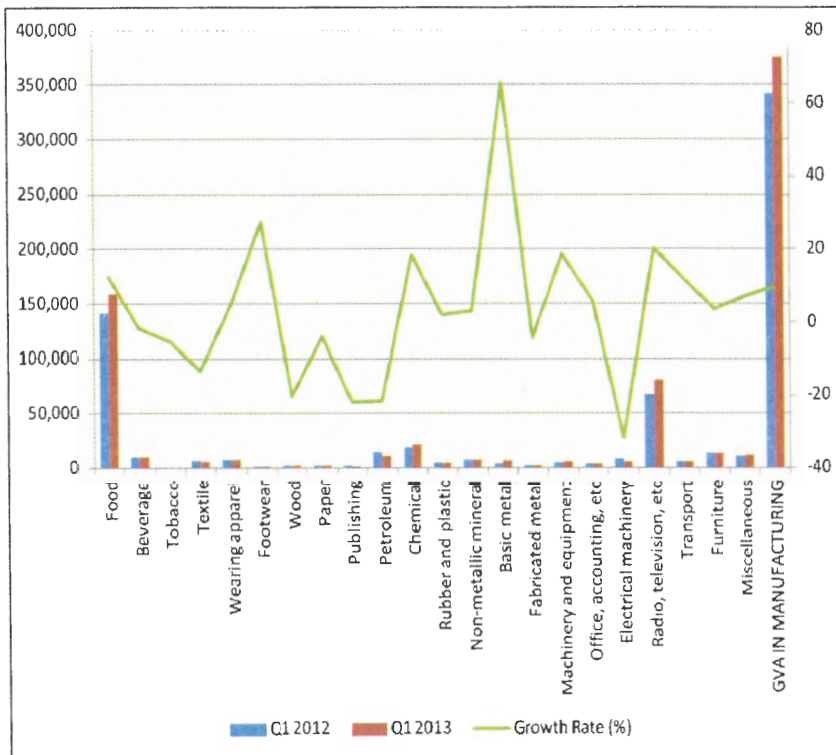


Figure 1. Growth Rate (%) and Gross Value Added in Manufacturing (in Million Pesos), 1st Quarter 2012-2013

Source of Basic Data: National Statistical Coordination Board

Although growing at an increasing rate relative to the growth of the total manufacturing sector, the Philippine food manufacturing sector is challenged with several issues relating food safety standards, quality control, costs and more importantly raw material sourcing. In the production side, the

agricultural raw material base is underdeveloped which leads food-manufacturing companies to rely on raw material importation (Palabyab 2013). It is because of this low agricultural base that raw material sourcing is considered as the Achilles heel of the Philippine manufacturing sector (Dy 2013).

This paper presents the challenges and issues related to raw material sourcing of the Philippine food-manufacturing sector, the raw material sourcing practices of some food manufacturing companies through illustrative cases and strategic raw material sourcing options and directions identified through a literature review.

Review of Literature

Raw material sourcing is an issue encountered by food manufacturing companies in different parts of the world. In an article written by Dr. Ian Lambert (2001) entitled “Problems and Constraints in the Development of the Agro-processing Sector, he cited the following problems: an inconsistent and insufficient supply of raw materials; seasonality of crops; poor quality of raw material supply; and high losses in raw materials due to transport from the farm to the factory (Lambert 2001)

Raw materials are essential or integral components of industrial production of which food manufacturing is a component. This is an important component of any growth strategy of a company (Tajani 2012). Unstable production, coupled with volatile prices of raw materials, have potential detrimental effects on the operations of food manufacturing companies, as they will not be able to produce finished products and meet customer demands.

Strategic sourcing is an organizational procurement and supply management process used to locate, develop, qualify and employ suppliers that add maximum value to the buyers’ products and services (Sollish and Semanik 2011).

Supply sourcing as a strategy is now being given a lot of attention by companies to be able to compete in the globalized world. Strategic sourcing is a key aspect in supply chain management and has several advantages. It shifts the emphasis of an enterprise from short-term cost cutting and process

efficiency to a long-term enterprise creation as a whole. In addition, by creating an optimum service framework across the company, enterprises can enjoy economies of scale. Sourcing is increasingly being viewed as a top down tool to connect strategy with implementation. In short, it should be embedded in the overall strategy of any enterprises (Howie 2007).

The range of strategic options is wide and some of the variants are the following: pursuing open competitive bid vs. selective bid invitations; joining a buying consortium; dealing directly with OEMS vs. buying through a distributor; establishing primary and secondary supply arrangements; buying an equity stake in a supplier, forming long-term sole-source partnerships, contracting for supplier capacity rather than specific products; and bankrolling the establishment of the new supply option (Anderson and Katz 1998). Two categories of sourcing have been mentioned in past researches. These are sourcing by location and sourcing by ownership. Sourcing by location includes local and global strategy and sourcing by ownership aspect includes internal (intra) and external (inter) sourcing (Kotabe and Murray 2004).

The Sustainable Agriculture Initiative (SAI), which was started in Europe in 1996, is one platform that aims for sustainable agriculture by supporting agricultural practices and agricultural production systems that preserve future availability of current resources and enhance their efficiency. This platform includes identifying and involving key stakeholders such as food manufacturers, farmer and consumers. In addition, managing knowledge on sustainable agriculture practices, communicating the need for sustainable agriculture to relevant audiences and supporting the implementation of sustainable agricultural practices are the other key components of SAI (The Philippine Star 2006). In the Philippines, big companies have started the adoption of SAIs, examples of which are Nestle and Unilever. Nestle initiated this program through its Coffee-based Sustainable Farming System which started in the Philippines in 2003. Nestle is targeting 100% local sourcing to benefit Philippine farmers (Nestle 2013).

Unilever, which is a major buyer of raw materials such as oil, vegetables, tomatoes and teas, has been working closely with farmer-partners and other stakeholders in the supply chain towards SAI and fair trade (Unilever, Cultivating Sustainable Agriculture 2001). Unilever is committed to source

all its raw materials sustainably in 2020, targeting sustainable palm oil, traceable palm oil, paper, and board (Unilever, Sustainable Living 2012).

Moreover, SAI is one important show of corporate social responsibility (CSR). Fair trade practice is one important issue in CSR. The different fair trade principles are fair price, fair labor conditions, direct trade, democratic and transparent organizations, community development and environmental sustainability (Joo et al. 2010). These fair trade principles are also consistent with SAI.

Challenges and Issues in Raw Material Sourcing

Despite the robust growth in Philippine food manufacturing sector, domestic food processors continue to face numerous challenges including high-energy cost, insufficient post-harvest and storage facilities, inadequate farm-to-market transportation infrastructure, and increased competition due to trade liberalization (USDA 2008). As the world economy continues to push for freer trade, both within and across geographical regions, tariff barriers have been less and less of a constraint in the movement of goods among countries. This global trend paved way for the growth of vertical foreign direct investments and development of multinational corporations (MNCs) taking advantage of business opportunities and specific strengths in various countries, such as low cost of local inputs. Though the entry of MNCs opened up opportunities for local suppliers of inputs and raw materials, they also faced competition with foreign suppliers given the existing low trade costs. In 2007, the Association of Southeast Asian Nation (ASEAN) heads of governments signed and adopted the ASEAN Economic Community (AEC) Blueprint, which envisions economic integration in the region by 2015, through the free flow of goods, services, investments, capital and skilled labor. This vision of a single market and production base among member nations puts even greater pressure on industries to be more productive, competitive in terms of both prices and quality, and flexible to the ever-changing needs of the growing market.

The globalization of markets has brought about more intense competition due to the opening up of markets and proliferation of food manufacturing companies who cater to the same markets. Although in the case of the Philippines, consumers tend to buy from local food manufacturers (Palabyab 2013); the Philippine food-manufacturing sector should produce more

varieties of food products to meet the increasing demand of the consumers for innovative product preparations.

There is an increasing pressure on the Philippine food-manufacturing sector to secure good quality raw material supply due to tightening competition and increasing costs of sourcing. In addition to these, the drive towards environment protection and health pushes manufacturing companies to use ecologically safe raw materials and supplies and to strengthen ties with raw material suppliers for better raw material quality control.

On the supply side, the food manufacturing companies buys agricultural raw materials, which are produced under uncontrollable production conditions. As such, they are vulnerable to issues such as irregularity of supply and inconsistent quantity and quality of raw materials. Several gaps related to raw material supply were identified, which include volume gap, quality gap, cost gap and timing/sustainability gap. Volume gap means that the food manufacturing company experiences shortages in raw material supply. The volume gap is due to weak agricultural base brought about by changing weather condition and fragmentation of farms, which limit production capacity, and decreases the capability of the farmers to produce at an economic scale. Preference to use traditional low yielding varieties and inability of the farmers to comply with the quality requirements of the food manufacturers are also contributory to volume gap. Quality gap means that the available raw materials may not meet the quality specifications of the food manufacturers. This is brought about by pest and disease infestation during the production process, which may also be affected by climate changes. There are also quality issues after harvesting due to poor packaging and handling of fresh agricultural produce. In addition, many of the Philippine farms have not yet adopted Good Agricultural Practices and are not even GAP compliant (Banzon et al. 2011). Cost gap means that the food manufacturing companies are buying raw materials at a higher price due to the increasing cost of production of farmers and transportation of raw materials. This is an international phenomenon as other countries are also experiencing the same (Mojica and Madamba 2011). All of the above affect the sustainability of agricultural production, which consequently affects downstream activities.

This global pathway has significant implications to Philippine industries, especially to food manufacturing which is also subject to strict local and

international standards/requirements and stringent regulatory procedures in the use of raw materials and their final products. The industry is comprised of a number of sectors including fruits and vegetables, meat and poultry products, flour and bakery products, dairy foods, among others, that utilize both local and imported raw materials. In 2007, the National Statistics Office estimated that around 60% of the total food and beverage imports, or USD2.82 billion, was used as raw materials or ingredients in food manufacturing industry with red meat, dairy products, wheat, and processed potato products topping the list (USDA 2008). The need or desire of local food manufacturing industries to source raw materials from the international market depends on both the strengths in key supplying foreign countries and weaknesses in the local suppliers. In general, the raw materials that the country is importing are regarded for quality, consistency, specificity in both taste and form, and price competitiveness.

Basic trade theory suggests that importation of goods, both intermediate and final, is mainly driven by their lower price relative to locally produced equivalent. This is evident in the case of the Philippine food manufacturing industry, which significantly contributes to its continued dependence on imported raw materials. The lack of competitiveness of local raw materials, depicted by the higher price, can be explained by the low agricultural productivity and high production costs, inadequate and out-dated post-harvest and storage facilities, lack of basic infrastructures, long and multi-layered logistics chain, and the failure to capture economies of scale especially by small-scale farms. However, equally important are other factors that force local food manufacturers to source out from other countries such as (1) unavailability of local raw materials (wheat and some varieties of fruits, nuts and vegetables), (2) limited local production capacity to supply the necessary volume to manufacturing firms (milk, pork, beef, and processed potatoes), and (3) inability of local suppliers to comply with particular specifications and needs of processing firms (tomato paste and sugar derivatives). In addition, MNCs typically acquire food ingredients from established local and foreign partners to maintain control over price and quality. Presented below are the major raw materials imported and used by the local food manufacturing industry.

Status of Importation of Selected Major Raw Materials

Wheat

The Philippines does not commercially produce wheat, making the country a major importer of milling quality wheat. The country is importing wheat for flour milling and animal feed use. (USDA, GAIN Report 2013). Based on the data of the Statistics Division of the Food and Agriculture Organization of the United Nations (FAOSTAT), wheat is the second top import of the Philippines in 2010. Further, the International Grains Council stated that 94% of the total grain imports of the Philippines in the same year were wheat (Lyddon 2011).

United States of America is the largest supplier of wheat to the Philippines, with an average of 85% market share over the past five years. Other wheat suppliers are Canada and Australia. Milling wheat imports usually range from 2.1 to 2.3 million tons per year, with the remaining balance as feed-grade wheat for the livestock industry. The Philippine wheat imports continue to rise, reaching 3.6 million tons in 2012. The increase is mainly due to the feed imports from Australia as the millers' mechanism to counter any drastic increase in local corn prices (USDA, GAIN Report 2013).

Majority of the wheat imports are being used as main base for flour and alternative for corn in making animal feeds. From 2005 to 2009, wheat imports as raw material accounted more or less for 85% of the total wheat imports. However, its proportion went down to 62% in 2010 (Table 1).

In the past years, the amount spent for imported wheat for food or feed processing displayed a relaxed upward trend, though there were dips in 2007 and 2010 due to decline in import volume from relative to the previous years. On the other hand, the volume of imported raw wheat seems unpredictable showing rise in the quantity of imported wheat in 2006 and 2009 whereas 2007, 2008 and 2010 exhibited drops in imports due to international price fluctuations (Figure 2).

Table 1. Wheat Imports (FOB Value in thousand USD; Quantities in tonnes), 2005-2010

Year	Value (Total Imports)	Value (Raw Material)	Unit Value (USD/Tonne)	Quantity (Total Imports)	Quantity (Raw Material)
2005	377,228	319,256	184	2,050,152	1,735,085
2006	541,373	466,655	196	2,762,107	2,380,895
2007	436,865	377,783	243	1,797,798	1,554,664
2008	724,366	621,862	425	1,704,391	1,463,204
2009	825,273	710,990	269	3,067,929	2,643,086
2010	722,559	448,557	240	3,010,664	1,868,987

Source: NSO, FAOSTAT

Note: Quantities were derived based on Unit Values

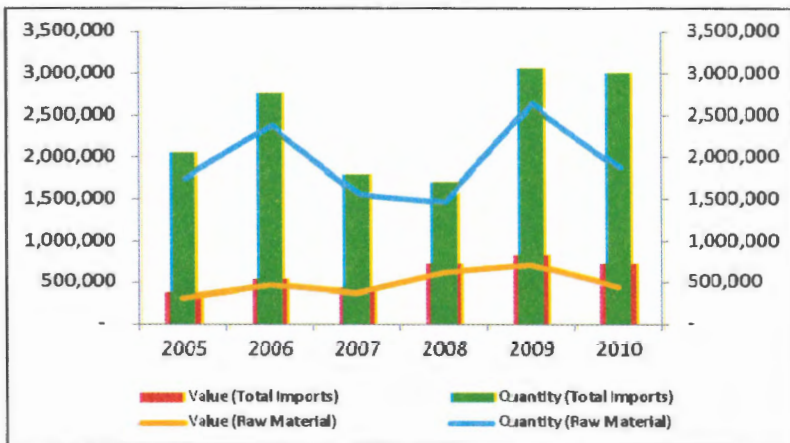


Figure 2. Value and Volume, Wheat Imports, 2005-2010.

In October 2011, Executive Order No. 61 (EO 61) was signed and this modified the rates of import duties for various agricultural products, including wheat, to most favored nation (MFN) tariff rates. Tariffs on milling wheat were removed but are still subject to a 12% Value Added Tax (VAT) on the subsequent flour sales, payable at the time the wheat is imported. Meanwhile, feed wheat imports are subject to a 7% MFN duty but are not subject to VAT (Republic of the Philippines Tariff Commission). Accordingly, both milling and feed wheat imports to the Philippines from

Australia are duty-free under the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) (ASEAN n.d.).

Animal Fats and Vegetable Oils

Fats and oils are used all over the world for both food purposes and industrial uses. These fats and oils come from various sources, which include edible vegetable oils and animal fats among others (IHS Chemical 2012). Oils and fats are common in food processing, whether it is naturally occurring or added as ingredients for functional benefits (Gun stone, 2008). It is usually used as shortening in pastries, a sticking ingredient, or flavoring. Food processing then accounts for the major share (about 80%) of worldwide consumption of fats and oils (IHS Chemical 2012) and (Gunstone 2008).

Although the Philippines is producing several types of vegetable oils and animal fats, these remain in the list of top Philippine raw material imports. Based on FAO data, total importation of animal fats and vegetable oils was 327,702 tonnes in 2005. The value of imported fats and oils used as raw materials continues to accelerate reaching USD 542 million in 2011, which is almost triple the amount spent in 2005 (Table 2 and Figure 3).

Table 2. Animal Fats and Vegetable Oils Imports (FOB Value in thousand USD; Quantities in tonnes), 2005-2012

Year	Quantity (Total Imports)	Value (Raw Material)
2005	327,702	143,803
2006	357,551	152,334
2007	272,012	168,957
2008	278,042	228,444
2009	244,268	152,251
2010	-	183,153
2011	-	542,951
2012 (Oct)	-	351,231

Source: NSO, FAOSTAT

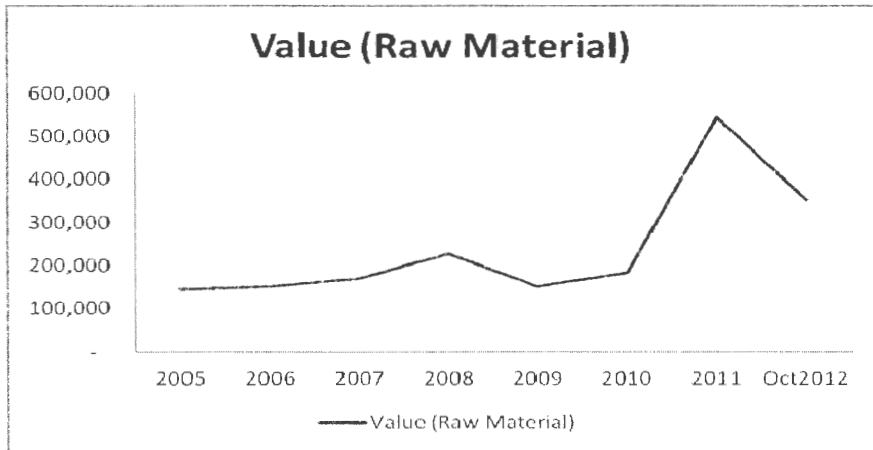


Figure 3. Value and Volume, Animal Fats and Vegetable Oil Imports, 2005-2012
 Source: NSO

The Philippines is a major producer and exporter of coconut oil yet a big importer of palm oil. Coconut oil is much expensive due to the high demand in the oleo chemical industries worldwide, resulting to higher prices of coconut oil. This gives incentives for coconut farmers and traders to export rather than sell domestically as vegetable oil such as palm oil. Besides this, many food processors have shifted from using other vegetable oils to palm oil being the cheapest and in many ways more nutritious, healthful and convenient to use than other vegetable oils. Hence, in recent years, importation of vegetable oil in the form of palm oil has significantly increased. Bulk of the imported palm oil now comes from Malaysia (The Philippine Star 2012).

Under the ASEAN Trade in Goods Agreement, the Philippines has committed to remove tariffs on palm oil imports from ASEAN member countries (ASEAN n.d.).

Red Meat (Beef and Pork)

The Philippine processed meat industry is said to be the most important demand base for imported meat (Stanton and Sia 2010). Beef and pork are usually utilized in processed meat products such as sausages and corned beef. Although the country is producing these meats, there is a large shortfall in

local supply and most are being sold as fresh meat in wet markets and supermarkets (USDA 2008; Stanton and Sia 2010). As such, the country imports red meat, mostly from India with 56% share, Brazil, Australia and USA with 30%, 4% and 2% shares respectively (Figure 4). India has been the market leader because it is the lowest cost supplier of beef acceptable to users of Philippine meat processing industry (USDA, GAIN Report 2013; Stanton and Sia 2010).

The total quantity of red meat consumed as ingredients mirrors the trend in the total importation of red meat. The decline from 125,000 tonnes in 2004 to 117,000 tonnes in 2007 has also been observed, signifying a drop by 6.4% (Table 3 and Figure 4). Nonetheless, its proportion showed a slight improvement from 74.5% share in 2004 total red meat imports to 77% in 2007. The total value of the imported meat, meanwhile, rose by 17% from roughly USD117 million in 2004 to USD137 million in 2007 due to increasing prices.

Table 3. Red meat imports (FOB value in thousand USD; Quantities in tones), 2002, 2004, 2007

Year	2002	2004	2007
Quantity	111,800	125,000	117,000
Value	94,800	116,970	137,090

Source: USDA

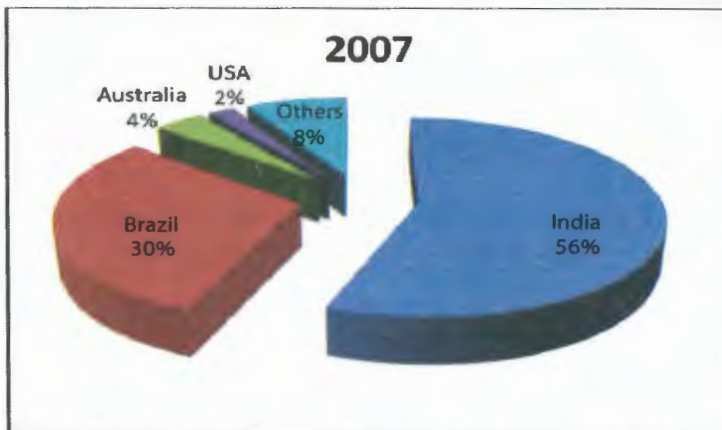


Figure 4. Country sources of red meat imports, 2007

Source: USDA

The Philippines has a complex regulatory environment for importation of meat. The Philippines only allows meat imports for Philippine registered companies accredited by the Department of Agriculture. In addition, an import license is required as part of the food health and safety procedure. Aside from these, there are tariff and other measures that control meat imports.

Under the ASEAN-India Free Trade in Goods Agreement (AITIGA), the tariff for chilled or frozen meat of bovine animals will be reduced to slowly from 10% to 5% in 2019. Accordingly, under the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) import duties for chilled or frozen bovine meat have been removed starting 2012. Swine meats will be phased down from 30% to 24% (in quota) and 40% to 32% (out quota) in 2020 except for fresh or chilled carcasses and half-carcasses, and hams, shoulders and cuts thereof, with bone in, which will all be duty free.

Milk and Crème in Solid Form

Domestic production of milk is minimal to provide for the needs of the food industry (USDA 2008). Hence, majority of milk being consumed in the country is imported. Milk and crème constitutes 88% of the dairy imports, where bulk is milk powder (NDA n.d.). New Zealand is the leading source of milk (Figure 5). Due to its stronger local currency, USA has moved ahead of Australia and is now ranked as the second biggest supplier.

In 2004, imported milk and crème used as inputs for food production was 262,000 tonnes. This quantity fell by 22% in 2007, with imports of only 204,600 tonnes while expenditures were higher in 2007 compared to 2004 where the value of milk and crème imports grew by 25% (Table 4).

Table 4. Milk and creme imports (FOB value in thousand USD; Quantities in tones), 2002, 2004, 2007

Year	2002	2004	2007
Quantity	144,900	262,000	204,600
Value	213,400	359,000	447,000

Source: USDA

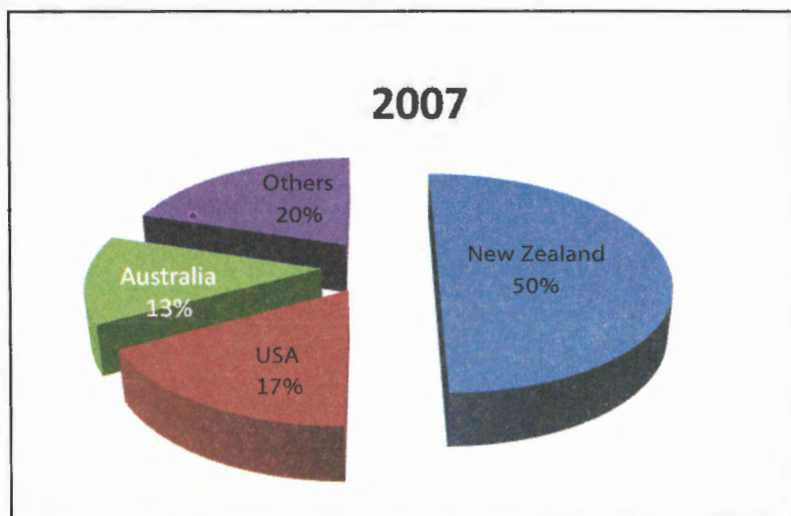


Figure 5. Country sources of milk and cream imports, 2007

Source: USDA

In the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA), import tariffs for milk and cream in solid forms will all be eliminated by 2015.

Whey

Whey is an additive in many processed foods like pastries and crackers. It is used to give some of the properties of milk and add sweetness to foods. The Philippines is much dependent on imports for its whey supply as it is not available in the domestic market. USA remains to be the preferred source of whey while Netherlands and France continue to be among the top suppliers (Table 5 and Figure 6).

Table 5. Whey imports (FOB value in thousand USD; Quantities in tones), 2002, 2004, and 2007

Year	2002	2004	2007
Quantity	36,000	50,400	43,600
Value	23,000	31,300	62,700

Source: USDA

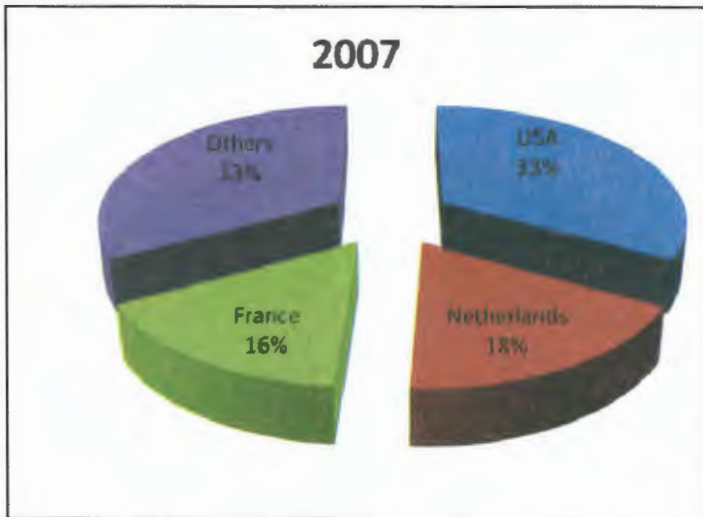


Figure 6. Country sources of whey imports, 2007
Source: USDA

Within the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA), the Philippines has committed and is already implementing duty free imports of whey.

Tomato Paste or Puree

The country trades different tomato products. Imports mainly consist of paste and prepared preserved tomatoes, while exports are dominated by ketchup and other tomato sauces. Tomato paste is essentially imported, as domestic production cannot keep up with the volume, consistency and quality required by food processors. The key country suppliers are China, USA and Turkey (Figure 7) (USDA 2008).

Imports of tomato paste generally grew by 6% per annum from 2000 to 2009 (Dy et al. 2011). The shipments stood at 19,627 tonnes worth USD 22.4 million in 2009. Meanwhile, the portion of imported tomato paste as ingredients has also increased (

Table 6). Its volume in 2007 was 7% more than 2004 quantity and the import value was up by 28%.

**Table 6. Tomato Paste Imports (FOB value in thousand USD;
Quantities in tones), 2002, 2004, 2007**

Year	2002	2004	2007
Quantity	20,000	15,700	16,800
Value	9,700	8,100	10,400

Source: USDA

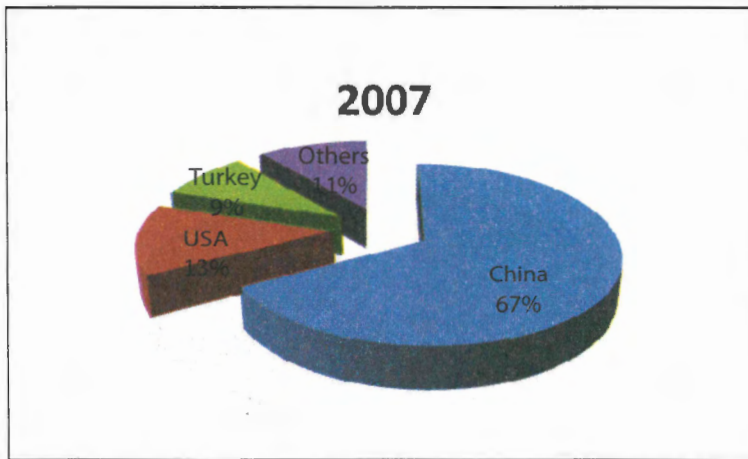


Figure 7. Country sources of tomato paste imports, 2007

Source: USDA

Under the ASEAN-China Free Trade Agreement (ACFTA), the Philippines started eliminating tariff on tomato paste in 2012.

Spices in Bulk

Spices are special ingredients to the food-manufacturing sector of the Philippines. These products tend to be niche in nature and are commonly imported directly by manufacturers or by traders (Roache 2009). Most of them are being sold in unpacked or unlabelled formats in open markets (USDA 2008). Examples of spices that are being shipped to the Philippines are pepper, thyme, bay leaves, cinnamon and basil. Main suppliers are China, using Hong Kong as transshipment point, together with USA and Turkey

(Figure 8) (USDA 2008). Importation of spices in bulk has been consistent from 2002 to 2007 (Table 7).

Table 7. Spices in Bulk Imports (FOB value in thousand USD; Quantities in tones), 2002, 2004, and 2007

Year	2002	2004	2007
Quantity	2,700	2,700	2,600
Value	3,100	3,100	3,100

Source: USDA

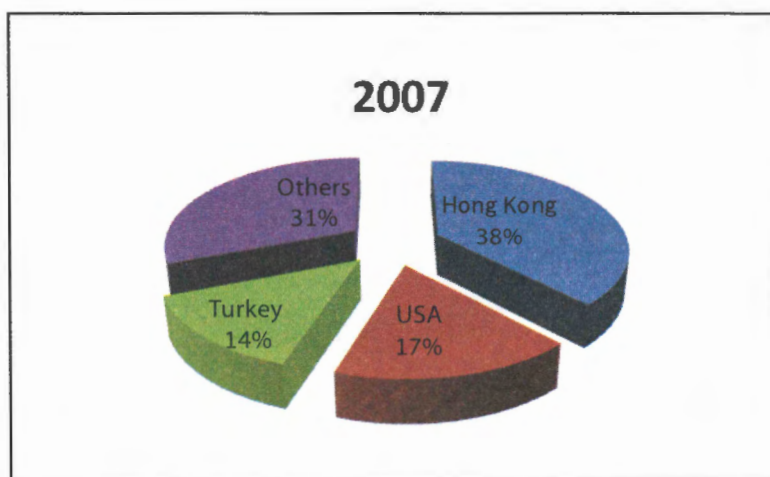


Figure 8. Country of sources of spices in bulk imports, 2007

Source: USDA

Within the ASEAN-China Free Trade Agreement (ACFTA), import duties on most spices are already zeroed out, with exceptions on few, such as on chilies and ginger.

Coffee

The country's import dependency for coffee is continuously rising from 2001 to 2011, reaching more than 45% in the last 3 years (

Figure 9). This is due to the insufficient local production to meet the increasing market demand. This increase is spurred by the growth in the

number of coffee shops and coffee drinkers due to the changing lifestyle and work schedules.

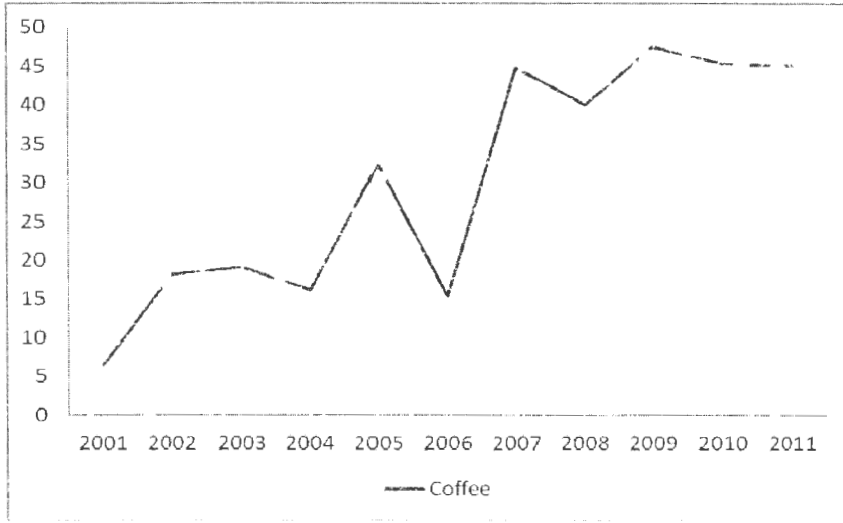


Figure 9. Philippine Import Dependency in Coffee

Source: BAS [date unknown]

The following (Table 8) summarizes the key strengths of supplier countries and the disadvantages of local suppliers in raw material production in major raw material imports of the Philippines.

Raw Material Sourcing Practices of the Food Manufacturing Sector

1. Contract Farming Arrangement (CFA)

This raw material sourcing practice involves agricultural production carried out according to an agreement between a buyer and farmers, which establishes conditions for the production and marketing of a farm product (FAO 2008). Contract farming has been one of the successful models adopted by the food processing industry. This is practiced in the different sectors of food manufacturing such as poultry and livestock, meat, vegetables (i.e., okra, asparagus, potatoes), and fruits (i.e., pineapples and bananas). Examples of CFA are presented as follows:

Case 1: San Miguel Foods, Inc. (SMFI)

SMFI is one of the top producers in the broiler chicken industry through its integrated operations in breeding, growing and processing. In 1972, the company used the contract growing scheme to promote B-Meg feeds, reduce costs and minimize the risks of labor problems. Through its Agribusiness Group, partnerships with cassava, sorghum, sweet potato growers are forged to support their feed mill facilities nationwide (Dy et al. 2011).

Case 2: Bounty Agro Ventures, Inc. (BAVI)

Fully supported by breeder farms, hatcheries, broiler-growing farms, feed mills, dressing plants and distributorships, BAVI launched a nationwide *operation* as a poultry integrator in 2002. In 2008, BAVI started its oven-roasted chicken business (Chooks to Go) with close to 1200 outlets supported by about 1000 broiler contract growers scattered all over the country (Dy et al. 2011).

Case 3: Monterey Foods Corporation

A subsidiary of San Miguel Corporation since 1986, it is active in contract breeding to produce hog fatteners. It is also engaged in contract fattening. It has more than 370 farms, which are either owned or contracted. Building plans, genetics, feeds and nutrition program, medicines and vaccines, technical support, information/recording materials, delivery and hauling services, ready market for all hogs and a competitive payment scheme are provided by Monterey Foods Corporation while its contract growers supply the agricultural land which may range from one to five hectares, pig houses with support facilities, power and water system, labor, security, farm equipment, cleaning compounds, disinfectants, pest control, permits to operate and farm facilities, roads and equipment maintenance (Dy et al. 2011).

Case 4: Pioneer Hi-Bred Philippines

This company is the country's largest developer, producer and distributor of high-quality hybrid corn seeds. The company is into

Table 8. Summary of Strengths in Key Supply Countries and Disadvantages of Local Suppliers in Raw Material Production, 2007

Imported Raw Materials (Ingredients)	Major Supply Sources	Strengths in Key Supply Countries	Disadvantages of Local Suppliers
Red meat (beef and pork)	India, Brazil, Australia, USA	Indian buffalo beef which is priced competitively and used for corned beef	Shortage of supply. Most are sold fresh to wet markets and supermarkets
Milk and cream in solid form	New Zealand, USA, Australia	Australia and New Zealand are major producers of milk	Domestic production is very minimal to supply industry requirements
Whey or modified whey	USA, Netherlands, France	USA remains the preferred supplier and increased market share	No domestic supply available
Wheat and wheat flour	USA, Canada, China	Quality, consistency and in-country trade servicing which is crucial in maintaining the loyalty of buyers/users	No domestic production
Tomato paste/puree	China, USA, Turkey	Mainly tomato paste is being imported for processing	Domestic production cannot keep up with the volume, consistency and quality required by processors
Cocoa beans, powder, paste and butter	Malaysia, Indonesia, USA	Proximity to Philippines and pricing compete with other markets	Supply cannot meet the increasing consumption
Spices in bulk	Hong Kong, USA, Turkey	Proximity to Philippines and pricing compete with other markets	Mostly still sold in unpacked or unlabelled formats in open markets
Vegetables fats and oils and their fractions	Malaysia, Indonesia, USA	Proximity to Philippines and pricing compete with other markets	Local production is mainly on cooking oil and fats from coconut and corn based products

Note: Mainly adopted from USDA GAIN Report (2008)

contract farming to minimize its production risk intrinsic to seed multiplication (Dy et al. 2011). In 2008, it ventured into hybrid rice seeds (Pioneer 2013).

Case 5: Del Monte Philippines, Inc. (DMPI)

DMPI is known to have the biggest pineapple plantation in Asia and it produces pineapple under leaseback agreement contract with the DMPI Employees Agrarian Reform Beneficiaries Cooperative.

Case 6: Greenstar Produce Phils., Inc.

This company located in La Paz, Tarlac produces okra through contract growership with farmers in Tarlac and nearby areas. It packages fresh okra for the Japanese export market (Sarte 2010). Despite the “hands on” approach adopted by the company in operationalizing its contract growing arrangement with Tarlac farmers, it still has some sourcing problems due to quality issues, specifically rejected produce due to size and shape of harvested okra, which are uncontrollable by farmer-growers.

2. Contract Buying or Contract Marketing

Contract buying or contract marketing is also one of the ways by which raw materials are sourced. This sourcing scheme, which is adopted by food manufacturers and fresh food exporters, is a buying contract between farmers and food-manufacturing firms (may be represented by agents). Buying is mostly done even if the produce is still in pre-harvest stages.

Case 1: Hi-Las Marketing Corporation

Hi-las established its own production farm and has a dedicated modern packing facility, supported with a cold chain post harvest system. The company’s 2.5-hectare nucleus farm is GAP certified for fresh okra production. The model farm is further complemented by contract growership agreements with a network of trained okra farmers, which are accredited to adhere to Good Agricultural Practices and the use of acceptable chemicals and farm inputs. Farm

produce including those from contract growing arrangements is for export to Japan (HiLas 2013).

Case 2: Diamond Star Agro Products, Inc.

This company is a contract buyer of mangoes for export to Japan. Diamond Star used to have contract growers, but after encountering many problems with the latter, they decided to simply accredit farms as suppliers. The company also does multiple local sourcing. During peak season, the company sources its mangoes from accredited farms in Luzon (Batangas, La Union, Pangasinan, Rizal, Tarlac, and Zambales). During the lean months, their mangoes come from provinces in the Visayas (Bohol, Cebu, Dumaguete) and in Mindanao, particularly in Davao (Banzon et al. 2011).

3. Preferred Suppliers

The Chartered Institute of Purchasing and Supply or (CIPS 2013) defines preferred suppliers as “providers of goods or services under a non-exclusive contractual arrangement, especially for indirect categories.” Such arrangements do not bind both parties but are standing-offer agreements, which provide preferential terms for a specified period. Attaining preferred supplier status goes beyond product or price to comprise the set of activities that define “doing business with you.”

Case: Franklin Baker Philippines, Inc.

This company sources coconut from fringe and local sources mainly from the towns of Laguna, Batangas, Cavite and Quezon and from Mindanao where their other plant is situated. The company does multiple local sourcing from different preferred suppliers who are able to meet their volume and quality requirements. (Medina, 2012)

4. Multiple Local Sourcing

Another sourcing practice is purchasing from and contracting preferred suppliers and agents from different parts of the country. This practice is resorted to when the supply volumes required cannot be

sufficiently fulfilled by one supply source due to changes in production seasons or adverse weather conditions in some local areas.

Case: Nestle Philippines, Inc.

Nestle Philippines, Inc. practices the Sustainable Agriculture Initiative (SAIN) – Sustainable Coffee-based Farming System by engaging in “local from local” buying and responsible sourcing. It has been expanding its network of satellite coffee bean buying stations all over the country. (Nestle 2013)

5. Intra-Sourcing

There are also companies that have their own farms (intra-sourcing) to supply their raw material needs. The advantage of this sourcing practice is that companies are able to meet a portion or even all of their volume requirements and control product quality and costs to a certain extent. However, this option may not be able to fully provide the volume requirements of these companies. Examples include Hi-Las Marketing Corporation, Dole Philippines and Del Monte Philippines.

6. Importation

Many food-processing enterprises are heavily relying on the importation not only of their major raw materials but also key ingredients and condiments needed in food processing. This sourcing practice involves sourcing from foreign suppliers abroad. The logic behind importation is because local sources cannot provide manufacturing grades of raw materials (e.g. meat). In addition, this happens when there is no local production of needed raw materials (e.g. whey and wheat) or when local produce cannot meet volume, quality, cost and timing/sustainability requirements.

7. Open Market Sourcing

This sourcing practice is widely used by home-scale and micro, small and medium-scale food processing enterprises, which purchase required raw materials/ingredients based on accessibility from their production place (i.e., purchasing fresh pork from the public market to be

processed into *tocino*, a type of processed meat). The advantage of this sourcing option is that there is no need to neither invest in costly storage facilities for perishable raw materials/ingredients nor tie up working capital in raw material inventory. However, such entrepreneurs source their raw materials/ingredients at market prices, which may be higher than when sourced directly from farm sources. A related issue is that meat purchased in the open market may not meet the quality requirements of the food manufacturers.

In any of the above cases, the food industry's sourcing depends largely on the specification of raw materials required by their end customers.

However, companies use a combination of several sourcing strategies to meet their respective objectives. The decision on which sourcing strategies to choose hinges on: a) customer volume, price and quality requirements at a given instance; b) location of the facility; c) season of the year. For example, Hi-Las Marketing Corporation makes use of contract buying, multiple local sourcing and intra-sourcing.

Strategic Options and Directions

Strategic sourcing of raw materials should be embedded in the companies' overall strategy and should not only be considered as part of everyday operations. Food manufacturing companies have are now being pushed to embrace sourcing strategies as an integral part of their supply chains.

Of the mentioned strategic options by Anderson and Katz (1998), the Philippine food manufacturing companies mostly practice contracting for supplier capacity in specific products, e.g. chicken, pork, fruits and vegetables (contract growing). This contract growing strategy will remain viable for food manufacturing companies as the model has been established and practiced for several years already. The same is true for contract buying which has been practiced from large scale to smaller scale food manufacturing companies. Although there are associated problems in the current contract growing and contract buying schemes, these sourcing strategies are more likely to be practiced in the long run.

Intra sourcing and external sourcing strategies, which were categorized Kotabe and Murray (2004), have been practiced by many food-manufacturing companies in the Philippines. Micro and small-scale food manufacturing firms are mostly adopting internal sourcing; larger companies practice a combination of both sourcing raw materials and ingredients from local and external sources, especially those who also export processed products.

Future Directions in Supply Sourcing

The trend is towards sustainable sourcing which may also be considered as an important part of the corporate social responsibility (CSR) of food manufacturing organizations. For a long time, CSR programs of food manufacturing companies focus mostly on the customers and not on the suppliers or producers of raw materials. There is an opportunity to include farmers or producers in their CSR activities as sustainable farm production would also translate to sustainable raw material supply and subsequent long-term profitability of the food industry while at the same time heeding the call for environmental consciousness. This move will also result to the inclusion of farmers in the overall growth of the economy as they take roles that are more active in the global food supply chain. Fair trade in-sourcing has been adopted by some foreign companies. A number of companies operating in the Philippines have already adopted this strategy by having farmers or producers as partners in their food manufacturing operation and buying from them as fair trade producers.

The challenges in the country's food manufacturing industry seem to point out on the need for greater investments in the agriculture sector. Factors that drive the price of local raw materials up show lack of investments in increasing productivity and traceability, enhancing farm diversification and improving agricultural facilities and infrastructure necessary to cater for the specific needs of the different food manufacturing sectors. Development in this area would also generate the capacity to attain the quality and volume that the food manufacturing industry requires to reduce dependence on imported raw materials. Ensuring the availability of raw material supplies can partly shield domestic food manufacturers from uncertainty of foreign exchange fluctuations and global market shocks.

The Private Sector Role in Ensuring Raw Material Supply

The private sector will play a very important role in reversing the decline of the agriculture sector and ensuring raw material supply. Since they have the resources, they may act as supply chain captain coordinating and integrating the different supply chain partners towards supporting sustainable agricultural production and meeting consumers' demands. They should serve as a strong link between the agricultural production sector and research institutions, helping the farmers adopt new technologies to ensure increased production and income. A bigger strategy to do this is the integration of raw material supply sourcing in the CSR activities of the private sector with the objective of motivating farmers towards sustainable agricultural production, which will benefit them in the long-run.

Government Imperatives

More research and development efforts need to be geared towards increased production and quality produce as a way of strengthening the agricultural production base. The food manufacturing sector requires not only regular supply of specified volume of raw materials but also those that meet their quality and time specifications. More technologies in producing **higher quality farm produce** should be given attention.

The government should also hasten and enhance GAP certification efforts to produce quality products and meet food safety requirements. The country has been lagging behind its neighbors in GAP certification. Thailand, Malaysia and Vietnam have certified thousands of their farms while the number of farms certified in the Philippines has not even reach 20. While many of the food manufacturing companies have already been GMP certified, efforts have to be intensified in GAP certification to support GMPs in food manufacturing. A prerequisite in reversing the decline in the food manufacturing sector is to ensure growth in the production sector to increase the agriculture base.

Finally, all these efforts must be integrated in a master plan amidst a global supply chain framework. Beyond the government's drive towards looking at and addressing commodity-specific problems relative to raw material supply in a fragmented manner or merely focusing on a few crops, strides must be made in terms of rationalizing the country's farm resources to

meet the demands of the downstream players in the food manufacturing industry. The government should recognize and address raw material supply issues in the context of supply-chain network problems and not just as problems of one supply chain sector.

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