

# Achieving Food Security: Policy Lessons from the Philippines

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OIDA International Journal of Sustainable Development, Ontario International Development Agency, Canada  
ISSN 1923-6654 (print) ISSN 1923-6662 (online)

Available at <http://www.ssrn.com/link/OIDA-Intl-Journal-Sustainable-Dev.html>

**Abstract:** The global food system is beset by challenges and threats. With the global population rapidly increasing, changing global landscape, and environmental risks that endanger agriculture, food security is now a huge concern. It has now become a major challenge to attain and maintain food security at a time of economic uncertainties and high commodity prices. In the Philippines, the challenge of achieving food security has long been recognized by the government, together with domestic agricultural productivity. In line with this, the current administration's goal is to achieve food security and food self-sufficiency by 2016. Through the Department of Agriculture, Food Staples Sufficiency Program (FSSP) 2011 – 2016 was launched with an aim to achieve self-sufficiency in food staples towards ensuring food security. The main target of FSSP is to achieve domestic requirement by 2013. Towards 2013, FSSP aims to strengthen resilience against the impact of climate change to increase production of food staples. Aside from FSSP, the Philippine government had implemented various policies directed towards self-sufficiency and food security after the 2007-2008 global food price crisis. With these policies, the paper tries to look at the current food security situation of the Philippines with respect to the goal of achieving food security. Moreover, the paper reviews the performance of Philippine agriculture vis-à-vis its economy. An analysis of the policies introduced during the post-global food crisis is also provided with their objectives, strengths, and weaknesses. Furthermore, the paper also tries to look how the Philippine agriculture vis-à-vis its fellow ASEAN countries, especially now that the region is gearing towards integration. Through a review of related literature and secondary data from DA, DBM, BAS - CountrySTAT, PSA, NSCB, PIDS, IRRI, UN-FAO, and World Bank among others, the study revealed that Philippines is still far from being food secure and resilient to climate change due to implementation gaps and lack of coordination among relevant government agencies. Thus, the goal of FSSP does not appear to be feasible. Moreover, results showed that food security has rapidly weakened by the government's rice importation. Results also revealed that the volatility of weather in the country and high cost of agricultural inputs alleviate the production of food supply. Given the current situation, the upcoming ASEAN Integration will not bode well for Philippine agriculture. Filipino farmers are not yet ready for a regional trade as their domestic market is still fragile. Furthermore, although Philippines has a high potential, it still has no comparative advantage when compared to its neighbors such as Thailand and Vietnam. The paper concludes that for the Philippines to be successful in pursuing food security, it should undergo institutional reforms and improve infrastructure and technology to increase production.

**Keywords:** ASEAN Integration; climate change; food security; institutional reform; Philippine agriculture

## Introduction

The global food system is beset by challenges and threats. According to a report by United Nations, the current population is expected to reach 9.6 billion by 2050. The growth is forecast to take place in developing countries, with more than half coming from Africa. Population will continue to grow rapidly on countries with high fertility rates such as Nigeria, Niger, the Democratic Republic of Congo, Ethiopia, Uganda, Afghanistan and Timor-Leste (United Nations, 2013). On the other hand, Europe's population is projected to decline. The trend

means that increasing number of people drives up for more demand of food. Feeding 9.6 billion in 2050 requires raising overall food production by 70 per cent.

It is now a challenge to provide access to sufficient and nutritious food to the burgeoning population. However, food production is at stake and prices are becoming volatile. In 2008, a spike on world food prices had hurt countries all over the world. Rice prices increased by 170 per cent, wheat by 127 per cent and maize prices almost tripled between January 2005 to June 2008. The price spike contributed to food insecurity and civil unrests. The most affected by the food price increased are the low-income groups. Thus, the number of hungry people during the food price spike increased to over a billion. It had undermined the ability of poor households to meet their food needs. Some had cut off their daily intake or substituting their food with cheaper alternatives.

The crisis is far from over now. However, food insecurity is expected to continue in the face of the impacts of the weather. The global phenomenon called climate change is likely to diminish agricultural productivity especially in places where food demand is high and where widespread hunger and malnutrition is present. It is associated with accelerated greenhouse gas emissions which are believed to exacerbate water-supply problem. It increases droughts which lead to less predictable rains. Arable croplands and water supply, which are required in food production, are under strain. All these are putting even more pressure in achieving food security.

Government and non-government entities are developing short and long term solutions to fight against food insecurity issues and to improve agricultural productivity. Agricultural system is recognized as the key solution more than any other form of economic activity. To meet food demands, it is necessary to increase agricultural productivity especially in developing countries. This includes investments to infrastructure such as roads and irrigations and drought and flood resistant crops.

On the local perspective, support efforts in agriculture are very much present in the Philippines. The Philippine government has continuously made the sector one of its priorities. In the Philippine Development Plan 2011-2016, it aims to create a sustainable and competitive agricultural sector. The plan targets to increase productivity, to improve food security and also to reduce food imports. Moreover, several policies were implemented which are geared towards achieving high productivity, its sustainability, food sufficiency and security. These policies also touch the goal of the government to feed the hungry and reduce high poverty levels.

This paper aims to look at the current situation of Philippine agriculture with respect to the goal of achieving food security. This paper also included to look how Philippines fared among ASEAN countries especially now that the region is moving towards integration. The overall goal of this paper is to review and assess agricultural policies, especially policies focusing on food security, and the status quo of food security in the Philippines.

### **Overview of Literature**

This section briefly reviews what the theory says about the role of agriculture in economic development. This highlights the significance of agricultural policies that promote development objectives for agriculture and non-agricultural sectors alike. Moreover, this section also shows the current status of agriculture in today's economy in relation to world food situation.

### **Role of agriculture in the economy**

Agriculture has been around for about 10 000 years when the foraging or hunting-gathering lifestyle of early human societies shifted to farming (Levetin & McMahan, 2008; Zvelebil & Pluciennik, 2009). They settled for permanent dwelling and reliable food supply. Over the centuries, agriculture has changed the society. Many civilizations grew and global population reached seven billion from some five million people 10 000 years ago. Since then, agriculture has been the precursor to industrialization and economic growth.

Many argue that agriculture plays a lead role in the early stages of economic development. Johnston and Mellor (1961) provided a classic explanation to agriculture's vital role in development in five propositions, namely, agriculture is source of (1) food; (2) exports and foreign exchange; (3) labor force for other sectors; (4) net contribution for capital; and lastly, (5) cash income for industrial expansion. This is also emphasized in the standard Dual-economy Development Model wherein agriculture contributes to economic development through (1) labor and capital; (2) foreign exchange contribution; (3) market contribution; and (4) product contribution. Its role is indispensable for a country to be highly developed as it fuels the growth of nonagriculture sectors. Additionally, agriculture serves as a resource and market base during the initial development of nonagriculture sectors. The work of Gollin, Parente, and Rogerson (2002) shows that agriculture is quantitatively important in the early stages of development through using a cross-sectional and panel data from 62 developing countries from 1960 to 1900. Their

gathered data showed a direct contribution of 54 per cent in GDP growth is accounted from agriculture productivity (Gollin, Parente, & Rogerson, 2002). Furthermore, a stabilized agriculture is necessary for the development of the manufacturing and services industries (Moon, 2003). Indeed, agriculture is a pool of resources which can serve as a catalyst for a country's transformation to industrialization and modern economy.

The role of agriculture has also been transforming rapidly throughout the development stages of the economy, society and culture. As countries grow richer, the share in GDP of agriculture and employment share of agriculture have been declining. However, agriculture is still the largest employer in the world. According to United Nations, the sector provides livelihood to 40 per cent of today's global population (United Nations, 2012). Asian Development Bank and International Food Policy Research Institute (2009) note that more than 2.2 billion people or 60 per cent of Asia's population is relying to agriculture. There are 17 countries (i.e. Bangladesh, Bhutan, the People's Republic of China (PRC), India, Pakistan, Thailand, and Viet Nam) which listed agriculture as the largest employer of their people (Briones & Felipe, 2013). Moreover, agricultural and labor and land productivity in Asia have grown faster compared to any other developing regions such as Latin America, Caribbean and Sub-Saharan Africa. Hence, agriculture is an important backbone of the economy in Asia.

Nevertheless, for advanced economies in the world, nonagricultural sectors have become the lead sources of economic growth. In high-income countries, agriculture accounts to only 2 per cent of GDP and 9 per cent in the middle-income countries while an average of 32 per cent in least developed countries (International Labor Organization, 2003). On the other hand, only 3 per cent of the world's GDP accounts for agriculture while industry and services account for 28 and 69 per cent, respectively (Dy, 2009).

Aside from its diminishing role in economic activity and growth, agriculture is under threat right now. It is highly vulnerable to the effects of inclement and extreme weather and other climate-related phenomena. Agriculture is susceptible to the negative impacts of the global phenomenon called climate change. Climate change is the biggest source of uncertainty. Moreover, as it threatens agriculture, the issue on food security has received great deal of attention in recent years. It is now taking place at a time of increasing food demand and world population. On the other hand, food supply is not solely due to climate change. Unprecedented urbanization consumes large tracts of arable lands to give way to industrial developments and construction of houses, roads and other infrastructure (Asian Development Bank, 2014). Migration of educated people from rural farms is also affecting the supply. As world food supply increases, the pressure to produce more and increase yield is also increasing.

## **Method**

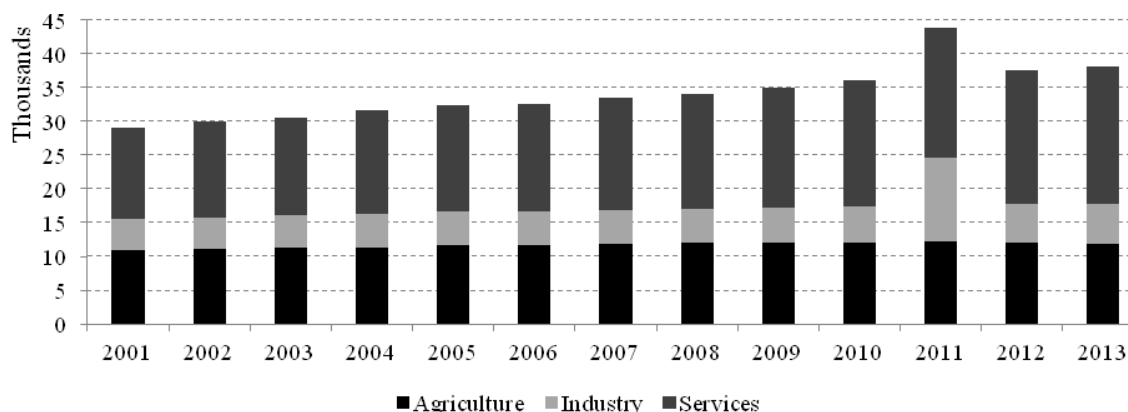
The paper aims to look at the current situation of the Philippine agriculture and the status quo of its food security goals. It reviews the performance of Philippine agriculture with respect to the policies introduced during post global food price crisis. An analysis of these policies is provided together with a matrix of their objectives, strengths and weaknesses. The paper also looked at how Philippine agriculture is gearing towards ASEAN Integration. Moreover, the paper reviews relevant literature particularly focus on those papers regarding Philippine agriculture and its food security/rice self-sufficiency input policies and papers regarding ASEAN integration vis-à-vis agriculture and food security. Through the collection and analysis of secondary data from DA, DBM, BAS - CountrySTAT, PSA, NSCB, PIDS, IRRI, UN-FAO, and World Bank among others, the researcher establishes the results of the paper.

## **Results And Discussion**

### **State of Agriculture in the Philippine Economy**

This section discusses the current state of the agriculture sector. The central concern of this section is to present why Philippine agriculture has been declining through data and statistics. Reasons as to why agriculture lags behind are also discussed.

Figure 1 shows the distribution of workforce across the three major sectors (i.e. agriculture, industry and services). For more than a decade, services sector employs the most number of Filipino people with an average of 16,848 people, followed by agriculture. The agriculture sector employs an average of 11,683 people. Additionally, industry employs an average of 5,685 Filipinos in the period of thirteen years. Services sector registered a compound annual growth rate (CAGR) of 3 per cent since 2001 while agriculture has grown by only 1 per cent.



**Figure 1:** Total Employment by Sector (in thousand persons)

On the other hand, as seen in Figure 2, the services sector has the highest percentage of employment vis-à-vis total employment. Nevertheless, it has only grown for 1.39 per cent in the last ten years. Figure 2 also shows that the share of agriculture to total labor force is slowly decreasing. Unlike services, agriculture did not registered growth for the past ten years. Correspondingly, industry sector has almost the same situation with the agriculture sector. It also has the lowest share to total labor force with an average of 13.82 per cent.



**Figure 2:** Contribution of Employment by Sector (as percentage employed of the total labor force)

Examining employment figures, it is found that the average share of agricultural employment for the past two decades (1990-2010) to the total labor force is about 36.6 per cent while services and industry are 40.7 per cent and 14.2 per cent respectively. Despite decreasing figures, it can be seen that the figures registered are quite close to that of services sector employment share. Therefore, agriculture still contributes a substantial proportion of workers vis-à-vis total labor force, especially to rural areas in the country.

On the regional level, Table 1 shows the total employment figures in agriculture sector. The highly urbanized Metro Manila has the lowest number followed by Region XIII, CAR and Region IV-B. The region with the most number of employed persons in agriculture is Region VI or Western Visayas. It has an average 1,000 agricultural workers for three years. Moreover, regions II, XII, X, and III have also high number of employed persons in agricultural ranging from an average of 752 to 816 persons.

**Table 1:** Employed Persons in Agriculture by Region

<b>Region</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Philippines</b>	10,582	10,488	10,803
<b>Metro Manila</b>	16	12	15
<b>CAR</b>	366	373	364
<b>Region I</b>	672	687	683
<b>Region II</b>	821	787	840
<b>Region III</b>	740	748	768
<b>Region IV-A</b>	629	614	608
<b>Region IV-B</b>	514	514	541
<b>Region V</b>	744	711	722
<b>Region VI</b>	981	985	1,051
<b>Region VII</b>	730	730	781
<b>Region VIII</b>	621	604	620
<b>Region IX</b>	602	617	601
<b>Region X</b>	745	748	780
<b>Region XI</b>	655	633	695
<b>Region XII</b>	762	761	774
<b>Region XIII</b>	364	344	346
<b>ARRM</b>	620	620	613

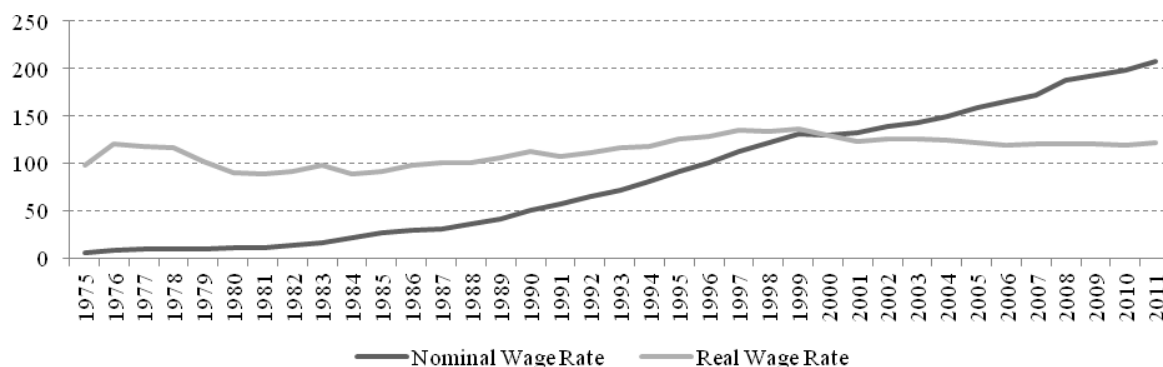
As countries develop, the share of agriculture to labor force is declining. Syrquin attributed the decline of agricultural value added (in GDP) and employment share to economic development or structural transformation (2008). Structural transformation is one of the main features of modern economic growth according to Simon Kuznets. It is the reallocation of economic activity across three sectors (i.e. agriculture, services, and industry) which accompanies the process of modern economic growth (Herrendorf, Rogerson, & Valentinyi, 2013). It is also commonly measure by sectoral employment shares, value added shares, and final consumption expenditure shares. The first two are related to production while the last one is to consumption.

Furthermore, structural transformation requires adjustment. Nowadays, resources are moving out from agriculture to services and industry. This situation can increase employment prospects to services and industry sectors, while it may be worsening for agriculture. For instance, it is found that the agricultural employment share in the Philippines is continuously decreasing. Although, there is still a large number of Filipino working in the sector which are mostly composed of small farm holders and wage laborers.

Additionally, most of the incoming labor force are not into agriculture [and fisheries]. From the projected 656,284 total number of college graduates last academic year 2014-2015, 189,041 of them are from business administration and related fields followed by education, science and teacher training with 99,722 graduates. Other top disciplines are information and technology courses (84,857), medical and allied courses (75,754), and engineering and technology courses (66,005) (Mateo, 2015).

The decreasing agricultural workers is also due to wage differentials. Large number of farmers migrates to urban areas to seek job not related to farming. Incoming college students do not want to take up agriculture to be a farmer. Meanwhile, the very few agriculture graduates are not working in the fields but instead take jobs in the government, and academic and research institutions. These are due to the fact that they will earn more money rather than planting rice or harvesting fish

As seen in Figure 3, nominal wage rate of all Filipino farm workers have been increasing yet it is only a little over Php 200. It is still low when compared to other jobs. Moreover, when purchasing power and inflation are taken into account, the average real wage rate of a farmer in the Philippines is only Php 113.99.



**Figure 3:** Wage Rate by All Farm Workers

Furthermore, Table 2 shows that agricultural workers are among the least paid workers in the Philippine economy with an average of Php 150 to Php 177 from 2009-2011. Their salaries are only higher by at least Php 30 to Php 40 than domestic helpers. Thus, the average farmer earns less than the average blue-collar worker.

**Table 2:** Average Daily Basic Pay of Wage and Salary Workers by Major Industry Group

Major Industry Group	2009	2010	2011
<b>All Industries</b>	290.73	306.53	317.44
<b>Agricultural</b>	145.14	152.01	158.2
Agriculture, Hunting and Forestry	142.87	150.66	156.81
Fishing	174.62	178.43	178.43
<b>Non-Agricultural</b>	317.84	334.69	349.01
Mining and Quarrying	241.06	252.78	262.36
Manufacturing	299.93	310.57	316.49
Electricity, Gas and Water Supply	465.62	491.5	542.45
Construction	276.64	285.08	296.93
Wholesale and Retail Trade, Repair of Motor Vehicles, Motorcycles and Personal and Households Goods	257.71	274.54	275.81
Hotels and Restaurants	264.5	280.76	280.76
Transport, Storage and Communications	371.29	385.83	396.9
Financial Intermediation	515.55	529.99	528.57
Real Estate, Renting and Business Activities	426.24	456.61	456.61
Public Administration and Defense, Compulsory Social Security	433.4	449.68	498.1
Education	522.52	566.97	618.53
Health and Social Work	434.36	464.53	470.5
Other Community, Social and Personal Service Activities	307.97	316.89	325.9

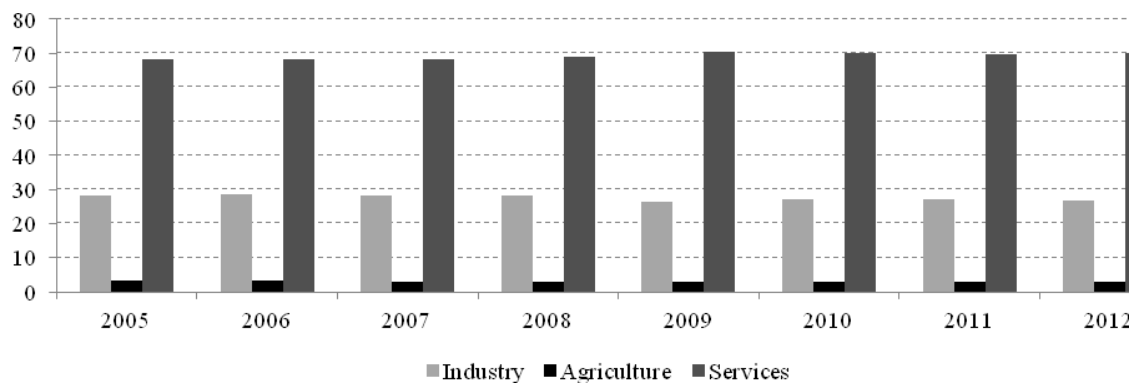
Private Households with Employed Persons	125.88	133.2	138.99
Extra-Territorial Organization and Bodies	873.98	1,321.99	926.18

Data clearly show why people do not want to be a farmer or a fisherman. Being in the agriculture sector is physically demanding. Other than that, it is also poorly compensated. Agricultural workers are not covered by public social insurance schemes unless they voluntarily enrolled themselves. With this, farmers and fishermen are considered one of the poorest sectors in the Philippines. As shown in Table 3, fishermen posted the highest rate of poverty incidence, followed by farmers.

**Table 3:** Poverty Incidence for Basic Sectors

Sector	2003	2006	2009	2012
<b>Philippines</b>	24.9	26.6	26.3	25.2
<b>Fishermen</b>	35	41.2	41.3	39.2
<b>Farmers</b>	37	38.5	38	38.3
<b>Children</b>	32.7	35.2	35.3	35.2
<b>Self-employed and Unpaid family workers</b>	28	30.6	29.9	29
<b>Women</b>	24	25.9	25.7	25.6
<b>Youth</b>	19	21.1	21.6	22.3
<b>Migrant and Formal Sector</b>	14.6	16	16.8	16.6
<b>Senior Citizens</b>	15.1	16.9	16.1	16.2
<b>Individuals Residing in Urban Areas</b>	11.1	12.6	12.6	13

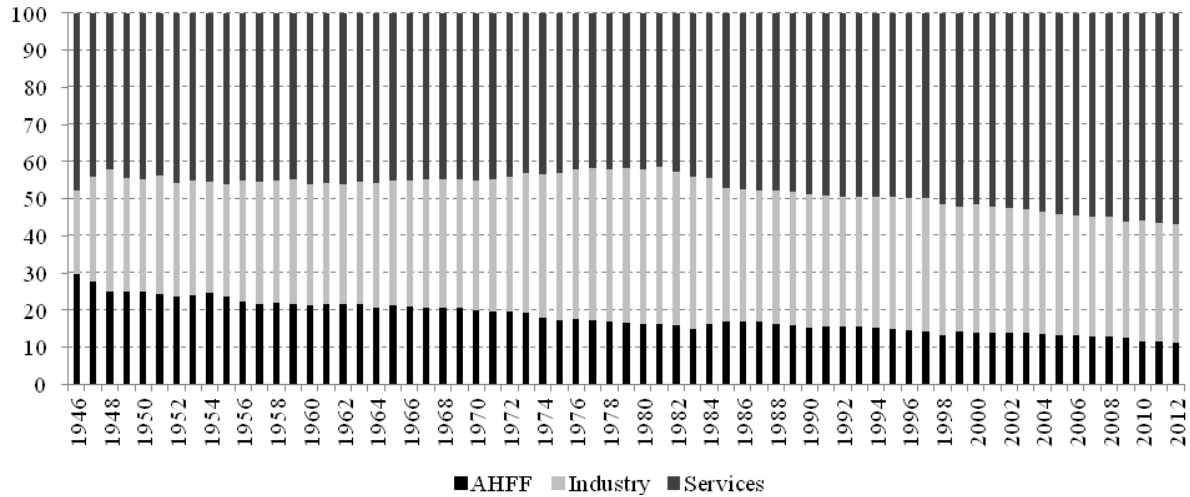
The diminishing trend of employment in agriculture is clearly relative to the output shares of the sector. It is shown in Figure 4 that from 2005 to 2012, the value added (% of GVA) of agriculture has always been the lowest. Its average for a seven-year period is 3.13 per cent while industry and services have 27.61 and 69.28 per cent, respectively.



**Figure 4:** Per sector, value added (% of GDP)

However, more than six decades ago, this was not the case. A third of Philippines economy is consist of agriculture. However, in the recent years agriculture's importance in the economy is continuously dropping. As shown in Figure 5, in 1946, the share of agriculture to the economy is 29.7 per cent. From 1946 to 1969, agriculture accounted 20 to 30 per cent of GDP. Since 1970, GDP share of agriculture has never gone beyond 20 per cent. In 2012, the share dwindled to a mere 11.1 per cent. Meanwhile, services and industry have come to account for 41 to 56 per cent and 35 to 40 per cent of output, respectively. Moreover, the low employment share and low productivity level of the

sector contribute to agriculture's decline in terms of total share to the economy. Hence, Philippines is becoming less dependent to farming. The economy is now dominated by services and industry sectors.



**Figure 5:** Gross Domestic Product, by Industrial Origin: Percentage Distribution

On the other hand, in terms of Gross Regional Domestic Product (GDRP), Region III (Central Luzon), Region IV-A (CALABARZON), and Region VI (Western Visayas), are the top three regions with largest share output in 2013 with 14.6 per cent, 10.2 per cent, and 9.0 per cent (Philippine Statistics Authority, 2014), respectively. Nonetheless, ten regions presented decelerations. For instance, region XI (Davao) posted the largest reduction as it recorded a negative 8.0 per cent in 2013 from 0.4 per cent growth in 2012; region VIII (Eastern Visayas) sunk from 3.0 per cent in 2012 to negative 6.6 per cent in 2013; Region VI (Western Visayas) contracted negative 3.3 per cent in 2013 from negative 0.1 per cent in 2012; and Region IV-B (MIMAROPA) from negative 0.3 per cent in 2012 to negative 4.9 per cent in 2013. Some regions accelerated such as region XIII (CARAGA) from 2.4 per cent in 2012 to 7.7 per cent in 2013. Furthermore, regions recovered from negative growth percentage, such as region VII (Central Visayas) of which it grown at least 0.3 per cent from negative 0.6 per cent in 2012; region IX (Zamboanga Peninsula) which recovered from negative 2.6 to 0.7 per cent; and lastly, ARMM, from negative 1.1 per cent in 2012 to 2.5 per cent in 2013. Agriculture remained the biggest contributor to ARMM's economy which accounts for 61.3 per cent total domestic output in 2013.

However, for most regions in the Philippines, the services and industry are the major sectors which contributed to the growth. Services sustains its performance and remained the biggest contributor to the country's economy. National Capital Region (NCR) remained the top contributor for the overall growth of services sector, followed by Region IV-A (CALABARZON). Industry, on the other hand, continues to expand from 7.3 per cent in 2012 to 9.3 per cent in 2013. Region IV-A (CALABARZON) accounts the largest share to the country's industry output followed by National Capital Region (NCR). Lastly, the economic performance of agriculture in 2013 decelerated from 2.8 per cent in 2012 to 1.1 per cent. As seen in Figure 5, the total GDP share of AHFF in 2012 is 11.1 per cent. It plunged down at 10.4 per cent in 2013.



**Table 4:** Labor Productivity by Industrial Origin

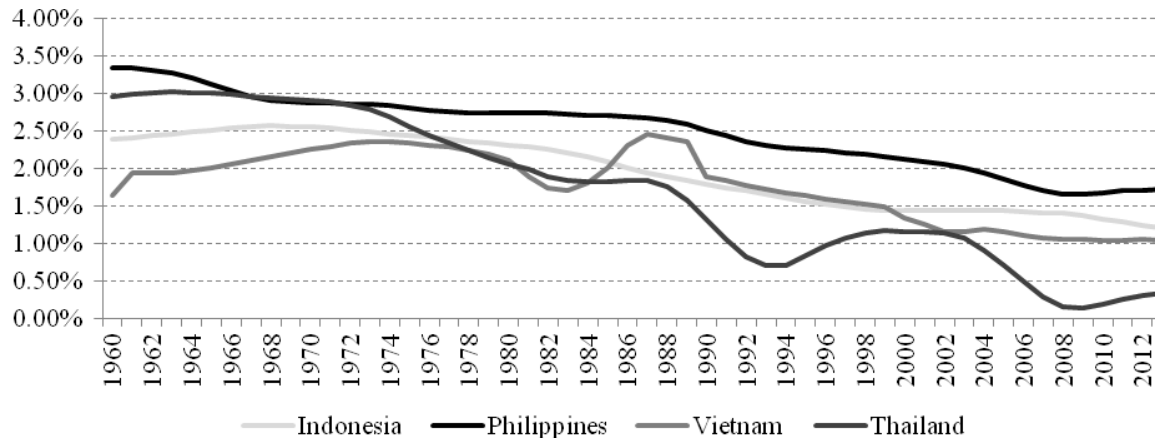
Sector	Level				Growth Rates		
	2009	2010	2011	2012	09-'10	10-'11	11-'12
<b>Labor Productivity (in pesos, constant)</b>							
<b>Total</b>	151,092	188,130	159,296	167,852	4.7%	0.7%	5.4%
<b>Agriculture</b>	55,119	55,352	55,471	57,728	0.4%	0.2%	4.1%
<b>Industry</b>	327,378	344,877	343,832	351,024	5.3%	-0.3%	2.1%
<b>Service</b>	188,130	344,877	172,301	181,850	-9.5%	1.2%	5.5%

The diminishing share of agriculture to GDP reflects the relatively lower level of labor productivity in the sector. As seen in Table 5, the entire agriculture sector posted the lowest productivity rate in 2012 with 57,728. This was also the highest since 2009 which affected its growth rate. It jumped from 0.2 per cent in 2011 to 4.1 per cent in 2012. Moreover, the labor productivity of agriculture does not even constitute half of those in industry and services with 351,024 and 181,850, respectively.

Aside from structural transformation, the situation of agriculture in the Philippines has also been affected by weather and climate change. It is highly susceptible to weather risks which exacerbate its low productivity and output shares. During the first half of 2010, El Niño caused contractions to agricultural performance according to Department of Agriculture. Cagayan Valley incurred the biggest loss of an estimated Php 10.4 billion crop damage (Yumul, Dimalanta, Servando, & Hilario, 2010). Moreover, according to the report by DOST-PAGASA, a widespread warming in the country is expected covering a period from 2020 to 2050 (DOST-PAGASA, 2011). According to International Rice Research Institute (IRRI), higher temperatures can decrease rice yields by about 10 per cent (Laborte, et al., 2012). An elevated temperature can make rice flowers sterile, hence no grain will be produced (IRRI). Studies shown that during the past 25 years, the rising temperature has already cut the yield growth rate by 10 to 20 per cent (University of California - San Diego, 2010). In the coming years, day and night temperatures are expected to rise further. Furthermore, based from the Global Climate Risk Index 2015 published by Germanwatch, the Philippines, Cambodia and India are the countries most affected by extreme weather in 2013 (Kreft, Eckstein, Junghans, Kerestan, & Hagen, 2014). 2013 was the year when Typhoon Haiyan struck the Philippines which inflicted US\$ 13 billion economic loss and 6,000 death. In the same report, Philippines placed fifth in the top 10 list of countries most affected by extreme weather in a 20-year period (1994-2013). Based on a study, Philippines is visited by an average of 19 typhoons a year because its location is within the Pacific belt typhoon area (Tiongco & Francisco, 2011). These weather disturbances can be a source of internally generated water. However, they are also causing damage to agricultural crops. Typhoons normally hit the country during rice-growing season. Although, rice grows well under flooded condition. Rice only requires 3 000 to 5 000 liters of water to produce a kilogram of grains. However, too much water can definitely damage the rice fields, hence, crop yields will be lower.

Consequently, low crop yields undermine the goal for higher food production. Food deficit results to malnourishment and hunger. Moreover, the growing population is adding more pressure to food resources issues. In the Philippines, population is growing at an average rate of 2.4 per cent every year. Figure 6 shows that Philippines has the highest population growth rate among largely populated ASEAN countries. Currently, Indonesia has the largest population in the Southeast Asian region.

Next page



**Figure 6:** Growth Rate for ASEAN Countries' Large Population

**Policies on Food Security and Rice Self-Sufficiency in the Philippines (post-global food price crisis: 2008 to present).**

Economic policies can affect agricultural development through time. In this section, policy environment affecting agriculture since post-global food price crisis was reviewed. The central concern of this section is whether or not the Philippines has successfully attain their goal of food security.

Philippine government has long recognized the challenge of ensuring food security and domestic agricultural productivity. During the 1970s, Philippines successfully met the food security challenge through Green Revolution. During this time, Philippines became one of the rice exporters in Asia. Government had increased expenditures and support for irrigation system through Masagana 99 which is geared towards self-sufficiency in major staples – rice and corn. However, by 1986, Philippines was once again a major importer of rice.

Moving forward, the current administration under President Aquino through the Department of Agriculture launched the Food Staples Sufficiency Program (FSSP) 2011-2016. It aims to achieve self-sufficiency in food staples towards ensuring food security by 2013. Beyond 2013, FSSP aims to strengthen resilience of production against climate change. Overall, FSSP aims to expand the total production and yield improvement for self-sufficiency. Furthermore, a multipronged approached was used in FSSP to target all level of value chains.

Aside from FSSP, the Philippine government had implemented various programs directed towards self-sufficiency and food security after the 2007/08 global food price crisis. To wit, these are (1) Increased importation of rice; (2) FIELDS program; and (3) Rice Self-Sufficiency Plan 2009-2010, among others.

A matrix is provided below that summarized the objectives, strengths and weaknesses of four policies implemented after the global food price crisis (see Table 5). The primary goal after the 2008 crisis is to have “self-sufficiency through production of own food and reduction of dependency on food imports”. The Philippine Development Plan 2011-2016 on its agriculture section also echoes the same goal.

**Next Page**

**Table 5:** Matrix of Agricultural Policy in the Philippines (2008 to present)

<b>Agricultural Policy</b>	<b>Objective/s</b>	<b>Strength/s</b>	<b>Weakness/es</b>
<b>Increased importation of Rice</b>	<ul style="list-style-type: none"> <li>To ensure availability and accessibility of the staple food – rice</li> </ul>	<ul style="list-style-type: none"> <li>Satisfied the domestic demand but not through local producers of rice</li> </ul>	<ul style="list-style-type: none"> <li>Timing of rice imports had caused:               <ol style="list-style-type: none"> <li>Lower farm-gate prices</li> <li>Disadvantaged farmers – lack of support</li> </ol> </li> </ul>
<b>FIELDS Program (2008)</b>	<ul style="list-style-type: none"> <li>To achieve 98% self-sufficiency in grains and other food products by 2010</li> </ul>	<ul style="list-style-type: none"> <li>Subsidized fertilizer and seed</li> <li>More responsive because LGUs act as conduits</li> <li>Budget for restoration and rehabilitation of irrigation systems</li> </ul>	<ul style="list-style-type: none"> <li>Cannot sustain the implementation due to LGU's weak funding</li> <li>Weak coordination among involved agencies</li> <li>Inefficiency of rice marketing due to:               <ol style="list-style-type: none"> <li>Poor infrastructure and facilities</li> <li>Domination of private traders</li> <li>Ineffective NFA</li> </ol> </li> </ul>
<b>Rice Self-sufficiency Plan 2009-2010 or "Focusing on Increasing Provincial Productivity" in coordination of Philippine Rice Research Institute (PhilRice)</b>	<ul style="list-style-type: none"> <li>100% self-sufficiency by 2010</li> <li>Improvement of rice productivity</li> <li>Increased income of rice farmers</li> <li>To achieve rice self-sufficiency by 2013 and maintain it through 2016</li> </ul>	<ul style="list-style-type: none"> <li>Intervention from LGUs</li> <li>Improvement of irrigation systems</li> </ul>	<ul style="list-style-type: none"> <li>Inability of LGUs to sustain support and funding</li> </ul>
<b>Food Staples Self-Sufficiency Program (FSSP) 2011-2016</b>	<ul style="list-style-type: none"> <li>To increase and sustain farm productivity and competitiveness</li> <li>To raise rural income – poverty reduction</li> <li>To manage consumption</li> </ul>	<ul style="list-style-type: none"> <li>Less government intervention on price</li> </ul>	<ul style="list-style-type: none"> <li>Fragile resource base</li> <li>Capacity of public institutions</li> <li>Inadequate economic incentives</li> <li>Lack of access to capital and crop insurance</li> <li>Traditional ways over adoption of yield-enhancing technology</li> </ul>

### **Philippine Agriculture vis-à-vis other ASEAN countries**

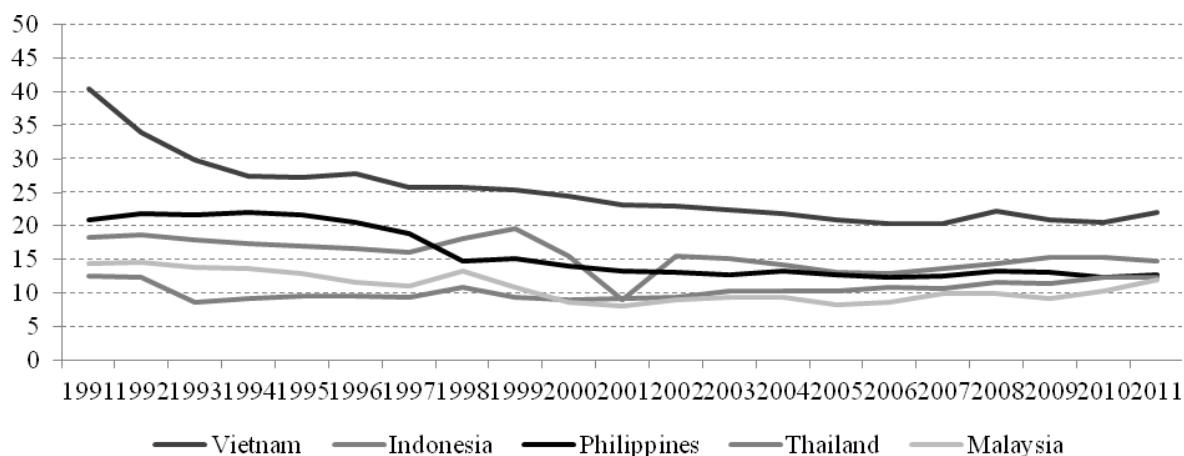
This section discusses the Philippine agriculture vis-à-vis other ASEAN countries agriculture. The central concern of this section is to assess the performance of the Philippines. This is crucial in analyzing whether Philippine agriculture can cope with other ASEAN countries especially during the ASEAN Economic Community.

As seen in Table 6, Indonesia has the largest agricultural land followed by Thailand. However, only 13 per cent of Indonesia's land area is arable while 32.4 per cent for Thailand. Cambodia and Vietnam have also large percentage of arable land of 23.2 and 20.6 per cent, respectively.

**Table 6:** Agriculture in Figures by ASEAN Countries (2012)

ASEAN Member-States	Land Area (sq. km)	Agricultural Land (sq. km)	Arable Land (hectares per person)	Arable Land (% of land area)	Permanent Cropland (% of land area)
Brunei	5,270.00	134	0.01	0.8	1.1
Cambodia	176,520.00	57,550	0.28	23.2	0.9
Indonesia	1,811,570.00	565,000	0.1	13	12.1
Lao	230,800.00	24,690	0.22	6.3	0.7
Malaysia	328,550.00	77,495	0.03	2.9	19.8
Myanmar	653,290.00	125,930	0.2	16.6	2.2
Philippines	298,170.00	123,950	0.06	18.6	17.9
Singapore	700	7	0	0.9	0.1
Thailand	510,890.00	218,600	0.25	32.4	8.8
Vietnam	310,070.00	108,420	0.07	20.6	12.3

Moreover, Thailand and Vietnam are well endowed of water resources, unlike the Philippines. Thailand and Vietnam have 6,526 and 11,406 cubic meter per capita, respectively, as compared to an annual average of 6,332 cubic meter per capita of available water in the Philippines (Cabanilla, 2006, p. 17). Also, Philippines has only 0.6 million hectares of rice field with reliable sources of irrigation while the rest are rain fed. With regard to water resource, 2.33 million hectares of agricultural land in the Philippines can only be classified as highly moderate and suitable for wetland rice production. These are Regions I, II and III in Luzon and Regions X, XI and XII in Mindanao.

**Figure 7:** Share of agriculture to economy (% GDP)

As shown in Figure 7, Vietnam has the highest share of agriculture in its GDP since 1991. However, for the past two decades, Vietnam's GDP share is declining from 40.5 per cent in 1991 to 22 per cent in 2011. This trend is also present with other ASEAN countries. Philippines, for instance, has gone from 21.8 to 12.8 per cent in twenty years. Since 1998, the Philippine's agricultural share to GDP has never recovered. Meanwhile, Indonesia experienced its lowest point in 2001 but regained by 6 per cent in 2002. It is now second to Vietnam in terms of GDP share. On the other hand, Thailand and Malaysia both have at least 11% of their GDP consist of agriculture. As per Gross Value Added (GVA), Figure 8 shows that among the seven ASEAN countries, Indonesia has the highest share. Philippines and Thailand came second and third, respectively. Although Vietnam's agriculture has the highest GDP share in the

ASEAN, its GVA came only fourth. It can be concluded that in this situation, high GDP does not constitute high GVA.

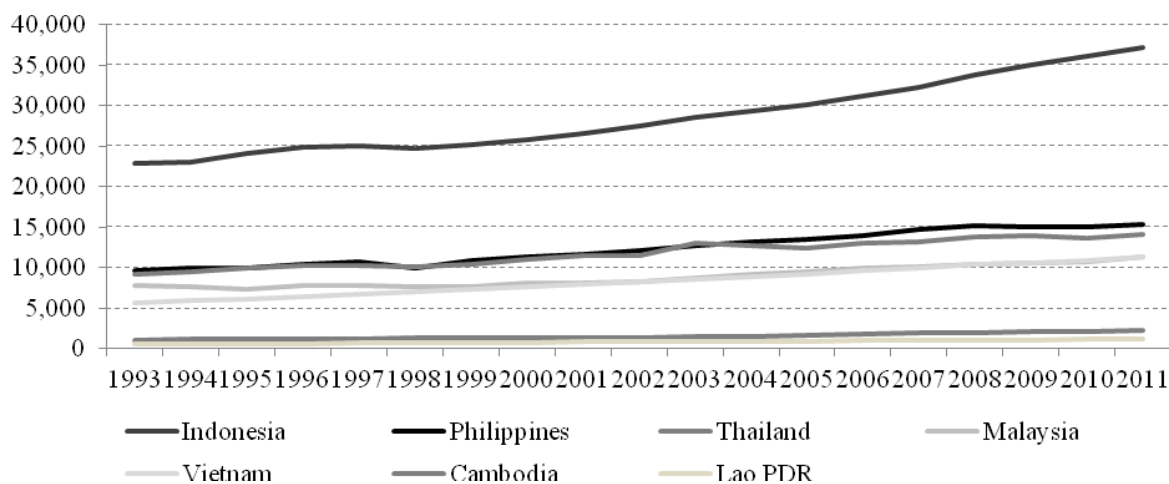


Figure 8: Gross Value Added in Agriculture at constant 2000 by ASEAN countries (in million US\$)

On the other hand, Figure 9 shows the employment share per sector from the selected ASEAN countries. First, it can observe that services sector has the highest employment. Malaysia has the most number of people employed by services followed by the Philippines. Second observation, agriculture still constitutes a large number of employments. An average of at least 30% of the total employment is at agriculture. Malaysia has the lowest share while Vietnam has the highest number of people employed in agriculture.

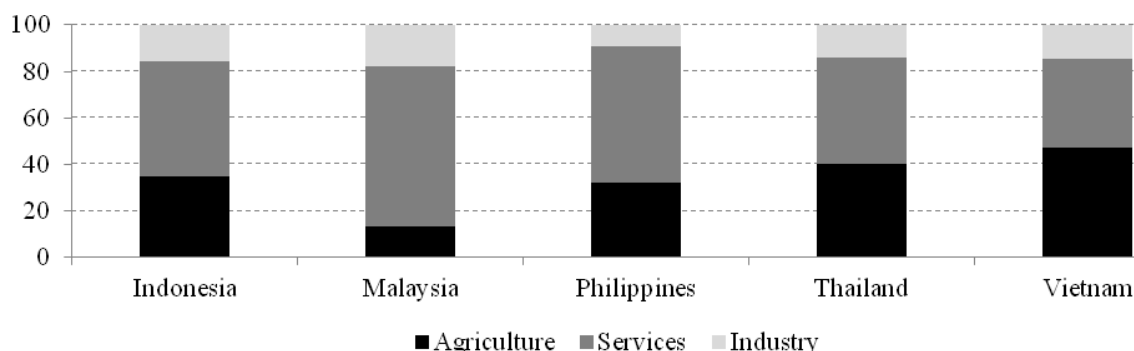


Figure 9: Employment share (% of total employment) per sector (2012)

The upcoming ASEAN Integration can pose certain challenges to Philippine agriculture. The issue will be of productivity, not of land area. Philippines should boost national agricultural research and development system to accelerate technological change and transformation of its agriculture sector. This will help to gain competitive advantage over other ASEAN countries. In a positive note, this can be an important development strategy for agricultural growth and productivity. As such, food security will be easily attained. However, Filipino farmers are not yet ready. The success of the [regional] trade will be dependent to the capacity of the domestic market. Moreover, the upcoming ASEAN Integration is a platform for ASEAN countries to create a regional food security policy framework.

## Conclusion

Through a review of relevant literature and secondary data, the study demonstrates that Philippines is still far from being food secure. Thus, the goal of FSSP and other food security related policies do not appear to be feasible but still doable outside the indicated timeframe. The study showed that Philippine agriculture is constrained by frequent typhoon visits and inadequate budget. Lack of reliable sources of irrigation is also an issue. Hence, it is essential to focus on agricultural infrastructures and technologies. With regard to this, public investments on agriculture should be higher and sustained.

Furthermore, due to some weaknesses identified, the Philippine agriculture has a long way to go to bring back its glory. The said weaknesses which needed to be amended are: (1) implementation of the policies crafted. Sustained implementation is hard to achieve due to number of reasons like funding; and (2) weak coordination among relevant government agencies which results to weak enforcement of policies and regulations.

Given the current situation, ASEAN integration will not bode well for Philippine agriculture. Philippine agriculture faces biggest challenges in the domestic level – poor growth in agriculture, fragile food security, weak rural development, and worsening poverty, among others. This weakens the performance and position of the country alongside fellow agricultural countries. A recommendation is to go through institutional reforms. Unless discontinuous management of policies and high politicking among relevant government agencies are addressed, Philippine agriculture will continue its stagnation alongside [rural] poverty.

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