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Singapore | 10 June 2014

Is the APEC Approach to Food Security Viable?

*By Lee Poh Onn**

EXECUTIVE SUMMARY

- Sharp increases and volatility in food prices in recent years have forced policymakers to pay more attention to the issue of food security.
- Food security involves four dimensions: availability, physical access, economic access, and utilization.
- In the past decade, food prices have been rising because demand has outstripped supply.
- Although APEC has, at times, been criticized as a “talk shop”, it can play an important role in increasing food supplies because of its geographical coverage and size, and also food production capabilities.
- APEC as an organization, can provide also a consultative mechanism and collective peer pressure can help member economies enhance food security in the region.

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INTRODUCTION¹

Recent sharp increases and volatility in international food prices have forced policy-makers to pay more attention to the issue of food security. In the past decade, food prices have been rising because demand has outstripped supply. During this period, food prices have risen three times faster than inflation.²

Between January 2007 and mid-2008 alone, wheat prices increased by 86 per cent, maize by 76 per cent and rice by 176 per cent. Again from June 2010 to mid-2011, prices for these staple crops—which constitute a majority of daily sustenance in many developing countries—have increased by 98 per cent, 105 per cent, and 36 per cent respectively.³ While such volatility can be explained by sudden shortfalls in supplies as a consequence of fluctuating weather conditions, there is nevertheless a need to identify the slow-evolving trends influencing the long-term demand and supply of food.

Technically, food security is met “when all people, at all times, have physical and economic access to sufficient, safe nutritious food to meet their dietary needs and food preferences for an active and healthy life”.⁴ Availability, physical access, economic access, and food utilization are frequently discussed as important prerequisites that must be fulfilled to ensure food security.⁵ ‘Availability’ here is determined by the level of production, stock levels, and net trade.⁶ Raising farm productivity is crucial to this, as is the lowering of barriers to trade to increase availability. The second condition relates to the physical access to food (infrastructure and logistics), and stresses that adequate amounts of food must be within the physical reach of households. ‘Economic access’ represents the ability of households to purchase the food that it requires, i.e. the demand side for food. This aspect deals with the purchasing power of consumers and the evolution of real incomes and changing food prices over time. Finally, ‘food utilization’ denotes the ability to utilize food to its fullest in terms of its nutritional status, and is related to food safety—i.e., the need to ensure that food remains fresh as it is transported from source to consumer, as well as general safety levels and standards. Hence, while the first two conditions concern supply, the third and fourth relate to the demand for food.

¹ I am indebted to Sanchita Basu Das for comments on an earlier version of this paper.

² Economist Intelligence Unit (EIU), *Global Food Security Index 2012: An Assessment of Food Affordability, Availability and Quality*. London: The Economist Intelligence Unit, 2012, p. 4.

³ Asia-Pacific Economic Cooperation (APEC). *Food Security Policies in APEC*. APEC Policy Support Unit, September 2012, p. 9.

⁴ Food and Agriculture Organisation (FAO), *Rome Declaration on World Food Security and World Food Summit Plan of Action*. World Food Summit 13-17 November 1996, Rome.

⁵ Discussion of these four aspects of food security draws from Asia-Pacific Economic Cooperation (APEC). *Food Security Policies in APEC*, op. cit., pp. 3-5.

⁶ Trade affects food security to the extent that it increases economic growth, increases supplies, and reduces overall supply variability. *Ibid.*, p. 5.

The Asia-Pacific Economic Cooperation (APEC), as a regional organization, can play an important role in ensuring food security because of its geographical coverage and food production capabilities, as it involves 21 member economies including the three largest economies of China, Japan, and the USA.⁷ To this end, APEC has been spearheading cooperation on food and agricultural issues and is well-positioned to address current and emerging food security challenges.

However, can APEC—under its present loose institutional set-up—deliver on its role in promoting regional and global food security? While it has been systematically discussing food security issues in its yearly agenda since 2010 (although less comprehensive initiatives on food date back to as early as 1998), a comprehensive APEC-wide approach to the issue has yet to gain sufficient traction within governments.

In the course of answering the above question, this *ISEAS Perspective* attempts to identify future trends that may affect the supply and demand for food; to examine the current state of food security in APEC economies; and to revisit the food security measures that have been implemented so far by APEC, as an organization. It is argued that APEC's strategy in food security has focused on the supply-side of food, and although the APEC institutional set-up is not rigorous in a formal sense, there are strengths present in this flexible structure to help enhance food security in the region.

FACTORS AFFECTING THE FUTURE OF FOOD SUPPLY AND DEMAND

Factors Affecting Supply

Reduction in trade barriers, coupled with infrastructure and logistical improvements, influence farm productivity and trade gains. More specifically, these measures enhance the supply of food through better physical access, investments in agricultural R&D, improvements in market supply chains, better credit access for farmers, and better mitigation and adaptation measures to climate change.

APEC's food security strategy has been to focus on increasing food availability and lowering food prices by promoting production based on sustainable development principles, increasing productivity through technological improvements; and the facilitation of investments, trade, and markets to ensure that food supplies go to where they are most needed. However, this emphasis on the 'supply-side' of food security is contingent on relatively stable levels of food production, stock levels and net trade. The trend towards displacing existing food production capabilities in favour of biofuel production has already seen a decline in food levels. The APEC region

⁷ Asia-Pacific Economic Cooperation (APEC). Fact Sheet: APEC and Food Security. Available: <http://www.apec.org/About-Us/About-APEC/Fact-Sheets/APEC-and-Food-Security.aspx> [accessed: 14 May 2014].

has emerged as the world's leading producer of biofuels, from 35 per cent of global share in 2000 to 60 per cent of global share in 2010. Arable land per capita has also declined sharply since 1961 and is projected to fall from 0.22 ha per person in 2012 to about 0.18 ha per person in 2050.⁸

Increased cycles of adverse weather conditions generated by climate change are also expected to exacerbate long-term vulnerabilities in food production and supplies. Yield potentials of major crops in China have been estimated to fall by between 15 to 25 per cent by 2050 relative to the 2000 baseline, because of projected temperature increases. In Southeast Asia, rice is projected to fall by 50 per cent by 2100 relative to 1990 yields.⁹ In terms of price increases, the International Food Policy Research Institute has estimated that sans climate change, the price of rice will rise by 62 per cent, maize by 63 per cent, soybeans by 72 per cent, and wheat by 39 per cent. Climate change may create additional forecasted price increases of between 32 to 37 per cent for rice, 52 to 55 per cent for maize, 94 to 111 per cent for wheat, and 11 to 14 per cent for soybeans.¹⁰

Factors Affecting Demand

On the demand side, food security can be enhanced through increases in real income over time, economic growth and development, and increases in the utilization rate of existing food supplies.

Rising incomes in the years ahead are expected to fuel an upward shift in global demand. Since 1960, the world economy has grown six-fold. Among developing economies, the real GDP has nearly doubled from 3.1 per cent per year in the 1980s to 6 per cent in the 2000s.¹¹ In APEC, the average per capita income in 2008 (at purchasing power parity dollars) was US\$21,855.¹² In recent years, income growth has also been relatively stronger among developing APEC member economies.¹³ With Asia's per capita income alone projected to be around US\$40,000 by 2050 (at purchasing power parity dollars), an additional 3 billion people in the region alone will become affluent by current standards.¹⁴

⁸ Asia-Pacific Economic Cooperation (APEC). Challenges to Achieving Food Security in APEC. Issues Paper No. 2, APEC Policy Support Unit, November 2012, p. 1.

⁹ Studies cited in Asian Development Bank, Food Security and Poverty in Asia and the Pacific: Key Challenges and Policy Issues. Philippines: The Asian Development Bank 2012, p. 21

¹⁰ Climate Change: Impact on Agriculture and Costs of Adaptation. Washington, D.C.: International Food Policy Research Institute, October 2009, p. 6.

¹¹ Asia-Pacific Economic Cooperation (APEC). Challenges to Achieving Food Security in APEC, op. cit., p. 6.

¹² Calculated from Robbin Johnson, Kym Anderson, et.al., "Strategic Framework for Food Security in APEC", Washington, D.C.: International Food & Agricultural Trade Policy Council, no date, p. 3. Data not available for Chinese Taipei.

¹³ Asia-Pacific Economic Cooperation (APEC). Challenges to Achieving Food Security in APEC, op. cit., p. i.

¹⁴ Asian Development Bank, Food Security and Poverty in Asia and the Pacific: Key Challenges and Policy Issues.

The world's population doubled in 45 years, from 3.5 billion in 1967 to 7 billion in 2012.¹⁵ Global population will reach an estimated 9.3 billion in 2050, 2 billion more than in 2012.¹⁶ The APEC region alone is expected to house about 3 billion people by 2050, accounting for 32 per cent of the world's population.¹⁷ In addition, increasing urbanization will also increase the demand for food. More than 50 per cent of the population currently live in urban areas; and this is expected to increase to 70 per cent by 2050.¹⁸ Such increases in population size as well as urbanization will greatly increase food demands.¹⁹

APEC AND FOOD PRODUCTION

There are several reasons why APEC has an important role to play in improving regional and global food security.²⁰ First, while its member economies have reduced the region's undernourished by 24 per cent in the last two decades, about 25 per cent of the world's hungry population still reside in the region. Second, as shown in Table 1, APEC economies account for more than half of the world production of rice, maize, eggs, vegetables and fish, and forty per cent of the world production of wheat, soybeans, beef and buffalo meat, and fruit; and more than 30 per cent of the world production of raw sugar and milk. Third, these economies generated around 34 per cent and 36 per cent of global agricultural exports and imports respectively in 2009 (Table 2). About 72 per cent of all of APEC's food and agricultural exports are absorbed by other member economies while 72 per cent of all APEC imports originate from other APEC member economies.²¹

Mandaluyong City: Philippines, Asian Development Bank, 2012, p. 3.

¹⁵ Asia-Pacific Economic Cooperation (APEC). *Challenges to Achieving Food Security in APEC*, op. cit., p. 5.

¹⁶ Asian Development Bank, *Food Security and Poverty in Asia and the Pacific: Key Challenges and Policy Issues*, op. cit., p. 3.

¹⁷ Asia-Pacific Economic Cooperation (APEC). *Challenges to Achieving Food Security in APEC*, op. cit., p. 1.

¹⁸ *Ibid.*

¹⁹ *Ibid.*

²⁰ Asia-Pacific Economic Cooperation (APEC). *Food Security Policies in APEC*, op. cit., p. 13.

²¹ *Ibid.*, p. 14.

Table 1: APEC and World: Share of Food Production in 2011

Food Product	APEC's Share to World Total (%)
Wheat	41.0
Rice	54.6
Maize	65.5
Soybeans	40.7
Raw Sugar	30.3
Beef and Buffalo Meat	42.8
Milk	30.5
Eggs	66.8
Vegetables	63.7
Fruits	40.6
Captured Fish*	61.6
Aquaculture*	79.2

* includes fish, crustaceans, Mollusca, etc., excludes aquatic plants.

Source: Policy Partnership on Food Security (PPFS). APEC Food Security Road Map Towards 2020 (Version 2013). Indonesia: Indonesian Agency for Food Security, Ministry of Agriculture, 2013

Table 2: APEC and Global Agricultural Trade: 2009

Commodity Group	Share of APEC in World Exports	Share of APEC in World Imports
Cereals	50	30
Fruits and Vegetables	35	34
Fish	43	43
Meat	29	36
Total Agriculture	34	36

Source: Asia-Pacific Economic Cooperation (APEC). Food Security Policies in APEC. APEC Policy Support Unit, September 2012, p. 13.

Presently, while many APEC economies fare well in terms of food availability, most of them still experience some form of food insecurity at the macro level. A country's capability to ensure adequate food security hinges on its ability to identify factors that contribute to the risks of it becoming food insecure, and to make informed decisions that drive sustainable action at the policy level. One way to measure capabilities is the ranking of APEC economies in the Global Food Security Index.²² The Global Food Security Index²³ (GFSI), developed in 2012 by the Economist Intelligence Unit (EIU), measures food security from a formulation established at the World Food Summit in 1996. Food security is measured across three internationally designated dimensions: affordability, availability, and utilization (quality and safety).

From Table 3, it can be seen that APEC member economies are ranked from "moderate" to "best".²⁴ Eight out of the seventeen member economies²⁵ are ranked in the "best environment" category in the GFSI (top 25 per cent quartile) (United States, Canada, New Zealand, Australia, Singapore, Japan, South Korea, Chile), while six are ranked in the "good environment" category (top 50 per cent quartile) (Mexico, Malaysia, Russia, China, Thailand, Peru). The remaining three of the APEC economies are ranked in the "moderate environment" category (Viet Nam, Philippines, Indonesia). In terms of affordability, the highest ranking member economy is Singapore (ranked first out of 107 economies). For availability, the United States is the highest ranking APEC economy (ranked third out of 107). And for utilization, the United States again is the highest ranked (ranked fifth out of 107).

²² The discussion here draws heavily from Asia-Pacific Economic Cooperation (APEC). Food Security Policies in APEC, op. cit., pp. 19-26.

²³ For a breakdown of these three measures, please refer to the Economist Intelligence Unit (EIU), Global Food Security Index 2013: An Assessment of Food Affordability, Availability and Quality. London: The Economist Intelligence Unit, 2013, pp. 22-23.

²⁴ In the GFSI, a score of 70 and above is ranked "best environment", while a score between 53.6 to 69.9 is ranked "good environment" and 36.0 to 52.9 is ranked "moderate environment".

²⁵ Seventeen out of the twenty one APEC member economies have been included in this index. APEC economies not ranked in the GFSI are Brunei Darussalam; Chinese Taipei; Hong Kong, China; and Papua New Guinea. That these members have not been ranked, does not imply that these countries have a low ranking in this index.

Table 3: Global Food Security Index Ranking of APEC Member Economies: 2013 (0-100 where 100=most favourable).

Overall GFSI Rank out of 107 Countries	Member Economy	GFSI Overall Score/100	Affordability Score/100 and Ranking out of 107	Availability Score/100 and Ranking out of 107	Utilization (Quality and Safety) Score/100 and Ranking out of 107
1	United States	86.8	92.9 (2)	82.4 (3)	86.4 (5)
8	Canada	82.1	87.0 (12)	78.1 (10)	83.7 (11)
9	New Zealand	82	83.1 (20)	81.5 (4)	81.0 (18)
15	Australia	80.1	88.9(6)	71.2 (17)	85.4 (8)
16	Singapore	79.9	93.6 (1)	70.1 (21)	71.8 (32)
18	Japan	77.8	81.6 (21)	73.3 (15)	79.6 (22)
24	South Korea	71.1	76.5 (27)	64.6 (29)	78.1 (23)
26	Chile	70.3	69.2 (32)	69.2 (22)	72.2 (30)
30	Mexico	66.2	67.3 (34)	64.6 (29)	72.2 (30)
34	Malaysia	64.5	61.2 (44)	63.7 (33)	70.0 (34)
40	Russia	60.9	72.0 (31)	48.8 (59)	74.3 (29)
42	China	60.2	59.5 (47)	59.7 (41)	65.7 (43)
45	Thailand	58.9	61.7 (40)	57.3 (44)	58.0 (53)
50	Peru	56.0	61.7 (47)	51.5 (50)	57.9 (54)
60	Viet Nam	48.6	42.4 (70)	53.9 (49)	50.6 (69)
64	Philippines	46.9	42.8(68)	47.1 (63)	54.5 (61)
66	Indonesia	45.6	43.6 (65)	49.9 (55)	42.1 (80)

Note: Total Number of Countries in the GFSI: 107.

Source: Compiled from Economist Intelligence Unit (EIU), Global Food Security Index 2013: An Assessment of Food Affordability, Availability and Quality. London: The Economist Intelligence Unit, 2013 and also from <http://foodsecurityindex.eiu.com/Index>.

APEC INITIATIVES IN FOOD SECURITY

APEC initiatives in food security started as early as 1998 in Chinese Taipei. Back then, it was proposed by the APEC Business Advisory Council (ABAC) that an APEC Food System (AFS) be developed to better link farmers, food processors and consumers so as to boost the food sector's contribution to the prosperity of the APEC region.²⁶ The AFS failed to gain traction within member economies, however, and no major framework or comprehensive APEC wide approach was implemented until the Global Food Crisis of 2007-2008.²⁷

It was during the "Niigata Declaration on APEC Food Security",²⁸ in the APEC Japan Year 2010, that a comprehensive framework was developed. In the Niigata Declaration, ministers recognized the importance of food as an "absolute necessity for human survival"²⁹. In particular, ministers placed emphasis on the supply-side activities of food to improve food security in the region.³⁰

There were two shared goals under the Niigata Declaration: a sustainable development of the agricultural sector; and the facilitation of investment, trade and markets.³¹ The APEC Action Plan on Food Security (AAPFS) endorsed under the Niigata Declaration identified 62 specific activities (action points) to be implemented by individual APEC economies. Responsibility to implement these action points was shared by 14 APEC economies and ABAC. The action points take the form of work-shops, symposiums, conferences, dialogues, training modules, studies, information sharing, network facilitation, research and analysis. Notably, these are among some of the "gentle" and persuasive approaches that APEC uses (best practices, capacity building and also knowledge sharing) to help member economies build up food security in the region.

Following the Niigata Declaration on Food Security in 2010, APEC Senior Officials agreed to create a Policy Partnership of Food Security (PPFS) in November 2011 in Hawaii, USA (APEC USA Year 2011) as a primary mechanism of APEC econo-

²⁶ Asia-Pacific Economic Cooperation (APEC). Food Security Policies in APEC, op. cit., Annexe 2.

²⁷ Ibid., p. 18.

²⁸ First APEC Ministerial Meeting on Food Security, Niigata, Japan, 16-17 October 2010. Niigata Declaration on APEC Food Security. http://aimp.apec.org/Documents/2010/MM/FSMM/10_fsmm_jms.pdf. Retrieved on 15 December 2013.

²⁹ Ibid..

³⁰ Ibid..

³¹ Trade is to be facilitated by the removal of tariff and non-tariff barriers through a rules-based multilateral trading system, investments spurred by public and private partnerships and a secure legal and regulatory framework, while markets expanded by providing financial services (including micro-finance) and a strong supply chain. It was estimated that 45 percent of the world price increase for rice in 2006-08 and 29 percent of the increase in the world price of wheat in the same period was due to border restrictions used by economies to insulate themselves. See Asia-Pacific Economic Cooperation (APEC). Challenges to Achieving Food Security in APEC. Issues Paper No. 2, op. cit., p. 17.

mies to address food security concerns.³² In 2012, the first APEC PPFS Meeting was inaugurated in Kazan, Russia, where four working groups were launched (APEC Russia Year 2012). These were the Working Group on Stock-take and Action Plan Towards 2020; the Working Group on Best Practice Sharing; the Working Group on Investment and Infrastructure Development; and the Working Group on Enhancing Trade. Through the PPFS, APEC now has a unique opportunity to consolidate its food agenda into one coherent framework.

In the 2012 APEC Ministerial Meeting on Food Security also known as the “Kazan Declaration on APEC Food Security”, the ministers responsible for food security agreed to focus on the following: increasing agricultural production and productivity, facilitating trade and developing food markets, enhancing food safety and quality, improving access to food for socially vulnerable groups of population, and ensuring sustainable ecosystems-based management and combating illegal, unreported, and unregulated fishing and associated trade.³³

To follow up on the Kazan Declaration, four working groups were tasked in January 2013 to deal with the various aspects of food security (APEC Indonesia Year 2013). These groups were: a) Stock-take and Food Security Map Towards 2020, b) Sustainable Development of Agriculture and Fishery Sectors, c) Facilitation of Investment and Infrastructure, and d) on Enhancing Trade and Markets.

Each working group in turn has to set up an implementation plan.³⁴ The planned activities for the working groups are detailed in Annex of the APEC Food Security Road Map Towards 2020.³⁵ Again, these working groups put gentle peer pressure on member economies to carry out activities in compliance with the goals of APEC. The *APEC Food Security Road Map Towards 2020 (Version 2013)* was endorsed by the PPFS in the Medan Plenary Meeting held from 22-23 June 2013. In the 2013 Leaders’ Declaration, during the APEC Indonesia Year, governments reaffirmed the importance of implementing the Road Map.³⁶

³² Policy Partnership on Food Security (PPFS). APEC Food Security Road Map Towards 2020 (Version 2013). Indonesia: Indonesian Agency for Food Security, Ministry of Agriculture, 2013, p. x.

³³ 2012 Second APEC Ministerial Meeting on Food Security: Kazan Declaration on APEC Food Security, Kazan, Russia, 30-31 May 2012. <http://www.maff.go.jp/j/press/kokusai/boueki/pdf/120601-02.pdf>. Retrieved on 7 January 2014.

³⁴ Policy Partnership on Food Security (PPFS). APEC Food Security Road Map Towards 2020 (Version 2013), op. cit., p. 3.

³⁵ Annex, Compilation of Working Groups’ Proposed Activities, *ibid.*, pp. 17-28.

³⁶ 2013 Leaders Declaration “Bali Declaration – Resilient Asia-Pacific, Engine of Global Growth. http://apec.org/Meeting-Papers/Leaders-Declarations/2013/2013_aelm.aspx?p=1. Accessed 7 November 2013.

CHALLENGES FACING APEC

Indeed, APEC is well positioned to contribute significantly to enhancing food security in the region as well as globally. This is because there are several APEC economies that are major agricultural producers. APEC has also worked out comprehensive working plans and identified very systematic working groups to deal with the different facets of food that will promote food security. Hence, there is already an operational structure in place. Through the Policy Partnership on Food Security (PPFS) which was established in 2011, APEC is now also consolidating its food security agenda under one entity.

Importantly, APEC is also very experienced in coordinating the exchange of best practices and information, and can continue to build capacity among the various stakeholders to equip member economies to better cooperate with one another. The more developed APEC economies using more advanced technologies would be in a position to share their expertise with the developing member economies through APEC's economic-technical (ECOTECH) cooperation programmes, although these have to be adjusted to the context and technological know-how of the developing member economy. These are the factors that make the APEC approach viable as a mechanism to promote food security.

However, challenges remain.

APEC has a diverse membership of developed and developing member economies. The APEC region consists of high, middle and low income economies with varying food and nutritional needs.³⁷ Some economies are still dependent on subsistence farming with their urban poor exposed to hunger due to rising food prices. Other economies have been undergoing rapid transformation and economic development. APEC economies also consist of exporters as well as importers ranging from highly traditional food producers to highly mechanized or industrialized players. Policy priorities to improve food security would therefore vary significantly from one economy to another. As a result, policy conflicts may occur and compromises may arise to dilute the effectiveness of food policies. National interests may be put ahead of collective interests.

Table 4 below illustrates the diversity present within selected APEC member economies (column 5). Some member economies are affluent (column 2) while some have a sizeable population vulnerable to fluctuations in food prices due to a high percentage of household expenditure being devoted to food consumption (column 3). Others also have a sizeable percentage of their population living under less than US\$2 per day (column 4). As such, there is a continuing need for developed APEC member economies to assist developing member economies financially. Also, given that a sizeable percentage of the population of member economies devote more than

³⁷ Asia-Pacific Economic Cooperation (APEC). Food Security Policies in APEC, op. cit., *Ibid.*, pp. 11-12.

20 per cent of their household expenditure to food, there will be a need to provide social safety nets to buffer these groups from price increases.

Table 4: Selected APEC Member Economies: GDP Per Capita (PPP/ US\$) and % of Household Expenditure on Food Consumption, and Poverty Levels: 2013

APEC Member Economy	GDP Per Capita (PPP ^a / US\$)	Percentage of Total Household Expenditure on Food Consumption	Percentage of Population Living under US\$2/day PPP*	Main Characteristic of Economy ^a
(1)	(2)	(3)	(4)	(5)
Australia	42,780	19.7	0	Extensive Agriculture***
Canada	42,660	17.5	0	Large Scale Farming
Chile	18,500	22.5	0	Extensive Agriculture
China	9,450	39.8	27.2	Extensive Agriculture
Indonesia	4,900	45.4	46.1	Extensive Agriculture
Japan	36,220	19.8	0	Small Scale Farming
Malaysia	16,990	31.2	2.3	Extensive Agriculture
Mexico	17,940	29.2	4.5	Extensive Agriculture
New Zealand	31,270	12.1	0	Large Scale Farming
Peru	10,640	31.8	12.7	Extensive Agriculture
Philippines	4,100	43.3	41.5	Extensive Agriculture
Russia	17,063	35.4	0.1	Extensive Agriculture
Singapore	47,610	7.4	0	Limited Primary Production**
South Korea	31,190	23.1	0	Small scale Farming
Thailand	9,490	24.1	4.1	Extensive Agriculture
United States	49,900	13.9	0	Large Scale Farming Extensive Agriculture
Vietnam	3,590	50.1	43.4	Extensive Agriculture

^a *Extensive Agriculture: Large number of small firms, low levels of capital investments but generally high levels of chemical inputs, large percentage of total labour force engaged in primary production. Large Scale Farming: Capital intensive farms and fisheries, with a small proportion of*

labour force engaged in primary production. *Small Scale Farming: Relatively labour intensive and "protected". Limited Primary Production: Large population relative to their primary production base but depend to a large extent on imports.* Source: *Asia-Pacific Economic Cooperation (APEC). Food Security Policies in APEC, op. cit., p. 25.*

* *Purchasing Power Parity*

** *Member economies not listed in the category include Brunei Darussalam, and Hong Kong, China.*

*** *Member economies not listed in this category include Papua New Guinea.*

Source: *Compiled from Economist Intelligence Unit (EIU), Global Food Security Index 2013: An Assessment of Food Affordability, Availability and Quality. London: The Economist Intelligence Unit, 2013; <http://foodsecurityindex.eiu.com/Index> (accessed on 13 December 2013); and Asia-Pacific Economic Cooperation (APEC). Food Security Policies in APEC. APEC Policy Support Unit, September 2012.*

APEC is also not a rule-making institution and cannot issue or enforce rules over its member economies. Member economies abide by rules voluntarily, and no enforcement mechanisms exist to compel compliance.³⁸ This preference for non-legalistic methods and non-binding commitments is sometimes seen as a stumbling block but is nevertheless advantageous as it allows developing member economies to participate at their own pace and as needed. There is a sense of inclusiveness where members do not feel left out if they are unable to comply with the rules within a given deadline. There is this feature where member economies work towards "agreeing on principles first, and then let things evolve and grow gradually".³⁹

Nevertheless, APEC as an organization provides a consultative mechanism where consensus building and mediation create a non-threatening atmosphere for "exploring ways of problem-solving".⁴⁰ To APEC's advantage, collective peer pressure has and will continue to help members move in the same direction, although at different speeds for different economies. The tracking and reporting system put in place by APEC rewards compliant member economies, and "oblige[s] the laggards to explain why they are lagging behind".⁴¹

With the current structure, APEC must continue using collective pressure to make all member economies cooperate with one another more effectively.

³⁸ I-Chun Hsiao and Jerry I-H Hsiao, "An Analysis of APEC's Green Growth Strategy in the Context of the United Nations Conference on Sustainable Development", APEC Study Centre Consortium Conference 2011. Key Findings and Policy Recommendations: Green Growth, Trade Integration and Regulatory Convergence. Coedited by K Aggarwal and Richard Feinberg, APEC Study Centres Consortium (ASCC) 2011 Co Chairs, November 2011, p. 9.

³⁹ Hadi Soesastro cited in Amitav Acharya, "Ideas, Identity, and Institution-Building: From the 'ASEAN Way' to the 'Asia-Pacific Way', *The Pacific Review* 10 (No. 3), p. 334.

⁴⁰ *Ibid.*, p. 336.

⁴¹ Hsiao and Hsiao, p. 14.

ISEAS Perspective is published electronically by the Institute of Southeast Asian Studies, Singapore.

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