CIMB ASEAN RESEARCH INSTITUTE
DEDICATED TO ASEAN INTEGRATION

VOL 1 | PAPER 21 | 11 APRIL 2017

AEC BLUEPRINT 2025 ANALYSIS

AN ANALYSIS OF THE ASEAN COOPERATION IN FOOD, AGRICULTURE AND FORESTRY

Foreword

The following report is part of a series which attempts to provide a detailed analysis on the ASEAN Economic Community (AEC) Blueprint 2025. Each report will cover a single element of the blueprint, providing a comprehensive look at past achievements, present problems, and the future plans of the AEC. Special attention will be placed upon the strategic measures outlined in the AEC Blueprint 2025. This report aims to provide insight into the viability surrounding regional economic integration under the AEC.

ASEAN Cooperation in Food, Agriculture and Forestry (FAF)

Cooperation in FAF has historically been an important priority in ASEAN, particularly with regard to strengthening food security, empowering the rural communities and developing the business side of FAF products. The cooperation itself in ASEAN dates back as early as 1968[1] which focused on food production and supply. The scope of cooperation was expanded further in 1977 to include broader agriculture and forestry sectors. The current objectives of ASEAN cooperation in FAF include formulating and implementing regional cooperation activities to enhance international competitiveness of ASEAN's FAF products, and strengthening the food security arrangement in the region and joint positions in international fora. The specific areas that ASEAN are working on include food security, food handling, crops, livestock, fisheries, agricultural training and extension, agricultural cooperatives, forestry and joint cooperation in agriculture and forest products promotion scheme.

In the previous AEC Blueprint (2009-2015), FAF was under the first pillar of single market and production base. In the new blueprint for 2016-2025, that sector has been housed under pillar three: enhanced connectivity and sectoral cooperation. The envisioned cooperation for the next AEC period has been expanded to also include trade in FAF products and resilience to climate change and natural disasters. This report attempts to review the progress made in this sector, analyze the new strategic plan under the new blueprint, and make some recommendations that could improve the implementation side in the next period of the AEC.

A. Targets under the AEC 2015 Blueprint

As mentioned above, the FAF sector was under the single market and production base pillar in the first period of the AEC implementation. The focus areas for the ASEAN FAF cooperation in 2009-2015 include promotion of trade of FAF products, strengthening of cooperation and technology transfer, and enhancement of agricultural cooperatives to support production and trade. Specifically, the broad strategic measures are as follows:

i. **Enhancing intra- and extra-ASEAN trade and long-term competitiveness of ASEAN's FAF products and commodities**

Under this strategic measure, the actions that are expected to be implemented include:

- Monitor the implementation of the ASEAN trade schemes for agricultural and forest products that are outlined in the **Common Effective Preferential Area** under the **ASEAN Free Trade Agreement (CEPT-AFTA)**
- Develop and apply quality management systems to ensure fisheries food safety and support competitive position of ASEAN fisheries products on world markets
- Establish good practices for agriculture/

[1] ASEAN Ministerial Meeting on Agriculture and Forestry (AMAF)

aquaculture, animal husbandry, hygiene, and manufacturing; and hazard control point based systems for agricultural and food products with trade realization by 2012

- Harmonise the quarantine and inspection/ sampling procedure by 2010 and sanitary/ phytosanitary (SPS) measures for FAF products with trade potential or realization by 2015
- Harmonise the maximum residue limits (MRLs) of commonly used pesticides for widely traded crop products in accordance with international standards by 2010
- Harmonise the regulatory framework for agricultural products derived from modern biotechnology in accordance with international standards by 2015
- Harmonise the safety and quality standards for horticultural produce and agricultural products of economic importance in the ASEAN region, in accordance with international standards by 2015
- Harmonise the animal health control for safety of food of animal origin through a common bio-security management standards scheme, in accordance with international standards, by 2015
- Harmonise guidelines for use of chemicals in aquaculture and measure to eliminate use of harmful chemicals, in accordance with international standards, by 2009
- Develop a regional reference framework on phased-approach to forest certification by 2015

ii. Promoting cooperation, joint approaches and technology transfer among ASEAN member states and international, regional organizations and private sector

This strategic measure outlines some actions to be implemented, as follows:

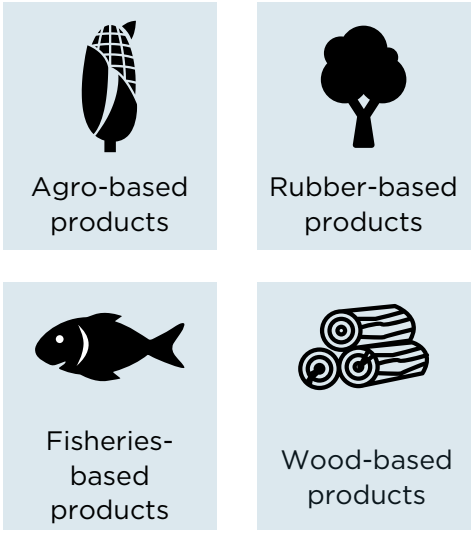
- Develop joint strategies on issues related to ASEAN with relevant international organizations, such as the **Food and Agriculture Organization (FAO)** and the **World Organization for Animal Health (OIE)**
- Promote collaborative research and technology transfer in FAF products
- Establish alliances and joint approaches with the private sector in promoting food safety, investment and joint venture opportunities, promotion of agricultural products and market access
- Strengthen efforts to combat illegal logging and its associated trade, forest fire and its resultant effects
- Strengthen efforts to combat illegal fishing

iii. Promoting agricultural cooperatives in the region as a means to empower and enhance market access of agricultural products, to build a network mechanism linking agricultural cooperatives, and to fulfil the purpose of agricultural cooperatives for the benefit of farmers in the region

The actions to implement this strategic measure include:

- Strengthen strategic alliance between agricultural cooperatives in ASEAN through bilateral, regional and multilateral cooperation
- Establish business linkages among the potential agricultural cooperatives within ASEAN
- Promote direct investment and strategic partnership with ASEAN agricultural cooperatives producers, consumers and traders

During the ASEAN Summit in November 2004, the ASEAN Leaders endorsed and launched the ASEAN Framework Agreement for the Integration of Priority Sectors. The framework agreement was aimed at accelerating the integration process of 11 sectors that were prioritized for integration under the ASEAN agreements in trade in goods (including rules of origin), trade in services, and investment. In 2006, one more sector was added: logistics. There are four prioritised sectors that are relevant to the FAF sector:



These four types of products are often referred to as natural resource based priority integration sectors (NRB-PIS).

B. Significant Achievements To Date

- The ASEAN cooperation in the FAF sector has shown some significant progress, particularly in the agricultural sub-sector, where more harmonization efforts have taken place. Nonetheless, cooperation in the fisheries and forestry sub-sectors has also progressed well.

Area	Progress
ASEAN Trade Schemes for Agricultural and Forestry Products	• Paul Teng of the **Nanyang Technological University (NTU)**, together with Syngenta Asia Pacific, developed the Rice Bowl Index (RBI) to measure the robustness of a country in withstanding problems to maintaining food security[2]. One of the four measures is **policy and trade** which measures how much the current environment encourages open markets, investment and innovation. The four biggest agricultural countries in ASEAN: Indonesia, Philippines, Thailand and Vietnam receive scores between 50 and 70 (on the scale of 1-100), indicating that they have done quite well in fostering trade of agricultural products in the region. • Another relevant measure is **demand and price**, which looks at how food security needs are likely to **evolve in terms of quantity, affordability, and access**. Indonesia and the Philippines score around 30, while both Thailand and Vietnam are in the range of 58 and 61. This suggests that the first two countries have not strengthened their food security policies to ensure that food is readily available and affordable for the people. • In relation to food security, the ASEAN+3 framework has established the **ASEAN Plus Three Emergency Rice Reserve (APTERR)** to ensure that security of rice and food in general is guaranteed in the ASEAN region. This initiative has provided great assistance in provision of rice particularly during times of natural disasters.
Quality Management Systems for fisheries food safety and fisheries products trade in world markets	• The **Southeast Asia Fisheries Development Center (SEAFDEC)** has been established to develop the fisheries sector in the region. SEAFDEC focuses on five thrusts of activities: **responsible fisheries for poverty alleviation and food security, capacity and competitiveness to facilitate international and intra-regional trade, management concepts and approaches for sustainable fisheries, policy and advisory services for planning and executing management of fisheries, and international fisheries related issues from a regional perspective**. • The SEAFDEC has conducted many activities that aim to improve fisheries management and development. Those include research and training on, among others, data of particularly species, promotion of sustainable fisheries, and enhancement of coastal community resilience.
Good practices for agriculture/ aquaculture, animal husbandry, hygiene, and manufacturing; and hazard control point based systems for agricultural and food products	• ASEAN member states have implemented **Good Animal Husbandry Practices (GAHP)** to different degrees and levels of success[3]. Brunei Darussalam has robust egg industry and has been self-sufficient in egg production. The producers utilize private sector quality assurance systems for food safety and they use private veterinarians and professionals to assist them with husbandry practices. Cambodia is in the process of producing a law entitled **Law on Animal Health and Animal Production** as part of its strategic development planning framework for livestock for 2011 to 2020. **Indonesia's** GAHP implementation is through cooperation among the Directorate General Livestock and Animal Health Service, National Centre Research and Development for Animal Husbandry, and National Veterinary Research Institute. **Lao PDR's**

[2] "Efficient Agriculture, Stronger Economies in ASEAN", a collaborative paper by BCSD Singapore, IBCSD, PBE, and VBCSD

Area	Progress
	regulation on livestock farm management came into force in 2013, and covers principles, technical standards, measures & methods to support the establishment, monitoring & control of livestock farms for effective animal production, increased food safety and reduced environmental impacts. The GAHP of **Malaysia** was released in 2006 with the scope of prescribing the minimum requirements in rearing practices of animals, including continuous improvement and sustainable production of safe quality food and non-food products, without any degradation to the environment. Currently, **Myanmar** does not have formal GAHP yet, but the government has encouraged self-sufficiency in the animal protein industry, export of surplus products, food safety to protect consumers and biosecurity measures to protect the industry. The **Philippine** government has introduced their GAHP code for the industry, supported by an administrative order and was first adopted in 2008. The agriculture authority of Singapore developed a GAHP in 1999, called the Singapore Quality Eggs Scheme (SQES). The SQES regulates all aspects on egg production in Singapore, allowing it to grow and increase production to meet domestic demand. In Thailand, a number of GAHP standards have been applied in a number of animal industries under the name of GAP for livestock farm. These farm standards have allowed for hundreds of new farms being certified each year and thousands of farms renewing their certifications. The Vietnam GAHP document for poultry is a comprehensive document covering many food safety requirements for a broiler and layer industry, including antibiotic use and microbial contamination.
Harmonisation of quarantine and inspection/ sampling procedure and sanitary/ phytosanitary (SPS) measures for FAF productst	• Under collaboration with the **Network of Aquaculture Centers in Asia-Pacific (NACA), FAO, and OIE**, ASEAN has established a mechanism to improve and harmonize aquatic animal management since 2000. It recently established the **ASEAN Network of Aquatic Animal Health Centers (ANAAHC)** who led the development of the ASEAN Standard Operating Procedure for the Movement of Live Aquatic Animals (SOP). The SOP provides recommendations to reduce the risk of spread of trans-boundary aquatic animal diseases from movement of live aquatic animals. It also facilitates responsible trade of live aquatic animals and harmonize health certification schemes and other measures within ASEAN[4].
Harmonisation of maximum residue limits (MRLs) of commonly used pesticides for widely traded crop products	• MRLs are set so that the highest amount of pesticide residue in food is well regulated to ensure safety. ASEAN member states have continuously been working towards harmonizing rules on MRLs of pesticides in food and agricultural products that are traded in the region[5]. This harmonization is important because MRLs set by each member state would serve as a barrier to trade. Harmonization of the residue levels and establishment of ASEAN MRLs (aligned with international standards) would ensure that a level playing field is established for intra-ASEAN trade of food and agricultural products. As of end-2015, a total of 880 ASEAN MRLs have been set for 71 kinds of pesticides for vegetables and fruits.

[3] Taken from a report for a project titled "ASEAN Good Animal Husbandry Practices For Layers and Broilers" prepared by Dr Robert Premier of Global F.S. Pty Ltd and funded by ASEAN-Australia Development Cooperation Program Phase II

[4] Standard Operating Procedures for Responsible Movement of Live Aquatic Animals for ASEAN (March 2015), by Department of Fisheries of Thailand, ANAAHC, and NACA

[5] ASEAN Maximum Residue Levels: Enhancing Competitiveness of ASEAN Agricultural Products, taken from www.asean.org

Area	Progress
Harmonisation of regulatory framework for agricultural products derived from modern biotechnology	• The Philippines has been at the forefront in the region in terms of developing agricultural products that are derived from modern biotechnology, commonly referred to as genetically engineered (GE) crops[6]. For example, the Institute of Plant Breeding of the University of the Philippines at Los Banos (IPB-UPLB) has developed the fruit and shoot borer-resistant eggplant (Bt[7] eggplant); the Philippine Rice Research Institute (PhilRice), supported by the Bill and Melinda Gates Foundation was responsible for the golden rice (GR) project; and the Philippine Fiber Industry Development Administration has evaluated the Bt cotton that uses a Bt gene to fight bollworm in cotton. • While the Philippines has been leading the research on development of GE crops, it seems that other ASEAN member states have not reached the same level as the Philippines in their research, and therefore regional initiative in this particular area has not been developed.
Harmonisation of safety and quality standards for horticultural produce and agricultural products of economic importance to ASEAN	• The **ASEAN Strategic Framework on Standard Development** is aimed at increasing the quality of agricultural products of ASEAN member countries and ensuring food safety in the international market. Currently ASEAN member states are working to establish the ASEAN standards for organic agriculture to enable organic agricultural trade in the international markets. • With regard to horticulture produce and food crops, member states continue to share knowledge and exchange information and experiences on production, regulations and market access to overcome challenges posed by trade liberalization.
Harmonisation of animal health control for safety of food of animal origin through a common bio-security management standards scheme	• In 2006, member states agreed to establish the ASEAN Animal Health Trust Fund that is aimed at financing ASEAN animal health projects and initiatives, focusing on livestock-related diseases such as the **Foot and Mouth Disease (FMD), Highly Pathogenic Avian Influenza (HPAI), Classical Swine Fever (CSF),** and other animal diseases that may have significant economic impacts on the industry. • Last year, ASEAN established the **ASEAN Coordinating Centre for Animal Health and Zoonoses[8] (ACCAHZ),** whose purpose is to sustainably address common animal diseases that may also endanger health and livelihoods of millions of people who depend on livestock for their subsistence.
Harmonisation of guidelines for use of chemicals in aquaculture and measure to eliminate use of harmful chemicals	• In December 2013, ASEAN member states agreed to publish the **Guidelines for the Use of Chemicals in Aquaculture and Measures to Eliminate the Use of Harmful Chemicals**, which as aimed at helping national regulators and stakeholders to manage the diverse use of chemicals in aquaculture, taking into account various capacities among member states. However, the guidelines has been designed so that it could be adopted and implemented within the specific policy and legal framework of each country • In November 2015, ASEAN published the **Guidelines on ASEAN Good Aquaculture Practices (GAqP)** for Food Fish. The purpose is to support the harmonisation of GAqP programs in the ASEAN region. The ASEAN GAqP covers four important areas: food safety, animal health and welfare, environmental integrity and socio-economic aspects associated with aquaculture of food fish.

[6] The information is taken from a report by the US Department of Agriculture, Foreign Agricultural Services (USDA-FAS), titled "Philippine Agricultural Biotechnology Situation and Outlook."

[7] Bt stands for *Bacillus thuringiensis*, a soil bacterium that contains a gene which produces a protein harmful to bugs and pests, but not to humans.

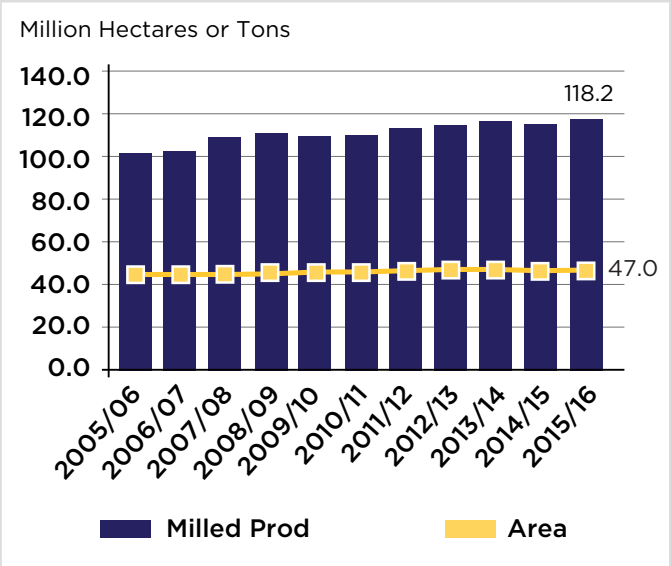
[8] Diseases that can spread between animals and humans

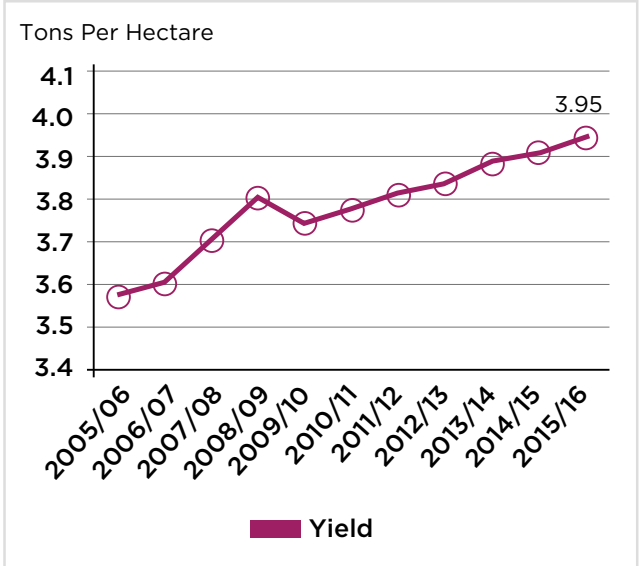
Area	Progress
Development of a regional reference framework on phased-approach to forest certification	• Member states have established the **ASEAN Guidelines on Phased Approached to Forest Certification and ASEAN Guidelines for Chain of Custody (CoC) of Legal Timber and Sustainable Timber**[9], both of which provide reference and direction toward forest certification and ensure that the forest products come from legal and sustainable sources.
Harmonisation of safety and quality standards for horticultural produce and agricultural products of economic importance to ASEAN	• The FAO assisted ASEAN during the formulation of the vision and strategic plan for the FAF sector for 2016-2025. For monitoring purposes, a set of KPIs has also been developed to ensure that the targets set out in the strategic plan are well achieved and can bring about positive changes. • In support to achieving the **Sustainable Development Goals (SDGs)**, the FAO, WHO and GIZ (German development agency) have collaborated to provide support to ASEAN in developing and improving nutrition and nutrition-sensitive agriculture. Nutrition-sensitive agriculture supports the nutrition security and dietary diversity, and reduces the nutrition gap through better access of safe and nutritious foods. • The FAO has been actively supporting the development of ASEAN agricultural statistics[10], for example on food security statistics (Philippines and Thailand); agricultural census (Cambodia and Myanmar); agricultural market information system (Philippines and Thailand); and global strategy to improve agricultural and rural statistics (Cambodia, Indonesia, Lao PDR, Myanmar, and Vietnam).
Efforts to combat illegal logging and its associated trade, and illegal fishing	• The guidelines on phased approach to forest certification and guidelines for CoC mentioned above would help to strengthen forest law enforcement and governance, and improve intra- and extra-ASEAN trade and competitiveness of ASEAN's forest products so that sustainable forest management can be achieved. • Last year, ASEAN adopted the **Joint ASEAN-SEAFDEC Declaration** on **Regional Cooperation for Combating Illegal, Unreported and Unregulated (IUU) Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products.** This declaration is aimed at, among others, ensuring the traceability of the aquaculture products to give pressure to the existing illegal fishing process.
Development of strategic alliance, business linkages, and direct investment between agricultural cooperatives in ASEAN	• To empower the agricultural cooperatives and farmer organisations in improving production and marketing, the **ASEAN Farmers' Organization Support Program (AFOSP)** organized the **ASEAN Learning Route on Agricultural Cooperatives (ALRAC)**[11] as a forum for the stakeholders to learn in the field and from key players the best practices on (i) good management in internal organization, service to members, networking and market power; (ii) development of cross-country market strategies and agreements for public and private sectors; and (iii) national laws, public policies, programs and mechanism for agricultural cooperatives under the framework of the AEC. • The ALRAC is supported by the EU, **International Fund for Agricultural Development (IFAD), Swiss Agency for Development Cooperation (SDC), ASEAN Foundation, and PROCASUR**. The ALRAC activities kickstarted in the Philippines and Thailand in early 2016 with a topic of "Strengthening the Role of Agricultural Cooperatives to Address the Challenges and Opportunities of the ASEAN Economic Community for the Benefit of the Smallholder Farmers."

[9] Sustainable Forest Management: Ensuring the Sustainability of Forests in ASEAN, taken from www.asean.org
[10] Issues and Challenges in Agricultural Statistics in the Region and FAO's interventions, by Mukesh K. Srivastava, presented at the 8th Meeting of Directors-General of Agricultural Statistics and Information in ASEAN Plus Three Countries, June 2015
[11] ASEAN Learning Route on Agricultural Cooperatives (ALRAC), Asia Pacific Learning Forum

C. Current Issues and Challenges

- Paul Teng and Margarita Escaler of the NTU have identified several challenges to the development of the agriculture and food sectors in ASEAN[12]. With regard to the agriculture sector, the first challenge has to do with the declining performance of the agriculture in terms of the yields to provide enough supply. While technology may enable the production to increase, global output has not been very promising. **China, India and Indonesia, three of the most prominent agricultural countries, have seen their annual yield growth of rice locked at 0.4-1.0 percent**. There is also a large difference between the potential and actual yield for most crops. ASEAN farmers generally are not able to produce more than 70 percent of their potential yields, which means that extra-ASEAN trade becomes very important to ensure security and continuity of supply.
- The second challenge faced by ASEAN agriculture is the lower quality and quantity of natural resources that support the production of the necessary crops. Between 1970 and 2011, the land use for agricultural production in ASEAN increased from 20.2 to 29.4 percent, and this has some impacts on the environmental landscape and natural resources in the region. Climate change and increasing use of arable land for other purposes (catering to the increasing population in ASEAN) have also contributed to the decreasing available land for agriculture activities. Another pressure comes from the increasing demand for meat and dairy products, which also has reduced available natural resources for agriculture.
- In particular, rice production in ASEAN has been heavily affected by the weather and natural conditions such as rainfall levels and typhoons. According to an analysis by the United States Department of Agriculture, Foreign Agricultural Service (USDA-FAS)[13], the total milled rice production in the ASEAN region has been growing at a steady rate. This already takes into account the pattern of historical annual yield growth due to the gradual expansion of land used (under irrigation) and enhanced rice varieties, as well as the rainfall pattern in the region during the main growing and harvesting months (June-October). The charts below describe the progress of millions of hectares of land used, tons of rice production, and annual yield (tons per hectare) from 2005 to 2016.





Source: USDA-FAS Report (2015)

[12] "Efficient Agriculture, Stronger Economies in ASEAN", a collaborative paper by BCSD Singapore, IBCSD, PBE, and VBCSD
[13] Southeast Asia: 2015/16 Rice Production Outlook at Record Levels, United States Department of Agriculture

- In terms of food security, there have been some issues related to urbanization, where the number of farmers has been greatly reduced since the younger generation has less interest in working in the agriculture sector. As a result, the use of migrant workers in farms has increased (Malaysia and Thailand). The use of technology could be crucial in the effort to maintain and improve the quantity of food produced, particularly since the demand for food is increasing, driven by the larger size of the middle income group in ASEAN. The change in food consumption pattern must also be observed as the demand for meat and fish products has nearly doubled while that for cereal- and roots-based food has declined, which will have great impacts on how resources must be allocated to maintain production.
- Global trade for food products has increased with Asia (and ASEAN) increasingly becoming importers to maintain food security. While this has pushed for greater use of technology in the production in ASEAN, enhancing the role of local producers in the supply chains, the benefits have not been evenly distributed with small farmers remaining at the bottom.
- Between 1961 and 2013, the annual average growth rate of the value of trade in timber-based forest products from all member states was around 19.45 percent[14]. Most countries experienced higher values of exports and imports over that period. The growth of exports exceeded the growth of imports. These trades of timber-based products generally contributed positively to the GDP, both through exports and domestic production utilizing those products.
- The rapid economic growth of ASEAN suggests that exploitation of natural resources is done at a speed that may be alarming. That means more deforestation and environmental degradation that would be detrimental to security of food and forestry products in the long run. This has been proven to happen in other parts of the world. Enforcing the environmental and forestry laws will be crucial in ensuring the sustainability of forestry products.
- The biggest challenge for the fishery sub-sector would be the illegal, unreported and unregulated (IUU) fishing, which has resulted in the declining of fish stocks in the ASEAN seas region. IUU fishing is actually a global problem that needs to be tackled together. In 2003, global IUU caught fish was 11-19 percent of total reported catch, representing 10-26 million tons of fish, or around USD 10-23 billion[15].

[14] Razal, Firmalino and Guerrero, "Implication of the ASEAN Economic Community Integration on Philippine Forestry and the Forestry Profession"
[15] SEAFDEC, "Regional Cooperation for Combating IUU Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products," presented at the High-level Consultation on Regional Cooperation in Sustainable Fisheries Development Towardsthe ASEAN Economic Community, Bangkok, Thailand, August 2016

D. Plans under the AEC 2025 Blueprint

The new AEC Blueprint 2025 continues to emphasise the importance of the FAF sector in addressing issues arising from rising population, income growth, and expanding middle class in the ASEAN region. The blueprint states that the new vision for the ASEAN FAF sector for post 2015 is "**competitive, inclusive, resilient and sustainable FAF sector integrated with the global economy, based on a single market and production base, contributing to food and nutrition security and prosperity in the ASEAN Community.**" This vision has been translated into operational goals of ensuring food security, food safety and better nutrition, gaining from access to global market as well as increasing resilience to climate change.

The Blueprint 2025 also sets out several interventions that are necessary in integrating the ASEAN and the global FAF sector. Those interventions include:

i. Enhancing trade facilitation and economic integration
ii. Strengthening cooperation and capacity for sustainable production
iii. Enhancing agricultural productivity
iv. Increasing investment in agricultural science and technology
v. Ensuring the involvement of agricultural producers in globalization process

The specific strategic measures to achieve the new vision for the ASEAN FAF sector cover the following:

i. Increasing crop, livestock, and fishery/ aquaculture production
ii. Enhancing trade facilitation and removing barriers to trade to promote competitiveness and economic integration
iii. Enabling sustainable production and equitable distribution
iv. Increasing resilience to climate change, natural disasters and other shocks
v. Improving productivity, technology and product quality to ensure product safety, quality and compliance with global market standards
vi. Promoting sustainable forest management
vii. Further enhancing cooperation in production and promotion of halal food and products
viii. Developing and promoting ASEAN as an organic food production base, including striving to achieve international standards

E. AEC 2025 Blueprint Analysis

- The vision to achieve a more robust ASEAN FAF sector which can contribute to food and nutrition security, and eventually to the prosperity of the ASEAN community requires a lot of work given the challenges mentioned above. Implementation of the said measures in the new blueprint must be carried out in a timely manner since the FAF sector is a backbone to the region's prosperity. Some analyses on the progress on each measure in the blueprint are as follows:

Issues	Current Status and Development
1 Sustainable Crop, Livestock and Fisheries Production	
Increasing crop, livestock, and fishery/aquaculture production Enabling sustainable production and equitable distribution	• In terms of harmonizing the MRLs of pesticides, the **Experts Working Group on Harmonization of MRLs of Pesticides (EWG-MRLs)** have been working to harmonize the levels of pesticides applied in farms. Since 2002, over 1,000 MRLs have been harmonized. By end of 2015, most of these MRLs had been adopted by member states as national standards. • Partly contributed by the harmonization in the MRLs above ASEAN's agro-based exports more than tripled between 2003 and 2010 (USD12 billion to USD40 billion). According to the **International Rice Research Institute**, 90 percent of the global rice supply comes from Asia, with ASEAN contributing most of it. After 12 MRLs for rice had been harmonized, the region's rice exports grew rapidly and was 45 percent more than worldwide rice exports, around 129 million tonnes were produced in 2012. • The **Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)** has developed the Agriculture Innovation System (AIS) to support research and development in that area. The AIS contains elements on **(i) governance of the innovation system, (ii) investing in innovation by both public and private entities, (iii) facilitation of knowledge flows by all parties involved, and (iv) cross-country supply of agricultural innovations.** • Fisheries cooperation in ASEAN has focused on four areas: food safety issues, research and development, human resource development, and information sharing. Trade and investment in the fisheries sector has improved through liberalizing and facilitating the process among member states. In addition, ASEAN has also worked towards ensuring sustainability of fish stocks, taking into account conservation and management of endangered species. As a result of all those measures, ASEAN currently accounts for around 25 percent of global fish production, with Australia and Japan as two of the biggest markets for ASEAN fish products. Myanmar in particular has been showing great improvements as an exporter in this sector.

Issues	Current Status and Development
2 Trade and Trade Facilitation	
Enhancing trade facilitation and removing barriers to trade to promote competitiveness and economic integration	• As mentioned in Section A above, there are four prioritised sectors that are relevant to the FAF sector: agro-based products, fisheries products, rubber-based products, and wood-based products, often referred to as natural resource based priority integration sectors (NRB-PIS). • Dr. Myrna Austria[16] has analyzed some of the non-tariff measures in member states applied to those four types of products. In the agro-based sector, non-automatic licensing and technical regulations are used in varying degrees by all member states. The former is most frequently used by Indonesia, Malaysia and Myanmar, while technical regulations are adopted mainly by Brunei Darussalam, Indonesia, and Malaysia. • In the fisheries sector, Lao PDR, Myanmar, Philippines and Vietnam do not adopt any known NTMs, but 100 percent technical regulations have been observed in Cambodia, Indonesia, and Malaysia. In Indonesia, Malaysia and Singapore, the NTMs affect 100 percent of imports in this sector. • NTMs is hardly used for the rubber-based sector, with only a small percentage of the tariff lines is affected. Intensive use of NTMs in the wood-based sector can be observed in the use of automatic licensing in Brunei Darussalam, non-automatic licensing in Malaysia, and prohibition in Indonesia.
3 Resilience to Climate Change, Natural Disasters and Other Shocks	
Increasing resilience to climate change, natural disasters and other shocks	• The **ASEAN Technical Working Group on Agricultural Research and Development (ATWGARD)** organized a project on the promotion of climate resilience in rice and other crops[17]. This project led to the establishment of the **ASEAN Climate Research Network (CRN)**. One initiative by the ASEAN-CRN is the climate smart agriculture (CSA)[18]. The ASEAN-CRN ensures that member states can improve their capability in adapting their agricultural sector to climate change and strengthening its mitigation capacity. • The ASEAN-CRN has supported national consultations on agriculture resilience against climate change, and regional cooperation in CSA practices in member states.
4 Productivity, Technology, Product Quality and Compliance to Global Standards	
Improving productivity, utilization of technology, and product quality to ensure compliance to global standards	• Rillo and Sombilla analysed the agricultural reforms that have taken place in the newer member states of ASEAN, namely Cambodia, Lao PDR, Myanmar and Vietnam, commonly known as the CLMV group[19]. Between 1961 and 2013, these countries have conducted domestic reforms in their agricultural sector. These reforms include liberalization of inputs' and outputs' prices, elimination of subsidies, and removal of trade restrictions to promote efficiency and productivity of agricultural markets. Over the last three decades, the CLMV countries have implemented reforms to improve the efficiency and productivity of agricultural markets. Reforms involved the liberalization of prices for inputs and outputs, elimination of subsidies, removal of trade restrictions, removal of regulatory controls, lifting of production quotas, restructuring of state-owned enterprises, and modernization of the financial system through tax reform. • These reforms have brought about positive changes in the agricultural production, particularly since the 1980s, particularly in products such as cereals, meat and fish products.

[16] "Non-Tariff Measures: A Challenge to Achieving the ASEAN Economic Community" in "The ASEAN Economic Community: A Work in Progress," edited by Basu Das, Menon, Severino, and Lal Shresta
[17] About ASEAN Climate Resilience Network (ASEAN-CRN)
[18] Defined by the FAO as "agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces/ removes GHGs (mitigation) where possible, and enhances achievement of national food security and development goals"
[19] "Enhancing Agricultural Productivity of CLMV Countries: Challenges and Agenda for Reforms," ADB Working Paper Series, August 2015

	Issues	Current Status and Development
4	**(cont) Productivity, Technology, Product Quality and Compliance to Global Standards**	
		• Japan, under the AMAF+3 framework, has provided support to ASEAN member states to improve productivity and production in the FAF sector. Several projects to enhance the ASEAN human resource in the agriculture sector through capacity building activities and seminar on ASEAN good agricultural practices (GAP). Also, introduction to the concept of food value chain (FVC), which is implemented under the public-private partnership (PPP) scheme, has been beneficial for the farmers and food industries.
5	**Sustainable Forest Management**	
	• Promoting sustainable forest management	• As mentioned in Section B above, member states have established the ASEAN Guidelines on Phased Approached to Forest Certification and ASEAN Guidelines for **Chain of Custody (CoC) of Legal Timber and Sustainable Timber**, both of which provide reference and direction toward forest certification and ensure that the forest products come from legal and sustainable sources.
6	**Production and Promotion of Halal Food and Products**	
	• Enhancing cooperation in production and promotion of halal food and product	• Currently, the cooperation to promote halal food and products in ASEAN is still in the very early stages. Five ASEAN countries: Brunei Darussalam, Indonesia, Malaysia, Philippines and Thailand already have their halal certifying bodies. However, there has not been any standardised guidance on halal certification, with each member state having its own methodology, and definitions in their certifying process.
7	**ASEAN as an Organic Food Production Base to Achieve International Standards**	
	• Developing and promoting ASEAN as an organic food production base, including striving to achieve international standards	• ASEAN has developed its **ASEAN Standards for Organic Agriculture (ASOA)** to promote the production of food products that avoid the usage of pesticides, fertilizers, genetically modified organisms, antibiotics and growth hormones. • Member states are now discussing the difficulties and advantages in the process of applying the standards, inspection and certification, construction of accreditation bodies, certification body for organic agriculture.

F. Conclusion: Moving Forward with the AEC 2025 Plans

- Given that the FAF sector involves many different stakeholders (government, farmers, NGOs, cooperatives, buyers), it is very important then to form multi stakeholder partnership in the efforts to improve and promote production and distribution of FAF products. The private sector can also become an important participant in the strategies to further bring the ASEAN FAF sector to a larger scale of production so that more trade and investment can take place. As described by Teng and Escaler[20], private sector can also encourage the small farmers to become more entrepreneurial instead of just producing for subsistence purposes.
- The policy makers must continue to promote trade and investment by continuing the negotiations to remove the existing barriers. Since ASEAN is a prominent producer of many FAF products, it is very important that both intra- and extra-ASEAN trade and investment be encouraged further to expand the current production scales. Better infrastructure in the ASEAN region may also support the expansion of the FAF sector through provision of quality transportation, water, electricity and fuel. This will reduce costs and encourage greater investment. This would also address the problem of declining interests to participate in the FAF sector.
- The ASEAN region is very familiar with climate change and (particularly) natural disasters that have frequently caused damages. The FAF sector by nature is also exposed to these phenomena and therefore must be able to deal with the in impacts. In dealing with climate change, ASEAN has begun implementing CSA, but with natural disasters, the post-disaster impacts can be tremendously harmful. Some countries have initiated the discussion on agricultural insurance as a means to provide protection to the farmers by mitigating the impacts as the government in many cases are not able to fully cover the damages caused by the disasters. Member states need to intensify the discussions on this matter and set up a mechanism whereby protection to the producers can be implemented.
- To guarantee food security that is of the utmost importance in supporting the AEC, similar initiatives such as the Grow Asia by WEF and ASEAN Secretariat should be further explored and established with the ASEAN Dialogue Partners. Grow Asia aims at enhancing agriculture production to promote food security by encouraging greater participation by all stakeholders involved and mobilizing the resources more. This is to ensure that food supply in the ASEAN region is sustainable in the longer term.
- The AEC Blueprint 2025 has covered many important many elements and initiatives to further develop and improve cooperation in the FAF sector. The policy makers need to redouble their efforts in implementing the agreed measures and ensure the timeliness of the implementation so that the expected targets and outcomes can be achieved, particularly in harmonizing the elements, standards, controls and guidelines to ensure that member states are at a level playing field in their production and trade. In doing so, ASEAN needs to continue working with the international partners to ensure that their products are of international standards and to learn the best practices from other parts of the world.

[20] "Efficient Agriculture, Stronger Economies in ASEAN: Private Sector Perspectives for Policy Makers"

References

ASEAN Secretariat (2008). ASEAN Economic Community Blueprint

ASEAN Secretariat (2015). ASEAN 2025: Forging Ahead Together

ASEAN Secretariat (2015). A Blueprint for Growth ASEAN Economic Community 2015: Progress and Key Achievements

BCSD Singapore, IBCSD, PBE, and VBCSD, Efficient Agriculture, Stronger Economies in ASEAN: *Private Sector Perspectives for Policy Makers*

SEAFDEC, *Regional Cooperation for Combating IUU Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products*, presented at the High-level Consultation on Regional Cooperation in Sustainable Fisheries Development towards the ASEAN Economic Community, Bangkok, Thailand, August 2016

Sustainable Forest Management: Ensuring the Sustainability of Forests in ASEAN, (www.asean.org)

Standard Operating Procedures for Responsible Movement of Live Aquatic Animals for ASEAN, by Department of Fisheries of Thailand, ANAAHC, and NACA, March 2015

ASEAN Maximum Residue Levels: Enhancing Competitiveness of ASEAN Agricultural Products, taken from www.asean.org

Aladdin Rillo and Mercedita Sombilla, Enhancing Agricultural Productivity of CLMV Countries: Challenges and Agenda for Reforms, ADB Working Paper Series, August 2015

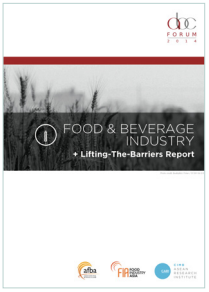
Mukesh K. Srivastava, *Issues and Challenges in Agricultural Statistics in the Region and FAO's Interventions*, presented at the 8th Meeting of Directors-General of Agricultural Statistics and Information in ASEAN Plus Three Countries, June 2015

Myrna Austria, Non-Tariff Measures: *A Challenge to Achieving the ASEAN Economic Community in The ASEAN Economic Community: A Work in Progress*, edited by Basu Das, Menon, Severino, and Lal Shresta

Ramon A. Razal, Anna Floresca F. Firmalino, and Maria Cristina S. Guerrero, *Implication of the ASEAN Economic Community Integration on Philippine Forestry and the Forestry Profession*

Robert Premier, *ASEAN Good Animal Husbandry Practices for Layers and Broilers*, ASEAN-Australia Development Cooperation Program Phase II

Related Publications



Lifting-the-Barrier Report Food & Beverage Industry 2014

ASEAN Research Digest Food & Beverage Industry

Author:

Dr. Bambang Irawan is a Senior Research Fellow at CIMB ASEAN Research Institute. He was formerly an Assistant Director under the ASEAN Economic Community Department at the ASEAN Secretariat, Jakarta, Indonesia. As head of the Finance Integration Division his portfolio covered cooperation and initiatives under the ASEAN financial integration process. In his capacity, he coordinated activities and initiatives under financial services liberalisation, capital account liberalisation, capital market development, insurance and taxation

Editor:

Jukhee Hong | Tunku 'Abidin Muhriz

Contact Details:

Please contact the CARI for information about this paper: enquiries@cariasean.org

Disclaimer:

Any analysis, opinion or editorial contained in this report is based on information sourced from or made available in the public domain. CIMB ASEAN Research Institute (CARI) assumes no liability and makes no guarantee, representation or warranty, whether express or implied, as to the adequacy, accuracy, completeness or reliability of any such information and analysis, opinion or editorial contained in this report. All readers are advised to conduct their own independent verification and/or evaluation of such information and analysis, opinion or editorial.