# Chapter 13

# Mainstreaming Resilience into SDGs and Agricultural Trade Pacts: Why and How?

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CHAPTER 13

# Mainstreaming Resilience into SDGs and Agricultural Trade Pacts: Why and How?

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## 13.1 Introduction

The exposure to and thus vulnerability of the agriculture sector to natural disasters is significant and increasing in the Association of Southeast Asian Nations (ASEAN). Several studies (Food and Agriculture Organization of the United Nations (FAO), 2015; Asian Development Bank (ADB), 2009; Anbumozhi et al., 2012; and Nelson et al., 2009) have clearly shown that the region's food production and distribution systems and thus food security will be severely impacted by climate-induced disasters, and about 25% of all damages caused by such disasters in the 10 countries from 2003 to 2013 affected the agriculture sector (FAO, 2015). In particular, droughts, cyclones, and floods have led to agricultural production structures – such as land, post-harvest facilities, and marketing channels – becoming temporarily unproductive. Loss of livestock, greater prevalence of pests, and reduced crop production add uncertainties to food security at the national as well as regional levels. According to Anbumozhi and Reddy (2016), 84% of the economic impact of droughts was borne by agriculture and livestock in ASEAN during 2003–2015. Such losses are projected to increase as disaster events become more severe and frequent, but also less predictable, as a result of climate change. It is likely that the impact of disasters will be concentrated in a limited number of hotspots along the local and global value chains (Anbumozhi et al., 2009).

However, greater openness to trade in staple commodities can also bring resilience to the agricultural value chains. This could happen at different interconnected levels. First, the level and variability of volumes and prices in the international markets are interlinked and could easily be affected by high-intensity low-frequency floods as well as low-intensity but high-frequency droughts (Von Braun and Tadesse, 2012). International food prices are often characterised by trends and volatility, with occasional upward and downward price spikes. The size of those spikes, which are determined in part by the small short-run elasticities of

domestic demand and international supply, can be exacerbated by speculative behaviour in markets induced by disaster events such as El Niño and by changes in the trade policies of countries with large agricultural exports (Ghoshray, 2011). It is these vagaries, which emanate from disaster events occurring in one country and spill over into the food markets of another country if and when their economies are interconnected, which cause the linkage between trade policy and food security to be significant. Moreover, trade contributes to regional food security by balancing food deficits and surpluses across countries, thereby ensuring stable supplies and contributing to price stability. Considering the significant risks of climate change and disasters to crop production, livestock, and fisheries, agriculture trade is likely to become even more significant in the future as food demand grows in some regions where productivity gains will not be sufficient to meet demand growth (Breiling and Anbumozhi, 2017).

Nevertheless, the 2030 Agenda for Sustainable Development Goals (SDGs), agreed by all ASEAN Member States (AMS), has shaped a framework for global or regional governance on food security that responds to compound disasters and interconnected global economies. The SDGs recognise that trade is a key element in addressing fundamental issues such as food security, nutrition, and the promotion of sustainable agriculture (SDG 2); healthy lives and well-being (SDG 3); economic growth (SDG 8); inequality (SDG 10); ocean, seas, and marine resources (SDG 14); and a global partnership for sustainable development (SDG 17). Agriculture plays a major role, particularly in ASEAN, in enabling the conditions for facilitating structural transformation, mobilising different sources of finance, and ensuring job creation and social inclusion (Bellman and Tipping, 2015). However, to ensure that the potential of agricultural trade is used optimally to achieve sustainable development and build resilient systems, it is important to reinforce the trading system and ensure that resilience considerations are mainstreamed in trade policies and SDG strategies (Kuwornu, 2017).

The key questions that need to be addressed are:

- What opportunities does trade offer to enable the achievement of the SDGs related to agriculture, fisheries, food security, and nutrition?
- How should disaster risks be managed to ensure that the beneficial effects of agricultural trade are shared equally by countries and populations?
- What could be the effect of plurilateral and regional trade agreements in the agricultural trade framework? Could this support further the implementation of the SDGs?

In this chapter, it is argued that the most effective path for implementing the SDGs in the ASEAN region is to mainstream climate change and disaster resilience goals directly into planning for SDG targets and negotiating agriculture trade pacts. Mainstreaming in this study refers to the incorporation of disaster and climate risks into other policies, programmes, management systems, or decision-making structures that are not necessarily about climate change or disaster but actions and programmes on targeted SDGs and free trade agreements (FTAs). This allows the ASEAN community to develop an economically viable and socially engineered food security system. To understand why and how resilience can be mainstreamed into the SDGs and agriculture trade pacts, this chapter critically reviews ASEAN's current approaches for dealing with resilience issues, and analyses its capacity for mainstreaming principles and solutions on a regional scale. Then, it details the different levels of coordination needed for effective ASEAN actions in pursuit of resilience and food security, creating synergies between goals and actors.

## 13.2 Interlinkage Amongst Disaster Risks, Climate Change, and Food Security in ASEAN

Disaster risk is defined as 'the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity' (United Nations Office for Disaster Risk Reduction (GFDRR), 2010: 17). On the other hand, resilience is the ability of communities to respond appropriately to natural hazards, lowering the disaster risk (ASEAN, 2016). Currently, disaster risk is a threat to food security in AMS. Food security exists when all people, at all times, have access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2015). Underlying this definition of disasters and food production are a number of variables that contribute to the economic conditions that signify the existence of food security.

ASEAN food systems – both agriculture and aquaculture – will be heavily affected by the onset of climate change, the rise in temperature, and the increased intensity and frequency of disasters. Table 13.1 presents the predictions for changes in agricultural production in Southeast Asia under the effect of a global temperature increase. In terms of agriculture and aquaculture production, even a few degrees of change in temperature can make a difference for food security in ASEAN.

**Table 13.1: Effect of Climate Change on Food Production, 2025**

| Mean global temperature increase (°C) | Agriculture production change | Aquaculture production |
|---|---|---|
| 1.0 | 0.82 | (0.12) |
| 1.3 | 0.00 | (0.28) |
| 1.8 | (0.82) | (1.39) |
| 2.8 | (1.58) | (1.17) |
| 4.0 | (2.62) | (1.83) |
| 4.2 | (2.78) | (2.04) |
| 5.2 | (4.78) | (3.15) |

( ) = negative.

Source: Darwin (2001).

The current aim, as defined by the Paris Agreement, is to limit global warming to 1.5°C above pre-industrial levels. As the changes in production levels indicate, for ASEAN, this is the limit at which the effect becomes assuredly negative on agricultural production. After this, not only do both aquaculture and agriculture production decline, but they decline at a much higher rate for smaller changes in temperature. Moreover, climate change mechanisms include feedback processes such as ocean temperature, biodiversity changes, and carbon fertilisation, which amplify small temperature changes into bigger changes in agricultural production. Therefore, while aiming for 1.5°C stabilisation, ASEAN needs to prepare for potentially higher changes in temperature, which require important changes in food production systems and their efficiency in trade.

Tables 13.2 and 13.3 show that ASEAN agriculture is dominated by a few major crops such as rice. Apart from Brunei Darussalam, Malaysia, and Singapore, food security in other countries is related to paddy cultivation. Only a few countries, such as Thailand, Viet Nam, and to a certain extent Myanmar, seem to be constantly able to produce sufficient rice to feed their populations and have excess to export. In Brunei and Singapore, rice production is insignificant, so the policy for maintaining food sufficiency is straightforward – import from other countries. Malaysia and the Philippines are also rice-deficit countries, despite the considerable amount of rice production each year, so they need to import rice to meet domestic demand.

**Table 13.2: Main Agricultural Products in ASEAN**

| Country | Main agricultural products |
|---|---|
| Brunei Darussalam | Indigenous chicken meat, hen's egg in shell |
| Cambodia | Rise, cassava |
| Indonesia | Rice, palm oil, natural rubber |
| Lao PDR | Rice, fresh vegetables |
| Malaysia | Palm oil, indigenous chicken meat, palm kernels |
| Myanmar | Rice, dry beans, indigenous chicken meat |
| Philippines | Rice, indigenous pig meat, bananas, coconuts, sugarcane |
| Singapore | Hen's egg shell, other bird's egg in shell |
| Thailand | Rice, natural rubber, cassava, sugarcane |
| Viet Nam | Rice, indigenous pig meat, green coffee |

Lao PDR = Lao People's Democratic Republic.

Source: FAO (2015), FAOSTAT Agriculture Emissions Database. Rome: Food and Agriculture Organization of the United Nations. www.fao.org/faostat/en/#data/GT (accessed 8 April 2019).

As export rice is only cultivated in a few countries, ASEAN depends heavily on local producers. To safeguard food security in ASEAN, the region needs to protect production and distribution systems from the effects of climate change and natural disasters. Moreover, both soft and hard infrastructure allowing intra-regional and international trade can compensate for losses caused by disasters that are geographically distributed across national boundaries and their impacts across borders.

**Table 13.3: Rice Production in ASEAN Member States, 2015**

| Country | Production ('000 tons) | Import ('000 tons) | Export ('000 tons) | Domestic Supply ('000 tons) | Stock Variation* ('000 tons) |
|---|---|---|---|---|---|
| Brunei Darussalam | 1 | 330 | 0 | 343 | 12 |
| Cambodia | 5,010 | 82 | 4,720 | 83 | (289) |
| Indonesia | 51,412 | 7,786 | 293 | 56,031 | (2,874) |
| Lao PDR | 2,428 | 53 | 23 | 2,014 | (444) |
| Malaysia | 1,667 | 6,156 | 337 | 7,379 | (107) |
| Myanmar | 22,427 | 151 | 573 | 20,338 | (1,667) |
| Philippines | 17,569 | 5,068 | 46 | 20,645 | (1,946) |
| Thailand | 25,275 | 1,816 | 10,065 | 15,645 | (1,381) |
| Viet Nam | 28,279 | 2,192 | 4,651 | 24,557 | (1,263) |

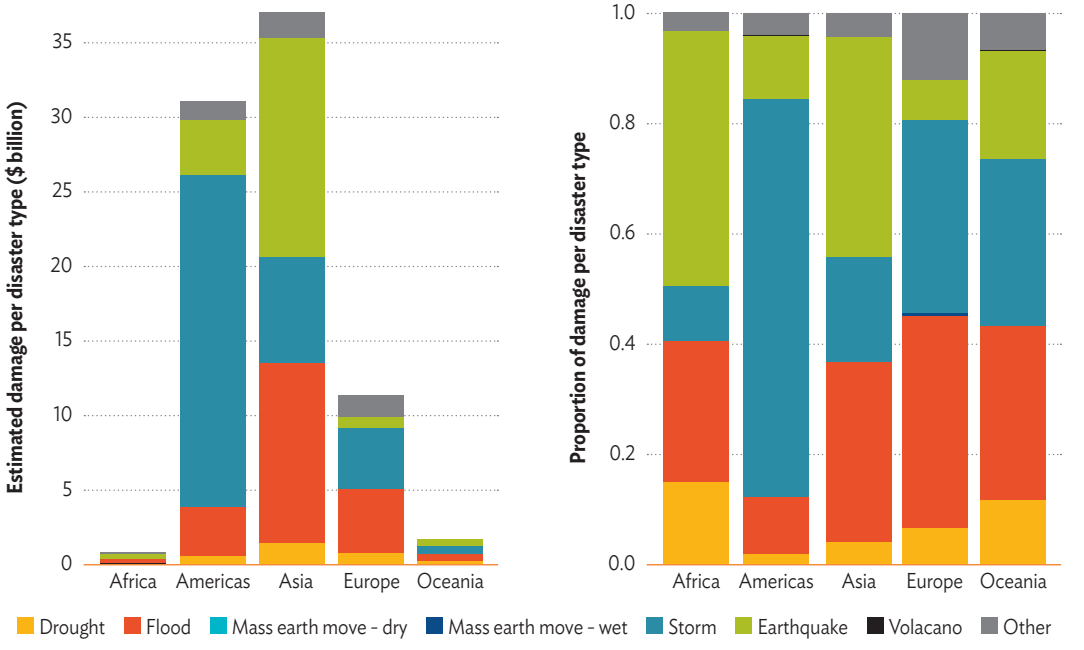
( ) = negative, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

* Stock variation = [export + domestic supply] – [production + import].

Source: FAO (2015), FAOSTAT Agriculture Emissions Database. Rome: Food and Agriculture Organization of the United Nations. www.fao.org/faostat/en/#data/GT (accessed 8 April 2019).

Figure 13.1 shows the average annual damage caused by the natural disasters reported in the last century. There are different types of disaster events. ASEAN is more impacted by floods, storms, droughts, and earthquakes. According to the latest reports of the Global Climate Risk Index (2019), which ranks countries based on the impact of past extreme weather events such as floods and droughts, AMS have been some of the most exposed.

**Figure 13.1: Average Annual Damage Caused by Reported Natural Disasters, 1900–2010 ($ billion)**




Source: Modified from Centre for Research on the Epidemiology of Disasters (2017), EM-DAT – The International Disaster Database. https://www.emdat.be/database (accessed 25 January, 2019).

Four ASEAN countries rank amongst the most affected worldwide: Myanmar (2nd), the Philippines (4th), Viet Nam (7th), and Thailand (9th). The Global Water Partnership highlights similar trends. For example, Myanmar, Thailand, and Viet Nam are amongst the top 10 countries for flood risk exposure. Moreover, several studies (ADB, 2013; Anbumozhi and Reddy, 2015; World Bank, 2014) show strong evidence of ASEAN's growing vulnerability to climate change and disasters, and recommend a more comprehensive response to weather-related disasters. Recent major catastrophes – the 2008 Nargis cyclone in Myanmar, the 2011 floods in Thailand, the 2013 Typhoon Haiyan in the Philippines, and the 2015/16 El

Niño droughts in Viet Nam – have highlighted the impact of climate-induced disasters and their interlinkages to food security.

## 13.3 Interconnectedness of Resilience, Food Security, and Agricultural Trade

Natural disasters can have an impact on different stakeholders of the food supply chain, which has various entities such as food processing and packaging units, food distribution channels, retailers and grocers, and food processing houses. The value chain of food production starts with farmers and usually ends with consumers, who have less control over produce and the parameters that affect crop production. Any adverse impact on food production, such as climate-induced disasters, strikes the producers first – stopping food production temporarily in its first stage and blocking the food supply chain. However, disasters can also impact consumers through increased prices, disseminated at different stages of the post-recovery period. Finally, disasters can affect infrastructure and stop the transport of agricultural production to consumption areas. All in all, attempts to make more resilient food systems target improving the adaptive capacity of all stakeholders along the supply chain.

One of the measures to deal with the adverse impacts of disasters on agricultural production, at the regional level, is the ASEAN Plus Three Emergency Rice Reserve, through which countries pool rice reserves as a buffer against potential disasters (ASEAN, 2008). This way, even when agricultural production decreases because of unexpected weather events or fluctuations in supply occur, emergency provisions are available, assuming the transport infrastructure is made available immediately. However, as shown in Table 13.4, the quantities earmarked for the emergency rice reserve are inadequate to deal with the needs of the region. Individual countries' stock variations are shown in Table 13.3. Further, since the implementation of the ASEAN food security reserve in 1979, its amount has not increased sufficiently to reach the level necessary to ensure food security or improve the vulnerability of value chains against disasters. Because of the insignificant volume of the rice reserve and the difficult delivery request procedures, the reserve has very rarely been used, even during the 2008 food crisis.

**Table 13.4: The ASEAN Food Security Reserve System**

| Country | Earmarked quantity (tons) |
|---|---|
| Brunei Darussalam | 3,000 |
| Cambodia | 3,000 |
| Indonesia | 12,000 |
| Lao PDR | 3,000 |
| Malaysia | 6,000 |
| Myanmar | 14,000 |
| Philippines | 5,000 |
| Singapore | 5,000 |
| Thailand | 15,000 |
| Viet Nam | 14,000 |
| **ASEAN** | **87,000** |

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Source: ASEAN (2016), Intra- and Extra-ASEAN Trade, 2015. Jakarta: ASEAN Secretariat. https://asean.org/storage/2016/11/Table18_as-of-6-dec-2016.pdf (accessed 9 April 2019).

There are several reasons for that. For Thailand and Viet Nam, the main exporters in the region, the reserve option seems to be complicated. As much as the governments would like to earn foreign revenue by exporting rice, they have to bear in mind that domestic rice farmers can be affected by rice price volatility in the global market as a result of disasters. The governments' desire to ensure that domestic consumers do not suffer because of exports has resulted in various trade-restrictive practices. A summary of the policy measures taken by ASEAN governments to tackle the impact of the 2008 food crisis is in Table 13.5.

**Table 13.5: Policy Measures Taken by ASEAN Governments to Tackle the 2008 Food Crisis**

| Strategy | Policy Measure | | Cambodia | Indonesia | Malaysia | Philippines | Thailand | Viet Nam |
|---|---|---|---|---|---|---|---|---|
| Consumer oriented | Tax | Customs duty | | | | | | |
| | Social support | Food assistance | | | | | | |
| | | Subsidies | | X | | X | | |
| | | Safety net | | | | | | |
| | Market | Price control | | X | X | | | |
| | | Release stocks | X | | X | | X | |
| | | Food procurement | | | | | | |
| Producer Oriented | Production support | Producer credit | | X | X | X | | |
| | Market management | Minimum producer price | | | X | X | | |
| Trade Oriented | Import | Tariff | | X | | | | |
| | Export | Quantity control | X | X | | | | X |
| | | Export price control through tax | | X | X | X | | |

ASEAN = Association of Southeast Asian Nations.

Source: Authors (2018).

Various goals and policies on food security, resilience, and trade – when implemented simultaneously by the government of each country – can be far from complementary to each other. For example, Viet Nam's decision to restrict rice exports during the food crisis in 2008 served to worsen the food shortage situation in importing countries such as the Philippines. This suggests that ASEAN needs more effective mechanisms to achieve resilience and integrate with agriculture trade policies.

Food security is usually affected by climate-induced factors on one hand and trade facilitation factors on the other. AMS can act on the side of agriculture trade both to lessen vulnerability and exposure and to limit the impact of development on anthropogenic climate change. Agriculture trade flows frequently depend on the interaction between comparative advantage in food production – which is determined not only by climate change and disaster risks but also resource endowments such as land, water, and other inputs – and a wide-ranging set of local, regional, and national trade policies. Since adaptation to climate change and disaster-resilient measures result in new patterns of food production, agriculture's comparative

advantage also changes, setting up the possibility of a change in trade flows as producers respond to changing constraints and opportunities (Yamaji, 2017). As with any change in comparative advantage, free trade allows comparative advantage to be more fully exploited in favour of market conditions and consumer behaviour. Trade restrictions risk worsening the effects of climate change and disasters while reducing the ability of producers and consumers to adjust. It is also important to point out that if climate change and disasters reduce the productivity of some crops in ASEAN and do not increase productivity in other regions, trade cannot fully compensate for the reduction in food security.

## 13.4 Opportunities to Enhance Resilience with Current Agriculture Trade Pacts

The treatment of climate and disaster risks in FTAs reflects the view that trade can, when well designed, contribute to sustainable growth. ASEAN's economic prosperity could be attributed to its openness to free trade (Baldwin and Kawai, 2013). During 1999–2009, regional trade in agriculture grew almost threefold to reach $1 billion (ASEAN, 2009). Starting in the early 1990s, successive ASEAN FTAs have pushed for economic integration between member states and with close trading partners (Table 13.6). This is due to a reduction in tariff barriers in real sectors and an overwhelming share of economic growth and a change in food consumption. This trend is likely to continue in the coming decades as income and the urban population continue to grow, often accompanied by a change in diet. The largest demand in the region will come from Indonesia, Thailand, and the Philippines, which are expected to exhibit a trade deficit for all commodities in 2025.

**Table 13.6: ASEAN Free Trade Agreements**

| Name of agreement | Acronym | Year established | Tariff reduction deadline |
|---|---|---|---|
| ASEAN Free Trade Area | AFTA | 1992 | 2020 |
| ASEAN–China Free Trade Area | ACFTA | 2002 | 2018 |
| ASEAN–Korea Free Trade Area | AKFTA | 2005 | 2046 |
| ASEAN–India Free Trade Area | AIFTA | 2010 | 2023 |
| ASEAN–Japan Comprehensive Economic Partnership | AJCEP | 2008 | 2018 |
| ASEAN–Australia New Zealand Free Trade Area | AANZFTA | 2010 | 2020 |

ASEAN = Association of Southeast Asian Nations.

Source: ASEAN (2012).

In the case of natural disasters, such trade links provide other sources of agricultural production uncertainties as well as alternate outlets for production in the areas, resulting in severe impacts on consumer prices. Moreover, the trade pacts push countries to build better soft and hard infrastructure for transporting goods – mitigating the possible impact of natural disasters and encouraging trade partners' cooperation. Therefore, one could say that the gradual trade integration observable in ASEAN provides resilience to the region as a whole by protecting food supply chains in a comprehensive way. Table 13.7 shows the state of intra-ASEAN trade links in 2015, against trade with countries outside the region. While the total trade volume varies across the countries, intra-ASEAN trade is lower than the volume of trade with partners outside the region.

**Table 13.7: Inter- and Intra-ASEAN Trade Values in 2015**

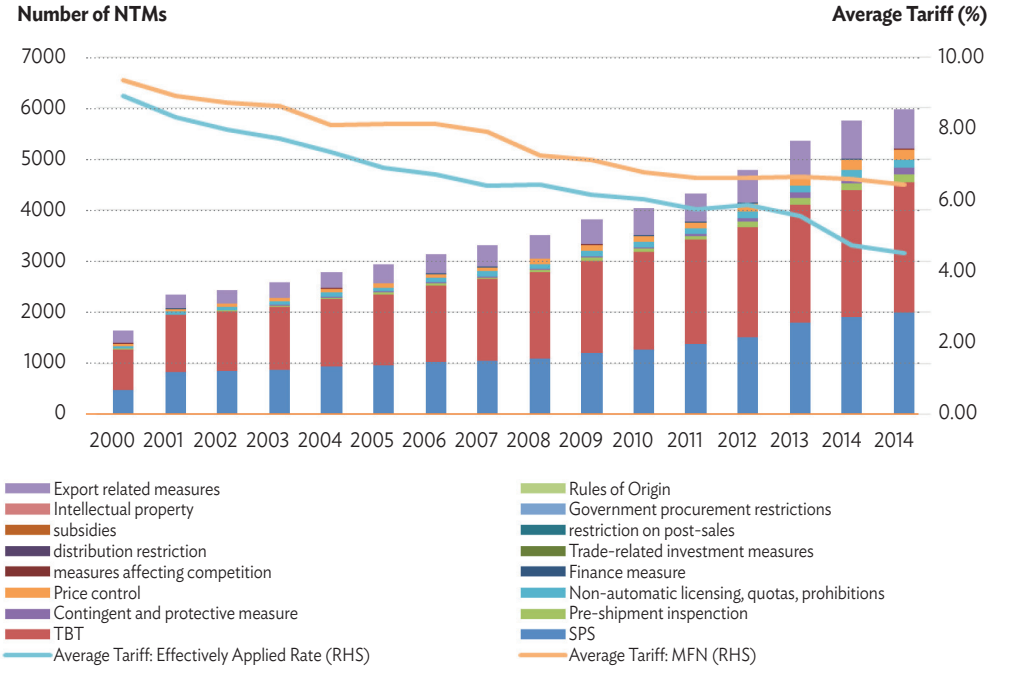
| Countries | Intra-ASEAN trade | | Extra-ASEAN trade | | Total trade ($ million) |
|---|---|---|---|---|---|
| | Value ($ million) | Share of total trade (%) | Value ($ million) | Share of total trade (%) | |
| Brunei Darussalam | 2,645 | 27.6 | 6,947 | 72.4 | 9,592 |
| Cambodia | 4,462 | 22.7 | 15,214 | 77.3 | 19,676 |
| Indonesia | 63,610 | 21.7 | 229,452 | 78.3 | 293,061 |
| Lao PDR | 4,357 | 64.4 | 2,407 | 35.6 | 6,763 |
| Malaysia | 102,848 | 27.4 | 272,321 | 72.6 | 375,169 |
| Myanmar | 11,467 | 39.4 | 17,637 | 60.6 | 29,104 |
| Philippines | 25,601 | 19.9 | 103,343 | 80.1 | 128,944 |
| Singapore | 182,051 | 27.5 | 481,059 | 72.5 | 663,109 |
| Thailand | 104,821 | 25.1 | 312,327 | 74.9 | 417,147 |
| Viet Nam | 41,891 | 12.8 | 285,853 | 87.2 | 327,744 |
| **ASEAN** | **543,751** | **24.0** | **1,726,559** | **76.0** | **2,270,310** |

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Source: ASEAN (2016), Intra- and Extra-ASEAN Trade, 2015. Jakarta: ASEAN Secretariat. https://asean.org/storage/2016/11/Table18_as-of-6-dec-2016.pdf (accessed 9 April 2019).

Intra-regional trade has been very dynamic in ASEAN, however, growing at an average of 10% a year – twice the pace in other regions (International Monetary Fund, 2016). Regional integration in ASEAN has been largely driven by the removal of tariff measures. The most favoured nation tariffs are progressively getting low (Figure 13.2).

**Figure 13.2:** Average Tariffs and NTMs in ASEAN




ASEAN = Association of Southeast Asian Nations, MFN = most favoured nation, NTM = non-tariff measure, RHS = rural household survey, SPS = sanitary and phytosanitary, TBT = technical barrier to trade.

Source: Ing and Cadot (2016).

Ing and Cadot (2016) analysed the tariff barriers and non-tariff measures (NTMs) and found that many NTMs stem from non-trade policy objectives such as food safety or environmental protection. To enhance regional security, they highlighted the need to streamline accompanying trade distortions in the form of rules of origin and NTMs such as sanitary and phytosanitary regulations and to remove export subsidies. Many countries have no intention of dismantling these measures. Meanwhile, export subsidies and NTM restrictions remain a major source of trade distortion, undermining investment in climate-smart disaster-resilient agriculture practices in ASEAN countries. Policy options for climate-smart and resilient agriculture include improved access to information, the availability of extension services, and price mechanisms with short- and medium-term targets (Table 13.8).

**Table 13.8:** Climate-Smart Options to Improve the Resilience of Agriculture Systems

| Adaptation / Resilience Measure | Policy option |
|---|---|
| Crop insurance for risk coverage | Improved access to information, risk management, and revised pricing incentives |
| **Near-term actions (5–10 years)** | Rise, cassava |
| Crop/livestock diversification to increase productivity and protect against diseases | Availability of extension services, financial support, etc. |
| Adjust timing of farm operations to reduce risk of crop damage | Extension services, pricing policies, etc. |
| Changes in cropping pattern, tillage practices | Extension services to support activities, police adjustments |
| Modernisation of irrigation structures | Promote water-saving technologies |
| Efficient water use | Water pricing reforms, clearly defined property rights |
| Risk diversification to withstand climate shocks | Employment opportunities in non-farm sectors |
| Food buffers for temporary relief | Food policy reforms |
| Redefining land use, and tenure rights for investments | Legal reforms and enforcement |
| **Medium-term targets (2030)** | Rice, indigenous pig meat, green coffee |
| Development of crop and livestock technology adapted to climate stress: drought and heat tolerance, etc. | Agriculture research (cultivar, fish, and livestock trait development) |
| Develop market efficiency | Invest in rural infrastructure, remove market barriers, property rights, etc. |
| Irrigation and water resources consolidation | Investment by public and private sector |
| Promoting regional trade in stable commodities | Pricing and exchange rate policies |
| Improving early warning/forecasting mechanisms | Information and policy coordination across the sectors |
| Capacity building and institutional strengthening | Targeted reforms on existing institutions on agriculture and implementation of skill development programmes |

Source: Anbumozhi and Reddy (2015).

Some of the support programmes for the above climate-smart options in Indonesia, Malaysia, and Thailand appear to be designed to rectify problems arising from historical low productivity in the agriculture sector and to reduce the large disparity between urban and rural income. Current agriculture trade negotiations aimed at reducing tariffs and NTMs do not give due consideration to the technology and investment that target resilient agriculture. Moreover, regional trade agreements often exclude sensitive food products, which have more NTMs. Walz (2014) estimated that on average regional trade agreements increase agriculture and food exports from 32% and 48% when fully phased in.

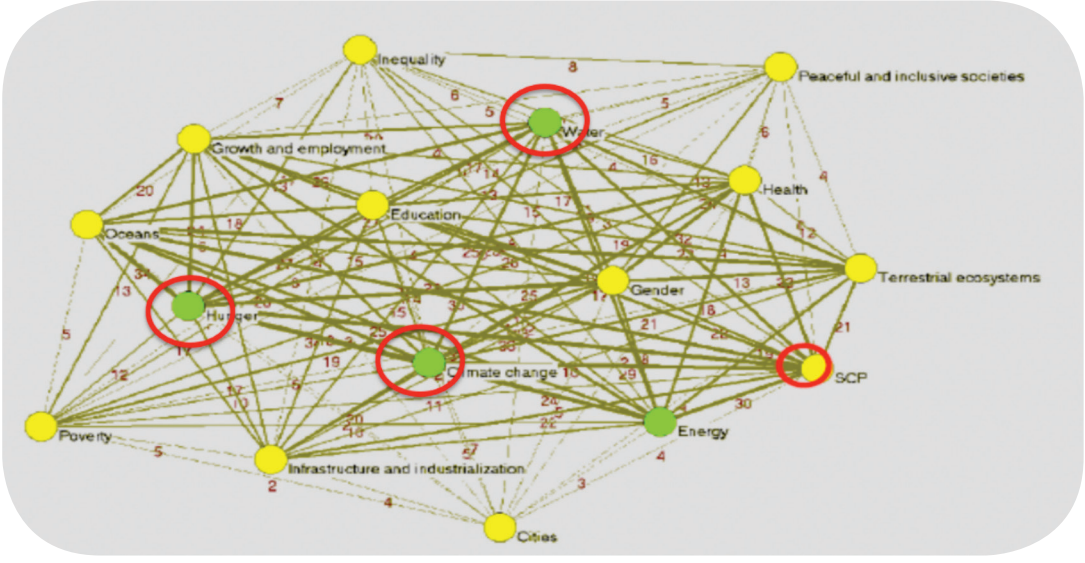
In summary, food systems in ASEAN are threatened by climate change and growing disaster risk, but can be protected through smart trade policymaking. Current projects, such as the ASEAN Emergency Rice Reserve and the ongoing work of trade integration in the region, are

moving in the right direction. However, there are still many policy options for ASEAN, which require mainstreaming of resilience into the SDGs.

## 13.5 Advancing Resilience and Trade Agendas in the Sustainable Development Goals

The 17 SDGs adopted in 2015 establish a set of highly ambitious goals and targets touching on a broad range of issues from food security to resilience. Taken together, they provide a critical framework for policy orientation for the next 11 years. In the absence of new international financial commitments, trade and more importantly policies that affect trade flows will have a significant role to play in the implementation process. Goal 2 mainly deals with food security, while Goal 13 is concerned with climate change issues. However, it would be a grave mistake to think of dealing with each development goal individually because they are all interlinked. Figure 13.3 links the different goals by the number of targets they share.

**Figure 13.3: Interlinkages Between Climate Change, Hunger, Water, and Sustainable Consumption Related SDGs**




SDG = Sustainable Development Goal.

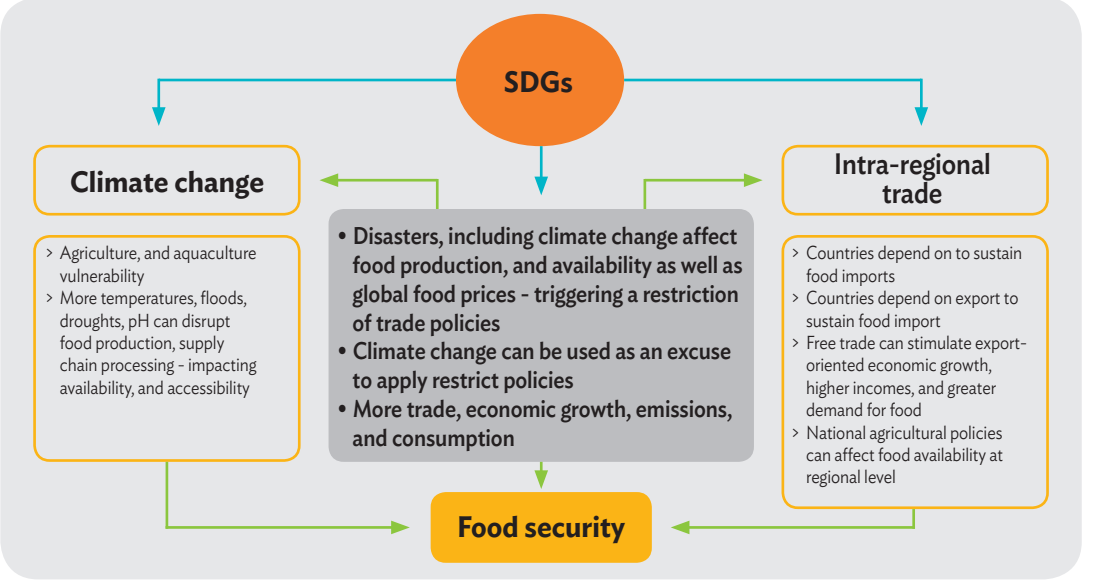
Source: ERIA (2017).

The linkages between SDGs show that dealing with them as a whole can be a source of positive externalities, as opposed to dealing with them individually and risking undermining other goals for the benefit of one goal in particular. To mainstream resilience building most effectively, it is important not just to fit the action into a single development goal but to understand how it relates to many of the goals – positively or negatively.

To achieve these goals in a cost-effective and timely manner, there is a need for a change in policies that provides access not only to food but also to land, inputs, knowledge and financial services, and market opportunities for value addition. These policies should also call for investments in resilient infrastructure, agriculture extension services, research and development, and measures to ensure the proper functioning of food commodity markets; and openness to trade that limit extreme price volatility within ASEAN.

Food security and liberalisation of trade are often mistakenly thought of as antagonistic interests, even though we showed earlier that liberalisation of trade is an important support for food systems in the wake of a disaster. Figure 13.4 shows some ways in which climate change, food security, and trade-related SDGs interact.

**Figure 13.4: Nexus Between Disaster Risks and Trade as Perceived through the SDGs**




SDG = Sustainable Development Goal.

Source: Authors (2018).

The SDGs crown the diagram because their success depends on the development of the economic system, but also the attainment of food security even in the face of climate change. The nexus of all these interests is a complicated mechanism which requires looking into all the possible interactions.

Advancing the SDG target of reducing trade-distorting support will therefore have to happen to enhance resilience. A first step might consist of eliminating export restrictions. The cost of locking into this policy commitment would be minimal as these measures do not retard the competitiveness of the domestic agricultural production. Another relatively easy policy option could be limiting export restrictions by ensuring that such measures do not affect the purchase of food for humanitarian purposes during disasters. As with the previous proposal, the cost of implementing this idea would be minimal, but it would help build trust and facilitate further engagement towards food security. A third measure is the prioritising of eight types of NTMs in the region and addressing them in a progressive and cost-effective way.

The SDGs, as a central preoccupation of development planning in Southeast Asia, are mentioned in each of the three blueprints of the ASEAN community – the ASEAN Economic Community, the ASEAN Socio-Cultural Community, and the ASEAN Political-Security Community. As illustrated in Table 13.9, the three ASEAN community blueprints show synergies and a nexus amongst different ASEAN mechanisms in reaching the SDGs. It is important to foster communication between the different ministries and councils of ASEAN to coordinate their actions and planning for different goals. All in all, the SDGs are a collection of goals which must be dealt with not just individually but also by understanding the interlinkages between different interests and fostering communication between the different agencies in charge of planning development policies. From the point of view of food security in ASEAN, it is especially interesting to find the nexus between the SDGs, food security, and the development of trade.

**Table 13.9:** Synergising the SDGs with the ASEAN Community Pillars

| SDGs | Occurrence in the blueprints of ASEAN community | | | Corresponding mechanisms |
|---|---|---|---|---|
| | AEC | APSC | ASCC | |
| **Goal 1 (Poverty)** | x | | x | Ministers' meeting of rural development and poverty eradication |
| **Goal 2 (Hunger)** | x | | x | Ministers' meeting on agriculture and forestry |
| **Goal 3 (Health)** | | | x | Ministers' meeting on health development |
| **Goal 4 (Education)** | | | x | Ministers' meeting on education |
| **Goal 5 (Gender)** | | | x | ASEAN meeting on women |
| **Goal 6 (Water)** | | | x | Ministers' meeting on the environment |
| **Goal 7 (Energy)** | x | | | Ministers' meeting on energy |
| **Goal 8 (Work)** | x | | x | Ministers' meeting on labour |
| **Goal 9 (Innovation)** | x | | x | ASEAN committee on science and technology |
| **Goal 10 (Inequality)** | | | x | IAI task force (narrowing development gaps) |
| **Goal 11 (Cities)** | x | | x | Ministers' meeting on development planning |
| **Goal 12 (Consumption)** | x | | x | Ministers' meeting on the economy |
| **Goal 13 (Climate)** | x | | x | Ministers' meeting on the environment |
| **Goal 14 (Ocean)** | | x | | Ministers' meeting on maritime issues |
| **Goal 15 (Land)** | | | x | Ministers' meeting on land and infrastructure |
| **Goal 16 (Peace)** | | x | | Ministers' meeting on foreign affairs |
| **Goal 17 (Partnership)** | x | x | x | All sectoral bodies |

AEC = ASEAN Economic Community, APSC = ASEAN Political-Security Community, ASEAN = Association of Southeast Asian Nations, ASCC = ASEAN Socio-Cultural Community, IAI = Initiative for ASEAN Integration, SDG = Sustainable Development Goal.

Source: Authors (2018).

When so many objective actions towards SDGs are at stake, the question of how to identify possible interactions, trade-offs, and co-benefits is crucial. Both development pathways and trade policies need to be designed while keeping in mind inter-sectoral interactions, trade-offs, and co-benefits. These can be found by identifying and benchmarking existing best practices, e.g. in the 2030 Sustainable Development Agenda. More importantly, however, this is where the role of science and thinking outside the box comes into the equation. Through scientific research and looking into innovative ideas, we can eliminate

negative externalities and create synergies between the different goals, such as SDGs and trade liberalisation goals. In summary, mainstreaming and implementing resilience building can be done effectively in the region if the nexus between SDGs, trade, and food security is correctly identified and researched, to avoid undermining goals while trying to reach others, and encourage possible and innovative synergies between different development goals in the region. This is only possible if the different actors in charge of planning for and reaching development goals communicate and coordinate their actions.

## 13.6 Enhancing the Capacity of ASEAN through the SDG Nexus Approach

The ASEAN Socio-Cultural Community framework in resilience was formed by a number of thematic guidelines and policy options for countries that wish to improve their adaptation capacities. The challenging part is that while countries struggle to deal with imminent threats in the form of short-term actions, there is less capacity to plan for long-term actions, especially because the information is still incomplete about the long-term effects and impacts of climate-induced disasters. Working together within the framework of ASEAN allows policies to take into account the broader context and a larger time frame, while pooling resources for research and information gathering. Another difficulty with resilience policies is that every country is limited in its actions by several factors that affect disaster resilience. The box lists the five defining factors for improving the adaptive capacity of ASEAN.

**Box 13.1: Defining Factors of Resilience in Food Value Chain**

- **Scale factors** – whether producers and consumers can adapt to disruption up to a certain population or geographic scale, with elements breaking down beyond that point
- **Scope factors** – whether the producers and consumers can adapt to disruption for particular types of inputs to a certain level, with elements breaking down beyond that point
- **Temporal factors** – whether the producers and consumers can manage a resilient response to a disruption for a certain period, with elements breaking down beyond that point

- **Distributional factors** – whether the supply chain is resilient for some sections of the community rather than others (e.g. low-income households and tourists)
- **Industry factors** – whether some sections of the industry, by function or product type, are less resilient than others given their particular circumstances, and any dependence across industries

Clearly, every ASEAN member country has its strengths and weaknesses in different factors, and should look at their particular context to know what to prioritise. Working together as ASEAN allows countries to point out their differences and share information about effective policies with which to address their particular weaknesses.

AMS can also support each other when faced with an emergency, increasing certain factors of resilience in a way that is impossible to achieve when acting as a single country.

As discussed earlier, mainstreaming disaster risks through the above five defining factors through a nexus approach will bring tangible benefits. For disaster risk and climate issues to be mainstreamed, it is possible to categorise the constraints into three groups: (i) information gaps, (ii) capacity gaps, and (iii) financing gaps. The capacity-building needs under each category of challenges, as derived from stakeholder consultation (Economic Research Institute for ASEAN and East Asia (ERIA), 2017), are presented in Tables 13.10a, b, and c to mainstream climate change and disaster issues successfully in the region.

**Table 13.10a: Information Gaps and Capacity-Building Needs for Enhanced Resilience**

| Challenges and Gaps | Capacity Needs |
|---|---|
| • Imbalances between supply and demand for information to support mainstreaming at all levels of government<br>• Lack of horizontal and vertical information flow<br>• While national level information is available to support decision making, at local levels, information is lacking with respect to generating, managing, and using information<br>• Monitoring, reporting, and accountability are not sufficiently linked to disaster risk and climate change objectives | • Improved data collection, analysis, and dissemination to all stakeholders<br>• Ensuring timely information generation and exchange across sectors, amongst departments and subnational level stakeholders<br>• Ensuring public access to research information and reports<br>• Local level disaster and climate information management, analysis, and application<br>• Systems to hold implementing agencies accountable for achieving goals |

Source: ERIA (2017).

**Table 13.10b: Decision-Making Capacity and Capacity-Building Needs for Enhanced Resilience**

| Challenges and Gaps | Corresponding Capacity Needs |
|---|---|
| • Predominance of sector-based planning<br>• Visions, policies, and plans are mostly short-term and do not consider the long-term perspective<br>• Planning tends to be budget-driven rather than mission-driven, thereby perpetuating sector planning<br>• Insufficient evidence-based planning<br>• Process of engaging stakeholders in planning is not well established<br>• Insufficient opportunities for international cooperation and sharing best practices in mainstreaming resilience | • Structures and process to require cross-sectoral, integrated planning<br>• Process to institutionalise integrated planning and multi-perspective analysis<br>• Systems and process to decentralise policy making and planning process effectively and efficiently for improved vertical communications<br>• Development of indicators and data sets to support evidence-based planning<br>• Creation of networks and communities of practices to support mainstreaming process |

Source: ERIA (2017).

**Table 13.10c: Financial Capacity and Capacity-Building Needs for Enhanced Resilience**

| Challenges and Gaps | Capacity Needs |
|---|---|
| • Inadequate funding to support mainstreaming<br>• Financing gaps to implement SDGs, Sendai commitments, and climate change adaptation plans<br>• Insufficient private sector investments in pursing resilient infrastructure options | • Improved capacity of sectoral agencies to communicate the importance of mainstreaming to the political level.<br>• Capacity to design investment packages that derive co-benefits by exploiting the linkages<br>• Evidence-based resource allocation and investment prioritisation<br>• Greater private sector engagement in SDG policy formulation and programme development<br>• Improved incentive package and ability to encourage private sector involvement |

SDGs: Sustainable Development Goals.

Source: ERIA (2017).

This programme of action is quite comprehensive, and it is understandable that individual countries in ASEAN could struggle with implementing all of it. To lower the cost of these investments for individual countries, it is important to foster communication between member states and find possible synergies between disaster management goals and other interests of the region.

To obtain the maximum benefit from this nexus approach, AMS should pool their resources and look at the broader picture, both in terms of goals and time frame. ASEAN can work to fill in the knowledge, capacity, and finance gaps that will allow the mainstreaming of resilience issues into policymaking on a regional basis. However, to mitigate the cost of integrating those

issues, we need to understand the possible synergies between resilience and other goals of development policies.

## 13.7 Conclusion

The resilience and trade-related targets included in the SDGs are not fundamentally new for ASEAN, as they tend to repeat earlier commitments made by member states which have substantial implementation deficits. As governments start implementing the 2030 agenda, the relevance of resilience and full trade liberalisation must be assessed in a strategic and selective way. Critical capacity-building needs for improving resilience and trade facilitation will require policy coordination at different levels. In the past, regional responses to make adaptive and resilience measures against climate change and disasters were progressive, but elusive of achieving the targets. As governments attempt to design new terms of policy engagement through SDGs and FTAs, food security will become a cost-effective solution.

To lower costs and augment the benefits of this mainstreaming process, two sorts of coordination will prove crucial: (i) finding the nexus between existing targets of ASEAN planning, such as SDGs and agriculture trade pacts, with goals for natural disaster resilience; and (ii) coordinating the member countries amongst themselves and with public and private actors inside the countries. Through this coordination, the principles of resilience building can be directly included in ASEAN mechanisms for regional economic development and protect ASEAN food systems in a durable way by adapting to new developments of climate change as they happen.

As a conclusion, this paper proposes a six-point agenda for policymakers, which gives entry points for the nexus approach to the mainstreaming process:

1. **Alignment with national planning and policy frameworks.** This is about figuring out the context the government or planning agency has to deal with, and how to integrate disaster resilience planning with existing policies and mechanisms.
2. **Identifying trade-offs and co-benefits for evidence-based actions.** This point is to be based on scientific research to understand which interests and issues are likely to create trade-offs with disaster resilience or have the potential to create co-benefits.
3. **Accelerating frameworks with interlinkages and efficiencies.** Once issues with potential co-benefits are identified, this point relies on research and out-of-the-box thinking to find innovative policies to tackle related issues effectively together.

4. **Benchmarking with SDGs, the Sendai Framework, the Paris Agreement, and FTAs such as the Regional Comprehensive Economic Partnership.** This point uses the existing literature and global commitments to find best practices and benchmark existing solutions for disaster resilience, which can be adapted to the situation at hand.
5. **Integrating climate change adaptation, disaster risk reduction, and trade pacts.** This point emphasises the role of trade negotiations in mainstreaming issues related to climate change, such as food security.
6. **Horizontal and vertical policy coherence.** This is about making sure actors at all levels of the public and private spheres are included in the mainstreaming process, for better information flows and implementation of policies.

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