

**PROMOTING SAFE AND ENVIRONMENT-FRIENDLY AGRO-BASED
VALUE CHAINS IN THE GREATER MEKONG SUBREGION**

**Strategy and Action Plan
2018–2022**

Final Draft

Contents

FIGURES, TABLES, AND BOX	3
ABBREVIATIONS	4
EXECUTIVE SUMMARY	5
1. BACKGROUND	10
2. OPPORTUNITIES FOR SAFE AND ENVIRONMENT-FRIENDLY AGRICULTURE PRODUCTS IN THE GREATER MEKONG SUBREGION	10
3. STRATEGIC CHALLENGES FOR SAFE AND ENVIRONMENT-FRIENDLY AGRICULTURAL PRODUCTS ..	14
4. DEVELOPING INCLUSIVE VALUE CHAINS	15
5. HARMONIZED FOOD SAFETY SYSTEMS	16
6. SUSTAINABLE AND CLIMATE-FRIENDLY AGRICULTURE	19
7. RATIONALE FOR A SUBREGIONAL STRATEGY	20
8. PRINCIPLES	22
9. VISION	23
10. REGIONAL STRATEGY FRAMEWORK	25
11. OUTPUTS AND ACTIVITIES	26
11.1. Policies and Regulations	27
11.2. Infrastructure	30
11.3. Knowledge and Innovation	32
11.4. Reputation and Marketing	34
12. IMPLEMENTATION ARRANGEMENTS	35
12.1. Implementation Structure	35
12.2. Investment Plan	37
12.3. Policy and Institutional Action Plan	41
12.4. Initial Commitments during Year 1 of the Strategy	42
13. DESIGN AND MONITORING FRAMEWORK	43
REFERENCES	46

FIGURES, TABLES, AND BOX

Figures

Figure 1 Intra-Greater Mekong Subregion Trade, 1992–2014	12
Figure 2 Areas with Confirmed Cases of Avian Influenza A (H5N1), 2003–2013.....	18
Figure 3 Conceptual Framework of the Greater Mekong Subregion Strategy and Action Plan, 2018-2022	25
Figure 4 Greater Mekong Subregion Economic Cooperation Program Institutional Structure.....	36
Figure 5 Greater Mekong Subregion Working Group.....	36

Tables

Table 1 Registered Geographical Indications in the Greater Mekong Subregion.....	13
Table 2 Outputs and Activities of the Strategy for Safe and Environment-Friendly Agriculture Products	26
Table 3 Summary of Outlined Investment and Technical Assistance to Support the Strategy	38
Table 4 Summary of Prioritized Investment and Technical Assistance to Support the Strategy.....	38
Table 5 Distribution of Outlined Investments and Technical Assistance by Country and Output.....	39
Table 6 Distribution of Prioritized Investments and Technical Assistance by Country and Output	39
Table 7 Pipeline of Investments and Technical Assistance by ADB related to Safe and Environment-Friendly Agriculture Products Strategy	40
Table 8 Policy and Institutional Measures Action Plan.....	41
Table 9 Design and Monitoring Framework for the Strategy on SEAP	43

Box

Box 1 Working Group on Agriculture Country-Level Structure and Delineation of Tasks.....	37
--	----

ABBREVIATIONS

AEC	ASEAN Economic Community
AIZ	agro-industrial zone
ASEAN	Association of Southeast Asian Nations
ASEAN+3	ASEAN, the People's Republic of China, Japan, and the Republic of Korea
CASP	Core Agriculture Support Program
DCZ	disease control zone
FDI	foreign direct investment
GAP	good agricultural practices
GHG	greenhouse gas
GI	geographical indication
GMS	Greater Mekong Subregion
GWM	green water management
Lao PDR	Lao People's Democratic Republic
NSSU	national secretariat support unit
NUE	nitrogen use efficiency
OIE	World Organisation for Animal Health
PGS	participatory guarantee systems
PPP	public-private partnership
PRC	People's Republic of China
SEAP	safe and environment-friendly agriculture products
SMEs	small and medium-sized enterprises
SPS	sanitary and phytosanitary
TA	technical assistance
WGA	Working Group on Agriculture
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

Opportunities. The Greater Mekong Subregion (GMS) has a great opportunity to be a major supplier of safe and environment-friendly agriculture products (SEAP). The GMS economies are growing rapidly, and their population of over 330 million is becoming larger, richer, and more urbanized. Increasingly, GMS consumers look for food characteristics such as safety, healthiness, and environment-friendliness. GMS farmers generate huge surplus of agrifood products, and agribusiness companies are more sophisticated and better able to develop regional and global reach. Agricultural and food trade is growing rapidly. Trade integration is accelerating thanks to policy initiatives and development of transportation corridors and logistics systems. The improved infrastructure and the opportunity to move further along the value-added path are great incentives for the increasing flow of foreign direct investment (FDI).

Challenges. The challenges to establish GMS as a global leader in SEAP are due to (i) the millions of fragmented small-scale farmers and small and medium-sized enterprises (SMEs); (ii) the development disparity of GMS economies, particularly with respect to food safety systems; and (iii) the difficulty of adopting sustainable climate-smart agriculture practices. Meeting these challenges requires developing inclusive value chains; harmonizing food safety standards; controlling transboundary pests and diseases; and recognizing the interdependence of food, water, soil, and energy.

Inclusive value chain development requires the combination of several measures such as an enabling business and investment climate, reforms to strengthen contractual arrangements and financial services that promote an efficient commercial agriculture, and physical and knowledge infrastructure.

Food safety and nutrition are recognized in the agricultural development strategies of each GMS country. The priority for much of the GMS is assuring the safety and sustainability of food and food supply systems while ensuring that Goal 2 (end hunger, achieve food security and improved nutrition, and promote sustainable agriculture) of the Sustainable Development Goals is achieved.

The organic food movement is expanding, and agroecological approaches are becoming known throughout the GMS. Agroecological approaches include the gamut of locally appropriate production practices that seek to improve food safety, reduce agrochemical usage, and promote climate-friendly practices—such as the system of rice intensification, conservation agriculture, organic agriculture, integrated pest management, permaculture, and agroforestry.

Rationale. The GMS is strategically located next to the People’s Republic of China (PRC), the Indian subcontinent, and the major transport corridors linking the Association of Southeast Asian Nations (ASEAN) to Central Asia and South Asia, in addition to the Pacific Ocean and the Indian Ocean. The continuity of its landmass, the rapid development of its economic corridors, and the diversity of its agroecological environment make it uniquely placed within ASEAN to be a leader in agrifood trade.

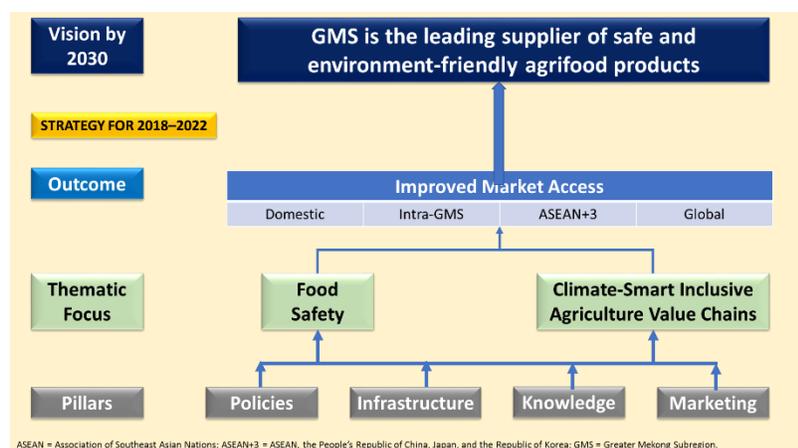
The common features in the GMS—the sharing of the Mekong River, a large landmass with porous borders, dynamic growing economies, trade openness, and connectivity—suggest that a subregional strategy could be enhancing the success of the strategies pursued independently by each nation. Although GMS countries are at different levels of development, catching up with the subregion is not only occurring, but it is also highly desirable for the overall subregion to become more prosperous and growth to be sustainable.

The subregional strategy will also contribute to reduce the potential conflict arising from the independent pursuit of national strategies. For example, (i) the attainment of food safety goals in the PRC is partly dependent on ensuring rigorous quarantine control along the border with the Lao People’s Democratic Republic (Lao PDR) and Myanmar, and partly on the successful pursuit of food safety strategies by those two countries; (ii) the expansion of Thailand’s feed industry depends on the successful engagement with suppliers throughout the region; (iii) exports of high value fruits, spices, and nuts from Cambodia and the Lao PDR depend on logistics service providers in Thailand and Viet Nam; (iv) stable rice supplies to the PRC might benefit from organized rice supply chains from Cambodia, Myanmar, Thailand, and Viet Nam; (v) deforestation related to cassava cultivation in Thailand–Cambodia border is a cause of flash floods; and (vi) diversion of water to nonfarm uses in the Mekong upstream areas or in border irrigation systems has severe consequences for the downstream areas or in the other side of the border.

A subregional approach toward safe and environment-friendly agrifood value chains is expected to achieve three main outcomes: greater trade, economies of scale, and inclusive food safety.

Strategic Approach. In pursuit of the vision of the GMS as a leading global supplier of safe and environment-friendly agrifood products, the strategy and action plan for 2018 to 2022 will focus on expanding the markets for SEAP of GMS farmers and small and medium agro-enterprises, while enabling GMS consumers to access safer food products (Figure 1).

Figure 1: Strategy for SEAP Value Chains



ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN, the People's Republic of China, Japan, and the Republic of Korea; GMS = Greater Mekong Subregion.

Underpinning the GMS vision is the security of safe food for all, irrespective of a person’s demographic, income status, and gender. The overriding theme of the regional strategy for 2018–2022 will be on establishing a food safety regime in the GMS that aligns with regional and international standards. Embedded in the food safety focus is the adoption of environment- and climate-friendly agriculture technologies and practices. The attainment of the vision for the SEAP value chains strategy rests upon four pillars: (i) policies and regulations, (ii) infrastructure, (iii) knowledge, and (iv) marketing (Table 1).

Table 1: Outputs and Activities for the GMS Safe and Environment-Friendly Agriculture Products Strategy

Outputs	Activities
1. POLICIES: Harmonized standards, practices, and policies to facilitate production, trade, and investment in SEAP value chains	1.1 Harmonize standards related to (i) food agriculture practices, (ii) food safety and quality assurance, (iii) certification and accreditation agencies, (iv) quarantine procedures, and (v) surveillance systems and laboratories. 1.2 Identify and disseminate guidelines and best practices related to FDI in food and agriculture, contract farming, and code of conduct for responsible agrifood investment in SEAP across GMS borders. 1.3 Formulate and adopt policies for safe and environment-friendly agro-based products including policies for nitrogen use efficiency, green water management, and participatory guarantee schemes.

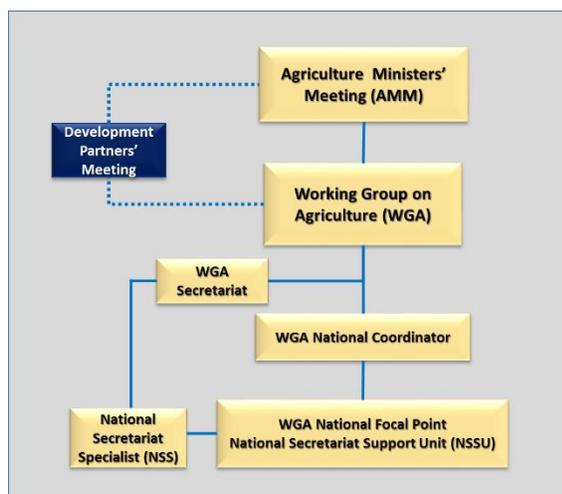
Outputs	Activities
2. INFRASTRUCTURE: Strengthened infrastructure for regionally integrated SEAP value chains	2.1 Develop agro-industrial zones and agro-demonstration parks in the GMS that facilitate the production, processing, and trading of SEAP. 2.2 Develop border livestock disease control zones. 2.3 Establish appropriate SPS facilities, including GMS reference labs and surveillance laboratories.
3. KNOWLEDGE: Improved systems for sharing and disseminating knowledge and innovations related to SEAP value chains	3.1 Develop agribusiness incubators in the GMS that are focused on growing start-up and innovative small and medium-sized enterprises for SEAP. 3.2 Develop and strengthen research and extension network focused on improved agronomic and value chain practices that improve productivity and reduce wastes and losses of SEAP. 3.3 Develop and strengthen regional training and demonstration centers. 3.4 Develop and strengthen regional education and capacity building network on value chain and logistics management in partnership with agribusiness. 3.5 Develop information sharing platform to facilitate identification of investment partners.
4. MARKETING: Developed marketing approaches to promote GMS's reputation as a SEAP global leader	4.1 Undertake marketing activities to promote GMS's reputation as a global supplier of SEAP. 4.2 Promote the development of food geographical indications. 4.3 Develop a communication plan for raising public awareness on food safety and SEAP.

FDI = foreign direct investment, GMS = Greater Mekong Subregion, SEAP = safe and environment-friendly agriculture products, SPS = sanitary and phytosanitary.

Source: GMS Working Group on Agriculture Secretariat.

Implementation Framework. The Agriculture Ministers of the GMS will guide the overall formulation and implementation of the five-year strategy and action plan (Figure 2). The GMS Working Group on Agriculture (WGA) and the WGA secretariat will assist in the supervision of the lending and non-lending investments; resource mobilization; coordination with other agencies, donor partners, and multi-stakeholder partnerships in the value chains; monitoring and evaluation of the strategy and action plan;

Figure 2: Organizational Structure



and periodic review and preparation of action plans. The WGA secretariat provides technical, logistics, and administrative support to the GMS WGA and the national secretariat support units. The core of the work on the implementation of the GMS Strategy and Action Plan falls on the WGA national coordinators, the national focal points, and the national secretariat specialist. They backstop the GMS WGA in overseeing the implementation of the strategy and action plan. In tandem, the national focal points and the national secretariat specialist are responsible for supervising the day-to-day implementation of the strategy and action plan, and for reporting regularly to their respective national coordinators on the status of the GMS Strategy and Action Plan.

Investment Plan. The outputs and activities of the strategy require the combined resources of GMS members, development partners, and, where feasible, the private sector. The time frame for the implementation of the strategy and action plan is 2018–2022 to align with the GMS Economic Cooperation Program Strategic Framework 2012–2022. The GMS members have already identified and prioritized several investments and technical assistance (TA) to support the implementation of the action plan. The number and size of these investments may change during the implementation period. However, it provides a preliminary indication of the commitment of the WGA members in the SEAP strategy.

The indicative investment plan outlined by the GMS WGA is summarized in Table 2. The total investment over 5 years is about \$1,393 million, of which 10% is TA. Of this total, \$387 million is earmarked for priority lending and non-lending investments. Output 2 on infrastructure and Output 4 on marketing absorb most of the investment, respectively 35% and 28%. In the case of infrastructure, GMS countries are committed to improving their agro-industrial zones, sanitary and phytosanitary (SPS) facilities, and disease control areas, especially in the border areas where transboundary disease movements are a source of major concern. GMS members are also committed to promoting geographical indications (GIs) and policies related to traceability and green water management. More than half of the indicative investments and TA are from the less developed GMS economies (Cambodia, the Lao PDR, and Myanmar).

Table 2: Indicative Investments and Technical Assistance by Country and Output (\$ million)

Pillars	Cambodia	PRC	Lao PDR	Myanmar	Thailand	Viet Nam	Total	%
1. Policies	59.00	1.00	76.00	19.00	5.00	10.40	170.40	12
2. Infrastructure	172.00	100.00	108.00	60.00	0.00	50.00	490.00	35
3. Knowledge	39.00	101.00	91.00	58.00	52.50	0.40	341.90	25
4. Marketing	10.00	325.00	18.00	35.00	0.00	2.55	390.55	28
TOTAL	280.00	527.00	293.00	172.00	57.50	63.35	1,392.85	100
%	20.00	38.00	21.00	12.00	4.00	5.00	100.00	

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Working Group on Agriculture.

In addition to the investments outlined by the GMS members, there are also the investment pipelines of development partners interested in supporting the GMS strategy for SEAP. In the case of ADB, the existing pipeline indicates a preliminary amount of \$858 million (Table 3). Consultations between WGA and development partners will firm up the investment commitments in line with the GMS Strategy and Action Plan and aim to bridge the gap with the requirements outlined by the WGA (\$1,393 million).

Table 3: Pipeline of Investments and Technical Assistance by ADB related to Safe and Environment-Friendly Agriculture Products Strategy (\$ million)

Items	GMS Portfolio	COBP Portfolio	TA	Total
Climate-friendly agribusiness value chains	212			212
Border disease control zones	145			145
Agricultural value chain infrastructure and agricultural corridors	238			238
Agricultural value chain infrastructure		247		247
Agriculture Support Program Phase III			10	10
Agribusiness infrastructure			4	4
TA on inclusive and sustainable agriculture modernization			2	2
TOTAL	595	247	16	858

COBP = country operations business plan, GMS = Greater Mekong Subregion, TA = technical assistance.

Source: Working Group on Agriculture Secretariat.

Policy and Institutional Action Plan. GMS members will collaborate toward the achievement of the outcome and outputs of the GMS strategy for SEAP. This collaboration will include:

- Working together toward harmonization of standards, mutual recognition of food safety quality assurance system, and reference labs
- Strengthening coordination among different agencies involved in food safety and environment-friendly products and value chains

- Promoting compliance with food safety standards in regional trade
- Promoting responsible investment in agribusiness related to SEAP in the region
- Developing infrastructure for SEAP value chains such as agro-industrial zones, market and value infrastructure, disease control areas, and SPS facilities
- Facilitating knowledge sharing through training, capacity building, demonstrations, and promoting dialogue about SEAP
- Providing a platform for trade facilitation of SEAP products such as organic and natural food
- Exchanging information about GIs and enhancing the subregional and global reputation of GIs from the GMS
- Developing joint marketing and communication strategies to enhance the reputation of the GMS as a supplier of SEAP

1. BACKGROUND

The 13th Annual Meeting of the Greater Mekong Subregion (GMS) Working Group on Agriculture (WGA) held in Da Nang in July 2016 acknowledged the need for developing a strategy and action plan for promoting safe and environment-friendly agro-based value chains in the GMS. An outline of the strategy and action plan was submitted for notation at the 21st GMS Ministerial Conference in December 2016. In October 2016, the WGA established the Strategy Drafting Committee responsible for preparing the strategy and action plan through national and regional consultations. During January and February 2017, six national consultations were held in the GMS countries. The WGA secretariat provided technical support to the Drafting Committee. The strategy and action plan includes policy, institutional, and investment measures that contribute to the achievement of the Core Agriculture Support Program Phase II (CASP2) vision of the GMS becoming recognized as a leading producer of safe food using environment-friendly agricultural practices and integrated into global markets through regional economic corridors.

The proposed strategy and action plan will intensify efforts to connect the supply chains of safe and environment-friendly agriculture products (SEAP) from the inputs, farm production, processing, marketing, and distribution levels to the consumer markets at domestic, regional, and global levels. These efforts will also provide the guideposts for enhancing market access of environment-friendly agricultural products produced in the GMS.

2. OPPORTUNITIES FOR SAFE AND ENVIRONMENT-FRIENDLY AGRICULTURE PRODUCTS IN THE GREATER MEKONG SUBREGION

The GMS comprising Cambodia, the People's Republic of China ([PRC], specifically Yunnan Province and Guangxi Zhuang Autonomous Region), the Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Viet Nam is primed to become a world-class supplier of SEAP. Regional and global demand for high quality and safe agricultural products is strong and increasing. The capacity to produce SEAP in the GMS can be further strengthened. The GMS countries have conducive economic, infrastructural, and policy conditions for the establishment of SEAP supply (Asian Development Bank [ADB] 2016). The following sections highlight several opportunities for GMS to become a world-class supplier of SEAP.

Evolving food demand with more demanding consumers. Central to the socioeconomic story of the GMS over the past 2 decades are growth and urbanization. The GMS has seen strong average annual economic growth of 7.5% per capita since 1992 and annual urbanization growth of about 3%. The combination of growth and urbanization has implied an increasing emphasis on food quality, safety, and other features such as food diversification, healthiness, and convenience.

Over this period, the subregion has made tremendous strides on assuring food security to its population. From an earlier preoccupation to produce sufficient food staples to meet the basic food needs, the agrifood systems of the GMS nations are currently mainly preoccupied to ensure food and nutrition security; to provide quality and safe food to regional (e.g., Association of Southeast Asian Nations [ASEAN], the PRC, Japan, and the Republic of Korea [ASEAN+3]) and global markets; and to assure adequate incomes to farmers and the agro-based rural nonfarm economy.

The changing demand for food in the region and the world is also moving toward stricter requirements regarding the food production practices, with an increasing preference of the urban and global consumers for practices that are sustainable in their use of natural resources and resilient to climate change.

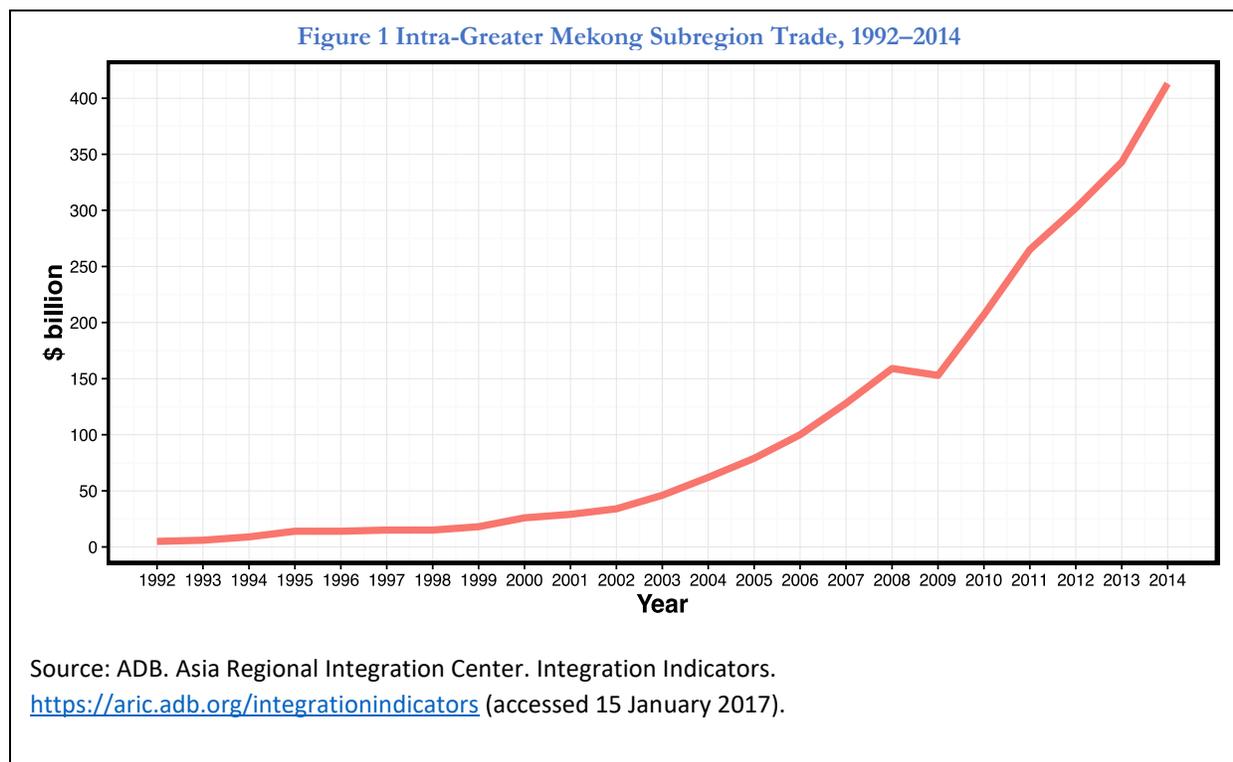
The GMS has also emerged as a major tourist destination. In 2015, the GMS welcomed almost 58 million international visitor arrivals (Mekong Tourism Coordinating Office). The increasing demand of international visitors for quality, safe, and diverse food augurs well, providing an opportunity to increase the global demand of food from the region, as indicated by the rapid growth of Thai and Vietnamese restaurants globally.

Growing investment and trade. Since the early 1990s, the GMS has become an attractive destination for investments driven partly by increasing intra-ASEAN trade and the establishment of the ASEAN Economic Community (AEC). In 2014, the ASEAN region saw the greatest growth in foreign direct investment (FDI) in the developing world. Total FDI has risen from \$1.4 billion¹ in 2001–2006 to over \$3.9 billion in 2007–2012, mirroring rising trends across ASEAN (ASEAN Secretariat 2015a). Furthermore, the share of intra-regional FDI has increased from 2.1% to over 3.0%, demonstrating increasing investment capacity and interest within the GMS countries as well as among investors outside the region.

Key factors contributing to increased investment include (i) growing consumer markets and demand associated with increasing urbanization and economic growth; (ii) geographical production and supply chain management advantages; (iii) improving policy, regulatory, and legislative investment environments; and (iv) Increasing integration within ASEAN.

Trends in trade tell of an increasing GMS presence in international markets, blossoming regional integration, and demonstrable comparative advantages in key agricultural commodities. Major increases in absolute trade volumes and values over the past 20 years have more recently been accompanied by positive average regional merchandise trade balances year-on-year since 2009. During 1992–2014, average growth in merchandise exports (12.3%) has outstripped imports (11.5%) (ADB 2016). Intra-GMS trade shares and values have grown consistently for 2 decades (Figure 1). In 2014, \$413 billion in intra-regional trade was achieved, with an annual trade growth of over 16% since 2011 (ADB 2016).

¹ In this report, “\$” refers to US dollars.



Comparative advantage in food supply. The GMS countries are major suppliers of various staple and high value agricultural produce. In 2015, the GMS generated approximately \$89 billion in agricultural commodity exports.² The GMS has comparative advantage in several important agricultural food commodities including cereals and cereal preparations; vegetables and fruits; and specific commodities for some countries (such as aromatic rice from Cambodia, the Lao PDR, Myanmar, and Thailand; coffee from the Lao PDR and Viet Nam; pulses from Myanmar; cassava from Cambodia and Thailand; vegetables and fruits from Guangxi and Yunnan; and fish and seafood from Myanmar, Thailand, and Viet Nam).

Consolidation of the agrifood sector. Consolidation of the agricultural sector is evident in key segments of the regional agrifood value chains, such as animal feed production, the seafood industries, the poultry sector, and sugar cane. Large vertically integrated national and multinational companies are becoming increasingly influential in some value chains. The role of these companies is expected to continue growing in the medium term, with the potential to positively and/or negatively impact on poverty reduction, inclusiveness, and equity in rural development. On the retail side, the penetration of supermarkets is advanced in the PRC and Thailand, and is moving fast all over the subregion, providing opportunity for growth of consumption of branded food products and enforcement of requirements such as food safety and traceability.

² Working Group on Agriculture.

Emergence of geographical indications³ in the Greater Mekong Subregion. Most countries in the subregion (Table 1) have developed geographical indications (GIs), some of which are getting international recognition. Although the regulations and mutual recognition of GIs in the region are not yet harmonized, there is an increasing awareness of its benefits for rural development. GIs convey information about the origin-bound characteristics of a product, and therefore function as product differentiators on the market by enabling consumers to distinguish between products with geographical origin-based characteristics and others without those characteristics. GIs can thus be a key element in developing brands for quality-bound-to-origin products.

Table 1 Registered Geographical Indications in the Greater Mekong Subregion

GMS Member	No. of Registered GIs
Cambodia	6
PRC (Guangxi and Yunnan)	160
Lao PDR	0
Myanmar	0
Thailand	87
Viet Nam	54
TOTAL	307

PRC = People's Republic of China, GI = geographical indication, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.

Notes:

1. Both the Lao PDR and Myanmar are in the process of approving geographical indications.
2. The number for the PRC (Guangxi and Yunnan) refers only to registered agro-products GIs under the PRC Ministry of Agriculture.

Source: Working Group on Agriculture.

According to the World Intellectual Property Organization (2016), GIs are a factor of rural development:

. . . GIs can contribute to development in rural areas. The entitlement to use a GI generally lies with regional producers, and the added value generated by the GI accrues therefore to all such producers.

Because GI products tend to generate a premium brand price, they contribute to local employment creation, which ultimately may help to prevent rural exodus. In addition, GI products often have important spin-off effects, for example in the areas of tourism and gastronomy.

Geographical indications may bring value to a region not only in terms of jobs and higher income, but also by promoting the region as a whole. In this regard, GIs may contribute to the creation of a "regional brand."

Summary of opportunities. The GMS economies are growing rapidly and their population of over 330 million is becoming larger, richer, and more urbanized. GMS consumers are becoming more demanding

³ "A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place. In addition, the qualities, characteristics or reputation of the product should be essentially due to the place of origin. Since the qualities depend on the geographical place of production, there is a clear link between the product and its original place of production" (WIPO).

of food characteristics such as safety, healthiness, local territory, and environment-friendliness. At the same time, the GMS is a major surplus area for agrifood commodities. Agribusiness companies in the region are becoming more sophisticated, and some are consolidating and have regional and global reach. Trade, including agricultural and food trade, is growing strongly. Trade integration is accelerating thanks to improved trade initiative and development of transportation corridors, logistics systems, and connectivity throughout the region. The opportunity for the region to be a major supplier of SEAP is great. Both internal and external demand factors push for it. On the supply and infrastructure side, the opportunity is to move further along the value-added path, given continued availability of FDI and improvements in technology and connectivity.

Creating a more integrated, climate-friendly agricultural sector in the GMS can sustainably harness the comparative advantages and enhance the unique characteristics of GMS agriculture, including a large landmass with fertile soils and diverse agroecological conditions around the Mekong suitable to the production of several agricultural commodities, a large and growing population with increasing disposable income, and increasingly integrated and connected nations.

3. STRATEGIC CHALLENGES FOR SAFE AND ENVIRONMENT-FRIENDLY AGRICULTURAL PRODUCTS

To meet the opportunities mentioned in Section 2, there is the need for establishing a harmonized policy environments that improve the ease of doing business and build institutional capacity for enhancing food safety and climate-friendly agriculture. Modernization of trading systems and linking of regional markets can help suppliers meet changing patterns of consumption while presenting opportunities to sustainably strengthen supply. With adequate investment, GMS suppliers can compete for current and increasing regional demand while developing supply chains capable of serving higher-value markets beyond the GMS, such as Japan, the Republic of Korea, and the European Union.

The GMS is poised to become a global supplier of high quality agricultural products to regional and global markets. Promoting effective policymaking, increasing value chain efficiency, and attracting and directing strategic investment will ensure success and benefits to all stakeholders. Identifying current constraints and bottlenecks and the best benefit-cost investments that will drive sector growth and attract further investment is needed to continue the development of the GMS agrifood value chains and wider economies. In summary, developing a clear strategy to promote investment in inclusive and sustainable agricultural value chains producing SEAP is needed while addressing food safety needs and adopting climate-friendly practices.

The challenges to develop a strategy for SEAP include

- (i) involving numerous and fragmented small-scale farmers and small and medium-sized enterprises (SMEs);
- (ii) considering the development disparity of GMS economies, particularly with respect to food safety systems;
- (iii) mitigating and adapting to climate change and using sustainable agriculture practices and technologies.

The following three sections address these challenges.

4. DEVELOPING INCLUSIVE VALUE CHAINS

Realizing the opportunities for GMS to become a world supplier of SEAP depends on assuring that smallholders and SMEs in the subregion are well integrated into regional and global value chains.⁴ The development of inclusive and sustainable value chain is critical to achieving the vision of the GMS as a leading global supplier of SEAP. Smallholder farmers are the predominant majority in the GMS agrarian structure, and SMEs are the predominant majority in the distribution of enterprises. The supply of safe and high-quality food to increasingly demanding consumers in the region and globally is assured by organized and efficient value chains. Smallholders and SMEs have thus to be integrated into value chains that are able to add value, assure safety and quality, and manage the logistics needed to take food from the field to the table.

The integration of small farmers and SMEs into regional and global value chain is feasible, but it requires the development of mechanisms such as farming contracts, productive partnerships between farmers and enterprises, public–private partnerships (PPPs) in the food system, agrifood incubation centers, agro-processing economic zones, disease control areas, and information systems to strengthen the linkages between agriculture and nonagricultural activities such as food manufacturing, food service, new retail sector (supermarkets and hypermarkets), finance, tourism, and alternative energy sources.

The development of value chains across the GMS is unequal, with the PRC, Thailand, and Viet Nam more advanced than Cambodia, the Lao PDR, and Myanmar. Agro-enterprises in the subregion are currently investing outside their country of origin to benefit from economies of scale in procurement of raw material and in distribution. The GMS countries are exporters of different types of fruits, vegetables, herbs, and spices, along with rice and cash crops such as sugarcane, coffee, and cassava. GMS agricultural food products are gaining access to new markets. For example, Viet Nam recently gained access to the Australian market for lychees and mangoes, and for dragon fruit in early 2017. Maintaining these markets, expanding access across the region, and continuing to unlock other new markets require strategic investment in value chain hardware such as laboratories and distribution infrastructure, and software such as technical expertise in surveillance systems.

A key factor in ensuring an inclusive value chain development is a governance structure within the value chain that assures a fair distribution of benefits among all stakeholders. Strong farmer organizations, which can also be investors in supply chain companies, are one way of ensuring that benefits are shared through the supply chain. At the same time, an appropriate regulatory framework is needed to help balance the power and interests of larger companies and small farmers, as well as to assure compliance with social and environmental safeguards of agribusiness investment.

⁴ In addition to smallholder farmers, agro-based value chains include agrifood enterprises involved in the commercialization of agricultural products and services and distribution of inputs. These enterprises include input providers, producer companies, marketing cooperatives, storage operators, logistic companies, agro-processors, importers and exporters of agricultural and food products, distributors, traders, and agricultural service providers (including financial service providers, insurance providers, business service providers).

Inclusive value chain development requires the combination of several measures such as an enabling business and investment climate, reforms to strengthen contractual arrangements and financial services to promote an efficient commercial agriculture, and physical and virtual infrastructure.

The GMS strategy for SEAP value chain development should recognize the key role of infrastructure in facilitating connectivity (through transport and communication infrastructure), access to reliable and affordable energy, and efficient supply chain management (through value chain infrastructure such as warehouses, packhouses, collection centers, markets, logistics, and distribution centers). The strategy supports the improvement of knowledge infrastructure to promote commercial agriculture through effective market information and intelligence services.

The development of value chains aims at improving competitiveness in SEAP, namely, capturing market share through the provision of value to consumers. GMS agriculture might have comparative advantage in several commodities. However, to gain competitiveness, the overall supply chain needs to be improved through innovations that reduce costs along each stage of the value chain, product innovations that bring new desirable features to the consumers (e.g., food safety, improved packaging, convenience in preparation, taste, storability), and logistics practices that maximize economies of scale.

To improve competitiveness, the energy and inventiveness of farmers and the private sector are essential. This requires an approach to agricultural promotion and competitiveness that acknowledges the vital role of the private sector and farmer organizations, without conceding the critical function of the government to oversee, regulate, and facilitate competitive and pro-poor growth. This blending of private sector and farmers' energy and innovation with the government facilitation to ensure positive public outcomes is the rationale for PPPs.

5. HARMONIZED FOOD SAFETY SYSTEMS

For the GMS to become a reliable supplier of SEAP, it requires the harmonization of food safety standards and the control of transboundary pests and diseases. Greater urbanization and the rise of the middle class in the subregion are creating a new set of issues. The demand for convenient food, processed food, and safe food is increasing, albeit at varying paces in different countries depending on the level of income and urbanization. In general, consumers in the GMS are becoming more aware of issues on food safety and quality assurance, highlighted by several major food safety scares and outbreaks within and outside the region.

The potential for global food exports from the region is constrained by the limited adoption of globally recognized standards for food production, processing, and distribution. The GMS governments are aware of the need for improving their standards, and recognize their weak capacity in establishing assurance systems both internally for domestic trade and externally for regional and global trade.

While in the past food safety in the GMS was addressed mainly to get access to markets in more advanced countries, currently the concerns for food safety are even more meaningful for the regional and domestic markets. The concern for safety and nutrition is now common across the region and recognized in the agricultural development strategies of each GMS country. Food safety is a core component of food security. The priority for much of the GMS is increasing the safety and sustainability of food and food supply systems, while ensuring that the right to food is met and the Goal 2 (end hunger, achieve food

security and improved nutrition, and promote sustainable agriculture) of the Sustainable Development Goals is achieved.

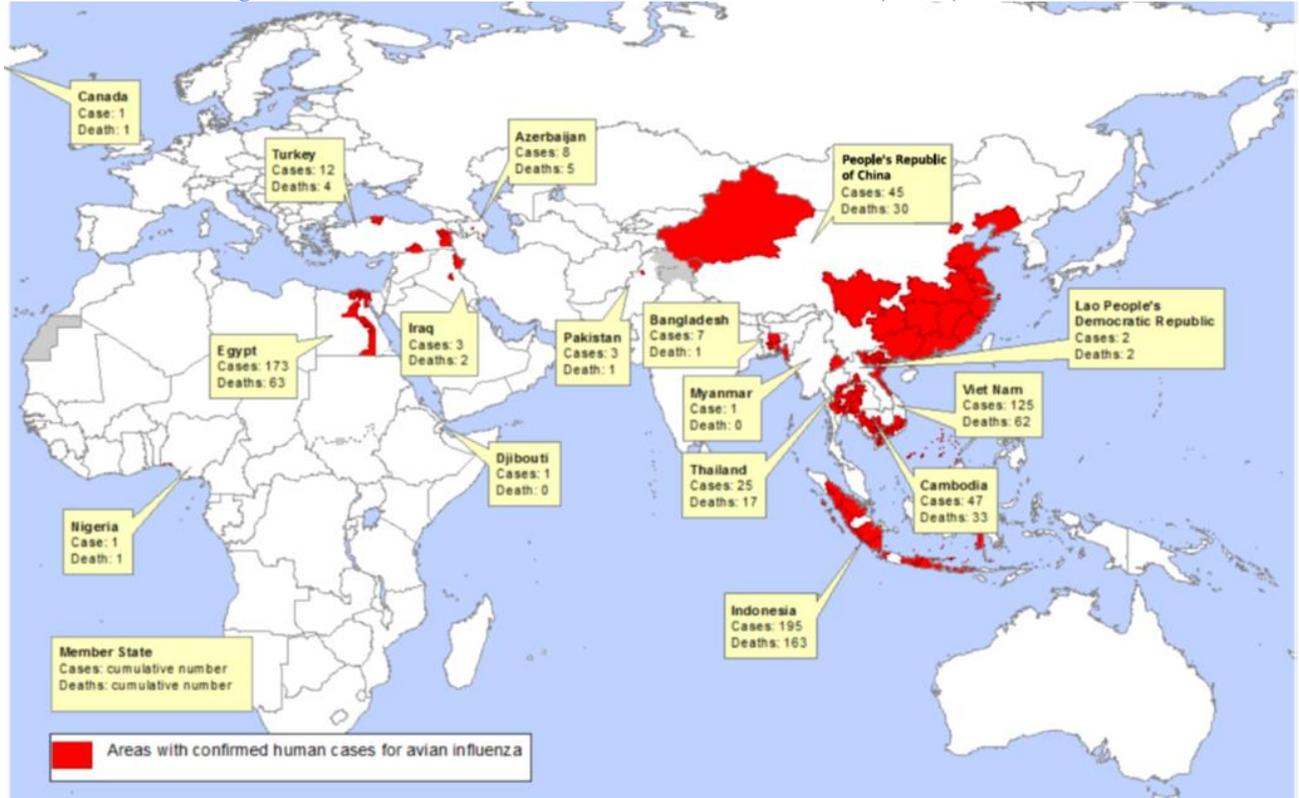
The costs of food-borne illness in the GMS are undoubtedly high. This is evidenced by the frequent reports of large outbreaks of illness caused by food-borne pathogens; the many high-profile cases of food-related health scares; and ongoing concerns over quality, notably misrepresentation of products (ProMED-mail 2016). Various studies indicate that levels of chemical residues, such as pesticides and veterinary drugs, are well above the internationally acceptable levels. Although notoriously difficult to estimate due to underreporting and the costs of effective surveillance systems, the World Health Organization estimated 10 million–35 million cases of diarrheal disease alone in Thailand in 2009 (WHO 2015). Unfortunately, the WHO's recent estimates of the global burden of food-borne illness are not disaggregated to country level and the WHO's regional definitions split the GMS countries into two regions (Southeast Asia and Western Pacific), making extrapolation of estimated rates in the GMS impossible.

New or revised food safety laws and related legislation, regulations, and policies, such as veterinary laws, have been passed or are in the process of being passed in each GMS country. Furthermore, private sector systems are developing quickly, often benefiting wider stakeholders in specific industries as well as consumers. Many larger players in the region have established their own food safety and quality assurance systems and standards that meet and often surpass national, regional, and global systems, such as good agricultural practices (GAP), good manufacturing practices, and hazard analysis and critical control points. The continuing development of other certifications such as third-party organic and participatory guarantee systems (PGS) provide alternatives, and the demand for these products is growing rapidly, particularly in urban centers (Castella and Kibler 2015).

The GMS is also among the highest risk areas for emerging infectious diseases (Jones et al. 2008). This is associated with the relatively high population density, livestock, and wildlife numbers. Over 60% of emerging infectious diseases are estimated to be zoonoses.⁵ Moreover, emerging infectious diseases are significantly correlated with socioeconomic, environmental, and ecological factors. The rapid spread of avian influenza A (H5N1) and high number of human cases of H5N1 in the GMS countries relative to other regions provide a compelling example of the rapid emergence and spread of infectious pathogens in the subregion (Figure 2).

⁵ See Centers for Disease Control and Prevention. "A zoonosis is any disease or infection that is naturally transmissible from vertebrate animals to humans. Animals thus play an essential role in maintaining zoonotic infections in nature. Zoonoses may be bacterial, viral, or parasitic, or may involve unconventional agents. As well as being a public health problem, many of the major zoonotic diseases prevent the efficient production of food of animal origin and create obstacles to international trade in animal products" (WHO).

Figure 2 Areas with Confirmed Cases of Avian Influenza A (H5N1), 2003–2013



Note: All dates refer to onset of illness (as of 24 January 2014).
Source: World Health Organization.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its borders or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.
© WHO 2013. All rights reserved.



6. SUSTAINABLE AND CLIMATE-FRIENDLY AGRICULTURE

While the increasing importance of food safety is being driven by mounting consumer awareness and the complexity of food systems required to supply food to larger urban areas, the drivers for environmentally sustainable and climate-friendly production are the outcome of a related but different set of factors. The negative effects of local pollution and current and projected climate change impacts combine to highlight the need for production practices that increase resilience to current and pending impacts of climate change while sustaining key natural resources and mitigating greenhouse gas (GHG) emissions. Addressing these factors is essential to continue the region's economic growth and achievements in poverty reduction.

Local pollution can have considerable negative effects on living conditions, and increases the risk of noninfectious and infectious diseases that affect both humans and animals, including risks associated with the full spectrum of food safety hazards. In addition, the risk of emerging infectious disease events such as zoonoses is also affected in complex ways by local conditions. Furthermore, local pollution and unsustainable production practices negatively affect productivity by reducing water and soil quality, and can become a vicious cycle requiring increasing application of agrochemicals for diminishing returns.

The predicted impacts of climate change are increasingly well-recognized and understood. Farmers, in particular, are among those most vulnerable and directly affected (Fischer et al. 2005). Most of the GMS population continues to reside in rural areas, and agriculture absorbs a large share of the labor force. Moreover, many farmers in the GMS are particularly vulnerable due to the large number of farms that remain reliant on rainfed systems (ADB 2014). Meanwhile, the contribution of current agricultural practices to climate change is also well documented (Robertson et al. 2000). The effects of climate change are already being felt in many areas in the GMS, and the magnitude of change is expected to increase considerably in the medium to long term. For example, the frequency and severity of floods, droughts, major storms, salinization, and other forms of land degradation are increasing in the subregion (United States Agency for International Development 2014). The effects of climate change are further amplified at the local and subregional levels by inefficient water and soil management and degradation of land due to urbanization, industrialization, and deforestation.

The policy directions in each GMS country recognize the importance of minimizing local environmental degradation and mitigating and developing resilience to climate change, particularly in rural areas. The effects of these policies are apparent in recent and pending laws and changes in regulatory environments.

Guidelines for several good practices—such as GAP for crops, good animal husbandry practices for livestock, good manufacturing practices, and good aquaculture practices for aquaculture—have been established or are currently being developed in each GMS country. The various good practice standards and guidelines recognize the importance of food safety and reflect factors such as the management of natural resources, reductions in local pollution, and mitigation of GHG emissions. Awareness and adoption of good practices is accelerating in response to threats and stressors derived from these three factors. However, standards themselves and the level and effectiveness of adoption by farmers vary considerably between countries. Moreover, the current good practice standards and guidelines do not universally prioritize climate change adaptive capacity and mitigation. Application of good practices can increase efficiency of water use, sustain and enrich soils, and improve pest and disease management with reduced use of potentially harmful agrochemicals and pharmaceuticals. The subregion needs alignment of standards and guidelines to improve food safety, environmental sustainability, reduction of food wastes

and losses, and climate change adaptation and mitigation in increasingly interconnected regional food supply.

The interdependence of food, water, soil, and energy is often recognized in relation to food safety. The organic food movement is expanding, and agroecological approaches are becoming increasingly prevalent throughout the GMS. Agroecological approaches include the gamut of locally appropriate production practices that seek to improve food safety, reduce agrochemical usage, and promote climate-friendly practices, such as system of rice intensification, conservation agriculture, organic agriculture, integrated pest management, permaculture, and agroforestry (Castella and Kibler 2015). Food supplies adhering to these principles are gaining traction among consumers and stakeholders.

7. RATIONALE FOR A SUBREGIONAL STRATEGY

The GMS is strategically located next to the PRC, the Indian subcontinent, and the major transport corridors linking ASEAN to Central Asia and South Asia, in addition to the Pacific Ocean and the Indian Ocean. The continuity of its landmass, the rapid development of economic corridors, and the diversity of its agroecological environment make it uniquely placed within ASEAN to accelerate the path toward food safety and environment-friendly practices.

Each GMS country is engaging in the formulation and implementation of policies and investments addressing issues of food safety and climate-friendly agriculture. The pace of engagement varies from country to country in the subregion depending on the stage of development of the agricultural sector and the institutional capacity.

The common features in the GMS—the sharing of the Mekong River, a large landmass with porous borders, dynamic growing economies, trade openness, and connectivity—suggest that **a subregional strategy might be enhancing the success of the strategies pursued independently by each nation**. Although GMS countries are at different levels of development, catching up within the subregion is not only occurring, but it is also highly desirable for the overall subregion to become more prosperous and for growth to be sustainable.

The subregional strategy will also contribute to reduce the potential conflict arising from the independent pursuit of national strategies. For example, (i) the attainment of food safety goals in the PRC is partly dependent on ensuring rigorous quarantine control along the border with the Lao PDR and Myanmar, and partly on the successful pursuit of food safety strategies by those two countries; (ii) the expansion of Thailand's feed industry depends on the successful engagement with suppliers throughout the region; (iii) exports of high value fruits, spices, and nuts from Cambodia and the Lao PDR depend on logistics service providers in Thailand and Viet Nam; (iv) stable rice supplies to the PRC might benefit from organized rice supply chains from Cambodia, Myanmar, Thailand, and Viet Nam;

(v) deforestation related to cassava cultivation in Thailand–Cambodia border is a cause of flash floods on either side of the border; and (vi) diversion of water to nonfarm uses in the Mekong upstream areas or in border irrigation systems has severe consequences for the downstream areas or in the other side of the border.

A subregional approach toward safe and environment-friendly agrifood value chains has three main expected outcomes: greater trade, economies of scale, and inclusive food safety.

Greater trade. The development of transport and economic corridors in the subregion is increasing connectivity and the basic infrastructure for enhanced intra-regional and global trade. For this improved infrastructure to lead to more intra- and extra-subregional trade, greater integration of standards (e.g., GAP, food safety, climate-friendly agriculture) and harmonization of protocols for trade are needed. While FDI in the subregion has been growing strongly, the risks remain high for foreign investors. This is largely associated with an opaque business environment, in which risk management for investors remains difficult. The regional policy, regulatory, and legislative environments in which agribusiness operates must be improved and clarified to attract further investment. This will ensure the necessary capital, know-how, and human resources needed to benefit from the tremendous opportunities the subregion offers for the production, processing, and distribution of SEAP. Given the presence of porous borders and issues of transboundary pests and diseases, each country can benefit from greater coordination in trade regulations and practices. It should be noted that this GMS strategy for SEAP is consistent with the aim of the ASEAN Economic Community (AEC) vision to promote a highly integrated and cohesive economy, and a competitive, innovative, and dynamic ASEAN (ASEAN Secretariat 2015a).

Economies of scale. The GMS is a landmass with strong and increasing connectivity, various agroclimatic conditions suitable to the production of several agricultural commodities, and a large population increasingly urbanized and with a growing demand for safe food products. The region's food consumption patterns are similar and offer the opportunity for developing large chains for food retailing, wholesale markets, and integrated supply chains. Processing, logistics, distribution, and marketing agricultural products in the region can be organized more efficiently through the emergence of regional value chains cutting across various GMS countries. This can come about through common regional approaches to FDI, contract farming, and the development of value chain infrastructure. The resulting efficiency from economies of scale will also be reflected in production systems that use water more efficiently, manage soil and plant nutrients effectively to ensure sustainable soil fertility, and adhere to common climate-friendly agricultural practices. Furthermore, although each country has its own unique attributes and strengths, with increasing integration and harmonization, there is considerable potential to build a trusted GMS's reputation, under which the GMS can market regional products in domestic markets, wider Asian markets, and globally. Promoting key products as a block can reduce marketing costs and increase the impact of launching quality GMS produce globally.

Inclusive food safety. A unilateral commitment to food safety by individual GMS member countries would not suffice to assure food safety for all citizens. Improved control of food safety hazards goes hand in hand with effective risk management in relation to emerging infectious diseases and diseases of importance to agricultural production, such as foot and mouth disease. Considerable volumes of informal trade in food and agricultural products occur across GMS borders without control of quality and food safety. Therefore, it is essential that coordination of policies and border control are enacted by GMS countries to harmonize protocols and practices related to trade of seed, fertilizer, feed, pesticides, food, and live animals to protect the health of crops, livestock, and people. The subregion's land borders do not provide protection from transboundary pests and diseases. Addressing these issues can provide economic efficiency and efficacy benefits, strengthening the subregion. There are ample opportunities to learn from the subregion's more advanced exporters of agricultural products, and there are collective benefits deriving from sharing methods, technical capacity, and knowledge within the subregion.

The porous borders throughout the GMS present the risk that unscrupulous business enterprises operating under less stringent assurance systems could harm consumers through the distribution of unsafe food products, most likely harming the least well-off groups disproportionately more. For the

GMS to attain food safety for all, it must establish a common vision and strategy.

In summary, all the six GMS countries will benefit from the expectations of greater trade, economies of scales, and inclusive food safety resulting from the greater cooperation and implementation of a strategy focused on safe and environment-friendly agro-based value chains.

8. PRINCIPLES

The formulation of the GMS strategy for SEAP relies upon the following common principles.

Food safety for all. There is a growing realization in the GMS that food safety is important both for domestic consumers and international markets. Most importantly, there is a growing awareness that food safety is a right of all citizens including disadvantaged groups.

Sustainability and climate-friendly agriculture. The GMS is very vulnerable to climate change. Some of the GMS countries have an intensive agricultural system posing enormous pressure on the environment, including unsustainable use of agrochemicals, pollution through agricultural wastes, and GHG emissions. GMS countries realize that the adoption of climate-friendly and sustainable agricultural principles should inform policies and practices in the subregion.

Inclusiveness of smallholder farmers and small and medium-sized enterprises. The subregion's agrarian and agro-enterprises structures are dominated by smallholder farmers and SMEs. The emergence of agrifood based value chains in the GMS requires the integration of these stakeholders to gain access to growing domestic, regional, and global markets.

Gender empowerment. Policy development should address activities that will empower women and ensure equal benefit sharing between men and women. There is potential for empowering women and men smallholder farmers by introducing gender-sensitive agronomic practices that can strengthen their capacity in production, processing, and trade as well as improve gender equity in agriculture sector with equal opportunity and benefit sharing for women and men.

Corporate social responsibility. As domestic and regional investment grows and multinational and large companies become more visible in the GMS agrifood sector, it is critical to ensure that basic principles of corporate social responsibility are adhered to, including code of conducts.

Good governance. Both the public and private sectors aim to ensure transparency, accountability, and multi-stakeholder dialogue on safe and environment-friendly agro-based value chains.

Benefits of the strategy for all Greater Mekong Subregion members. Although GMS countries are at different levels of development, each country has a key role to play in the formulation and implementation of the strategy. Each country will be better off working together than working separately. Countries will make different contributions to the strategy, but each country will need to gain from it. The GMS strategy on SEAP will also contribute to engendering a more equitable and inclusive economic growth that narrows the development gap, reduces poverty significantly, sustains high growth rates of per capita income, and maintains a rising middle class.

Integration with the Association of Southeast Asian Nations. The GMS strategy for SEAP builds on the AEC Blueprint 2025 (ASEAN 2015b) consisting of five interrelated and mutually reinforcing characteristics, namely, (i) a highly integrated and cohesive economy; (ii) a competitive, innovative, and dynamic ASEAN; (iii) enhanced connectivity and sectoral cooperation; (iv) a resilient, inclusive, people-oriented, and people-centered ASEAN; and (v) a global ASEAN. The GMS strategy for SEAP is also consistent with the AEC Blueprint 2025 efforts toward a vision for the food and agroforestry sector, including measures to improve productivity, technology, and product quality to ensure product safety, quality, and compliance with global market standards; and to develop and promote ASEAN as an organic food production base, including striving to achieve international standards.

9. VISION

The Greater Mekong Subregion is a leading global supplier of safe and environment-friendly agrifood products.

The vision of CASP2 is a work in progress envisaged to be achieved by 2030 in time for the completion of the Sustainable Development Goals.

In pursuit of the vision, this regional strategy and action plan for promoting safe and environment-friendly agro-based value chains in the GMS will focus on expanding the markets for SEAP of GMS farmers and their organizations, and small and medium agro-enterprises, while at the same time enabling GMS consumers to access safer food products.

Underpinning the GMS vision is the security of safe food for all, irrespective of a person's demographic, income status, and gender.

The overriding theme of the regional strategy for 2018–2022 will thus be on establishing the food safety regime of the GMS that aligns with regional and international standards. Embedded in the food safety focus is the adoption of environment- and climate-friendly agriculture technologies and practices.

The regional strategy's emphasis on food safety will bolster development of regional value chains that are fully integrated with global value chains. In turn, this will promote greater investment flows within the region that will contribute to higher growth, higher farmers' income, and higher living standards. Economies of scale will be achieved by ensuring procurement of transboundary raw material through effective contract farming and other arrangements.

Continued progress in inclusive development, food security and food safety, environmentally sustainable production, and subregional integration is in the interest of all subregion countries. A common vision can harness the subregion's considerable strengths. To ensure the continued development of the GMS as a global hub for environment-friendly agricultural products, four pillars for building the GMS food safety regime are provided: policies and regulations, infrastructure, knowledge innovations and sharing, and marketing.

It is essential that a clear strategy for optimal investment in agricultural value chains with buy-in from both public and private sector interests is established. The strategy must be developed and owned by stakeholders in the subregion. It must be systemic and holistic, encouraging stakeholder involvement and investment in shortening the length of agricultural value chains, improving productivity and the functioning of chains through greater connectivity, addressing weak links, and striving for greater alignment of policy and regulatory environments across the GMS.

The preparation of the action plan for strategy implementation includes targets and indicators to operationalize the vision. Continuous consultations among the Working Group on Agriculture (WGA) members will ensure that the targets are realistic and time-bound.

In the following discussion of pillars, outputs, and activities, the terms “agriculture” and “agro-based value chains” include subsectors such as crops, livestock, and fisheries products. These products were identified during the national consultations.

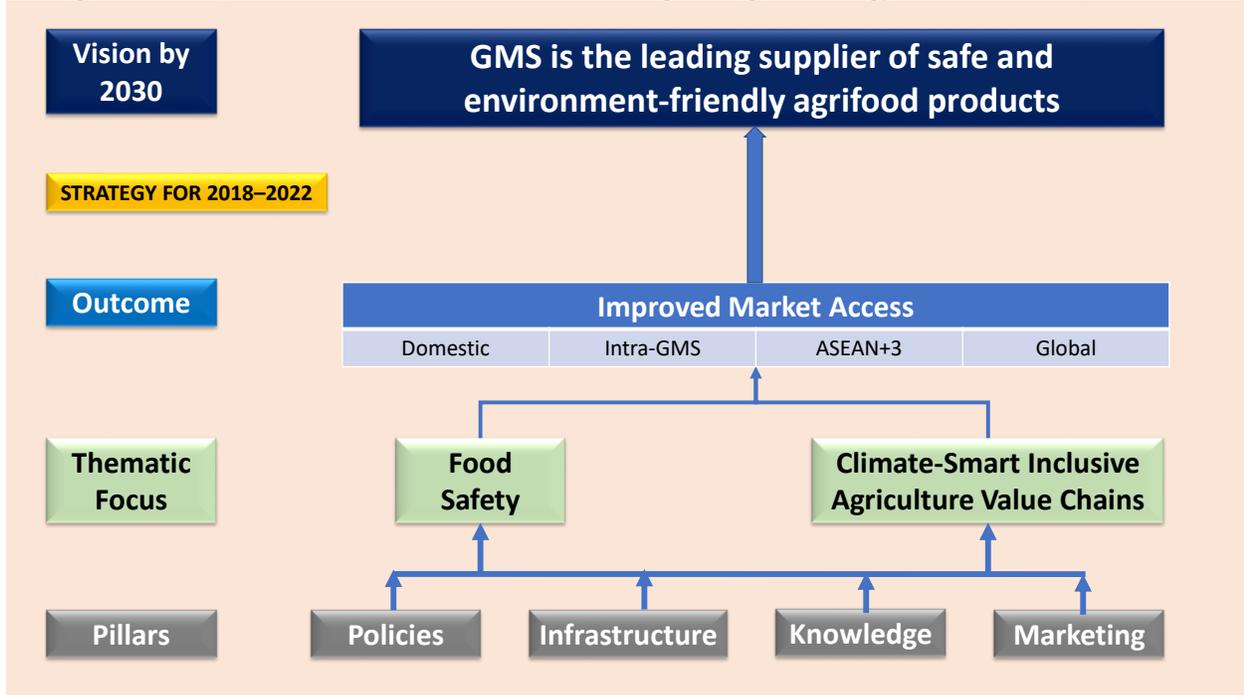
While the priorities for each product might differ from country to country, some products are of common interest to all the GMS countries for their impact on food safety and the environment, such as livestock, fruits and vegetables, and rice. Livestock move across GMS borders and is the origin of various transboundary diseases. Fruits and vegetables are a major concern in terms of maximum residue levels and excessive use of agrochemicals. Rice is cultivated in all GMS countries and is the staple of the population. Its importance from the SEAP perspective relates to not only food safety, but also to the impact of the use of water and soil in paddy cultivation on GHG.

Being organic, natural, low-input, and GI products are key features.

10. REGIONAL STRATEGY FRAMEWORK

The framework for the regional strategy is summed up in Figure 3.

Figure 3 Conceptual Framework of the Greater Mekong Subregion Strategy and Action Plan, 2018-2022



ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN, the People's Republic of China, Japan, and the Republic of Korea; GMS = Greater Mekong Subregion.

Source: Working Group on Agriculture Secretariat.

Vision: The GMS is a leading global supplier of SEAP.

Outcome: GMS farmers and their organizations, and small and medium agro-enterprises benefit from access to higher value markets, and GMS consumers benefit from access to safer food products.

The attainment of the vision for the SEAP value chains strategy rests upon four pillars:

- (i) **Policies and regulations:** Development of harmonized policies to facilitate production, trade, and investment in safe and environment-friendly agro-based value chains
- (ii) **Infrastructure:** Development of regionally integrated safe and environment-friendly agro-based value chain infrastructure
- (iii) **Knowledge:** Improved systems for generating and sharing knowledge and innovations related to safe and environment-friendly agro-based value chains
- (iv) **Marketing:** Development of marketing approaches to promote GMS's reputation as a global leading supplier of SEAP

Period: The strategy will be implemented between January 2018 and December 2022.

Operationalization of SEAP: SEAP are those that comply with standards equivalent to, or more stringent standards than, ASEAN GAP (ASEAN Secretariat 2006).

11. OUTPUTS AND ACTIVITIES

Error! Reference source not found. summarizes the outputs and activities of the strategy for SEAP value chains, which will also serve as the basis for the GMS Regional Investment Framework.

Table 2 Outputs and Activities of the Strategy for Safe and Environment-Friendly Agriculture Products

Outputs	Activities
5. Harmonized standards, practices, and policies to facilitate production, trade, and investment in SEAP value chains	5.1 Harmonize standards related to (i) GAP, (ii) food safety and quality assurance, (iii) certification and accreditation agencies (including PGS for organic agro-products), (iv) quarantine procedures, and (v) surveillance systems and laboratories. 5.2 Identify and disseminate guidelines and best practices related to FDI in food and agriculture, contract farming, and code of conduct for responsible agrifood investment in SEAP across GMS borders. 5.3 Formulate and adopt policies for SEAP including policies for NUE, GWM, and PGS.
6. Strengthened infrastructure for regionally integrated SEAP value chains	6.1 Develop agro-industrial zones and agro-demonstration parks in the GMS that facilitate the production, processing, and trading of SEAP. 6.2 Develop border livestock disease control zones. 6.3 Establish appropriate SPS facilities including GMS reference labs and surveillance laboratories.
7. Improved systems for sharing and disseminating knowledge and	7.1 Develop agribusiness incubators in the GMS that are focused on growing start-up and innovative SMEs for SEAP. 7.2 Develop and strengthen research and extension network focused on improved agronomic and value chain practices that improve productivity and reduce SEAP wastes and losses.

Outputs	Activities
innovations related to SEAP value chains	7.3 Develop and strengthen regional training and demonstration centers. 7.4 Develop and strengthen regional education and capacity building network on value chain and logistics management in partnership with agribusiness companies. 7.5 Develop information sharing platform to facilitate identification of investment partners.
8. Developed marketing approaches to promote GMS's reputation as a SEAP global leader	8.1 Undertake marketing activities to promote GMS's reputation as a global supplier of SEAP. 8.2 Promote the development of food GIs. 8.3 Develop a communication plan for raising public awareness on food safety and SEAP.

FDI = foreign direct investment, GAP = good agricultural practices, GI = geographical indication, GMS = Greater Mekong Subregion, GWM = green water management, NUE = nitrogen use efficiency, PGS = participatory guarantee systems, SEAP = safe and environment-friendly agriculture products, SMEs = small and medium-sized enterprises, SPS = sanitary and phytosanitary.

Source: Working Group on Agriculture Secretariat.

11.1. Policies and Regulations

Output 1: Harmonized standards, practices, and policies to facilitate production, trade, and investment in SEAP value chains

The GMS will pursue several measures to facilitate the emergence of a harmonized system of standards, practices, and policies for SEAP. Some measures require the coordination among different agencies within each country and between different GMS countries. Priority will be given to those measures that are within the scope of GMS agriculture ministries, such as contract farming, corporate farming, good practices, food safety regulations, accreditation and certification, quarantine controls, and surveillance.

Activity 1.1: Harmonize standards related to (i) GAP, (ii) food safety and quality assurance, (iii) certification and accreditation agencies, (iv) quarantine procedures, and (v) surveillance systems and laboratories.

All GMS countries have developed standards for GAP, food safety, certification and accreditation, custom and quarantine procedures, and surveillance systems and laboratories. However, the standards and procedures are implemented differently in various countries; compliance with standards varies; and capacity for implementation is also quite variable across the region. Sanitary and phytosanitary (SPS) capacity building is foremost a national challenge for each country, but long and porous national borders and similarities in agroecological conditions and food systems make GMS countries highly interdependent (ADB 2012b).

Because of the risks of spillovers, individual or national solutions to transboundary agricultural health and food safety hazards are difficult to achieve and expensive to implement effectively without cooperation from GMS neighbors. However, countries lack confidence in each other's capacities and lack familiarity with each other's systems and capacities, partly due to variation in laboratory testing standards. There is, therefore, considerable room for GMS countries to improve exchange of information on pests, diseases and food safety hazards, and thus create confidence in each other's measures and meet general

recommendations of reporting under the international framework of World Trade Organization (WTO) SPS, Codex Alimentarius, International Plant Protection Convention, World Organisation for Animal Health (OIE), ASEAN Rapid Alert System for Food and Feed,⁶ WHO's International Food Safety Authorities Network, etc. Improved surveillance and information exchange between GMS countries is needed. Bilateral cooperation among GMS countries concerned with exchanging information about each other's SPS systems, health information related to trade flows, concerns about spillover of health hazards, technical assistance (TA), and coordination of policies is useful, and can be a building block for wider regional cooperation.

Harmonization of standards aims to achieve the long-term objective of adopting a common standard while recognizing that in the short-term GMS countries are at different levels of development and have different standards. It is therefore crucial to establish equivalence criteria among standards in different countries; to accelerate the process of moving toward the adoption of common standard through the adoption of conformance measures (e.g., equivalence in technical regulations, standards harmonization, alignment with international standards, and mutual recognition arrangements); and to streamline procedures and reduce requirements for certificates, permits, and licenses to import or export agrifood products.

On harmonization of standards, using the developed ASEAN standards on organic products and GAP, or other globally market-recognized schemes, should be considered instead of recreating new standards or duplicating existing standards. Areas of focus on harmonization of standards are safety and quality assurance. Some countries (e.g., Thailand) might have standards equivalent to, or even more stringent than, those of ASEAN; other countries will need to upgrade their standards to the ASEAN level. Overall, the minimum acceptable standard within the GMS will be raised.

Product traceability is also cited as an area of interest for GMS countries to consider in the harmonization of standards. Product selection criteria could be those for products with high safety risk and high impact such as fruits and vegetables, key export products (e.g., rice), and commonly agreed products within the region, such as livestock and meat products.

Activity 1.2: Identify and disseminate guidelines and best practices related to FDI in food and agriculture, contract farming,⁷ and code of conduct for responsible agrifood investment in SEAP across GMS borders.

The identification and promotion of best practices in FDI in food and agriculture can pave the way for the emergence of a common area for movement of capital and investment in the region. That in turn can contribute to the realization of economies of scale and the development of several food value chains originating from the region and global in outreach.

⁶ Information exchange on food safety alerts has a special dimension. The voluntary ASEAN Rapid Alert System for Food and Feed has been developed for ASEAN, led by Thailand with the European Union support. The PRC has a national rapid alert system version. It will require much dialogue and harmonization agreements among GMS countries to make it a useful operational tool for food safety regulators. Synergy should be sought in data collection for the ASEAN Rapid Alert System for Food and Feed, and International Food Safety Authorities Network.

⁷ The wording "contract farming" here is used in a broad meaning of arrangements involving smallholder farmers and corporate entities to promote consolidation of and access to markets. Contract farming can thus include long lease arrangements and various corporate farming schemes such as the Guangxi goods agro-enterprises.

Since the early 1990s, market-based institutional arrangements such as contract farming have proliferated in the region (Setboonsarng and Leung 2014). Contract farming, linking farmers and buyers directly, has promise in the elusive quest for agricultural development in a globalizing agriculture trade. It is an effective tool to engage the private sector in rural development. Contracting arrangements vary widely but may include company provision of technology, inputs, working capital, extension, and market information. Farmers in turn deliver specified quality produce at an agreed price, volume, and schedule to contracting firms. These arrangements can spread risk, increase linkages along value chains, and sustainably increase smallholder access to remunerative new markets. Returns are maximized for smallholders promoting transformation from traditional farming practices to market-oriented commercial production, potentially linking producers to global agrifood value chains. Increasing consumer demand for safer food grown more responsibly, particularly in higher-value markets, and the proliferation of organic contract farming among other lower-input production methods can ensure that the agricultural sector remains an essential component of green and inclusive growth.

Yet, contract farming is not a one-size-fits-all solution to rural development. Rather, it is an institutional arrangement that, when properly implemented by the private sector with appropriate government support, can unlock agribusiness dynamism and green transformation. While governments figure largely in contract farming initiatives, contract farming is essentially a private sector-led initiative. The proliferation of contract farming in developing countries with quality natural resources and abundant rural labor is perceived as a response of agribusiness firms to stringent export markets and increased consumer awareness of food safety and healthy eating, which have raised demands for clean food. Success cannot be achieved without the government's policy support, which will enable contract farming mechanisms to operate as expected.

Contract farming arrangements can benefit smallholders, agribusinesses, and end consumers. Contract farming comes in many forms and is continually evolving, yet the central premise of linking producers to buyers in formal arrangements remains unchanged. As experience of contract farming arrangements increases in the region, sharing experiences is needed to ensure growth in the agricultural sector and that small farmers in marginal areas benefit and are not left behind. Identifying best practices and optimized arrangements that provide benefits to all stakeholders is essential to generate sustainable, fair, and inclusive contract farming models.

For the agriculture sector to play its potentially crucial role in poverty reduction, appropriate responsible business conduct practices must be in place. Leading international organizations have developed instruments to guide corporate efforts in becoming more socially responsible economic actors throughout their operations. Asian firms are developing their own initiatives and codes of conduct inspired by widely recognized corporate responsibility standards and principles. Attaining the vision of the GMS as a global leader in SEAP requires the development of common code of conduct and responsible investment to form profitable and sustainable partnerships across countries between business enterprises, farmers, and stakeholders.

Activity 1.3: Formulate and adopt policies for SEAP including policies for (i) nitrogen use efficiency (NUE), (ii) green water management (GWM), and (iii) participatory guarantee systems (PGS).

Several pilot projects conducted during the implementation of CASP2 in Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam have resulted in an appreciation of the need of articulating broader policies for promoting SEAP. These include agronomic practices on climate-friendly and gender-sensitive

agriculture practices and technologies; institutional arrangements of economic clustering (e.g., PGS, grouping of smallholder farmers into cooperatives that form contiguous and larger farms, etc.); NUE; and GWM. A concerted effort within and among GMS countries will lead to common policies and approaches to further an environment favorable to SEAP.

11.2. Infrastructure

Output 2: Strengthened infrastructure for regionally integrated SEAP value chains

The achievement of the GMS vision for SEAP requires linking smallholder farmers and SMEs to markets through efficient value chains. In addition to improvements in general connectivity infrastructure (transport, energy, communication, logistics) currently carried out by other strategic thrust of the GMS Economic Cooperation Program, the SEAP development requires specific value chain infrastructure that facilitates the linkages of smallholder farmers to markets and the emergence of SMEs.⁸ Investment in value chain infrastructure can be achieved through several modalities that could be led by the public sector, the private sector, and various types of PPPs, including public–private and community partnerships.

*Activity 2.1: Develop **agro-industrial zones and agro-demonstration parks** in the GMS that facilitate the investment, production, processing, and trading of SEAP.*

The establishment of agro-industrial zones seeks to improve competitiveness in the production of SEAP (United Nations Industrial Development Organization 2015) through the infrastructural, logistical, and risk management benefits associated with clustering and generation of scale. Mirroring special economic zones, agro-industrial zones are areas established to increase trade, investment, job creation, and effective administration. The distinguishing feature of agro-industrial zones is that appropriate conditions for the production, processing, and trade of safe and environment-friendly products are built into the design and management of the zones. By facilitating the establishment of reliable traceability and surveillance systems and improved risk management for farmers and enterprises, these zones promote increased market access. Agro-industrial zones can be set up by the government or the private sector according to different PPP arrangements. Various incentives, such as time-bound lower rates of income taxes, can be established to encourage businesses establishment within the zones and relocation of current enterprise.

*Activity 2.2: Develop **border livestock disease control zones**.*

Under the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), member countries agree to recognize areas that are pest-free or disease-free, and areas of low pest or disease prevalence. These areas are preferred sources of animals and animal products for international trade; these are also areas where risk assessment and risk management can be better applied. The OIE, the technical advisor to the WTO and members on SPS measures and compliance in relation to animal diseases, has developed hazard lists and guidelines on the achievement of zonal freedom from various

⁸ Examples of value chain infrastructure are cold chain vehicles; wholesale, retail, and auction markets; energy for processing and chilling; cold storage facilities; information and communication technology for market information and inventories; and technology and equipment for harvest, pre-harvest, and post-harvest (such as packaging, fumigation technique, vapor heat treatment for fruit fly, etc.).

infectious diseases and the assessment of disease risks in relation to hazards of importance to international trade. In the case of zoning, potential importing countries conduct risk assessment in designated disease-free zones in exporting countries, or approve the exporter's risk assessment and management capacity and, if approval is granted, allow import. OIE may be invited by the exporting country to conduct risk and capacity assessments and issue certifications demonstrating freedom from specific diseases in specific zones. This certification is generally recognized by importing countries. When an exporting country fails to get this certification, it may challenge the importer's decision through independent SPS arbitration processes.

To facilitate establishment of disease-free or disease control zones, various forms of infrastructure and human resources relating to disease surveillance and control are required, such as animal handling facilities and quarantine stations, risk-based surveillance systems such as sentinel herds or flocks, accessible laboratory capacity and animal health services, and marketing infrastructure. The disease-free areas present an opportunity to encourage investment in slaughtering, processing, packaging, and cold chain facilities. Moreover, they encourage the emergence of related businesses such as feed lots, biogas plants, and bio-fertilizer factories.

Border areas that have already been prioritized by the collaborators in Yunnan Province are those between Yunnan and Myanmar, and the Lao PDR and Viet Nam, which may be extended to include the Guangxi–Viet Nam border, and could be further extended to include borders between Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam. In the less developed economies like Myanmar and the Lao PDR, small-scale livestock farmers and SMEs traders can develop “livestock feeding care and auction centers” that will fatten and make livestock crossing the PRC borders healthier, enabling them to fetch higher prices for the livestock.

Activity 2.3: Establish appropriate SPS facilities including GMS reference laboratories and surveillance laboratories.

Well-functioning SPS facilities are essential in meeting the provisions of the SPS Agreement. Adequate SPS facilities are a key component of increasing market access. It is therefore crucial that these facilities meet international standards and achieve equivalence to internationally recognized facilities in relation to risk assessment and risk management.

Reference labs in the GMS that meet international standards could provide key services in quality assurance for stakeholders. They are a foundation for the establishment of objectives, scientific assessment of risk, and the imposition or lifting of restrictions on trade in food and food-related products, which is necessary to foster the emergence of the GMS as a leading producer of SEAP.

Several interrelated investments are needed to optimize the contribution of the SPS facilities to agricultural trade facilitation. These include investments in (i) facilities infrastructure, (ii) linkages with the private sector, and (iii) technical and management capacity building (ADB 2012a). SPS-related infrastructure includes subregion reference labs, establishing the necessary holding areas for suspect cargo, sterile storage zones for sampling, and accessible SPS equipment and laboratory facilities. Furthermore, risk-based protocols for sampling, chains of custody, and broader standard operating procedures must be established and communicated to all stakeholders requiring considerable investment in technical expertise, training, and management. As the GMS countries share various borders, joint investments in shared SPS facilities should be considered during feasibility assessments and planning.

11.3. Knowledge and Innovation

Output 3: Improved systems for generating, sharing, and disseminating knowledge and innovations related to SEAP value chains

The emergence of SEAP requires the generation and dissemination of knowledge and promotion of innovations along the value chain. This will require identifying stakeholders in the region, including smallholder farmers and farmer organizations (agricultural cooperatives, farmer associations, etc.), and agro-enterprises and their organizations. It should be noted that SEAP go beyond the agricultural sector, so there may be a need for an interdisciplinary or interagency approach involving other ministries (health, environment, education, commerce) as well as the private sector and civil society. Cooperation in this area among GMS countries will stimulate the creation of centers of excellence for safe and environment-friendly agrifood value chains and the emergence of innovative farmers and enterprises in SEAP.

Activity 3.1: Develop **agribusiness incubators** in the GMS that are focused on growing start-up and innovative SMEs for SEAP.

Agribusiness incubators provide a mechanism for hand-holding start-up enterprises and to support their growth into sustainable small and medium agro-enterprises (Goletti et al. 2011). The incubators could be physical entities affiliated to universities, research organizations, or independent centers that nurture the growth of small and medium agro-enterprises through access to infrastructure facilities and equipment, training and capacity building, networking, advisory services, and access to finance (banks, investors, matching grant funds, innovation funds, and competition funds).

Activity 3.2: Develop and strengthen **research and extension network** focused on improved agronomic and value chain practices for SEAP that increase productivity and reduce wastes and losses.

The GMS has a few well-established research and extension organizations, both publicly funded and private (as in the case of Thailand), that have experience working on SEAP and related agricultural value chains. Although scientists from these organizations meet periodically in scientific conferences, there is not yet a well-developed network of scientists and extension professionals focused on improved practices for SEAP. Sound research and extension practices need to be generated and shared within the region to accelerate the process of innovation and collaboration among scientists and extension professionals. The research priorities and agenda of each GMS country will be shared, and opportunities for collaboration and synergies identified. Research and extension activities should include new technologies that improve productivity (e.g., high yielding fruit and vegetable varieties that use organic fertilizers and are drought- and pest-resistant), that are labor-saving and gender-responsive at production and midstream segments, or that focus on socioeconomic research.

Activity 3.3: Develop and strengthen regional **training and demonstration centers**.

In addition to collaboration among scientists and extension professionals, knowledge and innovation related to SEAP will be improved through regional training and demonstrations, as well as regular dialogues between innovators, researchers, and extension workers on the one hand, and farmers and the private agribusinesses on the other. While national centers could initiate several of these dialogues, the regional training center established by Mekong Institute could play an important role. Collaboration between national centers and the regional center is already ongoing but should be strengthened to

provide better services to regional trainees, particularly for short-term training courses on technical and managerial skills enhancement.

*Activity 3.4: Develop and strengthen **regional education and capacity building network** on value chain and logistics management in partnership with agribusiness.*

Universities and vocational centers in concert with agribusiness enterprises and associations will link to each other through a regional network dedicated to the promotion of learning about SEAP. The development of regional curricula for distance learning to promote teaching, learning, and sharing of new ideas about SEAP could be one initiative of collaboration within the network.

Activity 3.5: Develop information sharing platform to facilitate exchange of information related to SEAP, business opportunities, and identification of investment partners.

Using the internet and social media, the GMS countries will develop an information sharing platform that builds upon the Agriculture Information Network Service of the early years of CASP1. The new platform will encourage sharing experiences on SEAP value chains and link different actors (including regulators, bureaucrats, nongovernment organizations or civil society organizations, trade associations, traders or entrepreneurs, farmer organizations or cooperatives, and other interested stakeholders) and initiatives such as Grow Asia using social media platforms like WeChat and Facebook. Content areas could include experience of regional TA pilots on climate-friendly agriculture, SEAP technology and trade, markets (local, national, regional, international), standards and processes on trade and food safety issues, and mapping of GI products. The development of iOS and Android apps as well as information technology systems to automate cross postings between various social media platforms will be pursued to promote interconnectivity.

The information and communication technology platform for GMS SEAP will be linked to existing institutions such as Mekong Institute; Center for Agrarian Systems Research and Development, and Institute of Policy and Strategy for Agriculture and Rural Development in Viet Nam; Asian Disaster Preparedness Center in Thailand; Land Forum funded by Swiss Agency for Development Cooperation; and Chinese Academy of Agricultural Sciences.

Various trade fairs and exhibitions, such as Thaifex in Thailand, seek to facilitate business matching among commercial interests in the food sector. Increasing demand for safe, quality assured products that are produced responsibly is evidenced by the increasing presence of organic suppliers and speaking agendas dominated by topics such as food safety and quality assurance. These events present an opportunity for establishing SEAP products and developing more systematic approaches to vertical and horizontal networking and business matching through both physical and online forums.

It is expected that in 2018, Thailand will also become an additional Asian venue for BIOFACH, the largest trade fair for organic products in the world. This could be a great opportunity not only for Thailand but also for all the GMS members to put the organic producers in the region in direct contact with global markets. There is also BIOFACH China held each year in the PRC in addition to BIOFACH in Japan and India.

11.4. Reputation and Marketing

The GMS is a recognized leader in export of jasmine rice (Hom Mali) from Thailand. In addition to Hom Mali, which has acquired a global name, other types of rice have potential for regional and global recognition. For example, Cambodia's fragrant Phka Romdoul rice has won the World's Best Rice Award for 3 consecutive years (2013–2015). Similar opportunities exist for rice from other countries in the region. The region has developed several GIs, in addition to rice, that are mostly related to food and agricultural products (see **Error! Reference source not found.**).

Many GI products in the region are also SEAP products. The overlapping between GIs for agrifood products and SEAP will be enhanced and supported by institutional mechanisms that make possible to register GI products that are also safe and environment-friendly, thus avoiding multiple certifications for the same product.

Output 4: Developed marketing approaches to promote GMS's reputation as a SEAP global leader

The vision aims for GMS to be recognized as a leader in SEAP. Currently, GMS is a leader in trade of several agricultural products. In addition to measures related to policies, value chain infrastructure, and knowledge sharing, the achievement of leadership in SEAP requires a concerted effort in marketing both individual brand and regional reputation.

Activity 4.1: Undertake marketing activities to promote GMS's reputation as a global supplier of SEAP.

The creation of a regional reputation requires a strong PPP approach. A GMS reputation committee will be created and include representatives from different stakeholders in the agri-based value chains. The committee will identify and promote several activities aimed at enhancing the reputation of the GMS as a global supplier of SEAP. The building of a reputation requires trust between the public and private sector and among different countries. The private sector has to trust the public sector to provide the necessary infrastructure and policy environment needed to carry out the business of SEAP value chains. At the same time, the public sector relies on the promises of the private sector to serve the public interest by providing products that comply with the standards and quality assurances of SEAP. To maintain a PPP in such a risky environment, trust needs to be maintained.

Activity 4.2: Promote the development of food and agriculture GIs.

The GMS member countries have already established several GI products in SEAP. However, the potential for developing a broad range of GI products that are also SEAP is enormous. Sharing experiences in the selection of products and the processes in establishing and monitoring GIs can be very valuable. Establishing the GMS as a hub of SEAP GIs is a pillar of regional marketing strategy. Current GIs in the GMS could be enhanced to become known throughout the subregion and globally.

Activity 4.3: Develop a communication plan for raising public awareness on food safety and SEAP.

Underlying the success of the GMS's reputation strategy is a communication plan to be pursued systematically and relentlessly. Communication initiatives will promote GMS's reputation and support the building of trust among private and public sector stakeholders and consumers both regionally and globally. The communication will include the development of specific target groups; clear and simple

messaging; a toolkit that cuts through the various print, broadcast, and other electronic media; maximized use of the internet and social media approaches, as well as the organization of special events and related initiatives to ensure visibility in the public domain. Additionally, the communication plan will have a well-established mechanism for raising public awareness in the GMS on food safety and the public's role as proactive advocates of GMS-supplied SEAP. In this regard, the strategic engagement of local and social media will be essential.

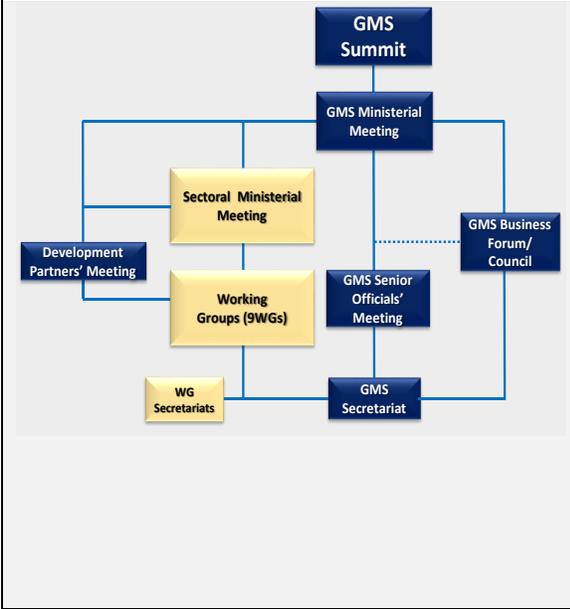
12. IMPLEMENTATION ARRANGEMENTS

12.1. Implementation Structure

The GMS Working Group on Agriculture (WGA) will guide and monitor the implementation of the strategy and action plan. It is responsible for the Agriculture Ministers' Meeting (one of the sector ministerial meetings), which in turn reports to the GMS Ministerial Meeting and GMS Summit (Figure 4). It is one of several sector working groups within the GMS Economic Cooperation Program. The GMS Agriculture Ministers report to the GMS Ministers on sector-related subregional matters that include the state of the GMS Strategy and Action Plan (2018–2022). The GMS WGA comprises six senior officials from the Ministry of Agriculture who will function as coordinators from each of the member countries (Box 1). Each national WGA includes a national coordinator and a national focal point (NFP) leading the national secretariat support unit (NSSU) with support from the WGA secretariat through the national secretariat specialist. The WGA secretariat is comprised of a team of experts providing overall program and operational support to the WGA.

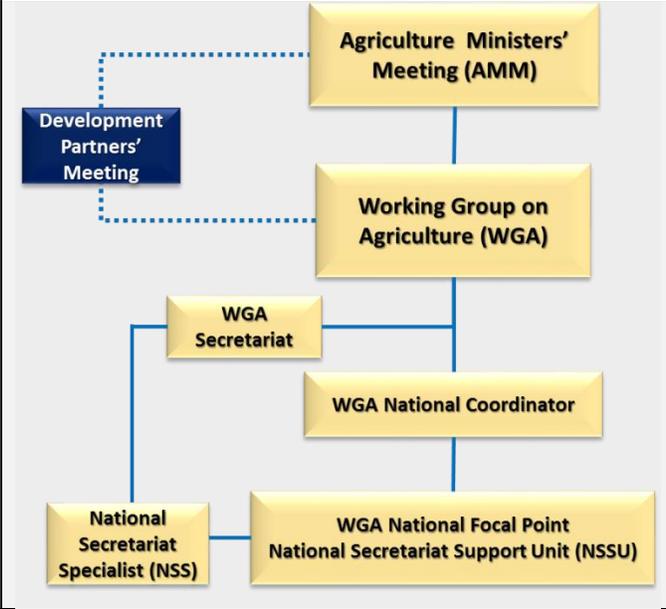
The Agriculture Ministers will guide the overall formulation and implementation of the strategy and action plan. The GMS WGA and the WGA secretariat will assist in the supervision of the lending and non-lending investments; resource mobilization; coordination with other agencies, donor partners, and multi-stakeholder partnerships in the value chains; monitoring and evaluation of the strategy and action plan; and periodic review and preparation of action plans. The core of the work on the implementation of the GMS Strategy and Action Plan falls on the WGA national coordinator and the WGA secretariat; both backstop the WGA in overseeing the implementation. In tandem, they are responsible for supervising the day-to-day implementation of the strategy and action plan, and for reporting regularly to their respective national coordinators on the status of the GMS Strategy and Action Plan, including (i) identifying and flagging the issues, (ii) monitoring the state of play of the action plan and recommending changes where needed, (iii) overseeing the policy and institutional measures and the required technical and financial resources for their progress, (iv) conducting the midterm review on the progress of the GMS Strategy and Action Plan, (v) ensuring feedback mechanism to the national coordinators and the Agriculture Ministers through regular biannual or annual meetings, and (vi) coordinating with private and public stakeholders as well as development partners for facilitating the implementation of the action plan. The institutional structure of the WGA is illustrated in Figure 5. Box 1 provides the overall terms of reference of the WGA national coordinator, NFP, NSSU, WGA secretariat, and national secretariat specialist.

Figure 4 Greater Mekong Subregion Economic Cooperation Program Institutional Structure



Source: Working Group on Agriculture Secretariat.

Figure 5 Greater Mekong Subregion Working Group on Agriculture Institutional Structure



Source: Working Group on Agriculture Secretariat.

Box 1 Working Group on Agriculture Country-Level Structure and Delineation of Tasks

WGA coordinators—generally senior staff from the Ministry of Agriculture of GMS countries who are responsible for coordinating and implementing various lending and non-lending TA investments under CASP, and directly report to the head of department or ministry. They are also responsible for advising the Minister of Agriculture who represents the country in the GMS summits and ministerial meetings. The WGA coordinator of each GMS country will be assisted by an NFP, usually based in respective ministries or departments.

WGA NFP—person-in-charge of CASP and other WGA-related program implementation on behalf of the WGA coordinator in the ministry or department. With ownership and guidance by his/her country, the NFP will work closely with the WGA secretariat, the national secretariat specialist, and the ADB project officer to ensure smooth and successful implementation of CASP-related TA activities that are fully integrated with the actual ongoing field activities in the GMS countries.

WGA NSSU—established in each GMS country’s relevant ministry to support and ensure timely implementation of CASP activities as well as monitor progress of CASP work plan and budget implementation in the country. The NSSU closely collaborates with the WGA secretariat, including providing country-level monthly reports. In addition, the NSSU will closely coordinate with other implementing agencies and development partners in respective country to identify opportunities for collaboration in the agriculture sector. An NSSU comprises the NFP, technical focal points as needed, and administration and finance staff, under the supervision of the WGA national coordinator and supported by a national secretariat specialist.

WGA secretariat—focused on GMS agriculture information and knowledge management, CASP implementation and facilitation, and coordination and liaison. The ADB Southeast Asia Department will provide necessary oversight of and guidance to the WGA secretariat. The ADB project officer designated to CASP will provide operational guidance for the WGA secretariat manager.

National secretariat specialist—a WGA secretariat team member based in the country. The specialist will report to the WGA national coordinators, NFP, and the WGA secretariat manager, and will work closely with their respective national government counterparts, providing technical and administrative support, coordinating in-country activities, and reporting regularly to the WGA secretariat manager.

ADB = Asian Development Bank, CASP = Core Agriculture Support Program, GMS = Greater Mekong Subregion, NFP = national focal point, NSSU = national secretariat support unit, TA = technical assistance, WGA = Working Group on Agriculture.

Source: Working Group on Agriculture Secretariat.

12.2. Investment Plan

The outputs and activities of the strategy require the combined resources of GMS members, development partners, and, where feasible, the private sector. The time frame for the implementation of the strategy and action plan is 2018–2022 to align with the GMS Economic Cooperation Program Strategic Framework 2012–2022. The GMS members have already identified and prioritized several investments and TA projects to support the implementation of the action plan. The number and size of these investments might change during the implementation period. However, it provides a preliminary indication of the interest of the WGA members in the SEAP strategy.

The indicative investment plan outlined by WGA members to support the implementation of the strategy and action plan of the SEAP is summarized in . The total investment over 5 years is about \$1,393 million, of which 10% is TA.

Table 3 Summary of Outlined Investment and Technical Assistance to Support the Strategy for Safe and Environment-Friendly Agriculture Products
(\$ million)

GMS Member	Total Investment	Total TAs	Total Investment + TA
Cambodia	220.10	59.90	280.00
PRC	521.00	6.00	527.00
Lao PDR	258.00	35.00	293.00
Myanmar	150.00	22.00	172.00
Thailand	51.00	6.50	57.50
Viet Nam	60.00	3.35	63.35
TOTAL	1,260.10	132.75	1,392.85
%	90.00	10.00	100.00

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China, TA = technical assistance.

Source: Working Group on Agriculture.

GMS countries have been asked to prioritize the first 2–3 investments in the indicative plan. The total prioritized investment over 5 years is about \$387 million, of which 18% is TA (Table 4 Summary of Prioritized Investment and Technical Assistance to Support the Strategy

for Safe and Environment-Friendly Agriculture Products

).

Table 4 Summary of Prioritized Investment and Technical Assistance to Support the Strategy for Safe and Environment-Friendly Agriculture Products
(\$ million)

GMS Member	Total Investment	Total TAs	Total Investment + TA
Cambodia	136.00	36.00	172.00
PRC	100.00	1.00	101.00
Lao PDR	25.00	10.00	35.00
Myanmar	30.00	15.00	45.00
Thailand	5.00	6.50	11.50
Viet Nam	20.00	2.35	22.35
TOTAL	316.00	70.85	386.85
%	82.00	18.00	100.00

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China, TA = technical assistance.

Source: Working Group on Agriculture.

The distribution of the outlined investments and TA plan by country and output is indicated in Table 5 Distribution of Outlined Investments and Technical Assistance by Country and Output

. This shall be further reviewed in the last quarter of 2017 to identify the priority investments for the first 2 years. It should be noted that the TA (non-lending instruments) are either directly related to GMS-wide issues (such as traceability, transboundary disease, policy reviews, branding, and market assessment), or are specific to each country priority but instrumental in achieving the GMS-wide vision. For example, a capacity building in good practices and improved systems of food safety quality assurance in one country will support the GMS-wide pursuit of the vision of SEAP.

The outlined investment is relatively balanced among the four outputs. However, Output 2 on infrastructure and Output 4 on markets absorb most of the investment, respectively 35% and 28%. In the case of infrastructure, GMS countries are interested in improving their agro-industrial zones, SPS facilities, and disease control areas, especially in the border areas where transboundary disease movements are a source of major concern. GMS members are also interested in promoting GIs and policies related to traceability and GWM.

Table 5 Distribution of Outlined Investments and Technical Assistance by Country and Output
(\$ million)

Output	Cambodia	PRC	Lao PDR	Myanmar	Thailand	Viet Nam	Total	%
1. Harmonized policies to facilitate production, trade, and investment in SEAP value chains	59.00	1.00	76.00	19.00	5.00	10.40	170.40	12
2. Strengthened infrastructure for regionally integrated SEAP value chains	172.00	100.00	108.00	60.00	0.00	50.00	490.00	35
3. Improved systems for sharing and disseminating knowledge and innovations related to SEAP value chains	39.00	101.00	91.00	58.00	52.50	0.40	341.90	25
4. Developed marketing approaches to promote GMS's reputation as a SEAP global leader	10.00	325.00	18.00	35.00	0.00	2.55	390.55	28
TOTAL	280.00	527.00	293.00	172.00	57.50	63.35	1,392.85	100
%	20	38	21	12	4	5	100	

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China, SEAP = safe and environment-friendly agriculture products.

Source: Working Group on Agriculture.

The distribution of prioritized investments and TA by country and output is indicated in Table 6 Distribution of Prioritized Investments and Technical Assistance by Country and Output

. Output 2 on infrastructure and Output 3 on knowledge absorb most of the investment, respectively about 85% and 11%.

Table 6 Distribution of Prioritized Investments and Technical Assistance by Country and Output
(\$ million)

Output	Cambodia	PRC	Lao PDR	Myanmar	Thailand	Viet Nam	Total	%
1. Harmonized policies to facilitate production, trade, and investment in SEAP value chains			5.0	10.0		0.2	15.2	3.9%
2. Strengthened infrastructure for regionally integrated SEAP value chains	172.0	101.0		35.0		20.0	328	84.8%
3. Improved systems for sharing and disseminating knowledge and innovations related to SEAP value chains			30.0		11.5		41.5	10.7%
4. Developed marketing approaches to promote GMS's reputation as a SEAP global leader						2.15	2.15	0.6%
TOTAL	172.0	101.0	35.0	45.0	11.5	22.35	386.85	100%
%	44.5	26.1	9.0	11.6	3.0	5.8	100	

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China,

SEAP = safe and environment-friendly agriculture products.

Note: Percentages may not total 100% because of rounding.

Source: Working Group on Agriculture.

In addition to the investments prioritized by the GMS members, there are also pipelines of development partners who are interested in supporting the GMS strategy for SEAP. In the case of ADB, the existing pipeline shows investments and TA projects that are relevant to the strategy (**Error! Reference source not found.**). Some of these ADB investments might overlap with some of the investments prioritized by WGA members. Consultations between WGA and development partners will aim at firming up the investment commitments in line with the GMS Strategy and Action Plan.

It is encouraging, however, to see that there is already some tentative support (\$858 million) from developing partners to the investment and TA action plan that the WGA has outlined. Given the larger amount of investment requirements indicated by the WGA (\$1,393 million), there is a need of closer coordination to provide incentives to other development partners to make their contribution.

Table 7 Pipeline of Investments and Technical Assistance by ADB related to Safe and Environment-Friendly Agriculture Products Strategy
(\$ million)

Items	GMS Portfolio	COBP Portfolio	TA	Total
Climate-friendly agribusiness value chains (Cambodia, the Lao PDR, Myanmar)	212			212
Border disease control zones (Cambodia, the PRC, the Lao PDR, Myanmar, Viet Nam)	145			145
Agricultural value chain infrastructure and agricultural corridors (CAM, LAO, MYA)	238			238
Agricultural value chain infrastructure (Cambodia, the Lao PDR, Myanmar)		247		247

Items	GMS Portfolio	COBP Portfolio	TA	Total
CASP3 (GMS) ^a			10	10
Agribusiness infrastructure (Cambodia, the Lao PDR, Viet Nam)			4	4
TA on inclusive and sustainable agriculture modernization ^a			2	2
	595	247	16	858

CASP3 = Core Agriculture Support Program Phase III, COBP = country operations business plan, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China, TA = technical assistance.

^a It is planned for 2018 to assist in the implementation of the GMS Strategy and Action Plan through the establishment of the GMS Working Group on Agriculture secretariat.

Source: Working Group on Agriculture Secretariat.

12.3. Policy and Institutional Action Plan

The GMS members will collaborate toward the achievement of the outcome and outputs of the GMS strategy for SEAP. This collaboration will have several dimensions including the following:

- Working together with other members toward harmonization of standards, mutual recognition of food safety quality assurance system, and reference labs
- Strengthening coordination among different agencies involved in food safety and environment-friendly products and value chains
- Promoting compliance with food safety standards in regional trade
- Promoting responsible investment in agribusiness related to SEAP in the region
- Developing infrastructure for safe and environment-friendly agro-based value chains such as agro-industrial zones, market and value infrastructure, disease control areas, and SPS facilities
- Facilitating knowledge sharing through training, capacity building, demonstrations, and promoting dialogue about SEAP
- Providing a platform for trade facilitation of SEAP products such as organic and natural food
- Exchanging information about GIs and enhancing the subregional and global reputation of GIs from the GMS
- Developing joint marketing and communication strategies to enhance the reputation of the GMS as a supplier of SEAP

Error! Reference source not found. indicates the major milestones for policy and institutional measures action plan.

Table 8 Policy and Institutional Measures Action Plan

Output	2018	2019	2020	2021	2022
1. Harmonized policies to facilitate production, trade, and investment in SEAP value chains	<ul style="list-style-type: none"> • Review GMS policies on SEAP • Identify good practices and COC • Policy review on NUE, GWM, PGS 	<ul style="list-style-type: none"> • Formulate equivalence rules • Disseminate practices and COC • Draft policy on NUE, GWM, PGS 	<ul style="list-style-type: none"> • Adopt harmonized standards • Adopt traceability rules • Revise policy drafts on NUE, GWM, PGS 	<ul style="list-style-type: none"> • Expand harmonized standards • Strengthen traceability systems • Adopt policy NUE, GWM, PGS 	<ul style="list-style-type: none"> • Further expansion of harmonized SEAP standards • Recognition of laboratories • Regulations for NUE, GWM, PGS
2. Strengthened infrastructure for regionally	<ul style="list-style-type: none"> • Policy and plans for AIZ adopted • Specific plans for DCZ adopted 	<ul style="list-style-type: none"> • AIZ infrastructure plans started • DCZ infrastructure plans started 	<ul style="list-style-type: none"> • AIZ infrastructure started • DCZ infrastructure started 	<ul style="list-style-type: none"> • More AIZ infrastructure started 	<ul style="list-style-type: none"> • More AIZ infrastructure started

Output	2018	2019	2020	2021	2022
integrated SEAP value chains	<ul style="list-style-type: none"> SPS facilities strengthened 	<ul style="list-style-type: none"> More SPS facilities established 	<ul style="list-style-type: none"> More SPS facilities established 	<ul style="list-style-type: none"> More DCZ infrastructure started More SPS facilities established 	<ul style="list-style-type: none"> More DCZ infrastructure started More SPS facilities established
3. Improved systems for sharing and disseminating knowledge and innovations related to SEAP value chains	<ul style="list-style-type: none"> Establishment of SEAP networks Demonstrations and training IT platform operational Greater SEAP R&D collaboration 	<ul style="list-style-type: none"> SEAP network activities visibility SEAP demos and training expanded Users of IT SEAP platform growth Greater SEAP R&D collaboration 	<ul style="list-style-type: none"> SEAP network activities visibility SEAP demos and training expanded Users of IT SEAP platform growth Greater SEAP R&D collaboration 	<ul style="list-style-type: none"> SEAP network activities visibility SEAP demos and training expanded Users of IT SEAP platform growth Greater SEAP R&D collaboration 	<ul style="list-style-type: none"> SEAP network activities visibility SEAP demos and training expanded Users of IT SEAP platform growth Greater SEAP R&D collaboration
4. Developed marketing approaches to promote GMS's reputation as a SEAP global leader	<ul style="list-style-type: none"> Market studies prepared GI value chain program started Communication plan approved 	<ul style="list-style-type: none"> Marketing strategy and plan prepared GI value chain program continues Communication plan executed 	<ul style="list-style-type: none"> Marketing strategy and plan prepared GI value chain program continues Communication plan executed 	<ul style="list-style-type: none"> Marketing strategy and plan prepared GI value chain program continues Communication plan executed 	<ul style="list-style-type: none"> Marketing strategy and plan prepared GI value chain program continues Communication plan executed

AIZ = agro-industrial zone, COC = codes of conduct, DCZ = disease control zone, GI = geographical indication, GMS = Greater Mekong Subregion, GWM = green water management, NUE = nitrogen use efficiency, IT = information technology, PGS = participatory guarantee systems, R&D = research and development, SEAP = safe and environment-friendly agriculture products, SPS = sanitary and phytosanitary.

Source: Working Group on Agriculture Secretariat.

12.4. Initial Commitments during Year 1 of the Strategy

The Second GMS Agriculture Ministers' Meeting to be held in Cambodia in September 2017 might provide an opportunity for WGA members and development partners to commit to some of the following measures:

1. Identify standards for harmonization within the GMS, with emphasis on livestock products, and selected fruits and vegetables.
2. Launch an initiative for identifying and disseminating good practices and codes of conduct for agribusiness investment in SEAP.
3. Complete review of policies on NUE, GWM, and PGS in the GMS by year 1 of the strategy.
4. Complete plans for AIZ and DCZ by year 1 of the strategy.
5. Provide counterpart funding to a TA to support the WGA secretariat during the strategy period.
6. Start demonstrations and training on SEAP as a regional activity.
7. Establish SEAP network.
8. Operationalize new information technology platform for SEAP.
9. Approve communication plan for strategy on SEAP.
10. Support the investment and technical assistance plan.
11. Organize a subregional conference on GIs.

13. DESIGN AND MONITORING FRAMEWORK

Table 9 Design and Monitoring Framework for the Strategy on SEAP

Results Chain	Activities	Indicators and Targets	Baseline	Means of Verification
Impact: GMS is a leading global supplier of SEAP.		By 2022: At least 1% of agricultural production in the GMS is organic.	<ul style="list-style-type: none"> 0.2% of agricultural production is organic. 	<ul style="list-style-type: none"> SEAP proxy as percentage of production that is organic according to FIBL survey Certification agencies accredited by GMS recognized bodies
Outcome: GMS farmers and their organizations, and small and medium agro-enterprises benefit from access to higher value markets, and GMS consumers benefit from access to safer food products.		By 2022: <ul style="list-style-type: none"> At least 1% of agricultural and food trade is in organic products. Income of SEAP smallholder farmers increased by 30%. 40% of SEAP smallholders are female farmers. Income of SEAP SMEs increased by 30%. Consumer preference for SEAP increased by 30%. 	<ul style="list-style-type: none"> 0.01% of agricultural and food trade is organic. Income of SEAP farmers (xx) and SEAP SMEs (yy) determined by survey <ul style="list-style-type: none"> Cambodia: xx1 and yy1 PRC: xx4 and yy4 Lao PDR: xx2 and yy2 Myanmar: xx3 and yy3 Thailand: xx5 and yy5 Viet Nam: xx6 and yy6 	<ul style="list-style-type: none"> Survey of SEAP farmers and SEAP SMEs and use of common methodology across GMS Monitoring unit established by each GMS member to collect data on SEAP farmers' income and SEAP SMEs Consumer preference baseline methodology agreed across GMS
Output 1: Harmonized policies and regulations to facilitate production, trade, and investment in SEAP value chains	<p>1.1 Harmonize standards related to (i) GAP, (ii) food safety and quality assurance, (iii) certification and accreditation agencies (including PGS for organic agro-products), (iv) quarantine procedures, and (v) surveillance systems and laboratories.</p> <p>1.2 Identify and disseminate guidelines and best practices related to FDI in food and agriculture, contract farming, and code of conduct for responsible agrifood investment in SEAP across GMS borders.</p> <p>1.3 Formulate and adopt policies for SEAP including policies for NUE, GWM, and PGS.</p>	By 2022: <ul style="list-style-type: none"> Each GMS member complies with at least five ASEAN standards (e.g. GAP, organic, MRL, etc.). At least five best practices in contract farming and five best practices in FDI and social responsibility for SEAP are identified and agreed by GMS members and disseminated to smallholder farmers and agribusinesses. At least three common policies that are gender-responsive and that promote SEAP (e.g., GWM, NUE, PGS) are formulated and implemented in GMS countries. 	<ul style="list-style-type: none"> GAP and standards in each country, but no GMS standard Regulations for contract farming in each country, but no GMS common regulation No common code of conduct for agribusiness investment Elements of policy on GWM and NUE in each country, but no clear policies and no common policy 	<ul style="list-style-type: none"> Review policies and identify commonalities and differences
Output 2: Strengthened infrastructure for	2.1 Develop AIZ in the GMS that facilitate the production,	By 2022:	<ul style="list-style-type: none"> Agro-industrial parks in PRC, Thailand, Vietnam 	<ul style="list-style-type: none"> List of parks, zones, and incubators in the GMS

Results Chain	Activities	Indicators and Targets	Baseline	Means of Verification
regionally integrated SEAP value chains	<p>processing, and trading of SEAP.</p> <p>2.2 Develop border livestock DCZ.</p> <p>2.3 Establish appropriate SPS facilities including GMS reference labs.</p>	<ul style="list-style-type: none"> Investment in at least one agro-industrial park or agro-demonstration parks related to SEAP started in each GMS country Investment in at least one DCZ started in each major international cross border between the PRC and the Lao PDR, Myanmar, Viet Nam; Cambodia and Viet Nam; and Thailand and Myanmar Additional and upgraded SPS facilities or equipment for SEAP established and used effectively in each country at or near the border (volume of SEAP products going through facilities increased by 30%) 	<ul style="list-style-type: none"> No DCZ at the border Agribusiness incubators in Thailand and Viet Nam Baseline on volume of activities of SPS facilities 	<ul style="list-style-type: none"> Inventory of companies, turnover, and products in parks, zones, and incubators
Output 3: Improved systems for sharing and disseminating innovations related to SEAP value chains	<p>3.1 Develop agribusiness incubators in the GMS that are focused on growing start-up and innovative SMEs for SEAP.</p> <p>3.2 Develop and strengthen research and extension network focused on improved agronomic and value chain practices and especially those that reduce wastes and losses of SEAP.</p> <p>3.3 Develop and strengthen regional training and demonstration centers.</p> <p>3.4 Develop and strengthen regional education and capacity building network on value chain and logistics management in partnership with agribusiness.</p> <p>3.5 Develop information sharing platform to facilitate identification of investment partners.</p>	<p>By 2022:</p> <ul style="list-style-type: none"> At least one agribusiness incubator established in each GMS country At least one GMS SEAP research and extension network established and is functional or operational (number of active members is at least six/year innovations/technologies shared through the network) At least one regional training and demonstration center for SEAP established or strengthened; 10% of SEAP smallholder farmers trained; and 10% of SEAP entrepreneurs trained on SEAP value chains and logistics management, of which at least 40% are female At least one GMS SEAP information platform for matching of investment partners functional: number of users is 50,000 per month 	<ul style="list-style-type: none"> Some incubators present Some matching grant funds available Network still largely informal No information platform to match enterprises, apart from those related to fairs and expos such as Thaifex 	<ul style="list-style-type: none"> Annual reports
Output 4: Developed marketing approaches to promote GMS's reputation as a SEAP global leader	<p>4.1 Undertake marketing activities to promote GMS's reputation as a global supplier of SEAP.</p> <p>4.2 Promote the development of food GIs.</p> <p>4.3 Develop a communication plan for raising public</p>	<p>By 2022:</p> <ul style="list-style-type: none"> Marketing and communication plan to enhance GMS' reputation in SEAP is approved by 2018. At least 10 GIs from the GMS are recognized globally. At least 80% of GMS GI products are also SEAP. 	<ul style="list-style-type: none"> Three GIs in the GMS recognized globally Volume of business related to SEAP generated by GMS trade fairs 	<ul style="list-style-type: none"> Registration of GI at the Ministry of Commerce of GMS members Data on volume of business at trade fairs

Results Chain	Activities	Indicators and Targets	Baseline	Means of Verification
	awareness on food safety and SEAP.	<ul style="list-style-type: none"> Volume of business related to SEAP generated by GMS trade fairs increased by 60%. 		

AIZ = agro-industrial zone, ASEAN = Association of Southeast Asian Nations, DCZ = disease control zone, FDI = foreign direct investment, FiBL = Research Institute of Organic Agriculture, GAP = good agricultural practices, GI = geographical indication, GMS = Greater Mekong Subregion, GWM = green water management, Lao PDR = Lao People’s Democratic Republic, MRL = maximum residue levels, NUE = nitrogen use efficiency, PGS = participatory guarantee systems, PRC = People’s Republic of China, SEAP = safe and environment-friendly agriculture products, SMEs = small and medium-sized enterprises, SPS = sanitary and phytosanitary.

Source: Working Group on Agriculture Secretariat.

REFERENCES

Asian Development Bank (ADB). 2012a. *Agricultural Trade Facilitation in the Greater Mekong Subregion*. Manila.

_____. 2012b. *Report and Recommendation of the President to the Board of Directors: Trade Facilitation: Improved Sanitary and Phytosanitary Handling in Greater Mekong Subregion Trade Project*. Manila.

_____. 2014. *Climate Change and Rural Communities in the Greater Mekong Subregion: A Framework for Assessing Vulnerability and Adaptation Options: CEP Knowledge Series #1*. Manila.

_____. 2016. *Greater Mekong Subregion Statistics on Growth, Infrastructure, and Trade*. Second Edition. Greater Mekong Subregion Eighth Economic Corridors Forum. Phnom Penh, Cambodia. 3–4 August.

Association of Southeast Asian Nations (ASEAN) Secretariat. 2006. *ASEAN GAP*.

_____. 2015a. *A Blueprint for Growth: ASEAN Economic Community 2015: Progress and Key Achievements*. Jakarta. <http://www.asean.org/storage/images/2015/November/aec-page/AEC-2015-Progress-and-Key-Achievements.pdf>

_____. 2015b. *ASEAN Economic Community Blueprint 2025*. Jakarta.

Castella, J. C. and J. F. Kibler. 2015. *Towards an agroecological transition in Southeast Asia: Cultivating diversity and developing synergies*. Vientiane: GRET.

Centers for Disease Control and Prevention. Zoonotic Diseases. <https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>.

Fischer, G. et al. 2005. Socio-economic and climate change Impacts on agriculture: an integrated assessment, 1990–2080. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 360 (1463). pp. 2067–2083.

Goletti, F. et al. 2011. *Growing Food, Products and Business: Applying Business Incubation to Agribusiness SMEs*. Washington, DC: Information for Development Program / World Bank. https://www.infodev.org/infodev-files/resource/InfodevDocuments_1139.pdf

Jones, K. E. et al. 2008. Global trends in emerging infectious diseases. *Nature*. 451 (7181). pp. 990–993.

Mekong Tourism Coordinating Office. GMS Tourism Performance 2015. <http://www.mekongtourism.org/about/tourism-performance/>

ProMED-mail. 2016. PRO-MBDS: Mekong Basin. <https://www.promedmail.org/mbds>

Robertson, G. P. et al. 2000. Greenhouse Gases in Intensive Agriculture: Contributions of Individual Gases to the Radiative Forcing of the Atmosphere. *Science*. 289 (5486). pp. 1922–1925.

Setboonsarng, S. and P. Leung, eds. 2014. *Making Globalization Work Better for the Poor through Contract Farming*. Manila: ADB / ADB Institute.

United Nations Industrial Development Organization. 2015. *Economic Zones in the ASEAN*. Hanoi.

United States Agency for International Development. 2014. *USAID Mekong ARCC Climate Change Impact and Adaptation Study for the Lower Mekong Basin*. Bangkok: USAID Mekong ARCC Project.

World Health Organization (WHO). 2015. *WHO estimates of the global burden of foodborne diseases: foodborne disease burden epidemiology reference group 2007-2015*. Geneva.

WHO. Health Topics: Zoonoses. <http://www.who.int/topics/zoonoses/en/>

World Intellectual Property Organization (WIPO). 2016. *Geographical Indications: An Introduction*. http://www.wipo.int/edocs/pubdocs/en/geographical/952/wipo_pub_952.pdf

WIPO. Geographical Indications. http://www.wipo.int/geo_indications/en/