

Workshop on ASEAN Roadmap for Enhancing the Role of Agricultural Cooperatives in Agriculture Global Value Chain 2018-2025

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Table of Contents

ASEAN ROADMAP FOR ENHANCING THE ROLE OF AGRICULTURAL COOPERATIVES IN AGRICULTURAL GLOBAL VALUE CHAINS 2018-2025

3

THE ASEAN GUIDELINES ON PROMOTING RESPONSIBLE INVESTMENT IN FOOD, AGRICULTURE AND FORESTRY

28

ASEAN PUBLIC-PRIVATE PARTNERSHIP REGIONAL FRAMEWORK FOR TECHNOLOGY DEVELOPMENT IN THE FOOD, AGRICULTURE AND FORESTRY (FAF) SECTORS

76

AMAF'S APPROACH TO GENDER MAINSTREAMING IN THE FOOD, AGRICULTURE AND FORESTRY SECTORS

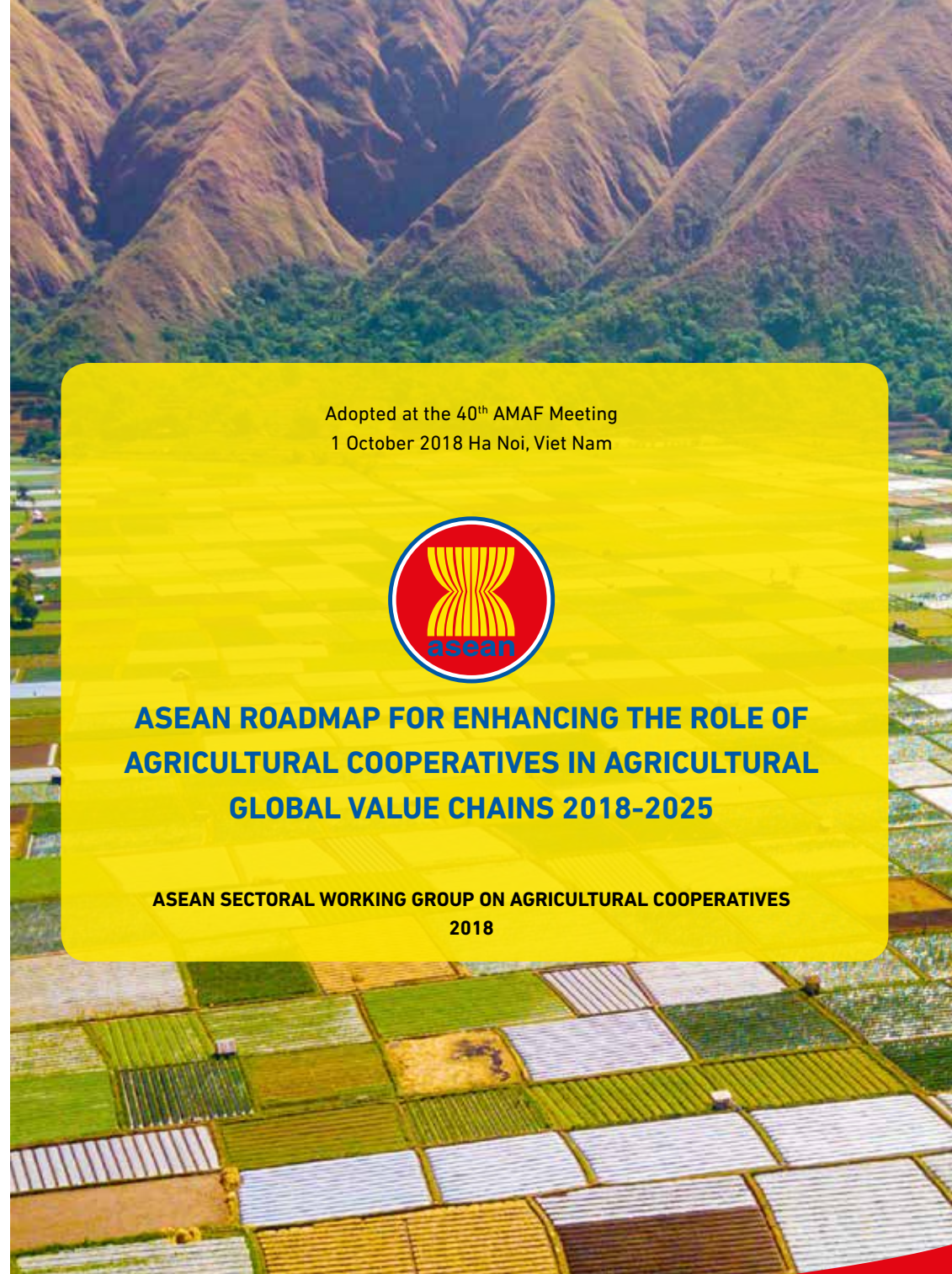
102

ASEAN MULTI-SECTORAL FRAMEWORK FOR CLIMATE CHANGE: AGRICULTURE AND FORESTRY TOWARDS FOOD AND NUTRITION SECURITY AND ACHIEVEMENT OF SDGs (Proposed Integrated Framework for AFCC Component 4)

136

ASEAN PLUS THREE COOPERATION STRATEGY ON FOOD, AGRICULTURE AND FORESTRY (APTCS)

194



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ASEAN ROADMAP FOR ENHANCING THE ROLE OF AGRICULTURAL COOPERATIVES IN AGRICULTURAL GLOBAL VALUE CHAINS 2018-2025

**ASEAN SECTORAL WORKING GROUP ON AGRICULTURAL COOPERATIVES
2018**

Table of Contents

INTRODUCTION.....	4
Background	4
Objectives	4
Implementation and Coordination.....	5
ROADMAP IN 2018-2025	6
Pillar 1: Institutional and Capacity Development.....	6
Measure 1 – Improve access to good quality advisory services.....	6
Measure 2 – Peer-to-peer learning and knowledge sharing.....	7
Pillar 2: Competitiveness	7
Measure 1 – Create resilient cooperatives.....	7
Measure 2 – Create an enabling environment for agricultural cooperatives growth and viability	8
Measure 3 - Stimulate commodity-specific agricultural cooperation.....	9
Measure 4 - Promotion and 'marketing' of agricultural cooperatives development.....	9
Pillar 3: Access to Finance.....	10
Measure 1 - Promote sustainable financing systems for agricultural cooperatives	10
Pillar 4: Access to Market	10
Measure 1 – Access to existing and to new markets, and outreach to business by agricultural cooperatives	10
Access to existing and to new markets, and outreach to business by agricultural cooperatives	14
IMPLEMENTATION GUIDE AT NATIONAL AND LOCAL LEVEL	15
Advisory trajectory for individual agricultural cooperatives and recommended eight steps to set-up a cooperative towards global value chains.....	15
Thematic milestones for an efficient cooperative promotion and support roadmap at country level.....	16

List of Acronyms

ACEDAC	ASEAN Centre for the Development of Agricultural Cooperatives
AEC	ASEAN Economic Community
AMAF	ASEAN Ministerial Meeting on Agriculture and Forestry
AMSs	ASEAN Member States
ASWGAC	ASEAN Sectoral Working Group on Agricultural Cooperatives
EU	European Union
FAF 2025	Food, Agriculture and Forestry 2016-2025
IFAD	International Fund for Agricultural Development and
GI	Geographical Indication
KPIs	Key Performance Indicators
MSMEs	Micro and Small Medium Enterprises

INTRODUCTION

Background

ASEAN aims to expand economic growth and harness trade potential by working towards an ASEAN Economic Community (AEC) that will bring prosperity for the whole region. Towards this goal, the ASEAN Leaders have set up a 2025 vision of a highly integrated, cohesive, competitive, innovative and dynamic ASEAN, specifically geared at 'enhanced connectivity and sectoral cooperation, and a more resilient, inclusive, and people-centred community that is integrated with the global economy'. One of the strategies for a successful growing economy in ASEAN is empowering agricultural cooperatives to deal with their challenges and enhance their roles in the agricultural global value chains.

Agricultural cooperatives in ASEAN can be described in general as small and multi-purpose. Although some have been well-established and nurtured with strong cooperative values, the right mindset and appropriate capacity building interventions vary from country to country. They also often have strong linkages with government institutions.

Agricultural cooperatives face the challenges of competitiveness in ASEAN and beyond. Large and small agricultural cooperatives in the region need to compete with the agribusiness companies or Micro and Small Medium Enterprises (MSMEs) in terms of access to markets, finance, and modern production techniques. Agricultural cooperatives need to improve governance and professionalize management to successfully compete as businesses in modern markets.

Based on a study conducted among ASEAN Member States (AMSs), the most important support needed by agricultural cooperatives are in the areas of institutional and capacity building, competitiveness, access to markets and access to finance to improve their positions in specific value chains. In addition, AMSs also work in many other areas to assist agricultural cooperatives.

In order to strengthen the participation of agricultural cooperatives in agricultural global value chains, ASEAN has been facilitating a dialogue on agricultural cooperative development through the ASEAN Sectoral Working Group on Agricultural Cooperatives (ASWGAC) and the ASEAN Centre for the Development of Agricultural Cooperatives (ACEDAC). One major need identified is the creation of a roadmap for agricultural cooperative development in ASEAN.

Following the endorsement of the Strategic Plan of Actions for ASEAN Cooperation on Agricultural Cooperatives (2016-2020) by the 38th ASEAN Ministerial Meeting on

Agriculture and Forestry (AMAF) in 2016 in Singapore, the 20th ASWGAC Meeting agreed to have an "ASEAN Roadmap for Agricultural Cooperatives Development in the context of Agricultural Global Value Chain".

Objectives

The "Roadmap for Enhancing the Role of ASEAN Agricultural Cooperatives in Agricultural Global Value Chains 2018-2025" aims to:

1. Provide guidance for enhancing participation of ASEAN agricultural cooperatives in the agricultural global value chains;
2. Advance the implementation of Strategic Thrusts 2 (Enhance trade facilitation, economic integration and market access) and 5 (Assist resource-constrained small producers and SMEs to improve productivity, technology and product quality, to meet global market standards and increase competitiveness in line with the ASEAN policy Blueprint on SME development) of the ASEAN Cooperation in Food, Agriculture and Forestry 2016-2025 (FAF 2025); and,
3. Serve as a framework to harmonize agricultural cooperatives' legal structures and institutional arrangements within and among ASEAN member countries and share best practices.

Implementation and Coordination

ASWGAC shall be the overall coordinating and monitoring body in the implementation of the roadmap, while the AMSs will give updates on its implementation during its annual meeting.

In order to create long-term impact for the cooperative network in the implementation of the roadmap, the following principles should be embraced by ASEAN:

1. Working with agricultural cooperatives should be embedded in all agricultural projects in ASEAN to increase their sustainability and inclusiveness;
2. Focus should be on creating showcases and success stories by investing in practical projects with clear expected outcomes for agricultural cooperatives taking part in the roadmap; and,
3. A common message and joint vision on agricultural cooperatives should be continuously shared under the roadmap.

ROADMAP IN 2018-2025

In this roadmap, four main pillars have been identified as the foundation for agricultural cooperative development in ASEAN towards 2025:

1. Institutional and capacity development;
2. Competitiveness;
3. Access to finance; and
4. Access to markets.

Under each pillar, measures have been identified that are equally important and should be simultaneously strengthened to make ASEAN agricultural cooperative development successful in the long run.

Pillar 1: Institutional and Capacity Development

To successfully integrate into the agricultural global value chain, agricultural cooperatives need to be competitive in order to attract financing for investments and working capital and to efficiently access markets. For this to happen, institutional and capacity development of agricultural cooperatives through their management and board is crucial.

Measure 1 – Improve access to good quality advisory services

Success has been achieved in modernizing national legislation in ASEAN countries on agricultural cooperatives that are now almost completely in line with international principles. Nevertheless, these principles must be internalized by government officials and practical implementation frameworks need to be drafted to make sure real changes are seen in agricultural cooperative development on the ground.

At the same time, government institutions must support primary agricultural cooperatives by providing or creating frameworks for high quality services and advise agricultural cooperatives and their members. This support can be provided by private and public stakeholders, but the key source of service provision must be the cooperative sector itself.

The skills and awareness of agricultural cooperative board, management and members need to be improved. Agricultural cooperatives have to understand market developments and strengthen their market position by improving the quality and quantity of their produce through participation in supply and value chains as a consequence of investments in innovation and processing and activities to draw attention of market partners and cooperative members.

Cooperative federations, alliances or associations can play a role in the provision of services by conducting trainings, sharing knowledge and providing advice. Realistically, it is difficult to provide services to all agricultural cooperatives all at once as there are so many of them. In that sense it is important to prioritize service provision in a way that stimulates excellence and provides incentives for well-performing agricultural cooperatives to grow quickly. Showcases are needed to create enthusiasm for working with agricultural cooperatives.

Actions:

- Conduct trainings for government officials on the management and operation of agricultural cooperatives so that they can play the needed facilitation role in the provision of services.
- Benchmark the classification and support systems for agricultural cooperatives against the standard of excellence in order to attract investments and partnerships with business.
- Collect or develop materials for training and support to agricultural cooperatives in the field of production, management, finance and business development, especially in areas where they are most lacking.

Option:

- Provide access to specialised advisory services by agricultural cooperatives in the areas of feasibility studies, business planning, financial management, governance and marketing.

Measure 2 – Peer-to-peer learning and knowledge sharing

Agricultural cooperatives need to support their members in innovating their production systems and adding value to their produce. They should initiate proper service provision at farm level. On the other hand, agricultural cooperatives also require good management systems and human resources. The establishment of an ASEAN peer-to-peer network of agricultural cooperatives can inspire and motivate them to learn from one another in a practical and hands-on manner. Through knowledge sharing, training and advising among agricultural cooperative leaders, agricultural cooperative service provision will be strengthened.

Actions:

- Gather all available information on agricultural cooperative expertise in ASEAN and make them widely accessible through a centralized database system.
- Set up an exchange program on thematic agricultural cooperative policy issues (e.g. by-laws, taxation, financing instruments), especially for young agricultural cooperative managers and board members.
- Share information on youth programs in ASEAN countries that are directed at agricultural cooperatives.
- Improve the use of online learning tools on agricultural cooperatives that were developed by ASEAN sectoral working groups or those from reliable sources like the International Fund for Agricultural Development (IFAD) and European Union (EU).

Options:

- Organize an expert pool at national and ASEAN levels that can provide hands-on advisory services to agricultural cooperatives.
- Invite agricultural cooperative practitioners into the ACEDAC network and transform it into a structure for formulating policies that are based on actual practices of agricultural cooperatives.

Pillar 2: Competitiveness

Agricultural cooperatives in ASEAN must become more competitive in the growing global markets by 2025. This will require optimized institutions and enabling environments. They can grow more quickly in size and number when the legal framework and business environment in ASEAN countries are more firm and secure than those of their competitors worldwide.

Measure 1 – Create resilient cooperatives

In the next ten years, the biggest challenge in ASEAN agriculture will be climate change. It has significant impacts on how agricultural cooperatives will operate and do business. ASEAN countries are at the top of the list in the Global Climate Risk index. Strategies must be developed on how agricultural cooperatives can stay competitive amidst climate disruptions.

Actions:

- Promote a systemic and comprehensive approach to risk management for agricultural cooperatives, including diversification, insurance schemes and internal control mechanism.
- Expose and support agricultural cooperatives to access markets for high-value, organic and Geographical Indication (GI) food produce.

Options:

- Collect tools for agricultural cooperatives to train and assist members in tackling climate challenges in key commodities in line with the priorities of the different ASEAN working groups.
- Support the development and promotion of climate-resilient varieties and agriculture technologies such as agroecology and make them available to agricultural cooperatives through the ASEAN network.
- Promote an integrated area development approach by agricultural cooperatives based on a combination of tourism, biodiversity, local economy and global markets with Geographical Indications (GIs).
- Support farm advisory and extension services of agricultural cooperative for their members on sustainable agriculture.

Measure 2 – Create an enabling environment for agricultural cooperatives growth and viability

For agricultural cooperatives to survive in a competitive global market, governments must provide legal frameworks and policies that will stimulate growth and ensure long-term viability. Agricultural cooperatives must be mainstreamed in agricultural policies and public-private partnerships to create impact.

Actions:

- Allocate budget for capacity building and professionalization of agricultural cooperatives.
- Develop a strategic agenda in ASWGAC to strengthen the position of agricultural cooperatives in the AEC and to develop policies at ASEAN and national levels to enable agricultural cooperative development.
- AMSs to share experiences, improve regulations and intensify efforts in:
 - a) Regional infrastructure;
 - b) Tax policies;
 - c) Rural education on financial literacy, management and business;
 - d) Knowledge transfer through good academic and vocational networks in rural areas;
 - e) Land consolidation and ownership; and,
 - f) Streamlining of regulations and their costs.

Options:

- Provide policy guidelines and incentives for the consolidation or merger of small agricultural cooperatives to attain economies of scale.
- Support national agricultural cooperative federations in building their capacities to provide services to their member agricultural cooperatives.
- Improve auditing systems for agricultural cooperatives to ensure good governance and internal control.
- Encourage ASEAN governments to establish a clear and uniform legal framework for agricultural cooperatives and preferential treatment for ambitious and well-performing ones.
- Develop policies to require and support training for officers and staff of agricultural cooperatives.

Proposals, programs and projects on the actions above should be defined in close consultation with the respective key players in the agriculture sector, namely farmer organisations, agricultural cooperatives and public and private sector agribusiness. It is expected that these stakeholders will contribute to implementation and policy development based on actual challenges and opportunities on the ground.

Measure 3 - Stimulate commodity-specific agricultural cooperation

The creation of a competitive agricultural cooperative sector requires focus on commodity-specific or single-purpose cooperation. Governments may provide specific incentives for the establishment of commodity-specific or single-purpose agricultural cooperatives that can go hand in hand with the development of general or national agricultural cooperative federations representing the sector.

Action:

- Study the potential impact of agricultural cooperative federations in ASEAN and gather lessons learned from different countries.

Options:

- Design commodity-specific trainings for agricultural cooperatives.
- Research possibilities for cooperative-cooperative trading schemes to decrease costs and increase solidarity.

Measure 4 - Promotion and 'marketing' of agricultural cooperatives development

The role of agricultural cooperatives in agricultural global value chains should be promoted among public and private partners in ASEAN. A common vision to start cooperating with other stakeholders such as private companies and donor institutions must be developed by agricultural cooperatives. At the same time, a database of all agricultural cooperatives in ASEAN categorized according to turnover, membership, commodity and service provision should be made available to the public.

Actions:

- Set up an ASEAN Agricultural Cooperative Network based on existing agricultural cooperative federation structures to represent agricultural cooperatives and their members in networking events and policy dialogues.
- Expand the relationship of ASGWAC with donors, companies and financiers in the ASEAN region, such as Grow Asia, EU, IFAD, USAID agri-agencies and others.
- Claim a bigger role for agricultural cooperatives in public-private partnerships and development programs in the region.

Options:

- Develop a marketing and fundraising plan towards 2025.
- Promote agricultural cooperative development in ASEAN through the production of brochures and flyers for donors and financing institutions.
- Develop a computerized and centralized database of agricultural cooperatives in ASEAN for benchmarking, marketing and fundraising.
- Define Key Performance Indicators (KPIs) for the database and establish a baseline for all agricultural cooperatives that will be updated annually.
- Mainstream agricultural cooperatives as important institutions for development programs in the ASEAN Economic Community.
- Develop voluntary guidelines on agricultural project financing by third parties involving agricultural cooperatives.

Pillar 3: Access to Finance

Access to finance for required investments and working capital is crucial for ASEAN farmers to seize existing and arising market opportunities. The establishment of national programs that provide access to finance is a corner stone of agricultural cooperative development. Agricultural cooperatives might also engage in partnerships with agribusinesses when the terms and conditions are beneficial to them and their members.

Measure 1 - Promote sustainable financing systems for agricultural cooperatives

A big challenge in agricultural business is access to finance for investments, especially for smallholders and their cooperatives. Normally, the big stumbling blocks are lack of business plans, collateral and, specifically for cooperatives, lack of member capital. However, some financial institutions are interested in entering the agribusiness sector, despite the risks involved.

It is important to construct mechanisms and programs at different levels to ensure financial access for medium-sized borrowers (e.g. agricultural cooperatives) by reducing risks for commercial financial institutions. The design of programs shall depend on the commodities, areas and available chain partners.

Actions:

- Promote internal capital mobilization within agricultural cooperatives.
- Provide preferential credit to agricultural cooperatives and farmer associations through soft loans from government or financial institutions.

Options:

- Establish collateral security and create transparency in lending mechanisms for agricultural cooperatives.
- Provide guidelines, benchmarks or examples for agricultural cooperatives regarding the need for collateral, business plan and member capital.

Pillar 4: Access to Market

The projected economic growth in ASEAN will bring huge market possibilities for agricultural cooperatives. The growing middle class and the globalization of trade will lead to new opportunities for agricultural cooperatives to add more value and sell their members' produce in a competitive manner.

Measure 1 – Access to existing and to new markets, and outreach to business by agricultural cooperatives

Agricultural cooperatives need to access new and existing markets and trade opportunities for agricultural commodities, which are rapidly growing in Asia and beyond. The challenge is how to add value and integrate into the value chain.

At the same time, cooperation with private sector is needed to deliver agricultural products to the consumers and to bargain for fair price. Sustainability and quality assurance can be challenging for small agricultural cooperatives. Nevertheless, agricultural cooperatives can focus on existing agriculture markets or develop new ones using the branding approaches like agro-tourism, environmental services, carbon credit business, agro-forestry and many others.

ASEAN governments can play the role of facilitator of business deals to ensure fair sharing in the value chains.

Actions:

- Support agricultural cooperatives in using market information systems on consumer patterns, new business opportunities and competitiveness.
- Allocate R&D funding for development of new products by agricultural cooperatives identified through the market information systems.
- Support and attend business fora and match-making events between businesses and agricultural cooperatives.
- Develop a code of conduct for agribusiness in relation to working with smallholders and their cooperatives, e.g. regional certifications and the use of a “cooperative and smallholder benefit logo”.

Roadmap Pillars	Measures	Actions and Options:
<p>1. Institutional and Capacity Development</p>	<p>Improve access to good quality advisory services</p> <p>Peer-to-peer learning and knowledge sharing</p>	<p>Actions:</p> <ul style="list-style-type: none"> • Conduct trainings for government officials on the management and operation of agricultural cooperatives so that they can play the needed facilitation role in the provision of services. • Benchmark the classification and support systems for agricultural cooperatives against the standard of excellence in order to attract investments and partnerships with business. • Collect or develop materials for training and support to agricultural cooperatives in the field of production, management, finance and business development, especially in areas where they are most lacking. <p>Option</p> <ul style="list-style-type: none"> • Provide access to specialised advisory services by agricultural cooperatives in the areas of feasibility studies, business planning, financial management, governance and marketing. <p>Actions:</p> <ul style="list-style-type: none"> • Gather all available information on agricultural cooperative expertise in ASEAN and make them widely accessible through a centralized database system. • Set up an exchange program on thematic agricultural cooperative policy issues (e.g. by-laws, taxation, financing instruments), especially for young agricultural cooperative managers and board members. • Share information on youth programs in ASEAN countries that are directed at agricultural cooperatives. • Improve the use of online learning tools on agricultural cooperatives that were developed by ASEAN sectoral working groups or those from reliable sources like IFAD and EU. <p>Options:</p> <ul style="list-style-type: none"> • Organize an expert pool at national and ASEAN levels that can provide hands-on advisory services to agricultural cooperatives. • Invite agricultural cooperative practitioners into the ACEDAC network and transform it into a structure for formulating policies that are based on actual practices of agricultural cooperatives.

Roadmap Pillars	Measures	Actions and Options:
2. Competitiveness	Create resilient cooperatives	<p>Actions:</p> <ul style="list-style-type: none"> Promote a systemic and comprehensive approach to risk management for agricultural cooperatives, including diversification and insurance schemes. Expose and support agricultural cooperatives to access markets for high-value, organic and Geographical Indication (GI) food produce. <p>Options:</p> <ul style="list-style-type: none"> Collect tools for agricultural cooperatives to train and assist members in tackling climate challenges in key commodities in line with the priorities of the different ASEAN working groups. Support the development and promotion of climate-resilient varieties and agriculture technologies such as agroecology and make them available to agricultural cooperatives through the ASEAN network.
		<ul style="list-style-type: none"> Promote an integrated area development approach by agricultural cooperatives based on a combination of tourism, biodiversity, local economy and global markets with geographical Indications (GIs). Support farm advisory and extension services of agricultural cooperative for their members on sustainable agriculture.

Roadmap Pillars	Measures	Actions and Options:
	Create an enabling environment for agricultural cooperatives growth and viability	<p>Actions:</p> <ul style="list-style-type: none"> Allocate budget for capacity building and professionalization of agricultural cooperatives. Develop a strategic agenda in ASWGAC to strengthen the position of agricultural cooperatives in the AEC and to develop policies at ASEAN and national levels to enable agricultural cooperative development. AMSS to share experiences, improve regulations and intensify efforts in: <ul style="list-style-type: none"> a. Regional infrastructure; b. Tax policies; c. Rural education on financial literacy, management and business; d. Knowledge transfer through good academic and vocational networks in rural areas; e. Land consolidation and ownership; and, f. Streamlining of regulations and their costs. <p>Options:</p> <ul style="list-style-type: none"> Provide policy guidelines and incentives for the consolidation or merger of small agricultural cooperatives to attain economies of scale. Support national agricultural cooperative federations in building their capacities to provide services to their member agricultural cooperatives. Improve auditing systems for agricultural cooperatives to ensure good governance and internal control. Encourage ASEAN governments to establish a clear and uniform legal framework for agricultural cooperatives and preferential treatment for ambitious and well-performing ones. Develop policies to require and support training for officers and staff of agricultural cooperatives.
Stimulate commodity-specific agricultural cooperation		<p>Action:</p> <ul style="list-style-type: none"> Study the potential impact of agricultural cooperative federations in ASEAN and gather lessons learned from different countries. <p>Options:</p> <ul style="list-style-type: none"> Design commodity-specific trainings for agricultural cooperatives. Research possibilities for cooperative-cooperative trading schemes to decrease costs and increase solidarity.

Roadmap Pillars	Measures	Actions and Options:
	Promotion and 'marketing' of agricultural cooperatives development	<p>Actions:</p> <ul style="list-style-type: none"> Set up an ASEAN Agricultural Cooperative Network based on existing agricultural cooperative federation structures to represent agricultural cooperatives and their members in networking events and policy dialogues. Expand the relationship of ASGWAC with donors, companies and financiers in the ASEAN region, such as
		<ul style="list-style-type: none"> Grow Asia, EU, IFAD, USAID, agri-agencies and others. Claim a bigger role for agricultural cooperatives in public-private partnerships and development programs in the region. <p>Options:</p> <ul style="list-style-type: none"> Develop a marketing and fundraising plan towards 2025. Promote agricultural cooperative development in ASEAN through the production of brochures and flyers for donors and financing institutions. Develop a computerized and centralized database of agricultural cooperatives in ASEAN for benchmarking, marketing and fundraising. Define key performance indicators (KPIs) for the database and establish a baseline for all agricultural cooperatives that will be updated annually. Mainstream agricultural cooperatives as important institutions for development programs in the ASEAN Economic Community. Develop voluntary guidelines on agricultural project financing by third parties involving agricultural cooperatives.
3. Access to Finance	Promote sustainable financing systems for agricultural cooperatives	<p>Actions:</p> <ul style="list-style-type: none"> Promote internal capital mobilization within agricultural cooperatives. Provide preferential credit to agricultural cooperatives and farmer associations through soft loans from government or financial institutions. <p>Options:</p> <ul style="list-style-type: none"> Establish collateral security and create transparency in lending mechanisms for agricultural cooperatives. Provide guidelines, benchmarks or examples for agricultural cooperatives regarding the need for collateral, business plan and member capital.

Roadmap Pillars	Measures	Actions and Options:
4. Access to Market	Access to existing and to new markets, and outreach to business by agricultural cooperatives	<p>Actions:</p> <ul style="list-style-type: none"> Support agricultural cooperatives in using market information systems on consumer patterns, new business opportunities and competitiveness. Allocate R&D funding for development of new products by agricultural cooperatives identified through the market information systems. Support and attend business fora and match-making events between businesses and agricultural cooperatives. Develop a code of conduct for agribusiness in relation to working with smallholders and their cooperatives, e.g. regional certifications and the use of a "cooperative and smallholder benefit logo."

IMPLEMENTATION GUIDE AT NATIONAL AND LOCAL LEVEL

1. Advisory trajectory for individual agricultural cooperatives and recommended eight steps to set-up a cooperative towards global value chains

In different ASEAN countries, farmers' collective action for their businesses activities differ in scope and stage of organisation. Some are cooperatives founded by the state decades ago, while others are newly formed by farmers working together to improve their business scale.

The various steps from forming farmer groups until transformation into an operational agricultural cooperative business engaged in the value chain have been analysed and observed. This observation gives us insights into the process from the beginning to the establishment of an ongoing agricultural cooperative business. This is of interest, because if agricultural cooperative support and development intends to bypass some of these 8 steps, normally the results will not be as efficient, sustainable and resilient as when all of the steps are followed.

PHASES OF GROUP/COOP S DEVELOPMENT	BASIC STEPS	MAIN ACTIVITY
Pre-inception Phase	1. Developing the initiative	<ul style="list-style-type: none"> Work out proposed initiative and ideas Pull together committed core group & define critical questions Discuss cooperative as one of several options Collect information Explore relevant market/economic need Study economic and social aspects of problem
	2. Building consensus	<ul style="list-style-type: none"> Discuss within core group whether a new cooperative can adequately address identified problems and opportunities Study organisational alternatives Hold initial meetings to review the nature of a cooperative solution Propose cooperative approach in public meeting If sufficient interest among potential members: create initial budget
Inception Phase	3. Establishing a steering committee	<ul style="list-style-type: none"> Identify leadership and establish steering committee Install working groups and agree on timetable and tasks Assign tasks to potential members for subsequent steps Build trust among potential members
	4. Feasibility study and member survey	<ul style="list-style-type: none"> Conduct feasibility study Survey potential members Agree on feasibility and inform stakeholders Obtain support and expertise from third parties
	5. Organisational design	<ul style="list-style-type: none"> Determine organisational structure Prepare preliminary statutes and rules or by-laws Determine basic capital need Raise initial basic capital (members, third parties)

PHASES OF GROUP/COOP S DEVELOPMENT	BASIC STEPS	MAIN ACTIVITY
	6. Member commitment	<ul style="list-style-type: none"> Develop a detailed business plan, get advice when needed (most of times) Explain and confirm legal identity Hold first members' meeting to approve the business plan Set up books/accounting system Conduct member equity drive and sign-up Appoint interim board of directors
	7. Involving other stakeholders	<ul style="list-style-type: none"> Appoint manager (when possible and/or needed) or appoint a leader to manage the coop. Secure necessary additional financing Formalise relations with customers or suppliers -
Formation Phase	8. Starting up the enterprise	<ul style="list-style-type: none"> Hold general meeting and establish committees Secure necessary assets Registration, and obtaining needed permits,
Operation Phase		<ul style="list-style-type: none"> Carry out preparatory financial and administrative tasks Recruit personnel

2. Thematic milestones for an efficient cooperative promotion and support roadmap at country level

In addition to the eight logical steps for forming a cooperative business, another challenge is how to ensure that the promoted and formed business will be sustainable, safe and reliable.

Sustainable, safe and reliable agricultural cooperative business will need sufficient attention to the thematic milestones. The milestones listed here are further explained in the tables below:

- PLANNING THE COOPERATIVE AND ITS BUSINESS
- LEADERSHIP AND MEMBERS' COMMITMENT
- COOPERATIVES MANAGEMENT
- INFORMATION MANAGEMENT

PLANNING THE COOPERATIVE AND ITS BUSINESS	USUAL RISKS UNDERMINING THE EFFICIENCY OF COOPERATIVES PROMOTION PROGRAMS	MAIN SUPPORT SYSTEMS REQUIRED TO PREVENT USUAL RISKS
Clear objectives and strategy	<ul style="list-style-type: none"> - Cooperatives formed without clear focus and purpose (just for the sake of forming it) - The members lack a clear vision, purpose and objectives for forming the cooperative - Lack of clear strategy to achieve the objectives and goals 	<ul style="list-style-type: none"> - Capacity building (trainings and coaching) on: <ol style="list-style-type: none"> a. Generalities of cooperatives, including basic objectives, strategizing for achieving an objective and identification of risks. b. Planning (basic and business planning): interpreting the vision (objectives and strategy) into implementable business plan for actions.
Strong assumptions - based market research and costs analysis.	<ul style="list-style-type: none"> - Overestimating the volume of production and underestimating the cost of production - Feasibility and business plans based on assumptions without clear information to the farmers. 	<ul style="list-style-type: none"> - Advisory support: make access to expert advisors on strategic planning possible, by subsidizing or co-financing.
Identify risks and avoiding starting up cooperatives just because these are promoted by the State.	<ul style="list-style-type: none"> - Risks in starting cooperatives are not fully analysed (a careful study and deeper understanding of factors influencing cooperative such as government regulations, policy, production and market trends, environmental issues, etc. is required before the start of the cooperative). - Governmental agencies and their employees might have a "mandate" to create coops, what might end in groups of farmers getting together because of a 'benefit' offered to them. 	<ul style="list-style-type: none"> - Improve capacities of extension agents and other service providers
Propper business planning	<ul style="list-style-type: none"> - Groups with set-up that is not economically sound or are risky - Detail planning to achieve the goals and purposes are not identified properly. 	
<ul style="list-style-type: none"> - In-depth survey (feasibility studies); - Groups formed with authenticated members interest. 		

LEADERSHIP AND MEMBERS' COMMITMENT	USUAL RISKS UNDERMINING THE EFFICIENCY OF COOPERATIVES PROMOTION PROGRAMS	MAIN SUPPORT SYSTEMS REQUIRED TO PREVENT USUAL RISKS
Good and 'professionalized' leadership	<ul style="list-style-type: none"> - Outside resource persons shouldn't be the leaders for the group - Leaders from within the group normally lack good leadership abilities - Outsiders professionals get involved in decision-making and leaders follow (this must be avoided) 	<ul style="list-style-type: none"> - Capacity building on leadership attitude and skills with focus on accountability towards members as the key for member commitment (training and coaching with long term follow up)
Lack of members' Commitment	<ul style="list-style-type: none"> - Members lack a broad-based support, they see more obligations than rights. To bring their produce sometime is seen as an obligation which doesn't payoff. - Lack of accountability of leaders and staff as a result of lack of information to members and no feedback, nor validation asked to them they become 'outsiders' of the steering, management and control of the cooperative. - Members are not fully informed about all issues related with the coops and mistrust takes place. - Support of all stakeholders will not take place due to evident lack of members' commitment. 	<ul style="list-style-type: none"> - Support for covering the cost of advisors, ensuring professional advice for planning, which will include a face of identifying members' concerns, therefore ensuring their awareness and interest in the planning process - and afterwards, ensuring their commitment. - Capacity building on Governance related issues, leadership and members' commitment. - National regulations for cooperatives include rules for ensuring that planning processes compels leaders' and staff's accountability to members through information and validation processes (e.g. social control takes place). - Extension agents do monitor and control that the above rules takes place (or others who can take this up)

COOPERATIVES MANAGEMENT	USUAL RISKS UNDERMINING THE EFFICACY OF COOPERATIVES PROMOTION PROGRAMS	MAIN SUPPORT SYSTEMS REQUIRED TO PREVENT USUAL RISKS
Proper, modern and professional management	<ul style="list-style-type: none"> - Cooperative members, inexperienced in cooperatives and busy in their own farm leads to low participation and therefore improper management of cooperatives. - This is reinforced by low transparency and lack of periodic information on the cooperative's decision-making processes. 	<ul style="list-style-type: none"> - Access to expert advisors (including a system to make possible for coops to hire 'managers' for a period of time, after which the coops would cover the cost with the operations done by the manager). - Improve capacities of extension agents - Improve Coops capacities by trainings

INFORMATION	USUAL RISKS UNDERMINING THE EFFICACY OF COOPERATIVES PROMOTION PROGRAMS	MAIN SUPPORT SYSTEMS REQUIRED TO PREVENT USUAL RISKS
Access to adequate and timely information And existence of communication systems	<ul style="list-style-type: none"> - Members of the cooperatives do not have proper or enough access to information in a range of matters (technical, market, cooperatives activities, implications of new regulations, and many others). - Members do not have ideas on the suppliers, marketing and other support avenues. - Members are not exposed to other cases in which cooperatives are successful with farmer members in similar farming conditions. 	<ul style="list-style-type: none"> - On-line information systems and extension agents connected to the system in some way (computers, smartphones). - Radio programs at key hours in the day (farmers' breakfast time and after-dinner time): basic information on market issues, existing support programs, technical issues, and many others. - Create a system to cover all or part of the cost of exchange visits and study trips.

ACCESS TO GOOD QUALITY ADVISORS	USUAL RISKS UNDERMINING THE EFFICACY OF COOPERATIVES PROMOTION PROGRAMS	MAIN SUPPORT SYSTEMS REQUIRED TO PREVENT USUAL RISKS
Access to experienced advisors	<ul style="list-style-type: none"> - Members lack cooperative experience when starting a cooperative, and frequently this remains in time. - Outside resource persons and/or advisors lack specific experiences in cooperatives and their uniqueness (there is a need of advisors in topics like cooperatives in general, planning, management and marketing for cooperatives). 	<ul style="list-style-type: none"> - Generate access to advisors: a system of subsidies or co-financing to cover part or all the cost of private advisors or from experts coming from the professional organisation of the cooperatives (federations or associations) for a certain time. - Use of extension services with professionals specialized in cooperative management matters. - Improve the existing advisors' capacities: a system of subsidy to cover part or all costs of specialization of for advisors (trainings, courses, graduate studies, equipment, and many others).

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**THE ASEAN GUIDELINES ON PROMOTING RESPONSIBLE
INVESTMENT IN FOOD, AGRICULTURE AND FORESTRY**

**ASEAN TECHNICAL WORKING GROUP ON AGRICULTURE AND RESEARCH
DEVELOPMENT (ATWGARD)
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TABLE OF CONTENTS

1. BACKGROUND.....	3
2. OBJECTIVES AND ORIENTATION.....	5
3. SCOPE & DEFINITIONS.....	6
4. RESPONSIBLE INVESTMENT IN FOOD, AGRICULTURE & FORESTRY (FAF) AND ITS CHALLENGES.....	9
5. ASEAN GUIDELINES FOR RESPONSIBLE INVESTMENT IN FOOD, AGRICULTURE AND FORESTRY.....	14
Guideline 1: Contribute to food security, food safety and better nutrition.....	14
Guideline 2: Contribute to equitable, sustainable and inclusive economic development and the eradication of poverty.....	15
Guideline 3: Foster equality, engagement, and empowerment for women, young people, indigenous peoples and other marginalised groups.....	16
Guideline 4: Respect tenure of land, fisheries, and forests, and access to water .	17
Guideline 5: Conserve and sustainably manage natural resources, in particular ASEAN's forests.....	18
Guideline 6: Support the generation and diffusion of sustainable and appropriate technologies and practices for resource efficient, productive and safe FAF systems.....	19
Guideline 7: Increase resilience to, and contribute to the mitigation of and adaptation to climate change, natural disasters, and other shocks.....	20
Guideline 8: Respect the rule of law and incorporate inclusive and transparent governance structures, processes and grievance mechanisms.....	21
Guideline 9: Assess and address impacts and promote accountability.....	23
Guideline 10: Strengthen regional approaches to responsible investment in FAF in ASEAN.....	23
6. ROLES AND RESPONSIBILITIES OF OTHER STAKEHOLDERS.....	24
7. Agribusinesses and large-scale investors in FAF, including foreign investors	24
ANNEXES.....	29
REFERENCES.....	37

BACKGROUND

As the demand for food increases due to a growing population, rising incomes, and urbanization in ASEAN, agriculture will continue to attract foreign and domestic investment, particularly in developing regions. Increased investment in food, agriculture¹ and forestry in the ASEAN region is needed to help achieve food and nutrition security, to improve food safety, and to create economic growth and opportunities.

Attracting investment that contributes to food security and economic growth, while at the same time conserving the environment, is in practice very complex, requiring smart and effective government intervention. For example, it is insufficient to boost food output without consideration of its nutritional content, disruption of rural or indigenous communities, or impact on the climate and the environment. Agriculture for instance, especially livestock farming, is a significant contributor to greenhouse gas emissions, but can also play a role in reducing or counteracting those emissions. Similarly, the practice of sustainable forestry management is often absent.

Investment in food, agriculture and forestry (FAF) needs to be responsible and sustainable, and specifically directed towards the achievement of social, economic and environmental benefits, while minimizing negative impacts. The ultimate responsibility for achieving such an outcome rests with governments and policymakers, but investors and civil society also play a key role. For instance, there are high commercial and reputational risks to investors who fail to achieve the delicate balance between financial returns and delivering social benefits.

In September 2017, the ASEAN Ministers on Agriculture and Forestry (AMAF) agreed to develop the ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry (the "Guidelines") at their 39th annual meeting. The Guidelines are grounded in the Committee on World Food Security, Principles for Responsible Agriculture and Food Systems (CFS-RAI) and reflect the specificities and characteristics of ASEAN Member States (AMS).

The Guidelines are part of a broad range of initiatives aimed at ensuring that investments in agriculture meet global standards and promote responsible and sustainable investment (annex table 1). In addition, ASEAN has already begun a systematic process to adhere to global standards, for example with the adoption of the Vision & Strategic Plan for Food, Agriculture & Forestry (2016); the related four Strategic Plans of Action for FAF;

¹ Agriculture includes crops, livestock and fisheries

the Regional Guidelines on Food Security & Nutrition Policy (2017), and PPP Regional Framework for Technology Development in FAF (2017).

Established in 1967, ASEAN has today grown to a membership of 10 States, comprising the entire territorial expanse of South East Asia. ASEAN's average per capita income of over \$11,000 puts it at the top end of upper-middle-income economies in the World Bank's 2017 classification; and while the range of average incomes between AMS is very wide, Cambodia – the poorest – is considered to be in the lower-middle-income group (annex table 2). The life expectancy at birth of ASEAN Member States' populations – both men and women – are among the highest in the world, reflecting the level of development of the region. ASEAN is also today highly urbanized (54 per cent of the people in ASEAN's most populous country, Indonesia, live and work in urban areas) and with rising per capita incomes, and thereby a large and significant middle class. Nevertheless, hunger remains a challenge. The number of people in East and South East Asia who are severely food insecure rose from 48 million people in 2015 to 71 million people in 2016 (FAO, 2017).

Agriculture remains important as a share of the gross domestic product (GDP) in Cambodia, Lao PDR, Myanmar and Viet Nam (the 'CLMV' countries) and Indonesia and the Philippines (because of the sheer size of their populations working in agriculture; many of whom will be youth even as late as 2015) (annex table 2). But at the same time there is a diminishing share of the population that depends on agriculture and forestry for employment (annex figure 1). How responsible investment guidelines in FAF are interpreted will reflect the distinctive characteristics of various AMS and the role and importance of agriculture to people's livelihoods.

Although ASEAN's population growth is slowing, the region's population will still grow from 643 million people in 2017 to nearly 800 million in 2050. This will make it one of the most populous regions in the world, with consequent issues vis-à-vis food security. These will be amplified over succeeding decades by climate change considerations because it is an archipelagic region – with vast coastlines and countless small islands; it also sits physically between the Indian Ocean and the Pacific, which are forecast to see ever more turbulent climatic events, such as cyclones. Investment in agriculture and forestry needs to take such risks into account. At the same time, with the exception of Brunei and Singapore, all AMS are rich in agricultural land and are already major agricultural exporters. Responsible and sustainable use of such wealth should be of prime consideration for AMS. In terms of climate change, while the region must pay heed to likely dangers and risks, the scale and diversity of its agricultural and forest wealth can be an asset, if well managed, in combatting GHG emissions and protecting endangered environments, fauna and flora.

Unlike any other developing regions, with the partial exception of Latin America, ASEAN is home to a very large number of major agribusinesses and forestry companies – including some of the world's largest multinational enterprises (MNEs) (annex table 3). Some of them, such as Sime Darby (Malaysia) and San Miguel (Philippines) trace their roots to the 19th century; others such as Olam (Singapore) and PT Bakrie Sumatera Plantations (Indonesia) were established in recent years. Many are active internationally; and most are significant investors in other AMS. Indeed, for ASEAN as a whole, 80 per cent of all foreign direct investment (FDI) in agriculture and forestry is from other ASEAN Member States (Annex figure 2). While the guidelines will apply to most AMS as FDI host countries, they also need to reflect ASEAN's unique situation among developing regions as both a source and host of FDI in agriculture and forestry; a number of AMS should consider complementary guidelines on responsible investment for their MNEs operating in other ASEAN economies (as well as non-ASEAN locations).

Cambodia, Indonesia, Lao PDR and the Philippines (and, to a lesser extent, Viet Nam) are especially dependent on other ASEAN economies for FDI in agriculture and forestry (annex figure 2). To some degree, this reflects the home bases of larger ASEAN MNEs in agriculture and forestry (Malaysia, Singapore, Philippines and Thailand) versus where they invest in the region (annex table 4). But the situation is more complex; for example, many Vietnamese and Indonesian small and medium-sized enterprises (SMEs) in agriculture and forestry – and, indeed from other AMS – are investing in their neighbors (sometimes 'informally').

Because ASEAN is a large, economically vibrant community, the impact of any sector – including agriculture and forestry – must be viewed through the prism of local, regional and global supply and value chains (Mirza et al 2017). Such value chains – including those linking rural and urban communities with the supply of processed foods through a chain stretching from production through storage, logistics, manufacturing, warehousing, and retail to consumers – are central to both food and nutrition security and the role of agriculture and forestry as engines for growth and development. For instance, the export of crops to international markets generates incomes for smallholder farmers and others that can be used to purchase food, to pay for education or as capital investments in new businesses. By the same token, there is also the risk that prices of local produce may rise as a result of high demand in international markets.

The Guidelines embrace the centrality of supply and value chains, including through fair pricing of produce sold by farmers; supporting the improvement of quality and safety standards across the chain; and recognizes that investment does not have to directly contribute to food production to meet the objectives of food security. Supply and value chains in agriculture and forestry also mean that the key investors and investments are

not necessarily in farming or plantations per se (they could even be based overseas). A manufacturer can contract smallholders to supply crops and forest products for its processing facilities, requiring guidelines to address contract farming in its various forms. Investors, companies and smallholders along value chains are all stakeholders in ensuring responsible investment in agriculture and forestry (chapter 6).

The impacts of large-scale investments are different to those of small- and medium-scale investments, and therefore the responsibilities of investors in the Guidelines are commensurate with size and potential degree of impact. For example, the investments made by smallholders are large as a share of total agricultural spending in many ASEAN countries, but most of this spending occurs within households and is primarily for subsistence purposes. On the other hand, in the case of Malaysia, large agriculture and forestry enterprises represent about a quarter of all enterprises in the industry and have extremely large investments. Large companies are also prevalent in other ASEAN countries, such as in Thailand, Viet Nam, Philippines, Indonesia and Singapore (annex table 5).

Importantly, smallholder farmers and SMEs likely constitute the majority of investments in agriculture and forestry in AMS, but the size of each project is far smaller than those by large companies. The guidelines recognize this disparity, especially because 'equal treatment' effectively places a burden on resource-constrained farmers and SMEs. At the same time, the Guidelines consider the nature of the impacts by different stakeholders; and recognize that small does not automatically equate with resource-constrained: digital and bio technologies, among others, are facilitating the establishment of cutting edge small and micro-enterprises. The Guidelines therefore ensure that, while smallholder farmers and SMEs' are fully responsible in their agricultural investments, how they meet their obligations is commensurate with the resource-constraints they face; noting that at the same time food safety should not be jeopardized nor the environment endangered. Governments, larger firms and others can develop support mechanisms to assist smallholder farmers and SMEs in meeting the necessary standards.

Ultimately, while guidelines on responsible investment are essential, it is important to attract investment in the first place. ASEAN Member States have been very successful in boosting investment in manufacturing and services by attracting overseas investors and encouraging domestic enterprises. However, their performance in terms of agriculture and forestry has been less satisfactory in both absolute and per capita terms (annex figure 3). It is essential to raise investment in FAF sectors to achieve sustainable economic development. The Guidelines can help boost investment and promote longer-term rewards and incentives that will improve investment decision-making and the quality of investments.

OBJECTIVES AND ORIENTATION

The primary purpose of the Guidelines is to promote investment in food, agriculture and forestry in the ASEAN region that contributes to regional economic development, food and nutrition security, food safety and equitable benefits, as well as the sustainable use of natural resources. Other objectives include:

- Establishing favorable conditions to attract responsible investment in FAF sectors through a clear policy and regulatory framework nationally and a more coherent approach across ASEAN; clarity of roles for the various agencies and institutions involved; and a well-designed system of institutions and processes for investment promotion, screening, monitoring etc.
- Considering all stakeholders in responsible investment in FAF as part of ecosystem, which needs to be carefully nurtured. Investment promotion may be one goal, but the interests of other stakeholders, including local and indigenous communities, smallholders and vulnerable or marginalized groups, cannot be secondary. Consequently, striking a balance between interests – including strengthening the capacities of other stakeholders, contractually requiring investors to meet their obligations and creating instruments and tools to further cooperation – supports the primary purpose of the Guidelines.
- For ASEAN as a whole, creating a framework to guide AMS, large and small investors, and other actors in the development of responsible and sustainable agricultural investment and value chains in the region.
- Ultimately, creating a set of interests, which serves as a reference for decisions, behaviors and actions over the mid- to long- term.

The Guidelines are voluntary in nature and do not conflict with existing national laws and regulations or with binding international treaties. Nor do they replace the need for improved legal and policy frameworks at the national level. Indeed, a stronger and more equitable regulatory environment at the national level is the best guarantee to achieve social, economic and environmental benefits from investment.

SCOPE & DEFINITIONS

The ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry are primarily aimed at the public sector in ASEAN, including governments and subsidiary agencies and institutions in each AMS and supranational organizations such as the ASEAN Secretariat and other pertinent regional bodies (chapter 5). They are also aimed at other stakeholders, including the private sector, civil society, communities, development partners and others (chapter 6). They should be seen as a living document, aiming at the highest national, regional and international standards with respect to responsible investment. They are also attuned to relevant United Nations Sustainable Development Goals (SDGs), including 'No poverty' (goal 1 to end poverty in all forms and dimensions by 2030), 'Zero hunger' (goal 2 to be achieved by the same date), 'Gender equality' (goal 5, ending all forms of discrimination against women and girls) and 'Climate Action' (goal 13). Recognising the importance of national, regional and global value chains in FAF activity, the Guidelines also seek to leverage voluntary sustainability standards.

The guidelines draw upon major existing principles and guidelines, in particular the Committee on World Food Security's Principles for Responsible Investment in Agriculture and Food Systems (CFS-RAI), the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Forests and Fisheries (VGGT), as well as AMS regional experience and international best practice (annex table 1). The Guidelines are in line with the ASEAN Integrated Food Security Framework and Strategic Plan of Action on Food Security in the ASEAN Region (AIFS SPA-FS), which aims to ensure long-term food security and nutrition in the region. They are also in line with existing policies, laws and international commitments.

The guidelines set out policy and institutional options that serve as references for AMS in their efforts to ensure responsible investment in FAF but are not intended to be a full or binding statement on responsible investment in FAF.

For the purposes of the guidelines, the following definitions and terminology apply:

- **Agriculture and forestry.** ASEAN considers agriculture as comprising three sub-sectors: crops, livestock and fisheries. Forestry is treated as a separate sector (unlike the FAO which includes forestry in its definition of agriculture). The guidelines thus also apply to livestock and fisheries, recognizing the specificities of these two subsectors.
- **Host and home country:** Where an investment is international, the economy in which an investment occurs is the 'host country'; nearly all AMS are FAF host countries. The economy in which the investor is based is the 'home country'. Several AMS are home

countries by this definition. Moreover, a few AMS are simultaneously significant recipients and sources of investment. Given significant levels of intra-ASEAN FDI some elements of the guidelines will be relevant only to specific sub-groups.

- **Indigenous peoples.** While there is no formal international definition of indigenous peoples, they are generally recognized to comprise: 'tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations'. Moreover, they also include, 'peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonisation or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.' (ILO Convention 169, 'UNDRIP'). The United Nations Permanent Forum on Indigenous Peoples has, in addition, stressed a strong link to territories and surrounding natural resources. In some AMS, indigenous peoples are referred to as 'ethnic groups'.
- **Investor:** An investor is a company which implements a commercial project. Investors can be public or private, domestic or foreign, large or small.
- **Involuntary resettlement.** Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of project-related land acquisition and/or restrictions on land use. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement." (IFC Performance Standard 5.) In some circumstances pertaining to indigenous and local communities, involuntary resettlement can also encompass cultural and spiritual displacement.
- **Private sector:** The private sector includes smallholder farmers, small and medium-sized enterprises (SMEs), and larger companies.

RESPONSIBLE INVESTMENT IN FOOD, AGRICULTURE & FORESTRY (FAF) AND ITS CHALLENGES

Investment in FAF is one of the most critical ways for ASEAN countries to provide employment and livelihoods, reduce poverty and improve food and nutrition security. Responsible investment requires both the public and private sectors. Public investment from AMS is vital to provide public goods like agricultural research, rural infrastructure and extension services, and create an enabling environment for a strong private sector (Wieck et al, 2014). Private investments in FAF can increase export revenues, boost productivity, generate employment, and provide access to new technologies, capital and markets (Karlsson, 2014; Picard, et. al, 2017). The Guidelines focus on addressing the challenges from private sector investment. The private sector spans smallholder farmers, SMEs, and large private investors and includes both domestic and foreign sources of investment (Mirza, et al. 2014.ⁱⁱ).

There are a number of risks associated with private sector investment, particularly foreign investment. Development benefits are not automatic and in Southeast Asia involve 'a complex web of interests and struggles' (Mirza et al, 2014; Shohibuddin et al, 2016)ⁱⁱⁱ. When done badly, private sector investment can exacerbate existing inequalities, undermine the livelihoods of smallholder farmers and those of indigenous peoples, and deplete land, water, soils, forests and other natural resources (Karlsson, 2014; Picard. et al, 2017^{iv}). But when done well, and integrated with the local economy, increased investment can help generate employment and promote economic development (Karlsson, 2014; Picard. et al, 2017^v). All stakeholders have a role to play in ensuring positive outcomes, and each faces a unique yet interlocking set of risks and challenges.

Investment in FAF creates challenges for AMS in six key areas: (1) food security, (2) land rights, (3) jobs & livelihoods, (4) environment, (5) technical and institutional capacity, and (6) project failure, with issues of gender equality, women's empowerment and youth engagement present across all areas.

Food security

Investment in FAF can bring positive outcomes for food security, including nutrition. Investments, particularly by farmers and the government, which improve farm productivity, can increase the affordability and availability of food on the market (Liu, 2014^{vi}). Large-scale agribusiness investments that integrate smallholder farmers as outgrowers have had positive outcomes for food security, through higher incomes. (Mirza

et al, 2014). Additionally, the improvements in reliability of supply chains has led to more stable food security for urban populations which generally do not grow their own food. Indeed, large-scale investments can be important for urban food security, particularly in those AMS where the amount of arable land is declining under pressures from industrial and residential land use, and in the context of rapid population growth. The challenge is to ensure that urban food security does not come at the cost of rural food security.

When done badly, investment in FAF can pose substantial risks for indigenous peoples' and local communities' food security. Where land is used for non-food crops, or to produce food mainly for export, this can pose a challenge to local food security (UNCTAD, FAO & IFAD, 2010^{vii}) particularly in predominantly rural AMS. While investments can increase production in a country, they may divert food from local communities where it is most needed (Mirza et al, 2014). Displacement and resettlement can disrupt communities' ability to grow their own food and access traditional and indigenous food sources, as well as grazing land and other livelihood resources that are important for food security.

Additional challenges arise where foreign investments in FAF are linked to the food security strategy of the home country. These challenges can be offset by a boost to farmers' incomes from export crops, which can be used to purchase food locally. Malaysia and Thailand for example have invested heavily in other AMS, especially Viet Nam and the Philippines, to supply their home markets (Fiedler & lafrate, 2016). Foreign investment in FAF may allow home states to gain more control over production for domestic markets and reduce the cost of those products by cutting out middlemen. It may also source sufficient amounts of industrial crops, such as wood, rubber and biofuels, for domestic industries (Schönweger & Üllenberg, 2009).

Land rights

The most common risk from large-scale private sector investments is land disputes that adversely affect all stakeholders, with a particularly negative impact for local communities (Fiedler & lafrate, 2016).^{viii} Land disputes were the most prominent negative impact arising from 10 large agribusiness investments in AMS² (Mirza et al, 2014). Involuntary resettlement can cause households to lose access to their land entirely, and the demarcation of project sites can cut off indigenous peoples and local communities' access to natural resources, water, and foraged food sources. UN treaty bodies monitoring the impacts of large-scale land acquisitions in four AMS found particularly negative impacts on populations vulnerable to discrimination and marginalisation; indigenous groups, women, children, rural communities, and smallholder farmers (Golay, 2015).^{ix} Land disputes and insecurity of tenure adversely affect investors as well, in some cases incentivising

² Cambodia, Vietnam, Indonesia, Malaysia and Lao PDR

behaviour that compounds the negative impacts on local communities. In the context of forestry concessions, a host state policy environment which undermines security of tenure is cited as, at best, a disincentive for the investors to invest in more sustainable production methods, and at worst an incentive to 'cut and run' before losing the concession (Chan, 2016; Schönweger & Üllenberg, 2009).

Negative impacts from land loss and disputes are more severe in countries that are predominantly rural and where land rights are often informal (Liu, 2014; Sylvester & Phaopongsavath 2017^x). Land titling and informality are complex in post-conflict countries where there has been loss of formal land records and widespread displacement (Chan, 2016)^{xi}. Land mapping and titling to improve security of land tenure and minimize disputes is especially important (Mirza et al, 2015). Insufficient consultation, a lack of transparency and disclosure, and a failure to properly involve all affected community members in planning and decision-making have been found in land investments in some AMS (Zhan, et al. 2015.^{xii}) Indigenous and ancestral lands are particularly vulnerable (Tagliarino, 2016).^{xiii} Case studies of FAF investments in AMS have found confusion caused by overlapping responsibilities at different levels of government (Mekong Regional Land Governance Programme, 2016),^{xiv} as well as a lack of transparency and a sense of unpredictability for investors with regards to land acquisition procedures (Sylvester & Phaopongsavath, 2017).

Improved transparency and better governance are emerging to counter the negative impacts. Some AMS are moving towards greater transparency in large-scale FAF investments, with Malaysia publishing environmental and social impact assessments on the Department of Environment website (Zhan et al, 2015). Case studies in Laos and Cambodia found that increasing land scarcity, investor competition, and the learning processes of stakeholders at different policy levels is leading to more inclusive investments (Messerli, et al. 2015.)^{xv} There is also a growing trend towards use of technology, such as satellite imagery and drone photography to monitor investment-related activities. Yet there remain improvements to be made in terms of transparency, anti-corruption measures and good governance in respect of investment in FAF in some AMS.

Jobs & livelihoods

Jobs and livelihood creation is one of the most important benefits from large-scale agribusiness investment in FAF. 10 large-scale agribusiness investments in five AMS found job creation was the benefit most frequently cited, and the projects directly employed around 7,000 people (Mirza et al, 2014). Many of these jobs paid wages that were higher than the local job market. Importantly, job creation was not linked to the size of land but rather to the type of business model. Investments where processing facilities are built create more jobs per hectare (Zhan et al, 2015).

But not all jobs are stable and well paying, nor are they equitably distributed between men and women. A significant gender gap exists in the agribusiness investments studied in the ASEAN region. Only around one-third of jobs went to women, and these jobs were more likely to be casual, temporary, or seasonal (Zhan et al, 2015). The sustainability of jobs is also questionable; in several case studies, the number of jobs created decreased over time and was lower than what the investor had initially promised (FAO, 2012). For foreign investors, managerial positions tended to be held by expats or people from outside the local community (Liu, 2014). In some cases, labouring jobs on rubber plantations were given to migrant labourers from outside the local area who were seen as more efficient, leading to tensions with the local community (Gironde & Senties Portilla^{xvi}, 2015; Schönweger & Üllenberg, 2009).

Contract farming schemes can improve livelihoods while leaving farmers in control of their land, but once again the benefits are not equitably distributed between men and women. Business models that involve smallholders as business partners can minimize the risks and maximize the benefits of FAF investments, creating income opportunities and enhancing food security. For example, 11 large-scale agribusiness investors in AMS contracted with over 30,000 outgrowers in more inclusive business models (Mirza et al, 2014). These investments were well received because the presence of a reliable buyer for local farmers produce contributed positively to increasing rural incomes. Outgrowers generally thought they received better prices for produce as well as useful training and technical support from the investor. On the other hand, selecting the largest farmers for contracts can lead to increased inequality and tension in communities. In many cases gender outcomes are dismal; less than 5 percent of outgrowers were women (Mirza et al, 2014; Smaller et. al, 2015^{xvii}). In addition, power asymmetries between the producers and buyers persist, there is an unequal distribution of risks, and producers often have weaker bargaining power.

Furthermore, **with contract farming opportunities come risks for farmers, especially for some key ASEAN crops.** The price volatility of traded industrial crops can make contract farming households vulnerable to price crashes, like the 2012 drop in rubber prices (Sylvester & Phaopongsavath 2017). Such crops have long lags between planting and harvest, so farmers bear the risk of events like fire, disease, and weather, wiping out stocks before they mature (Schönweger & Üllenberg, 2009). Unclear pricing, quality assessment, and processing delays can also disadvantage farmers. Some key ASEAN crops – rubber, sugar, and palm oil—must be processed quickly after harvest, putting the farmer at the mercy of the investor making timely pickups and having sufficient storage and processing capacity (Zhan et al, 2015). Meanwhile women do most of the work under farming contracts, but they are usually signed by the male head of household (Daley, 2013^{xviii}), and contracted crops can displace food crops which are grown by women to feed

the household (Vermeulen & Cotula 2010^{xix}; Eaton & Shepherd 2001.^{xx}). Contract farming as a concept can nevertheless be improved further, including in terms of various levels of engagement, 'co- investment' and 'risk sharing'. If stronger engagement is promoted, issues such as gender employment can potentially be addressed.

Climate change and the environment

Climate change impacts and associated natural disasters and shocks are global and local, immediate and long term; they affect all sectors, including FAF; and they respect no border or human agency. Responsible investment in FAF to help mitigate their impact, and adapt to it, requires unprecedented, collaborative action on the part of governments and policymakers (local, regional and international), investors (domestic and foreign), communities and other stakeholders.

FAF investments can damage the local environment through the over-exploitation of natural resources. Logging and clearing forests to convert it for agricultural use is a major cause of land and water degradation, biodiversity loss, and carbon emissions. The value of the timber for immediate sale within the region is often high, attracting investors who then fail to further develop the land after clearing it, compounding losses to the local community (Zhan et al, 2015; Chan, 2016).

Despite the negative impacts on the environment, there is insufficient attention to the effective management of land, forests and fisheries. Market premiums for organic and other certified products are driving investments in sustainable production practices. The effort and cost to manage soil fertility, forests and fisheries for the long term is a key consideration. Large-scale commercial production of one or two crops can be chemicals intensive, contributing to land and water degradation and biodiversity loss through chemical drift, aerial spraying and water contamination (Mirza et al, 2014). And it is not limited to large operations (ADB, 2014)^{xxi}. One investor in Cambodia has established a model farm compliant with International Foundation for Organic Agriculture and with Indian Organic Certification Agency requirements, which uses no agrochemicals or chemical fertilisers, manual weeding and minimal tillage (Mirza et al, 2014). However, certification can be expensive for small holders and SMEs, the price premiums paid not substantial enough to provide sufficient incentives, and corporations, not the small producer, can capture the major share of the value.

Technical and institutional capacity

One of the key measures governments can take to identify and mitigate the risks outlined above is to screen investors and their investment proposals. **Yet the process for screening and selecting investors in some AMS has been found to be hasty and superficial.** This is in part because comprehensive financial and technical screening

requires specialised expertise (including negotiation skills vis-à-vis investors), human resources and coordination amongst various government agencies, which may be lacking in some AMS. Agencies responsible for screening may also be put under political pressure and the influence of patronage dynamics to 'get the deal done'. This can especially be an issue when the screening is not transparent or inclusive (does not involve relevant stakeholders). Additionally, governments may emphasise attracting investment, but a balance between attraction and effective screening must be struck.

Monitoring the implementation of FAF investment projects to ensure their compliance with the terms of the investment contract and local laws is also a key challenge for host countries. Inadequate monitoring can mean the government misses early warning signs of a failing investment needing remedial action or sanction, or fails to pick up on unapproved changes, such as planting a different crop or alterations to the business plan (World Bank/ UNCTAD). **Government monitoring is often insufficient** to properly assess the investor's compliance with its contractual and legal obligations. Oversight of investment activities is often focused on productivity targets, with limited monitoring of an investment's socioeconomic and environmental impacts (Mirza et al, 2014). Overlapping powers between government departments can also result in monitoring obligations 'falling between the cracks' (Chan, 2016). Continuous and effective oversight of investment projects is resource- intensive and may be under-prioritised by governments (ADB, 2014).

Project failure and investor-state contracts

'It is a complicated business to make large-scale agricultural investments a success, especially in a developing country context' (Mirza et. al, 2015, p.17), yet financial and operational success is essential if FAF investments are to achieve positive development outcomes. Further, FAF investments tend to take a long time to become cash flow positive compared to other sectors. Typically, the more successful investors are experienced, well financed and with a clear understanding of their targeted market. Nevertheless, project failure can be lose-lose for the local community, investor and host country. The guidelines help to address this risk. A significant proportion of ASEAN investments in the study cited above were unprofitable or behind schedule because of operational and financial challenges like difficulties accessing finance and working capital, poor roads limiting market access and other infrastructural deficits, human resources issues, and technical feasibility issues like unsuitable soils (Mirza et al, 2015). Reputational risk for private investors perceived to be involved in 'land grabs' is growing, as global supply chains become increasingly transparent including for key ASEAN commodities such as palm oil, timber, sugar, rubber and maize (Dwyer, Polack & So, 2015)^{xxii}.

Where resettlement takes place it is vital that the right to free, prior and informed consent (FPIC) is upheld. This allows communities to give or withhold consent to a project that may affect them or their territory. Currently, the right pertains to indigenous peoples

and is recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Properly enforced domestic laws are the best way for governments to help realise the positive impacts of FAF investment, but in practice, **contracts between a state and an investor, known as investor-state contracts, play a major role in AMS.** This is especially so in developing countries where the necessary domestic laws may not be in place or may not be sufficiently detailed (Smaller, 2014), or where there is insufficient capacity to monitor and enforce compliance with the laws that are in place. Host states may lack the legal expertise and negotiating capacity to ensure they enter into contracts of sufficient depth and quality to protect the interests of the government, local community and investor. A particularly problematic clause often sought by foreign investors is a 'stabilization' provision, which freezes the domestic laws at the time the contract is signed for that particular investor (Smaller, 2014). Such a clause may exempt the investor from the application of new laws, or may require the government to compensate the investor for financial losses arising from the application of new laws. This could include new environmental measures and increases to the minimum wage (Smaller, 2014).

Finally, in many cases grievance mechanisms for local communities are lacking in large-scale investments and communities are unaware of how to raise concerns or seek redress. In addition, in the early stages of an investment, investors should be watchful for unresolved grievances, which they may inherit from 'legacy issues' (Interlaken Group 2017, CDC and DEG 2016).^{xxiii} Such issues may be inherited from, for example, a past owner of the land or operation; political conflict leading to displacement; or inadequate consultation processes or perceived compensation in the investor's own land acquisition procedures. Investor grievance mechanisms are important tools that allow the investor to receive and resolve concerns and grievances by local communities on social and environmental issues and by employees on workplace issues (Smaller, 2014).

ASEAN GUIDELINES FOR RESPONSIBLE INVESTMENT IN FOOD, AGRICULTURE AND FORESTRY

The ASEAN Guidelines for Responsible Investment in Food, Agriculture and Forestry are inspired by and grounded in the Committee on World Food Security's Principles for Responsible Investment in Agriculture and Food Systems (CFS-RAI). The guidelines are a tool to support the implementation of the CFS-RAI in ASEAN. They are addressed to AMS governments (including subsidiary agencies, central and regional) and adapted to the specific challenges facing ASEAN that are identified in chapter 4, with an emphasis in most areas on the large-scale private investment projects that generate many of the most significant negative impacts of FAF investment described above. However, there are key roles and responsibilities for stakeholders outside of government and large-scale private actors, which are set out in chapter 6. The Guidelines are voluntary in nature.

Guideline 1: Contribute to food security, food safety and better nutrition

- Responsible investment in FAF in ASEAN contributes to food security, food safety, and better nutrition by:
 - o Recognising and respecting the right of all ASEAN citizens to have access to sufficient, safe, diverse, culturally acceptable, appealing and affordable and nutritious food, and to be free from hunger.
 - o Supporting AMS' commitments to achieving sustainable development goal 2 (SDG2), and contributing to the objectives and goals of the ASEAN Regional Guidelines on Food Security & Nutrition Policy, and the ASEAN Integrated Food Security Framework and Strategic Plan of Action 2015 – 2020.
 - o Helping to secure a sustainable supply of sufficient, affordable, safe and nutritious food for growing ASEAN populations in rural and urban areas, at a regional, national, and household level through increased and diversified production, purchases through increased income, as well as improvement of access to and distribution of existing food stocks.
 - o Recognising and respecting the right of farmers to seed diversity.
- To achieve this, AMS may consider:
 - o Providing a safe, enabling environment for responsible investment in food and nutrition security.
 - o Developing a coherent national FAF sector plan incorporating a strategy to achieve food security, food safety and better nutrition.

- o Supporting food fortification programmes, including through partnerships with the private sector, to help enhance nutrition security.
- o Developing innovative rural financing mechanisms, including public-private partnerships (PPPs), to improve access to markets and expand rural infrastructure in food insecure areas, particularly roads, transport, energy, irrigation, and storage networks needed to increase food production and purchasing power.
- o Monitoring the impact of investment on food and nutrition security, and food safety and diversity.

Guideline 2: Contribute to equitable, sustainable and inclusive economic development and the eradication of poverty

- Responsible investment in FAF in ASEAN contributes to equitable, sustainable, inclusive, culturally respectful, and appropriate economic development and the eradication of poverty by:
 - o Helping to achieve equitable, sustainable and inclusive growth in a manner that reduces poverty, ensures gender equality and women's empowerment, and lessens inequality within and between AMS, in pursuit of the first goal of the Vision and Strategic Plan for ASEAN Cooperation in FAF.
 - o Creating decent, safe, and sustainable jobs and livelihoods, particularly for those in rural areas, with adequate compensation and incomes, equity in wages and benefit packages among men and women,, decent working conditions, and opportunities for training and up-skilling.
 - o Encouraging innovation and the diffusion of new and sustainable technologies that enhance resource efficiency, productivity and produce quality, in support of guideline 7, including through coordination, cooperation and partnerships between small and large producers.
 - o Assisting cooperatives, smallholder farmers, forest harvesters, small scale forest enterprises and other SMEs to improve quality and standards (including standards compliance), and to support those who wish to transform into viable, competitive commercial enterprises.
 - o Sharing value through balanced, enforceable commitments from both the investor and the country where the investment is located.
 - o Supporting fairer and more transparent contracts between buyers and producers of agricultural commodities that redress power asymmetries, including through a stable, conducive regulatory environment, as well as drawing on or aligning with existing voluntary standards in this space.
 - o Respecting and promoting existing culturally empowering and sustainable forest livelihoods.

To achieve this, AMS may consider:

- o Inserting specific, measurable commitments into investor-state contracts, and encouraging business development and training programs to facilitate engagement of local businesses.
- o Exploring alternatives to large-scale land concessions, and encouraging investors to commit to equitable and inclusive contract farming and outgrower schemes allowing small farmers to stay on their land, where appropriate for the investor, the project and local conditions. Contract farming schemes should ideally benefit the whole community and not just the wealthiest individual farmers.
- o Introducing a community engagement strategy in investor-state contracts, including a community development agreement, in line with the Free Prior Informed Consent (FPIC) principle and the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT), CFS-RAI and the UN Office of the High Commissioner for Human Rights Principles for Responsible Contracting (Ruggie, 2011^{xxiv}). In the case indigenous peoples, introducing a FPIC agreement, in line with the United Nations Declarations on the Rights of Indigenous Peoples and FAO's FPIC manual.
- o Drawing on existing guidance documents (such as the UNIDROIT-FAO-IFAD Legal Guide to Contract Farming 2015; and the Model Agreement for Responsible Contract Farming, forthcoming 2018^{xxv}) to develop fair contracts with outgrowers, and work with farmers, cooperatives and farmers organizations to enhance awareness of contractual rights and obligations. Involving cooperatives and representative organizations of small-scale food producers and consumers in investment related policy and decision-making fora.
- o Developing strategies to ensure the inclusion of women and marginalized groups in investment projects and outgrower schemes, taking into due account existing power imbalances.
- o Allocating public funds to support smallholder farmers, cooperatives, forest harvesters and SMEs, through long term programmes and instruments such as microfinance, rural credit, and market linkage and small enterprise development programmes, especially in poor and marginalized communities.

Guideline 3: Foster equality, engagement, and empowerment for women, young people, indigenous peoples and marginalised groups.

- Responsible investment in FAF in ASEAN contributes to gender equality, youth engagement and empowerment by:
 - o Strengthening equitable access to opportunities for, and promoting and protecting the human rights of women, youth, children, older persons, persons with disabilities, migrant workers, ethnic minority groups, indigenous peoples and vulnerable and marginalized groups, in line with the ASEAN Socio-Cultural Community Blueprint 2025.
 - o Acknowledging the enormous contribution of women to the FAF sector, as well as the critical importance of the FAF sector in ASEAN effectively harnessing the youth, and attracting more young people into an increasingly ageing sector.
 - o Recognizing the central role of the FAF sector in promoting inclusive business models to help ensure access to employment and entrepreneurship.
 - o Increasing women's, young people's, indigenous peoples' and other marginalized people's equitable access to land, natural resources, inputs, services (extension, advisory, and financial), education, training, markets, and information, and strengthening women's land rights;
 - o Integrating gender issues and women's empowerment into sustainable agriculture, fishery and forestry practices, to address women's, indigenous peoples' and other groups' increased vulnerability to the socio-economic impacts of natural disasters and climate change, in alignment with the ASEAN Vision and Strategic Plan for ASEAN Cooperation in FAF.
 - o Ensuring women's, young people's, indigenous peoples' and other marginalized people's meaningful participation in decision-making, leadership roles, and partnerships.
- To achieve this, AMS may consider:
 - o Improving women's access to education and legal redress mechanisms, and women's ability to collectively mobilize and claim political rights. In some cases, this role might involve improving legal systems but more often it relates to enforcing existing laws.
 - o Recruiting more woman extension officers and training all extension officers to provide gender-sensitive support to small holders and SMEs.
 - o Facilitating partnerships and networks amongst civil society organizations, farmers' groups, indigenous peoples' groups and women's cooperatives to support women's economic empowerment.
 - o Promoting the youth's participation in the FAF sector through policies that facilitate their meaningful access to resources, markets, and opportunities, including:

- » Establishing FAF educational and training institutions, including on- farm and technical, and including entrepreneurship in agriculture curriculums.
 - » Supporting investors that seek to integrate youth into decision-making processes.
 - » Supporting producer groups representing women, youths and indigenous peoples to enhance their advocacy and bargaining power.
- o Developing programs to change youth's perception of the FAF sector and encourage more young people to choose FAF career paths.
 - o Requiring investors to establish a youth engagement strategy as part of their business plan, including internships and scholarships.
 - o Promoting the use of ICT in FAF such as mobile phones, internet services, apps and social media, to both improve access to information, and attract young people to be the next generation of farmers.
 - o Supporting the establishment of youth savings groups within the community and/or encourage community savings groups to incorporate young people.
 - o Recognizing the unique role and influence of women in respect of family and community level food security and nutrition, and supporting women to translate investments in FAF into positive nutritional and food security outcomes for their family and the communities they live in.

Guideline 4: Respect tenure of land, fisheries, and forests, and access to water

- Responsible investment in FAF in ASEAN respects tenure of land, fisheries, and forests, and access to water by:
 - o Respecting all legitimate tenure right holders of land, fisheries and forests, including customary rights holders, in line with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT), and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, and in the case of indigenous peoples the UN Declaration on the Rights of Indigenous Peoples.
 - o Recognizing the rights of indigenous peoples and local communities to free, prior and informed consent (FPIC) to any investments in their customary lands and forests and ensuring that FPIC is obtained.
 - o Assessing the social impacts on all legitimate tenure rights holders, including by establishing a baseline of social conditions existing prior to any investment activities and assessing the impact on people living on or around the proposed project site, with particular attention given to indigenous peoples and local communities.

- o Avoiding displacement and resettlement of all legitimate tenure rights holders in line with applicable AMS laws, the VGGT, UN Office of the High Commissioner for Human Rights Basic Principles and Guidelines on Development-Based Evictions and IFC Performance Standard 5 on Land Acquisition and Involuntary Resettlement.

To achieve this, AMS may consider:

- o Strengthening land laws and land use policies, as well as administrative capacity and systems at local levels to identify, record, and where appropriate, formalize land rights, recognizing that secure land tenure regimes can support responsible investment.
- o Facilitating collective, communal and individual land titling and other forms of protection of tenure rights in a way that recognizes a broad range of conceptions of land ownership and access, and that is truly accessible to poor communities and marginalized groups, learning from past experiences with individual titling programmes, particularly for the rural poor.
- o Raising awareness among communities of their legitimate tenure rights, including:
 - » Building capacity of local communities to engage with investors, including participating in negotiations.
 - » Developing simple and effective processes through which concerns, grievances and infringements about land rights or communal resources can be raised and addressed (vis-à-vis all groups, including investors).
- o Conducting joint awareness raising activities amongst AMS at all levels of government regarding the VGGT and other relevant principles and guidelines, and discouraging investment promotion practices that undermine security of tenure. Ensuring that where resettlement is deemed unavoidable, it should be minimized and appropriate measures to mitigate adverse impacts on displaced persons and host communities should be carefully planned and implemented. A resettlement plan should be put in place based on the results of the social impact assessment, and having regard to the UN Office of the High Commissioner for Human Rights Basic Principles and Guidelines on Development-Based Evictions and IFC Performance Standard 5 on Land Acquisition and Involuntary Resettlement. The resettlement plan should be agreed by concerned communities under the FPIC process and should include opportunities for on-farm and off-farm employment and skills training for project affected peoples.
- o Maintaining a fair and transparent system of identifying land rights in a way that safeguards legitimate tenure rights holders and conservation areas, including through the use of technology such as global position system (GPS) technology or satellite data, where appropriate.

Guideline 5: Conserve and sustainably manage natural resources, in particular ASEAN's forests

Responsible investment in FAF in ASEAN contributes to the conservation and sustainable management of natural resources, in particular ASEAN's wealth of forest resources, by:

- o Preventing, minimizing, and remedying negative impacts on air, land, soil, both inland and offshore water resources, forests, wetlands, habitats and biodiversity, with regard to the specific needs of sensitive areas and protected sites.
- o Supporting sustainable forest management practices, including community forestry management, as well as fire prevention and transboundary haze control. This should recognise the economic, social, cultural and ecological value of ASEAN's forests and their contribution to biodiversity and the carbon cycle. It should also respect the unique role of forests as providing a range of important ecosystem services such as food security, energy security and medicinal needs. This is in line with the Vision and Strategic Plan for ASEAN Cooperation in FAF and the Strategic Plan of Action for ASEAN Cooperation on Forestry (2016 – 2025).
- o Balancing economic objectives and the need to increase production with conservation objectives and the needs of local communities and indigenous peoples, to develop better sustainable resource management systems to support and conserve biodiversity and genetic resources.
- o Supporting sustainable sourcing and environmental and social certification, harnessing and demonstrating the increasing demand, particularly amongst ASEAN's growing middle class, for sustainably produced FAF products.
- o Minimizing pre- and post-harvest loss and waste, increasing production efficiency, and the productive use of waste and by-products, including by investment in transport and storage infrastructure, partnerships for technological diffusion and research.
- o Encouraging sustainable consumption by incentivizing planning for reducing waste generation, using more environmentally friendly packaging, and lengthening product life cycles.
- o Putting in place robust institutions and systems of governance and natural resource planning and management, with ample space for participation of local communities and indigenous peoples in decision-making, and ensuring that responsible investment in FAF affirms and strengthens these institutions and systems of governance, and does not undermine them.

To achieve this, AMS may consider:

- o Ensuring comprehensive natural resource management systems, based on existing resource management laws, as well as indigenous peoples' and

local community's good practices and knowledge, to govern development of infrastructure, access and use, including:

- » Establishing the principles of managing water as a scarce economic resource to achieve efficient and equitable use, and to ensure the conservation and protection of water resources.
 - » Ensuring water access in line with human rights obligations and development commitments, with the government retaining primary responsibility for the delivery of water and sanitation for its population, and not relying solely on private investors to provide public services.
 - » Developing national forest plans that explicitly address investment as it relates to and impacts on key forestry issues such as conservation, invasive species, illegal logging, fires, and wildlife.
 - » Supporting forest management decentralization and devolution processes.
 - » Where necessary, using specific regulations to govern sensitive and critical areas and protected sites.
 - » Providing for inter-ministerial coordination, standard setting, planning and monitoring, between the relevant Ministries such as agriculture, forestry, environment and water.
- o Promoting alternative livelihoods in forested areas through community-integrated knowledge transfer activities, as well as supporting communities in the planting of crops and use of other agronomic practices which help to prevent soil erosion and other land degradation.

Guideline 6: Support the generation and diffusion of sustainable and appropriate technologies and practices for resource efficient, productive and safe FAF systems

- Responsible investment in FAF in ASEAN supports the generation and diffusion of sustainable technologies and practices for resource efficient, productive and safe FAF systems by:
 - o Investing in the necessary R&D infrastructure, human capacity, and the fostering of a 'lab to field' ethos for both the generation and diffusion of technology throughout FAF value chains, including better aligning foreign technologies with local needs and constraints.
 - o Adopting and supporting policy, regulatory and institutional arrangements that drive the development, commercialization and distribution of technologies, in furtherance of the Vision and Strategic Plan for ASEAN Cooperation in FAF. And concurrently giving consideration to technologies that enhance productivity, improve efficiency in the sustainable management and use of raw materials, natural resources, energy, and waste.
 - o Promoting collaboration and coordination amongst AMS for R&D, including

making the most of existing ASEAN structures for knowledge sharing, and leveraging private sector investment in innovation through strategic PPPs, in line with the ASEAN Public-Private Partnership Regional Framework for Technology Development in the FAF Sectors.

- o Supporting private sector partnerships and the use of inclusive business models to encourage technology transfer from large private investors to smallholder and SMEs.
- o Strengthening forums for information exchange, innovation and knowledge sharing between and amongst the private sector, scientists, research institutes, farmers and other key stakeholders.
- o Recognizing the importance and contribution of traditional knowledge and technologies to foster resource efficient, productive and safe FAF systems, and ensuring that collective intellectual property rights arising from such traditional knowledge and technologies are recognized and supported.

· To achieve this, AMS may consider:

- o Developing skills and recruiting personnel skilled in the commercialization of technology and PPP development in FAF.
- o Supporting the creation and adoption of new technologies by establishing national and regional systems of innovation, involving government, NGOs, the private sector and smallholder representatives.
- o Funding or subsidizing the initial procurement of new technologies for small holders and SMEs, to reduce their initial cost and catalyze technological progress in the country. Focusing, in particular, on appropriate technologies to assist small holders and SMEs improve productivity and product quality, comply with international market standards, and increase competitiveness.
- o Developing the capacity to screen and select investments that introduce sustainable technologies to contribute to the country's growth and sustainable development.
- o Seconding skilled government officers to an industry body to provide enterprise- or crop-specific technical support to smallholders.
- o Linking agricultural research institutions and NGOs involved in technology development and dissemination with larger investors to leverage the efforts of all parties for the benefit of smallholders.
- o Creating an enabling environment for public-private partnerships in knowledge transfer, agricultural technology generation and human resource development.
- o Providing effective legal and policy frameworks for intellectual property rights, including efficient regulatory approvals for new technologies, products and processes so the newest technology and innovation can be readily adopted.

Guideline 7: Increase resilience to, and contribute to the mitigation of and adaptation to climate change, natural disasters, and other shocks

- Responsible investment in FAF in ASEAN increases resilience to, and contributes to the mitigation of and adaptation to climate change, natural disasters, and other shocks by:
 - o Recognizing that FAF sectors have immense potential to contribute to climate change adaptation and mitigation measures. This includes through carbon sinks, reforestation, and conservation of natural forests, amongst other linkages. In so doing, responsible investment in FAF supports the ASEAN Multi-Sectoral Framework on Climate Change: Agriculture and Forestry Towards Food Security.
 - o Developing, testing and scaling up climate adaptation measures and effective, efficient and affordable strategies for climate resilience, complementing the ASEAN Regional Guidelines for Promoting Climate Smart Agriculture Practices.
 - o Encouraging the development of financial risk protection products for small holders and SMEs in respect of natural disasters and climate change, including through strategic PPPs, in line with the ASEAN Socio-Cultural Community Blueprint 2025.
 - o Recognizing, respecting and promoting indigenous and traditional knowledge and practices in sustainable crop management measures, natural resource management and other methods of climate change adaptation in FAF.
 - o Acknowledging and responding to the heightened vulnerability of women, youth, children, older persons, persons with disabilities, migrant workers, ethnic minority groups and other vulnerable and marginalized groups including those living in at-risk areas.
- To achieve this, AMS may consider:
 - o Increasing public funds for research and extension services to support climate change mitigation and adaptation, including through:
 - » Increasing investments for mitigation and adaptation technologies, including the development of climate resilient varieties.
 - » Building capacity of government official, small holders, SMEs and local communities to disseminate and apply high-quality research through shared ASEAN experiences.
 - o Developing legal and policy frameworks to harness the private sector to find diverse and innovative insurance products and services that consider the risks arising from the increased frequency of droughts, floods and other extreme weather-related events, with a particular focus on the role of ICT given that over 90 per cent of the global top 100 ICT companies are present in ASEAN.
 - o Identifying specific areas of action required in respect of climate change measures and encouraging investors to pay sufficient attention to them.

Guideline 8: Respect the rule of law and incorporate inclusive and transparent governance structures, processes and grievance mechanisms

- Responsible investment in FAF in ASEAN should respect the rule of law and incorporate inclusive and transparent governance structures, processes and grievance mechanisms by:
 - o Abiding by national laws in letter and in spirit;
 - o Refraining from engaging in corrupt practices and bribery;
 - o Proactively sharing information relevant to an investment, in an inclusive, accessible, and transparent manner at all stages of the investment cycle, to level the playing field between investors and affected communities, mitigate potential conflicts, and facilitate monitoring of investment projects and their compliance with contractual and community agreements;
 - o Promoting access to transparent and effective mediation, grievance, and dispute resolution mechanisms, including respecting traditional and customary governance and grievance mechanisms and customary law processes for dispute resolution, particularly for vulnerable and marginalized groups, indigenous peoples and local communities.
 - o Taking actions to address any legacy issues, for instance through an early-stage grievance mechanism, review of past contracts, environmental and social impact assessments (including cultural impact considerations) or an independent land assessment in post-conflict situations.
 - o Consulting meaningfully and responsively with groups and individuals affected by investment decisions, with due regard to power asymmetries, to ensure their active, free, effective, genuine and informed participation in those decisions. This includes seeking consent from indigenous peoples and local communities, as per their right to free, prior and informed consent throughout the investment period. This principle recognizes that consultation processes should be differentiated according to the size of the investment;
 - o Promoting a policy, legal, regulatory, and institutional environment, that treats all FAF investors fairly and equitably, and that is transparent, coherent, consistent, and predictable.
- To achieve this principle, AMS may consider:
 - o Establishing guidelines for the periodic reporting and disclosure of information, including:
 - » Publishing details of prospective investors (name, registered office, and contact), information about the bidding and screening process, as well as details of potential projects such as the incentives on offer.

- » Ensuring the above documents and information are accurate, published early, and kept up-to-date throughout the life cycle of the investment project.
- » Making disclosed information accessible to all stakeholders, taking into consideration their diversity and levels of understanding, for instance by developing simple summaries in local languages.
- » Ensuring that the relevant information, documents and grievance issues pertaining to an existing investment (or parcel of land where no past investment has occurred) are made available to a future investor.
- » Ensuring consistency of reporting standards between small and large investors, to aid in the comparison of reported information.
- o Strengthening access for local communities and indigenous peoples to pro bono legal services and legal aid.
- o Providing guidance for investors on good practices and processes for conducting community consultations and negotiations, monitoring investors to ensure that they engage and negotiate meaningfully with affected communities, including overseeing the use of grievance redress mechanisms, and ensuring that barriers to the effective participation of affected communities are addressed.
- o Ensuring access to effective, affordable remedies through the courts or other legitimate non-judicial process, where a grievance redress mechanism is unable to resolve a grievance.
- o Supporting an enabling policy, legal, regulatory, and institutional environment for FAF investors, including by:
 - » Enabling the meaningful participation of stakeholders in FAF investment policy-making, and providing opportunities for feedback and dialogue on the implementation of laws and policies.
 - » Improving coordination and communication between different levels of government;
 - » Promoting equal access to information, services, incentives, resources, and government bodies, and non-discriminatory enforcement of laws and regulations in accordance with national laws;

Guideline 9: Assess and address impacts and promote accountability

- Responsible investment in FAF in ASEAN includes mechanisms to assess and address economic, social, environmental, and cultural impacts, and promotes accountability, particularly in respect of vulnerable and marginalized groups, indigenous peoples and local communities, by:
 - o Requiring and conducting independent and transparent impact assessments involving all relevant stakeholder groups, in particular the most vulnerable and marginalized.
 - o Defining baseline data and indicators for monitoring and impact measurement, with input from the local community and indigenous peoples.
 - o Effectively screening investors and investment projects to ensure that the investor and the project align with national development priorities and the needs of communities, and accord with ASEAN FAF responsible investment principles.
 - o Identifying impact mitigation measures to address negative impacts, including the option of not proceeding with an investment, and ensuring effective, ongoing implementation of those measures.
 - o Ensuring that these assessments are publicly available and accessible.
 - o Regularly assessing changes and communicating results to stakeholders.
 - o Implementing appropriate and effective remedies and/or compensation for negative impacts, and breach of national laws or contractual obligations.
- To achieve this, AMS may consider:
 - o Strengthening the implementation and enforcement of relevant impact assessment regulations pertaining to FAF investments.
 - o Strengthening the integration of the results of impact assessments into management plans.
 - o Ensuring ongoing monitoring and periodic reviews of impacts by relevant agencies and encouraging the cooperation of other stakeholders in monitoring activities, such as local communities, civil society, private sector organisations, and making the results of monitoring activities publicly available.
 - o Putting in place effective and efficient screening processes for large-scale investors

Guideline 10: Strengthen regional approaches to responsible investment in FAF in ASEAN and

- Regional approaches to responsible investment in FAF in ASEAN are strengthened through:
 - o Promoting harmonization of FAF standards, regulations and approaches while allowing flexibility according to individual AMS levels of development
 - o Preventing the 'race to the bottom' that undermines responsible investment in FAF and instead promoting a 'race to the top' by providing incentives for socially and environmentally responsible business practices.
 - o Collaborating on capacity building activities and regional initiatives and networks to share information and raise regional standards.
- To achieve this, AMS may consider:
 - o Developing shared approaches to FAF investment promotion and facilitation, sharing information on investments requiring cross-ASEAN financing and expertise, discouraging 'race to the bottom' investment promotion practices and encouraging a 'race to the top' in investment promotion practices.
 - o Promoting intra-regional assistance, experience sharing and capacity building on issues related to responsible investment in FAF to strengthen AMS governments' capacity on legal, policy and implementation issues.
 - o Building upon and upholding existing international good practices and standards mentioned in these Guidelines, for example the principles of Free, Prior and Informed Consent (FPIC), IFC Performance Standards, FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT), and UN Guiding Principles for Business and Human Rights.
 - o Promoting bilateral cooperation between home and host countries to jointly monitor the performances of FDI in FAF and harmonize regulations to ensure the principles of these guidelines are maximized in existing and future FDI.

ROLES AND RESPONSIBILITIES OF OTHER STAKEHOLDERS

Although the Guidelines are primarily addressed to AMS as host states, there are crucial roles and responsibilities for all FAF stakeholders, particularly agribusinesses and large-scale investors, but also smallholders, cooperatives, farmers, forest producers, small scale forest enterprises, SMEs, communities, civil society, financial institutions and home states. Ultimately, all stakeholders should strive to follow these guidelines, in accordance with their respective abilities and needs, and as appropriate in the context of each individual AMS.

Agribusinesses and large-scale investors in FAF, including foreign investors

- Ensure that investments support local food availability and diversity, including by:
 - o Assessing and mitigating a project's impact on local food security and nutrition during the feasibility and impact assessment phase, particularly those most likely to be food insecure, including women, youth, indigenous peoples and local communities, indigenous groups, and pastoralists.
 - o Discussing and documenting food security and nutrition implications during local community consultations.
 - o Providing decent, stable and well-paying jobs, and paying fair prices to out-growers, to enable the purchase of quality, diverse, safe and nutritious food.
- Contribute to inclusive equitable, sustainable and inclusive economic development by:
 - o Assisting local businesses to acquire the necessary knowledge and technology, on mutually agreed terms, to meet the higher quality and performance standards of the investor.
 - o Helping nurture local entrepreneurship, for instance by supporting employees to establish businesses.
 - o Where possible, taking measures to lessen negative impacts of pricing policies and marketing on small holders and local businesses.
- Support women's inclusion in decision-making, meaningful employment and economic empowerment by:
 - o Actively promoting women's participation in all facets of community engagement, consultations
 - o Building a diverse talent pipeline at all levels of the organization, and particularly at senior manager/director levels.

- o Adopting employment practices such as anti-discrimination and harassment policies and training.
- Assist youth in developing the skills needed to integrate into the FAF sector, including:
 - o Offering fast-tracked training, internships, and mentoring opportunities.
 - o Providing scholarships and loan schemes.
 - o Targeting youth for participation in outgrower programs.
 - o Supporting youth entrepreneurship in FAF.
 - o Undertake partnerships with civil society organizations that work on youth empowerment or that support youth engagement in local development.
- Respect local communities' tenure of land, fisheries, and forests by:
 - o Understanding the local context, applicable land tenure system and processes, before entering into negotiations directly with the local legitimate tenure rights holders, including through local land committees dealing with different aspects of land management in the community.
 - o Taking all possible measures to prevent the displacement and resettlement of legitimate tenure rights holders, and where unavoidable, ensuring that any resettlement is done in accordance with the principles of international best practice referred to above.
 - o Ensuring the active, free, effective and meaningful consent of communities on any decision related to land, water and other natural resources, building in adequate time for addressing questions and concerns prior to a decision being made.
 - o Where the government has already "prepared" the land parcel, or where taking over an existing land lease, undertaking a retrospective review of procedures to make certain that international standards were met.
- Respect local communities' access to water by:
 - o Highlighting potential impacts on local water access and quality in representative and inclusive local community consultations, taking into account the views and needs of marginalized groups.
 - o Conducting environmental and social impact assessments to assesses the impact of the project on social and environmental water availability, and developing a management plans to mitigate the negative impacts identified in accordance with national regulations and international best practice.
 - o Ensuring a sustainable net positive effect on community water access, especially in large projects.

- Support the generation and diffusion of sustainable technologies and practices by:
 - o Understanding smallholders' and SMEs' barriers to improved technology, and developing strategies to mitigate them, considering issues of food security, storage and road infrastructure, skills and education levels, and financial resources.
 - o Recognizing that a longer period may be necessary in vulnerable communities before the benefits of technology and returns on investment become apparent and putting in place strategies for financial risk management.
 - o Involving representatives of communities, small holders and SMEs in technology decision-making processes early on, to ensure technologies are appropriate and well adapted for local needs.
 - o Investing in strong after-sales technical support and product stewardship programmes to ensure proper use of new technologies, and to prolong the useful life of biological technologies like improved seeds.
 - o Training well-known local producers and SMEs, or establishing field schools, to demonstrate the application and results of the technology and help it spread.
 - o Incentivizing technology use and reducing risks of failure by providing services to support adoption, such as financing, tech-support, and access to markets for increased outputs.
 - o Investing in local research and development activities, and building the capacity of local employees to develop and use new technologies.
- Play a role in increasing resilience, mitigation and adaptation to climate change, natural disasters, and other shocks, including by:
 - o Supporting research, including by participating in PPPs.
 - o Using national, regional, and international (in the case of ASEAN's many FAF multinationals) networks to help introduce, disperse and scale-up the use of best practice crops, technologies, and methods at all stages in the value chain.
 - o Working with local communities, small holders and SMEs to encourage and support their adoption and effective use of climate-smart mitigation and adaptation practices.
 - o Avoiding FAF business practices that negatively contribute to climate change.
- Promote meaningful community engagement and accountability, by:
 - o Understanding the local community context, by mapping the demographic profile, any marginalized and indigenous people, power dynamics, livelihood sources, and key stakeholders.
 - o Establishing effective communication, transparency, and trust with communities early in the investment process, including through use of a documented community engagement strategy.

- o Actively disclosing all relevant, non-commercially sensitive information in a way that is understandable to communities, in accordance with national laws and international best practice.
- o Training staff to deal respectfully and with appropriate cultural sensitivity with community members.
- o Putting in place a grievance resolution mechanism that:
 - » Is designed in consultation with users so it is relevant and appropriate
 - » Is well publicized, with clear, sequential and transparent procedures, including a fast-track process to quickly resolve high-priority complaints.
 - » Does not purport to substitute for—nor obstruct—judicial and administrative remedies, such as mediation or arbitration
 - » Is regularly evaluated against objective indicators

Effectively assess, address and monitor investment project impacts by:

- o Assessing likely environmental and social impacts at the planning stage, ensuring the management of these impacts is built into the project design, costing and implementation, and if necessary, abandoning the project where negative impacts are too significant.
- o Treating environmental and social impact assessments and management plans as dynamic tools to regularly monitor environmental and social performance throughout operations, including assessment of previously identified risks as well as new risks.
- o Using a management information system to provide appropriate, up-to-date information required by a monitoring agency or advocacy group, and to manage communications from affected communities.
- o Using technology in monitoring and recording, such as remote-sensing systems, GPS, and GIS.
- o Monitoring accidents, injuries, and the general health of workers, and implementing mitigation and corrective actions and preventive policies and procedures.
- o Using independent third parties and certification bodies to ensure compliance with good international practice.

Contribute to strengthening regional approaches to responsible investment in FAF in ASEAN, including by:

- o Joining regional and global FAF organizations, which pledge to comply with generally accepted principles of sustainability, such as the Global Agribusiness Alliance or Sustainable Rice Platform.
- o Being cognizant of the externalities arising from their investments in one AMS that may impact on neighboring AMS and support regional mitigation measures should this be anticipated.

Small holders and SMEs

- Small holders and SMEs can help support the implementation of the Guidelines by:
 - o Participating in opportunities and forums for information, technology and knowledge exchange, including sharing local and traditional practices in sustainable crop management measures and other methods of climate change adaptation in FAF.
 - o Proactively engaging with investor-led business development and training programs designed to support local businesses to engage meaningfully and productively with the investment project.
 - o Creating and maintaining strong and inclusive producer's cooperatives and SME networks to collectively and effectively represent the interests of small holders and SMEs in government and investor decision-making processes regarding FAF investments.
 - o Considering the above recommendations to larger investors and applying them to the highest degree possible, especially in support of communities and vulnerable groups, noting that SMEs are significant investors in FAF, including cross-border investments.

Communities

Communities can help support the implementation of the Guidelines by:

- o Establishing a representative body to engage with investors, including a cross-section of the community so all voices can be heard; for example, traditional and administrative authorities, directly affected community members, vulnerable groups (e.g. women and youth), and migrant workers.
- o Using representative bodies to engage in activities that promote awareness of and respect for the rights of all groups within the community.
- o Putting in place a memorandum of understanding with investors on how the relationship and engagement between the parties will be conducted, including establishing protocols for communications (for example, use of community notice boards, localized meetings, radio, and newsletters).
- o Holding community forums to which important decisions can be referred and at which general information can be provided about investment decisions.
- o Participating in available training and capacity development programs designed to support local populations to engage meaningfully and positively with the investment project, including by participating effectively in negotiations, and seeking support from NGOs and independent advisory groups where needed.
- o Taking an active role in consultations, ensuring the voices of marginalized groups within the community can be heard, so that the full cross section of community interests, concerns and questions are taken into consideration in investment decisions and social and environmental impact assessment and planning.

- o Participating in knowledge sharing processes regarding indigenous and traditional practices in sustainable crop management measures and other methods of climate change adaptation in FAF.
- o Taking part in community-based monitoring of investment projects, where appropriate.

Civil society

- Civil society groups can help support the implementation of the Guidelines by:
 - o Considering how the guidelines can be reflected in and operationalized by their own workstreams and programmes.
 - o Assisting states to implement aspects of the guidelines, such those related to equitable, sustainable and inclusive economic development, accountability, respecting land and natural resource tenure and the rule of law. To be able to carry out its roles and responsibilities effectively and to support the implementation of the guidelines, civil society requires ample civic space to be able to operate freely and effectively in all AMS.
 - o Partnering with other stakeholders, including agribusinesses and communities, to support 'on the ground' implementation of these guidelines, for example, helping communities to understand and apply the content of the guidelines, and advising agribusinesses on topics such as local dynamics and socially inclusive community consultations, as well as conducting robust monitoring and assessment of investment projects.
 - o Using the guidelines to strengthen and legitimize their own campaigning, education and advocacy activities around investment in FAF in ASEAN, and in turn advocating for the implementation by the Guidelines by other stakeholders.
 - o Supporting community groups and producers' cooperatives with specialized training and capacity development programmes on their rights, local laws and regulations, as well as negotiation skills, to enable them to engage more effectively in investment decision making, for instance through support in practical skills such as understanding negotiation processes and legal documents, minute taking, public speaking, organizing socially inclusive meetings, community-based monitoring and preparing position statements.

Financial sector actors

- Financial sector actors can help support the implementation of the Guidelines by:
 - o Developing insurance and other financial products, which take into account risks from climate change and natural disasters and incentivize mitigation activities, and products that are adapted to the needs of smallholders.
 - o Using innovative financial technologies to efficiently determine credit worthiness, deliver funds, and generally increase access to finance.
 - o Funding FAF investment projects that adopt the principles of responsible investment embodied in these Guidelines, including requiring comprehensive and rigorous human rights due diligence for investment project affecting indigenous peoples, local communities and other marginalized groups.

Home countries

- Home states of AMS investors can help support the Guidelines by:
 - o Respecting and recognizing the right to food of host country populations when devising food security strategies based on outward investment to export food from host states.
 - o Building partnerships to promote investment that is sustainable and provide appropriate and responsible incentives.
 - o Coordinating with host states to implement investment projects, in accordance with the laws and regulations of the home state, and the principles of the UNCTAD Investment Policy Framework for Sustainable Development (2015).

Giving effect to the principles of these guidelines by regulating the business activities of outward investors, including through extra-territorial application of domestic laws.

Annex Table 1. Key overarching principles or guidelines for responsible agricultural investment specific to agriculture, food, and land.

Name	Organization	Purpose, structure, and coverage
Committee on World Food Security, Principles for Responsible Agriculture and Food Systems (CFS -RAI)	CFS (2014)	<ul style="list-style-type: none"> Approved by the 41st Session of the UN General Assembly on 15 October 2014. Address all types of investment in agriculture and food systems—public, private, large, small—and in the production and processing spheres.
IFC Performance Standards on Environmental and Social Sustainability (IFC-PS)	IFC (2012)	<ul style="list-style-type: none"> Clients required to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced. Taken on board by the Equator Principles and thereby adopted by a large number of lending institutions.
Food and Agriculture Business Principles (UN FAB)	UN Global Compact (2014)	<ul style="list-style-type: none"> Voluntary to embrace the principles and report annually on progress. Based on 16 factors: yield and productivity, workers' rights, optimal use of soil and water, land use and rights, women and gender equality, climate change, waste management, biodiversity, institutions and infrastructure, protection of children, energy efficiency, health and nutrition, animal and marine welfare, supply chains and trade, small-scale farmers and co-ops; and value chain financing.
OECD-FAO Guidance for Responsible Agricultural Supply Chains	OECD-FAO (2016)	<ul style="list-style-type: none"> Guidance on responsible behavior by investors insupply chains. Covers a broad range of themes from land tenure and social responsibility to food security and governance processes
Responsible Land-Based Investment: Practical Guide for the Private Sector	USAID (2014)	<ul style="list-style-type: none"> Recommendations for best practices related to due diligence and structuring of land-based investments. Organized in five steps to follow the life cycle of an investment, from the initial stage of due diligence and assessments, to pre-project community engagement, to contract negotiation, project operations, and post-project closeout.
Principles for Responsible Agriculture Investment that Respects Rights, Livelihoods and Resources (PRAI)	UNCTAD, FAO, IFAD, and World Bank (2010)	<ul style="list-style-type: none"> Expected benefit: application of the principles to agricultural investments will reduce the degree of negative externalities and raise the likelihood of positive impacts.
Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT)	FAO (2012)	<ul style="list-style-type: none"> Voluntary guidelines to support the progressive realization of the right to adequate food in the context of national food security (Voluntary Guidelines on the Right to Food). Principles and internationally accepted standards of responsible practices for the use and control of land, fisheries, and forests.

Source: UNCTAD and World Bank.

Annex Table 2. ASEAN: Population and income data and estimates, various years

Member State	Pop., mid-2017 (millions)	GNI per capita PPP (international \$) 2016	Life expectancy at birth (years)		Urban pop. (per cent of population) (2016)	Agriculture as a percentage of GDP (2015)	Pop., mid-2050 (millions)	Pop. age 15–24, mid-2050 (millions)
			Men	Women				
Brunei Darussalam	0.4	83,250	75	79	77	1.1	0.5	0.1
Cambodia	15.9	3,510	66	71	21	28.2	21.8	3.2
Indonesia	264.0	11,220	67	71	54	14.0	321.6	44.2
Lao PDR	7.0	5,920	65	68	40	24.8	9.3	1.3
Malaysia	31.6	26,900	73	77	75	8.6	41.7	5.3
Myanmar	53.4	5,070	64	69	35	26.7	62.4	8.6
Philippines	105.0	9,400	66	73	45	10.3	151.4	23.9
Singapore	5.7	85,050	81	85	100	0.0	6.5	0.6
Thailand	66.1	16,070	72	79	49	9.1	62.6	6.0
Viet Nam	93.7	6,050	71	76	33	18.9	108.2	12.4
ASEAN	642.8	11,376	68	73	48	[na]	786.0	105.6

Source: Population Reference Bureau (prb.org) and ADB.

Annex Table 3. Selected top ASEAN MNEs in agriculture by total assets, 2016

(\$ millions)

Company	Home country	Total MNE assets (\$ millions)	Presence (number of countries in which present)		Number of principal subsidiaries in ASEAN)	ASEAN Member States in which present (excluding home economy)
			Foreign (non-ASEAN)	ASEAN		
Olam International Ltd	Singapore	16,200	50	5	12	Malaysia, Indonesia, Viet Nam, Lao PDR, Thailand
Felda Global Ventures Holdings Bhd	Malaysia	4,687	15	5	10	Indonesia, Cambodia, Lao PDR, Singapore, Thailand
Kuala Lumpur Kepong Bhd	Malaysia	4,423	33	4	74	Indonesia, Singapore, Lao PDR, Viet Nam
IOI Corp Bhd	Malaysia	4,364	15	2	42	Indonesia, Singapore
Boustead Holdings Bhd	Malaysia	3,997	32	9	60	Indonesia, Singapore, Thailand, Lao PDR, Brunei Darussalam, Philippines,
Selat (Pte) Ltd	Singapore	3,006	27	8	358	Malaysia, Thailand, Indonesia, Viet Nam, Philippines, Brunei Darussalam, Cambodia, Myanmar,
Indofood Agri Resources Ltd	Singapore	2,716	6	2	49	Indonesia, Philippines
Hap Seng Consolidated bhd	Malaysia	2,613	6	4	35	Singapore, Thailand, Viet Nam, Indonesia
Japfa Ltd	Singapore	2,525	8	3	33	Indonesia, Vietnam, Myanmar
PT Astra Agro Lestari	Indonesia	1,803	1	1	1	Singapore
Genting Plantations Bhd	Malaysia	1,751	6	2	34	Singapore, Indonesia
PT Eagle High Plantation	Indonesia	1,209	1	1	2	Singapore
PT Bakrie Sumatera Plantations	Indonesia	1,094	5	1	1	Singapore
TSH Resources Bhd	Malaysia	782	9	2	18	Indonesia, Singapore
Kluang Rubber Co Bhd	Malaysia	278	26	6	113	Singapore, Thailand, Indonesia, Viet Nam, Brunei Darussalam, Myanmar

Source: ASEAN Secretariat, based on data extracted from Bureau van Dijk's Orbis database.

Note:

1. This table provides an "order of magnitude" insight on key ASEAN MNEs, not a ranking per se. Total MNE assets are a firm's global consolidated total assets. However, firms' shares of assets overseas differ (such data are scarce for many ASEAN MNEs). Some MNEs do not provide sufficient details about their assets. Companies with complex structures, e.g. those with a holding company, do not appear separately from their major subsidiary companies, where the latter are companies in their own right. There are several issues concerning prospective MNEs owned by States; e.g. many are not listed and do not provide financial data, while others are not primarily engaged in FDI. Thus, State-owned enterprises that operate subsidiaries overseas are included, but not sovereign wealth funds because their overseas investments are primarily portfolio in nature. The asset numbers mainly reflect the scale of these top MNEs' investments in ASEAN, but they should not be used as a basis for a definitive ranking; and the potential scale and significance of excluded MNEs for the reasons given should be borne in mind.
2. The industry type indicated for each MNE in this table is that assigned to the parent company by ORBIS; local subsidiaries might be involved in different industries and activities.

Annex Table 4. Foreign subsidiaries in and from selected ASEAN Member States, 2016

	Number of firms from this AMS with foreign subsidiaries	Number of firms from other ASEAN countries in this AMS.	Number of non-ASEAN firms in this AMS
INDONESIA	4	-	7
MALAYSIA	51	10	8
PHILIPPINES	-	-	4
SINGAPORE	4	-	5
THAILAND	4	6	18
VIETNAM	2	4	7

Source: Bureau van Dijk's Orbis database

Annex Table 5. Breakdown of ASEAN firms in agricultures, forestry and fishing by AMS and size, 2016

	Total Number of firms (in database)	Number of firms with data on assets	Small firms (up to \$3 million)	Medium firms (up to \$15 million)	Large firms (above \$15 million)
CAMBODIA	21	-	-	-	-
INDONESIA	1076	34	1	2	31
LAO PDR	1572	-	-	-	-
MALAYSIA	1263	1147	618	261	268
MYANMAR	28	-	-	-	-
PHILIPPINES	1087	709	578	95	36
SINGAPORE	14	7	1	0	6
THAILAND	5117	4986	4517	350	119
VIET NAM	4580	3808	3401	283	124

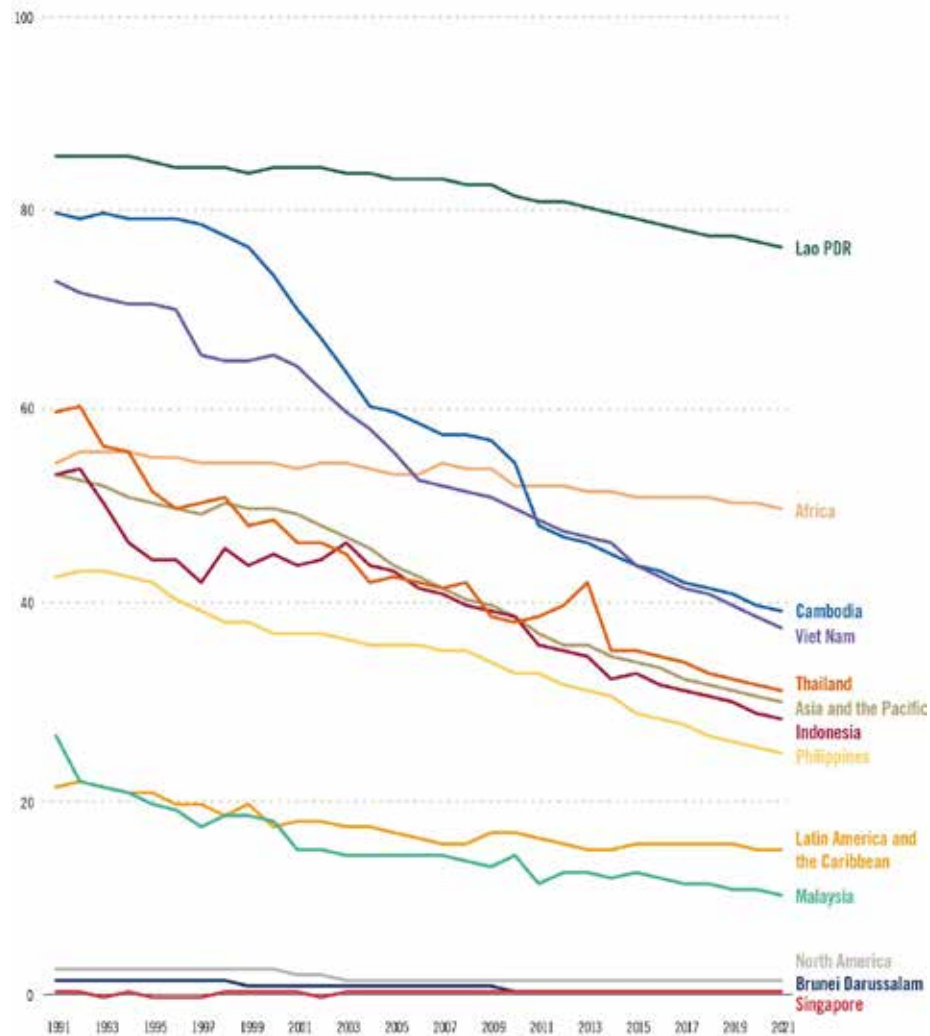
Source: Bureau van Dijk's Orbis database.

Note: Formally established and registered firms captured by the BvD Orbis Database. Based on Malaysian government numbers, the database captures information on only 10-15 per cent of all enterprises in agriculture and forestry. This share might be less for other AMS, especially CLMV. Moreover, only a subset of these provide data on their assets (and other indicators). Data on Brunei are not available.

Annex Figure 1.

ASEAN: share of population earning an agricultural livelihood, 1991–2021

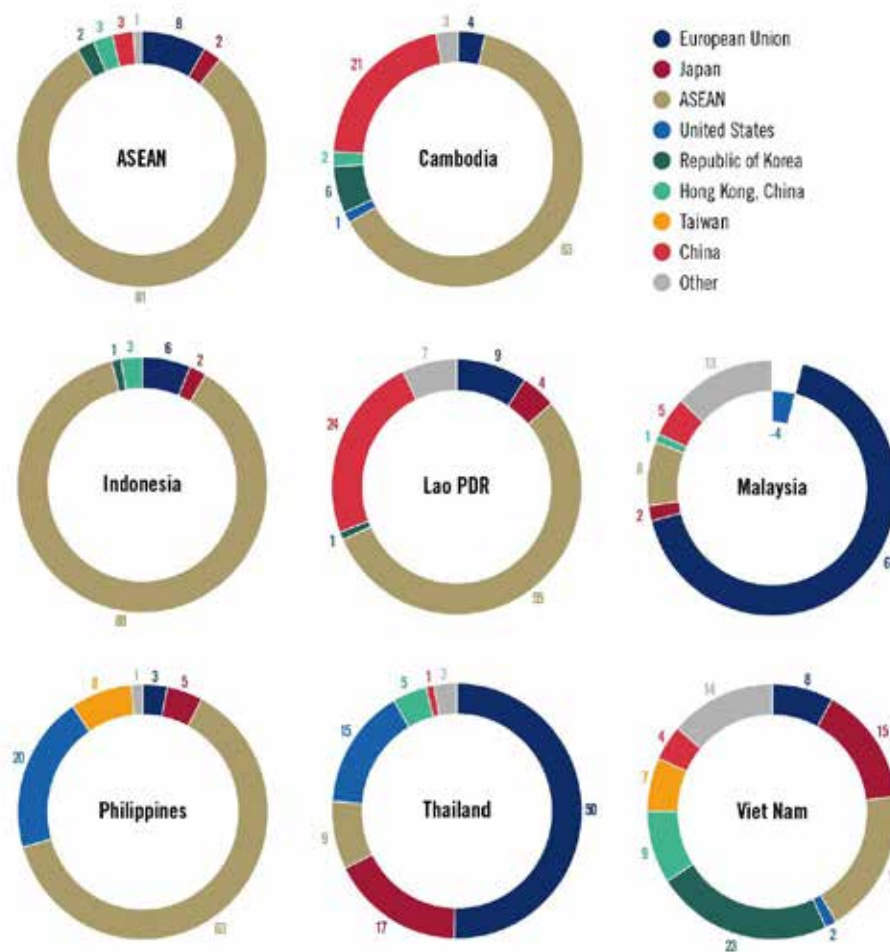
(Estimated)



Source: ILOSTAT.
Note: Data for Myanmar on the same basis are not available.

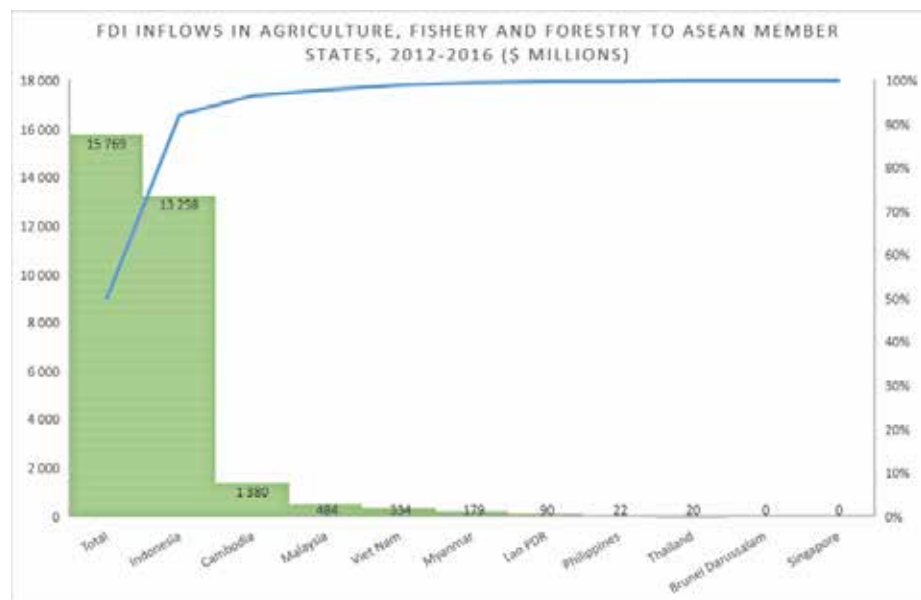
Annex Figure 2.

ASEAN: agriculture, forestry, and fishing FDI inflows by source economy, 2010–2016 (Per cent of total)



Source: ASEAN Secretariat.

Annex Figure 3.



REFERENCES

- ⁱ Mirza, H., Buckley, P., Hanni, M., Konara, P., Sexsmith, K. and Sturgeon, T. "ASEAN at 50: A historic milestone for FDI and MNEs in ASEAN." ASEAN Secretariat (2017).
- ⁱⁱ Mirza, H., Speller, W., Dixie, G., and Goodman, Z. "The Practice of Responsible Investment Principles in Larger Scale Agricultural Investments: Implications for Corporate Performance and Impacts on Local Communities." Agriculture and Environmental Services Discussion Paper. World Bank (2014).
- ⁱⁱⁱ Shohibuddin, Mohamad, Maria Lisa Alano, and Gerben Nootboom. "Sweet and bitter: Trajectories of sugar cane investments in Northern Luzon, the Philippines, and Aceh, Indonesia, 2006–13." Large-scale land acquisitions: Focus on South-East Asia (2015): 108-135.
- ^{iv} Karlsson, "Challenges and opportunities of foreign investment in developing country agriculture for sustainable development" FAO (2014); and Picard, F., Coulibaly, M., and Smaller, C. The Rise of Agricultural Growth Poles in Africa. IISD (2017)
- ^v Karlsson, "Challenges and opportunities of foreign investment in developing country agriculture for sustainable development" FAO (2014); and Picard, F., Coulibaly, M., and Smaller, C. The Rise of Agricultural Growth Poles in Africa. IISD (2017)
- ^{vi} FAO 2014a: Liu, Pascal. "Impacts of foreign agricultural investment on developing countries: evidence from case studies." FAO Commodity and Trade Policy Research Working Papers 47 (2014).
- ^{vii} Fiedler, Y., & lafrate, M. (2016). Trends in foreign direct investment in food, beverages and tobacco. FAO Commodity and Trade Policy Research Working Papers, (51), 1.
- ^{ix} Golay, Christophe. "Identifying and Monitoring Human Rights Violations Associated with Large-Scale Land Acquisitions." Development Policy: 231.
- ^x Justine Sylvester and Phouvong Phaophongsavath, "Searching for common ground: insights from a multi-stakeholder approach towards responsible agricultural investment in Lao PDR", Village Focus International, Lao PDR (2017).
- ^{xi} Current Status of Forest Concessions in Southeast Asia Barney Chan, FAO 2016
- ^{xii} Zhan, J., Mirza, H., & Speller, W. (2015). The Impact of Larger-Scale Agricultural Investments on Communities in South-East Asia: A First Assessment. Development Policy, 81.
- ^{xiii} Tagliarino, N. 2016. "Encroaching on Land and Livelihoods: How National Expropriation Laws Measure Up

Against International Standards.” Working Paper. Washington, DC: World Resources Institute. Available online at <http://www.wri.org/publication/encroaching-on-land-and-livelihoods>.

^{xiv} Mekong Regional Land Governance Programme, ‘Experience of Agribusiness Investment in Lao PDR,’ 2016.

^{xv} Messerli, P., Peeters, A., Schoenweger, O., Nanthavong, V., & Heinemann, A. (2015). Marginal land or marginal people? Analysing patterns and processes of large-scale land acquisitions in South-East Asia. *International Development Policy*.

^{xvi} Gironde, Christophe, and Gilda Senties Portilla. “From lagging behind to losing ground: Cambodian and Laotian household economy and large-scale land acquisitions.” *Large-scale Land Acquisitions: Focus on South- East Asia*. Brill Nijhoff, Leiden & Boston (2015): 172-204.

^{xvii} Smaller, C., and W. Speller, with H. Mirza, N. Bernasconi-Osterwalder, and G. Dixie. 2015. *Investment*

Contracts for Agriculture: Maximizing Gains and Minimizing Risks. Washington, D.C.: World Bank Group; New York: United Nations; and Win- niipeg: International Institute for Sustainable Development (IISD).

^{xviii} Daley, 2013, *The Gender and Equity Implications of Land Related Investments on Land Access and Labour and Income-Generating Opportunities: A Case Study of Selected Agricultural Investments in LAO PDR*, FAO, Rome.

^{xix} Vermeulen, S. and Cotula, L., 2010, *Making the most of agricultural investment: a survey of business models*

that provide opportunities for smallholders, IIED/FAO/IFAD/SDC, London/Rome/Bern

^{xx} Eaton, C. and Shepherd, A., 2001, *Contract farming: partnerships for growth*. FAO *Agricultural Services Bulletin* 145.

^{xxi} Asian Development Bank, ‘Myanmar: Unlocking the Potential’ *Country Diagnostic Study*. Economics and Research Department, August (2014).

^{xxii} Dwyer, M. B., Polack, E., & So, S. (2015). ‘Better-practice’ Concessions? Some Lessons from Cambodia’s Leopard Skin Landscape. *International Development Policy* 6(6).

^{xxiii} Interlaken Group (2017), *Land Legacy Issues: Guidance on Corporate responsibility* (http://www.interlakengroup.org/downloads/Interlaken_Group_Land_Legacy_Guidance-67109ad801cc7478fb8be798115b72d1.pdf?vsn=d); CDC and DEG (2016), “A guidance note on managing

legacy issues in agribusiness investments” (https://www.deginvest.de/DEG-Documents-in-English/Download-Center/DEG_CDC_Guidance-Note-on-Managing-Legacy-Land-Issues-in-Agribusiness-Investments-_2016_en.pdf)



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**ASEAN PUBLIC-PRIVATE PARTNERSHIP REGIONAL
FRAMEWORK FOR TECHNOLOGY DEVELOPMENT
IN THE FOOD, AGRICULTURE AND FORESTRY (FAF) SECTORS**

2017

TABLE OF CONTENTS

LIST OF ABBREVIATIONS	3
GLOSSARY OF TERMS	4
1. BACKGROUND	5
2. OBJECTIVE	5
3. DEFINITIONS AND SCOPE OF PPP	6
4. ASEAN PPP REGIONAL FRAMEWORK	7
4.1. Policy and legal framework for PPP in TDFAF.....	7
4.2. Institutional framework and Roles and Responsibilities.....	9
4.3. Development and Implementation of PPP for TDFAF.....	9
4.4. Areas of cooperation.....	11
4.5. Procedures for Project Development and Implementation.....	11
5. PPP DRIVERS AND SUITABILITY	13
5.1. Phases of a R&D and commercialisation along value chain.....	13
5.2. Drivers of partnership with the private sector.....	14
6. ACTION PLAN TO PROMOTE THE IMPLEMENTATION OF THE PPP FRAMEWORK ..	15
6.1. PPP Awareness and Opportunity Identification.....	15
6.2. Capacity Building and PPP Readiness Tools.....	16
6.3. Public Private Dialogue and PPP Platform.....	17
7. IMPLEMENTATION AND GOVERNANCE	17

LIST OF ABBREVIATIONS

AMS	ASEAN Member States
ASEAN	Association of Southeast Asian Nations
ASOF	ASEAN Senior Officials on Forestry
ASWGC	ASEAN Sectoral Working Group on Crops
ASWGFi	ASEAN Sectoral Working Group on Fisheries
ASWGL	ASEAN Sectoral Working Group on Livestock
ATWGARD	ASEAN Technical Working Group on Agricultural R&D
CGIAR	Consultative Group on International Agricultural Research
CSA	Climate Smart Agriculture
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
EIU	Economist Intelligence Unit
ERIA	Economic Research Institute for ASEAN and East Asia
ESCAP	Economic and Social Commission for Asia and the Pacific
FAF	Food, Agriculture, and Forestry
FO	Farmers' Organisation
NARS	National Agricultural Research System
M&E	Monitoring and Evaluation
MSMEs	Micro, Small and Medium Enterprises
PPP	Public-Private Partnership
R&D	Research and Development
S&T	Science and Technology
SEARCA	Southeast Asian Regional Centre for Graduate Studies and Research in Agriculture
SOM-AMAF	Senior Officials Meeting – ASEAN Ministers of Agriculture and Forestry
SPS	Sanitary and Phytosanitary
TDFAF	Technology Development for Food, Agriculture, and Forestry

GLOSSARY OF TERMS

Benefit-cost analysis: a systematic method for estimating and comparing benefits and costs of a project.

Commercialising partnerships: PPP in which NARS and Ministries transfer research findings and materials to private firms for commercialisation, marketing, and distribution.

Contracting partnerships: PPP in which NARS and Ministries partner with private enterprises with facilities or expertise to conduct parts of their research.

Frontier research partnerships: PPP in which NARS and Ministries, together with private enterprises jointly undertake frontier research activities.

Impact pathway: a detailed description of actions or activities, and expected causal linkages to intended outputs, outcomes, and impacts.

Priority setting: in research, the process of identifying R&D options and stating priorities over these options, based on a pre-specified set of criteria, and following a systematic method.

Private - public partnership: a contractual agreement between the Government and private firm/s targeted towards financing, designing, implementing and operating infrastructure, facilities and services that were traditionally provided by the public sector.

Public goods: a good or service provided without profit to all members of a society, either by government, or a private individual or organisation.

Resourcing partnerships: PPP in which NARS and Ministries of Agriculture, Forestry and Fisheries, partner with philanthropic foundations associated with private enterprises for funding or receive scientific expertise from private enterprises.

Sector/value chain development partnerships: PPP in which NARS and Ministries collaborate in a partnership of public, private, and civil society and research / scientific community to jointly engage in the development of a commodity subsector or associated value chains.

Theory of change: a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context.

Value-for-money analysis: a systematic method for ranking alternatives based on highest benefit for a given cost, or lowest cost for a given benefit. Also known as *cost-effectiveness* analysis.

Value-for-money driver: a factor which explains why a particular option (e.g. implementation by a private entity) will realize higher value-for-money than a default option (e.g. implementation by a public sector entity).

BACKGROUND

The ASEAN cooperation in the food, agriculture and forestry (FAF) sector defines the Vision and Strategic Plan for FAF 2016 - 2025 as a 'competitive, inclusive, resilient and sustainable FAF sector, integrated with the global economy, based on a single market and production base contributing to food and nutrition security and prosperity in the ASEAN Community'. Central to achieving this vision is a sustainable increase in productivity and reduction in pre- and post-harvest losses, through innovative 'green' technologies and sustainable resource management systems. Climate smart agriculture (CSA) practices, comprised of (1) integrating increased productivity and food security,

(2) resilience to climate change, and (3) mitigation of greenhouse gas emissions, are an important ingredient of sustainable resource management systems in FAF sectors.

Innovation and knowledge are critical in fostering sustainable competitiveness. However, technology development in itself is not enough. It is the commercialisation and the distribution of the technology, which is necessary for providing holistic solutions and ensuring these solutions are scaled-up, sustainable and inclusive. Developing partnerships with the private sector throughout the FAF value chain is integral for technology development and dissemination in the FAF sectors. Partnerships with the private sector are also crucial to leverage investments into innovations that would be inaccessible for the public sector to venture alone.

In that regard, ASEAN highlights the importance of leveraging private sector investments in technology development in the FAF sectors through Public Private Partnership (PPP), as well as collaboration between ASEAN Member States (AMS), international research institutes, and development partners. PPPs in the FAF sectors are an important mechanism that ASEAN promotes to harness technology, resources, skills, expertise and access to markets to improve productivity and competitiveness in the agricultural sector, as well as to ensure sustainability and inclusiveness.

OBJECTIVE

The overall objective of the ASEAN PPP Regional Framework for Technology Development in the FAF Sector (TDFAF) is to increase collaborative investments in sustainable technology development, adoption and dissemination throughout whole value chain in the FAF sector in ASEAN.

The PPP Framework for TDFAF is expected to contribute to the following action programs under the Strategic Plan for ASEAN Cooperation in Food, Agriculture and Forestry, 2016-2025 - Strategic Thrust 1:

- (1) Increase private sector participation in policy discussions, programme and project formulation, research and development (R&D), and provide incentives and foster an enabling environment for public-private partnerships towards enhancing productivity and quality;
- (2) Increase investments in collaborative R&D activities and strengthen existing regional collaboration among AMS and with key international organizations to develop sustainable technologies and management and harvesting systems, and effective extension/communication systems for technology diffusion;
- (3) Provide institutional mechanisms and appropriate incentives for PPPs in R&D and technology diffusion, collaborating with the private sector to identify priority research areas with high pay-offs in terms of private profit and societal well-being, and utilise it as a channel for both technology generation and diffusion;
- (4) Regularly review the nature of R&D partnerships and strategic partnerships with concerned organizations to ensure that the research and training agendas are aligned with ASEAN goals;
- (5) Identify and document technology success stories and explore new methods of extension, including enhanced use of information and communications technology and other communication facilities for the dissemination of successful technologies and management systems throughout AMS;
- (6) Standardise and harmonise concepts, methods and the presentation of national statistics and strengthen the technical capacity of AMS to conduct multi-country studies and undertake accurate situation analysis and planning.
- (7) To achieve its objectives, the aim of the PPP Framework for TDFAF is to provide guidance to AMS on how to create a predictable and efficient PPP environment for promoting technology development and dissemination in FAF value chains. It also aims to contribute to increasing the harmonization of the PPP policies, legal frameworks and institutional arrangements in AMS. The PPP Framework for TDFAF will furthermore act as a reference to communicate the political commitment of AMS for promoting PPPs in the FAF sectors, and furthermore to attract stronger and more consistent interest from the private sector to cooperate.

DEFINITIONS AND SCOPE OF PPP

Definitions in the PPP literature tend to be circumscribed by a narrow focus on infrastructure. For instance, the Economic Research Institute for ASEAN and East Asia (ERIA) defines PPP as a specialized procurement method employed by government for the delivery of public goods and infrastructure services. Likewise, World Bank defines PPP as a contractual arrangement between a public entity or authority and a private entity for providing a public asset or service in which the private party bears significant risk and management responsibility.

A PPP can be more broadly defined as a contractual agreement between the Government and private firm/s targeted towards financing, designing, implementing and operating infrastructure, facilities and services that were traditionally provided by the public sector. Given the challenges confronting FAF sectors, partnerships should cover development, adoption, and dissemination of sustainable technologies towards enhanced food security and climate resiliency, e.g. water-saving innovations, conservation agriculture, and similar systems.

The Consultative Group of International Agricultural Research (CGIAR) distinguish the following forms of PPP: resourcing partnerships; contracting partnerships; frontier research partnerships; commercialising partnerships; and sector/value chain development partnerships, with the following qualifications:

In resourcing partnerships, the private sector contributes financial or human resources to the research project or program of the public agency. When the private sector provides research funding to the public agency, the major source is still philanthropic foundations (though some private companies make direct contributions without passing through a non-profit).

Contracting partnerships meanwhile encompass the outsourcing arrangement found in conventional public procurement. However, as public agricultural R&D is still mostly done in-house, outsourcing is treated as a non-traditional mode of provision and therefore an example of PPP. Contracting partnerships though can involve more elaborate terms of collaboration on services and infrastructure, such as the following:

- The public sector owns the facilities, while the private sector provides researchers and other inputs such as knowledge (e.g. specific pathologies and treatment protocols in case of plant or animal disease), or patented products (e.g. improved seeds). This form of partnership may involve capacity building for the NARS partner.

- The NARS partner provides the researchers, buildings, and office space, while the private partner invests in heavy laboratory equipment, exclusively for the purpose of a project, with the equipment remaining with the NARS partner (a variation on Build-Operate-Transfer scheme of infrastructure PPPs). The private sector can also provide the knowledge and involve capacity building.
- Either NARS or the private partner is contracted to provide a set of highly technical services required repeatedly in a research project, such as remote sensing, molecular mapping, etc.

Frontier research partnership especially in developing countries may require capabilities often found only in the private sector. Hence in the 1990s to early 2000s, a research institute working on crops benefiting resource-poor farmers might have structured a genome sequencing project as a PPP. Today, the advantage of the private sector now lies in advanced bioinformatics and data management, which remain key bottlenecks for public sector research.

In commercialising partnerships, a technology developed by the public sector already exists, but not produced in commercial quantity nor widely adopted. Further product development, extension to farmers, technology incubation, and initial commercialization, is taken over by the private sector; the latter is typically allowed to derive profit from the technology (which is the main incentive for wide scale diffusion or dissemination), subject to limitations (e.g. under a licensing agreement).

Certain technologies may raise concerns over the health and the environment, once disseminated on commercial scale. Partnerships may involve training, capacity building, and other safeguards to ensure sustainable and safe use of the technology.

Sector/value chain development partnerships target adoption over a broad range of actors in the value chain for crops, livestock (including poultry), and fisheries (both capture and aquaculture). However to delimit the scope of value chain partnerships, the following are proposed:

- Upstream: Partnerships encompass promotion of technologies to direct suppliers of inputs sold to farmers and fishers, e.g. improved planting materials for nurseries, or better spawning techniques for fish hatcheries.
- Downstream: Partnerships encompass adoption of technologies for transport and storage of raw materials for FAF, as well as processing of such materials.

ASEAN PPP REGIONAL FRAMEWORK

The framework is developed to address key issues and problem areas in public and private sector collaboration for TDFAF.

Policy and legal framework for PPP in TDFAF

A transparent, stable, and conducive and regulatory investment framework should be established for public and private sectors engaged in technology development and collaboration over the agricultural value chain.

Given the complexity of PPPs, often spanning a number of policy areas, there are usually several layers of legislation, regulations and levels of government involved. Hence AMS public policy, regulation and procedures must be coherent and aligned to ensure that PPP projects in the FAF sector can be developed and implemented efficiently. Furthermore, ensuring that AMS procedures and legislation are aligned, will facilitate transnational and regional PPP projects to be developed and respective investments to take place.

Streamlined and conducive regulatory environment should be ensured for key areas involving agricultural technologies, namely their development and dissemination; property rights over the technology; and policies on investments in the agricultural value chain.

A transparent policy and legal framework will contribute to a favourable investment climate, ensuring that it is attractive for the private sector to enter the market of agricultural innovation and technology development and distribution. Regulatory services should also be delivered efficiently to private sector clients, including producers and MSMEs; government should streamline the process flow of compliance, documentation, and, securing of approvals, avoiding red tape, inconvenience, and complex procedures.

The investment climate for agribusiness is a key determinant of their appetite for innovation and commercialization of agricultural technology. Elements of the business climate include:

Taxation policy: Business firms, whether large agribusiness or MSMEs, are subject to various types of taxes (corporate income tax, value added tax, excise tax, export tax, import tariffs, etc.) On the other hand, AMS also provide investment incentive for FAF, R&D, and MSMEs, all of which impact on technology commercialization. While these incentives exert a generally favourable effect on TDFAF, it is still critical that the incentive regime preserve a level playing field to ensure no unintended and adverse consequences for technology innovation (e.g. incentives that selectively shield favoured firms from innovative competitors).

Commercial transactions: AMS governments oversee upstream and downstream transactions according to their respective competition policy and regulations on doing business and agricultural contracts. Such policies and regulations though impact the pace and extent of technology commercialization in FAF sectors. Examples of regulations that affect private sector – producer partnerships are as follows:

- Various requirements for starting and operating a business, such as obtaining construction permits, electricity connection, and credit; registering property; protection of shareholder interests; paying taxes; and trading across borders.
- Contract farming in Thailand and Vietnam is subject to regulation with respect to *force majeure* provisions, compensatory damages, dispute resolution, and registration of contracts with authorities.
- In Cambodia, a Sub-Decree on contract farming regulates contract growing schemes. It requires contracts be in writing; state clearly the agreement on prices, buyer's contribution, and suppliers; commitments; and establishes a coordination committee to oversee development and coordination for contract farming.
- In the Philippines, farmers who wish to enter into contracts as a group, face difficulties registering as a formal legal entity due to tedious documentary requirements, whether as cooperative, proprietorship, partnership, or corporation.

Property rights: Property rights over natural resources, particularly land, are heavily regulated in AMS. Many lands are classified as inalienable property of the state. Intellectual property in the form of patents and trademarks may confer on certain agribusinesses considerable market share, opening up the possibility of asymmetric bargaining power upstream, as well as monopolistic marketing practices downstream. Generally such situations of asymmetry created by technology is not prohibited; what is prohibited is abuse of dominant position by the dominant firm. Other intellectual property concerns relate to indigenous technologies and practices, which may be misappropriated by profit-oriented companies with no benefits returning to the indigenous communities that had pioneered in the technologies.

Institutional framework and Roles and Responsibilities

Effective institutional arrangements, such as independent regulatory agencies with clear lines of responsibility, and professionally managed FOs, are necessary to effectively promote PPPs.

Effective institutional arrangements, including independent regulatory agencies, with clear lines of responsibility are necessary to effectively promote PPPs. For this PPP Framework, this is especially relevant with regards to the ASEAN Ministries of Agriculture and Forestry, the NARS and other relevant ministries and agencies responsible for research and development as well as investment promotion. Particular attention should be provided to linking national, provincial and local level of authorities, and also considering

transnational and regional institutional structures. The institutional framework should clearly identify the roles and responsibility of different government institutions as well as the private sector entities in the process of developing and implementing PPPs in FAF. Roles and responsibilities will of course vary depending on the type of PPP. Each partner will have to ensure its organisational configuration be appropriate for its assigned functions.

Development and Implementation of PPP for TDFAF

PPP's need to be guided by Principles for PPP Development and Implementation to ensure that desired outcomes and integrity are obtained. These Principles should be aligned to the existing ASEAN Principles for PPP Frameworks. The following Principles are recommended:

The agricultural research agenda and investment plan with appropriate analytical tools such as priority setting and impact pathway analysis.

An assessment of CGIAR partnerships with private sector finds that for many of the researches conducted, specifying pathway to impact on the lives of poor producers and consumers was often neglected. Not all available technologies or innovation strategies on the table, can be given adequate funding, hence priorities must be identified based on what can cost effectively deliver on concrete outcomes and impact.

Selection of projects and modalities of collaboration should be based on a consultative process involving concerned stakeholders.

Priority setting and impact assessment may start out as desk assessment based on related literature, and inputs from a few key informants. Ultimately however the broad TDFAF agenda, together with intended modalities of collaboration, should be subjected to an extensive consultative process. The consultative process should rather strive for genuine participation of the sectors and communities to be most impacted by the new technologies.

Design of PPP projects with significant investment exposure requires value for money analysis and whole of life analysis.

While some research activities may deliver substantial pay-offs with modest outlays, some may require significant investment outlays, from either or both public and private partners. For this scale of investment, more rigorous and systematic analysis is warranted based on whole-of-life methods and value-for-money.

Terms and conditions of the public-private partnership must ensure proper alignment of incentives in terms of sharing risk, costs, and benefits of agricultural technologies.

One rationale for PPPs is precisely the opportunity to align risk with potential rewards. Hence for instance the public sector may turn over the commercialization of a promising technology to the private sector in return for partial funding of investment costs by the private partner. If so the private partner will likely demand a say in project design and operations; the partner is thereby incentivized to maximize the probability of research success (given an investment outlay). Care must be taken though to avoid one-sided contracts that tend to concentrate benefits on only one party. For instance, exclusive licensing agreements for the private partner that are too long allow the private partner to realize excess profits over an extended period.

Introduce mechanisms and safeguards to ensure capture of benefits by small farmers and MSMEs while maintaining attractiveness of the partnership to the private sector.

Another dimension of benefit sharing is to ensure that small- and medium-scale producers in the value chain receive a fair share of the benefits of agricultural innovation. Intellectual property and licensing agreements should be structured so as to just incentivize private sector participation, while spreading benefits of innovation to small and medium producers, as well as consumers. Several instruments may be considered to ensure this, such as:

- non-exclusive licensing;
- limited period licensing;
- mandatory price ceilings for the new technology;
- mandatory discounts or subsidies for marginalized farmers and fishers adopting the technology.

This builds on the renewed impetus for international cooperation as committed under the Paris Agreement, with support in the form of development and transfer of technologies, including CSA; access to finance; and capacity building, towards sharing in the costs of climate change mitigation and adaptation.

A system for monitoring of activities and outputs, as well as for evaluating outcomes and impacts, should be institute to maintain accountability, and reflect lessons learned back into the project development cycle.

Given the novelty of PPP in TDFAF, there will most likely be issues and flaws in design and implementation in present and future PPPs. It is critical to embed monitoring and evaluation (M&E) into the project design of all manner of PPPs. The M&E system should be developed based on the logical framework/impact pathway/theory of change of the TDFAF. Aspects to be covered are:

- Inputs (costs);
- Activities, as identified in the implementation plan;
- Outputs or the measurable accomplishments of the project. These include performance indicators and performance measures such as (depending on the actual project): number of farmers trained in CSA; whether new plant variety was developed embodying the intended traits (e.g. pest and/or drought resistance); number of fishers adopting sustainable fishing gears, etc. Outputs should also be assessed relative to the timeline set in the implementation plan.

The M&E system should also aim for ascertaining and measuring outcomes and impacts. This entails whole-of-life approaches to examine uptake and adoption of technologies and recommended practices. Broadening the scope of M&E leads to identification of good practices and lessons learned for future iterations of PPP for TDFAF. Setting up a fairly elaborate M&E system is clearly the task of the public sector as it is the partner directly accountable to the public. Nonetheless even private partners may be open or even contribute to M&E as part of its inclusive business or CSR mandate.

Areas of cooperation

Priority areas to work on and priority sectors to engage as well as the steps along the value chain of FAF products, need to be agreed upon, and should include input technologies, production system technologies and pre- and post-harvest technologies, and downstream processing. For prioritisation, the overall objective of the PPP Framework, to increase collaborative investments in sustainable technology adoption, and the FAF vision of a competitive, inclusive resilient, and sustainable FAF sector should be taken into account. Hence, its focus should lie in the sectors and processes most relevant to achieve this outcome and the FAF 2025. The following areas of cooperation are identified considering experiences in ASEAN, together with FAF 2025:

- i) Development and commercialization of new varieties of plants and animals; in particular: germplasm and seed sharing; training and exchange of experts in genomics; dissemination of varieties with desirable traits such as pest and disease resistance; high nutritive value; and climate resilience.
- ii) Innovation in agricultural inputs and production systems and value chain, particularly addressing best agricultural practices, food safety and food security, and climate change;
- iii) Support for development and adoption along the value chain of technologies and innovations by FAF-based MSMEs.

A common format of partnership is for the private sector to donate their proprietary technologies while the public sector provides the germplasm, laboratories, manpower, and associated biological knowledge.

Throughout the value chain, innovations to promote food safety, establishing a traceability system, and improvements in post-harvest quality, are also key areas of cooperation between producers, institutional buyers, and government. Partnerships formed through dialogue, networking, and coordination, whether formal or informal, may enable as well the provision of sanitary and phytosanitary (SPS) infrastructure (e.g. diagnostic laboratories), and trade facilitation (e.g. IT-enabled SPS clearance).

Opportunities for collaboration likewise abound in cooperation area iii). Large agribusiness companies may be engaged in downstream marketing (especially for export), or supply of key logistical services (such as cold storage). Meanwhile, MSMEs may offer intermediate levels of processing and packaging. Partnerships together with the public sector may support the reduction of postharvest losses and waste, through adoption of improved practices and postharvest technology. Food processing research through academic/research institution, technology incubation schemes, and joint venture, arrangements, are found throughout agricultural innovation systems in ASEAN.

Procedures for Project Development and Implementation

In terms of the PPP principles, project selection, development and implementation, details of the agreed procedures can be found within the ASEAN Principles for PPP Frameworks. They cover the procurement methodology and the management of the PPP process, and are based on principles of highest value for money and most efficient allocation of risks.

Procedures should also include clear guidance of benefit sharing models (e.g. for royalties and Intellectual Property Rights) in PPPs as well as rules for disclosure and information sharing, dispute settlement and other relevant procedures to be taken into account to ensure the desired outcomes of PPPs.

Project selection: Selection of projects should first be informed by the anticipated pathways from inputs, to activities, to outputs, then outcomes, and finally, impact, in terms of changes in ultimate goal indicators (e.g. household income, poverty, nutritional status, etc. The outputs correspond to the technology being developed). A prominent consideration in the selection of the project will be the relevance of the intended outputs and outcomes to promotion of CSA and climate resiliency, leading to protection and improvement in livelihoods and food security of farm-, fishery-, and forestry-based households who are most vulnerable to climate change.

These anticipated pathways underpin the theory of change being posited by the technology development project. Often design of research project ends at the output level, with no further consideration of adoption by intended technology users, and the outcomes of such adoption choices. Projects must be selected not only based on the merits of technology generated and likelihood of research success; decision-making must also be forward-looking, ensuring that technology should be disseminated, command widespread acceptance, and redound to the benefit of intended users.

Second, the project should be subjected to various types of analyses for evaluating project options. An important type of analysis is cost and benefit analysis. Significant positive impact at the household level, anticipated by a well-articulated theory of change, is not enough to justify the research investment; the expected benefit should also be larger than the cost. Benefit-cost analysis involves two important techniques, namely discounting both benefits and costs to present value; and valuation of benefits and costs. Other forms of analysis to complement benefit-cost analysis, or replace it when unsuitable, include: break-even analysis; cost effectiveness analysis; and multi- criteria analysis.

Procurement methodology: A proposed PPP arrangement should pass a *value-for-money* test; this involves comparisons with alternative procurement methods to verify if a proposed arrangement offers the greatest benefits to government and society at large. Comparison can be qualitative, quantitative, or both. Qualitative analysis screens a procurement method based on suitability criteria, such as:

- Relevance of the project to the Sustainable Development Goals, and Strategic Thrusts of the Vision and Strategic Plan for FAF, such as development of CSA, and climate resiliency;
- Simplicity in identification and allocation of project activities, roles, and responsibilities;
- Services that are well standardized, available from the market on competitive basis, should be procured by competitive bidding
- Projects requiring proprietary technologies or processes may entail direct contracting
- Risk should be allocated commensurate to the benefit to be realized.

Quantitative analysis of value-for-money meanwhile involves a set of benefit-cost analyses of alternative procurement modalities, e.g. in-house R&D, compared to the proposed PPP.

In case a PPP is found to be the preferred option, the next step is deciding on implementation modality and procedure for the PPP. In conventional PPP for infrastructure, modalities include: Build-Operate-Transfer; Build-Transfer; Build-Own- Operate-Operate Transfer; Build-Own-Operate; and so forth.

For the resourcing partnership, implementation is the responsibility of the NARS. The R&D and/or commercialisation activity will be determined and structured by the NARS. The partnership will specify the obligation of the private partner and the timing of support. If funding, then the modality will specify project milestones and program of fund release; if expertise, the modality will specify hosting arrangement by the NARS, and the expected outputs from hosting the private sector expert.

For the contracting and frontier research partnership, activities and milestones will need to be jointly planned by the NARS/Ministry partner and the private partner. Responsibilities of each in terms of facilities, personnel, and activity roles, will need to be specified beforehand. The plan will then be incorporated in a contracting agreement.

For the commercialising partnership, a new technology has presumably been completed and owned by a NARS/Ministry, as formalized in a patent. What remains is the technology development leading to commercialisation. This entails the following steps:

- Mutual agreement on the set of rights and responsibilities of the private partner (i.e. license to the technology; duration of the license; access of small producers to the technology; etc.)
- Programming of activities and milestones for commercialisation
- Arrangement for engaging CSOs and FOs
- Signing of formal agreement between partners (including CSO/FOs, as applicable); implementation, and monitoring.

Lastly, for value chain development partnerships, a technology exists and is already held by the private partner (or jointly owned by the partners), and is already to some extent commercialised. What remains is to upscale the technology to address constraints to value chain development. This entails the following steps, which closely parallel those of the commercialising partnership, though on a wider scale:

- Value chain situation analysis, and assessment of potential for a specific technology (or package of technology) to address value chain constraints;
- Programming of activities and milestones for upscaling
- Arrangement for engaging CSOs and FOs
- Signing of formal agreement between partners (including CSO/FOs, as applicable); implementation, and monitoring.

PPP DRIVERS AND SUITABILITY

Phases of a R&D and commercialisation along value chain

A typical project for the provision of a good or service, such as a new seed variety, laboratory testing, etc., can usually be divided into four phases. These are: design; resource mobilisation; investment; and operation, i.e. generating the flow of benefit or service. In the context of agricultural research, investment is the research phase, while operation is the phase of development and dissemination.

Roles for public and private sectors can be assigned in various ways. Traditional public agricultural research is purely public: for instance, a line agency (say the Ministry of Agriculture) commissions research to a state-owned university; the new technology may then be turned over to the government extension system for dissemination to farmers. At the other extreme is purely private provision, as when a company R&D department develops a new biotechnology application.

Public-private partnerships involve arrangements in-between these two extremes. A resourcing partnership, as the label implies, involves financial and other contributions from a private entity, typically a philanthropic foundation. A contracting partnership involves research commissioned to a private firm. Meanwhile the commercialising as well as value chain partnership involves development and dissemination being assigned to private entities, such as an agribusiness company, and/or farmer cooperative.

Drivers of partnership with the private sector

Pure public provision is more advantageous when benefits from research are difficult or impossible to commercialise, e.g. improved inbred seed. Private firms may not be able to profit from the technology; hence, if the seed is to be developed at all, the research may be conducted by a public research institute funded by taxpayers and organised to produce public goods.

On the other hand, given a different set of circumstances, higher value-for-money may be realised by private sector participation. These value-for-money drivers imply a greater advantage for organizing the various phases of technology development under the private sector. These drivers are presented under the following headings:

1. Private sector has the ability to realise profit from technology products.
2. Private sector has the ability to develop technologies with strong market potential.
3. Private and public sector have specialized competencies owing to scale economies and past investment.

4. Private sector may be able to accelerate roll-out of new technologies.
5. Engagement of private sector may lead to improved quality of technology solutions provided.
6. Engagement of private sector allows risk sharing, alignment of incentives, and complementarity between phases.
7. Partnerships are made feasible when outputs are measurable based on predetermined performance indicators.
8. Private philanthropy and inclusive business can mobilize more resources for TDFAF than is available from the public sector alone.

Some types of research may be most advantageously organized as purely private. For instance, suppose the research product can be patented, and production limited to the patent holder, e.g. development of a new hybrid seed variety, whose traits are highly desired by the market (Driver 1 and 2). Part of the economic benefits of planting the seed can be appropriated by the seed company. The commercial impetus may be sufficient for incentivizing the design, finance, research activity, and dissemination of the new technology. Moreover, the seed company may have had a past history of investment in equipment, laboratories, and scientists, realising economies of scale and specialized competencies (Driver 3). The public sector may still insist on doing the research itself, but at great cost and perhaps unnecessary duplication of private sector research.

Involvement of the private sector may also sharpen incentives otherwise blunted in public sector research. The latter may be characterized by long research lags and cost overruns. Technology products may also be of ineffective, or not user-friendly. The private sector on the contrary seeks the shortest feasible research lag, and quality products attractive to potential adopters (Drivers 4 and 5).

For large investments, risk compounds the abovementioned difficulties, in all phases of a research project. Risks may involve faulty design, falling short of investment objectives, failure to reach research objectives (or of long delays in achieving research success), and of reaching uptake objectives of the research. By structuring technology as a PPP, risk can be shared, in such a way as to allocate risk to the partner better able to manage it, as well as realize complementarities across phases (Driver 6). Allocation of risk and rewards can be better structured if performance and deliverables are easy to measure (Driver 7).

In developing countries, where the private sector remains far from the mature development phase, the public sector may be the partner with historically greater investments in agricultural innovation. The contract partnership may then assign the public sector being the implementer of research, while design, finance, and commercialization may be undertaken by the private company.

Finally, investing for the public interest need not be a monopoly of government. Private philanthropies may have been organized and endowed precisely to supply public goods (Driver 8). Socially concerned investors may, under the *inclusive business* model, prefer commercialization of technologies that maximize scale and impact on resource-poor farmers and MSMEs. FOs may facilitate linking small individual growers with investors, while CSOs may support the establishment of these FOs, or help in linking FOs with investors.

ACTION PLAN TO PROMOTE THE IMPLEMENTATION OF THE PPP FRAMEWORK

PPP Awareness and Opportunity Identification

Given that the PPPs in the ASEAN context currently focus on infrastructure, creating awareness of the benefits of PPPs for technology development (which could also include infrastructure), adoption and dissemination specifically in the FAF sectors is needed. To raise the potential of PPPs, providing relevant information for interested parties, is crucial. This entails looking at already currently existing projects in the region and best practices of PPPs from other regions, as well as identifying opportunities and interested parties to develop the PPP portfolio for technology development in the region and in AMS.

The promotion of PPPs at the regional level, transnational or in AMS in the FAF sectors, requires AMS to actively pursue the process of stakeholder and PPP dialogue in order to identify PPP opportunities and facilitate and review implementation. AMS must be aware of the contribution of FAF sectoral reforms and their role in developing and supporting PPP schemes. Furthermore, AMS should recognise the need for political commitment towards the promotion of PPP schemes in the FAF sector towards technology development.

The information generated in the foregoing will be disseminated in an information and education campaign. The campaign will be anchored on both PPP initiatives in general within AMS, to raise awareness of a specific subset of PPP for agricultural technology (and not only on infrastructure). The campaign will also be anchored on agricultural S&T initiatives in general within and among AMS, raising awareness on the role of partnerships and collaboration. For the latter, the campaign should leverage national and international agricultural S&T networks.

FAF-related S&T Networks in ASEAN

- Asia-Pacific Agricultural Research Institutes (APAARI)
- Exchange by Promoting Quality Education, Research, and Training in South and Southeast Asia (EXPERTS)
- Asia: Life Sciences, Food, Agriculture, Biology, Economics, Technology (ALFABET)
- ASEAN Science and Technology Network (ASTNET)
- ASEAN – European Union Cooperation in Science, Technology and Innovation (ASEAN-EU-NET)
- Greater Mekong Subregion Research Network (GMSARN) Conservation Agriculture Network in Southeast Asia (CANSEA) ASEAN Social Forestry Network (ASFN)
- Other related networks are: the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (University Consortium); and research consortiums organized by the CGIAR system.

CAPACITY BUILDING AND PPP READINESS TOOLS

Linked to the above are self-assessment readiness tools to identify gaps and capacity building needs of Ministries of Agricultural and Forestry, NARS and other relevant government institutions and authorities. A number of PPP readiness assessment tools are in use or proposed, such as:

- Infrascope from the Economist Intelligence Unit (EIU);
- Rapid Needs Assessment Tool of the Public-Private Infrastructure Advisory Facility;
- The assessment tool developed by UN Economic and Social Commission for Asia and the Pacific (ESCAP);
- A set of tools from World Bank, namely: PPP Project Preparation Status Tool; PPP Fiscal Risk Assessment Model; and the PPP Benchmarking tool.

Common elements in these assessment tools are:

- Legal and regulatory framework – clarity, supportiveness, functionality
- Institutional framework – quality of PPP agencies/units
- Development and implementation – transparency and fairness in awarding projects, specifying and renegotiating contracts

EIU and World Bank evaluate financial facilities – that is, budgetary support to PPPs development, framework for public finance, depth of private financial markets. ESCAP and EIU meanwhile include the macroeconomic context and investment climate in their assessment tools.

Generally though the available readiness assessment tools are skewed towards infrastructure PPPs. There is a need to develop PPP readiness tools specifically for technology development in FAF. The tool shall be a modified version of existing tools to make them relevant to technology development in FAF. The tools may cover:

- R&D investment climate – public agricultural spending on agricultural R&D; R&D investments of private agribusiness sector; availability of a large pool of knowledge and technologies growth rate of FAF and agro-processing industry; growth rate of agri-exports.
- Investment climate for commercialization – extent of formal organization of farmers; commercial orientation of farmers and farmer organizations; willingness of agribusiness to source raw material locally and collaborate with farmer organizations.
- Legal and regulatory framework – transparent rules on intellectual property, licensing of proprietary technologies; and environmental and health regulation for agricultural

technologies; presence of fair, transparent, and functional legal and regulatory framework for contract farming and related arrangements (e.g. joint agribusiness ventures)

- Institutional framework – awareness of NARS, agribusiness, and farmer organizations on PPP arrangements and potential; ability of NARS to structure PPP contracts, monitor and evaluate PPP performance indicators

Public Private Dialogue and PPP Platform

In order to promote PPPs in technology development, adoption and dissemination in the FAF sectors, there is the need to enhance public-private dialogue. A communication strategy for public-private dialogue to promote PPPs can be established at both regional as well as AMS level. This could include a dialogue platform to provide 'space' for networking opportunities for fragmented stakeholders with different assets, knowledge and experience to be brought together in identifying PPP opportunities. The platform will not only include the public sector (for research and development, monitoring and review) and the private partners (research, technology provider and distributor), but also CSOs (mobilisation of communities), research and scientific community (research) and development partners (resources and facilitation of process). Communication hence should be targeting all these important stakeholders. Such a platform could also serve for information exchange and review mechanisms and monitoring of the implementation of PPP projects.

A Guidelines document by ERIA suggests establishing a PPP Forum to establish a realistic and workable PPP guidelines and supporting technical documents, as well as to disseminate and build equal perception across AMS. The proposed Forum will also support constant inputs and feedback from stakeholders; communicate the concept and practical approach of PPPs; provide knowledge exchange, and sharing of experiences.

Based on this suggestion, this Framework proposes an ASEAN Forum/Dialogue on TDFAF (henceforth the Forum). The Forum engages NARS (including public agricultural extension), representatives of agribusiness, CSOs, FOs, and development partners. A stakeholder analysis shall be conducted to ensure that the target audience are invited to the platform.

The proposed Forum on TDFAF will serve as venue for information exchange, dissemination, voluntary compliance, as well as reporting/monitoring on PPPs for TDFAF in ASEAN. Convening of the Forum can be done by the ASEAN FAF bodies assigned to TDFAF, namely ATWGARD, ASWGC, ASWGL, and ASWGF and ASOF. PPP matters in the Forum agenda may cover: awareness raising; profiling of countries by PPP readiness; sharing of experience and lessons learned; and opportunity identification, etc. Aside from the usual meeting documents, the Forum shall be accompanied by a website and social media accounts

for on-going communication, advocacy, and monitoring of PPPs. Drawing on the current Strategic Plan of Action- Food Security (2015-2020), the website may, as well, serve as e-portal for technologies with high commercial potential to inform potential investors and farmer organization partners. For funding, the ASEAN FAF bodies may request resources from AMS, GrowAsia, Southeast Asian Regional Centre for Graduate Studies and Research in Agriculture (SEARCA), Dialogue Partners, and related agencies.

IMPLEMENTATION AND GOVERNANCE

At ASEAN, the ATWGARD, ASWGC, ASWGL and ASWGF as well as ASOF and other ASEAN bodies under FAF sector are responsible for the development and implementation of the framework together with the relevant bodies at national level, under the guidance of the Senior Officials Meeting of ASEAN Ministry of Agriculture and Forestry (SOM-AMAF). AMS will be responsible for the approval, design and implementation process of PPP projects, in line with national and regional policies and frameworks.

Similar to the ASEAN Principles for PPP Frameworks, the PPP Framework for TDFAF is formulated as a guide for AMS, offering non-binding but useful recommendations towards strengthening PPP Frameworks for TDFAF within each AMS. The proposed Forum on TDFAF will serve as venue for dissemination, voluntary compliance, and reporting/monitoring on PPPs for TDFAF in ASEAN. As such, the Forum will not duplicate existing agricultural S&T networks in ASEAN, including networks with academic institutions. Participants in these networks may in fact be invited to likewise participate in the Forum.

The ATWGARD, with support from ASEAN FAF bodies, will formulate the PPP Dialogue Plan 2018 – 2025, of which the Forum will be a core activity. The PPP Dialogue Plan will outline the aims, objectives, and intended outcomes of PPP Dialogue for TDFAF; propose a program of activities and agenda for the Forum; and identify possible sources of financial support.



Adopted at the 40th AMAF Meeting
11 October 2018 Ha Noi, Viet Nam



**AMAF'S APPROACH TO GENDER MAINSTREAMING IN
THE FOOD, AGRICULTURE AND FORESTRY SECTORS**

**ASEAN TECHNICAL WORKING GROUP ON AGRICULTURE AND RESEARCH
DEVELOPMENT (ATWGARD)
2018**

The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States of the Association are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. The ASEAN Secretariat is based in Jakarta, Indonesia.

For inquiries, contact: The ASEAN Secretariat
Community Relations Division 70A Jalan Sisingamangaraja Jakarta 12110
Indonesia
Phone : (62 21) 724-3372, 726-2991 Fax : (62 21) 739-8234, 724-3504 E-mail :
public.div@asean.org

General information on ASEAN appears online at the ASEAN Website: www.asean.org
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LIST OF ACRONYMS

ACW	ASEAN Committee on Women
AMAF	ASEAN Ministers Meeting on Agriculture and Forestry
AMS	ASEAN Member States
ASCC	ASEAN Socio-Cultural Community
ASEAN	The Association of Southeast Asian Nations
ASOF	ASEAN Senior Officials on Forestry
ASWGL	ASEAN Sectoral Working Group on Livestock
ASWGC	ASEAN Sectoral Working Group on Crops
ASWGFi	ASEAN Sectoral Working Group on Fisheries
ATWGARD	Agricultural Research and Development
AWGCC	ASEAN Working Group on Climate Change
COP	Conference of the Parties
CSA	Climate Smart Agriculture
FAO	The Food and Agriculture Organization of the United Nations
FES	Friedrich- Ebert-Stiftung
FCPF	Forest Carbon Partnership Facility
GSVC	Gender-Sensitive Value Chain
HPA	Hanoi Plan of Action
IDS	Institute of Development Studies
NTFP	Non-Timber Forest Product
R-PP	Readiness Preparation Proposal
SPA	Strategic Plan of Action
SSF	Sustainable Small-Scale Fisheries
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
UNDRIP	UN Declaration on the Rights of Indigenous Peoples
VAP	Vientiane Action Programme
WTO	World Trade Organization

PREFACE

The AMAF'S Approach to gender mainstreaming in the food, agriculture and forestry sectors were completed by the ASEAN Technical Working Group on Agricultural Research and Development (ATWGARD), with support from the ASEAN Working Groups on Livestock, Crops and Fisheries and ASEAN Senior Officials on Forestry (ASOF) and the ASEAN Committee on Women (ACW).

AMAF'S Approach to gender mainstreaming in the food, agriculture and forestry sectors is defined as public measures that apply a gender perspective which as a result affect the behavior of different stakeholders (amongst other producers, farmers and regulators). The gender policy covers key elements to be integrated into a set of policies and programs to ensure women working in the food, agriculture and forestry sectors in ASEAN are empowered.

Recognising that gender inequalities permeate the food, agriculture and forestry sectors and that public policies and frameworks yield significant gendered impacts on the three sectors; the AMAF's Approach aim to set out recommendations that serve as reference guides for AMS in their efforts to promote gender equality in the food, agriculture and forestry sectors. The AMAF's Approach is not intended to be a full or binding statement on gender. The AMAF's Approach will help increase AMSs' awareness of the importance of gender policies in the food, agriculture and forestry sector, with a view to stimulating the development of best practices and enhancing cooperation between ASEAN Member States.

The AMAF's Approach to gender mainstreaming in the food, agriculture and forestry sectors, which are public document, will be a living reference as ATWGARD will update them frequently to reflect any changes and development in ASEAN, and international/ regional best practices.

The AMAF'S Approach to gender mainstreaming in the food, agriculture and forestry sectors were adopted by the ASEAN Ministers on Agriculture and Forestry (AMAF) at the 40th AMAF Meeting in 2018 in Ha Noi, Viet Nam.

Table of Contents

LIST OF ACRONYMS	2
PREFACE	4
1. INTRODUCTION	6
1.1. Gender Equality in ASEAN	6
1.1. Women in the food, agriculture and forestry sector in ASEAN	6
2. OBJECTIVES	7
3. AMAF'S APPROACH TO GENDER MAINSTREAMING	7
3.1. AMAF's Statement of Policy	7
3.1. Food, Agriculture and Forestry Cooperation in ASEAN	8
4. REGIONAL STRATEGY AND ACTION PLAN	16
4.1. Mainstreaming gender in food, agriculture and forestry	16
4.1. Framework for a strategy for mainstreaming gender in food, agriculture and forestry	17
5. IMPLEMENTATION PROCESS	19
REFERENCES	19
Annex 1: Recommended gender intervention in sectoral SPAs	21
Strategic Plan for ASEAN Cooperation in Food, Agriculture and Forestry (2016 - 2025)	21
SPA for ASEAN Cooperation in Agricultural Research and Development 2016-2020	22
SPA on ASEAN Cooperation in Livestock 2016-2020	23
SPA on ASEAN Cooperation on Crops 2016-2020	24
SPA on ASEAN Cooperation in Fisheries 2016-2020	25
SPA for ASEAN Cooperation in Forestry 2016-2025	26
ASEAN Integrated Food Security (AIFS) Framework and Strategic Plan of Action on Food Security in the ASEAN Region (2015- 2020)	27

INTRODUCTION

Gender Equality in ASEAN

Under the contexts of ASEAN, gender inequality is socially constructed in myriad dimensions in which not only impedes human development but also deepens social conflicts and vulnerabilities. Gender inequality reflects that women possess limited power in many spheres of life namely inequality in accessibility of basic facilities, professional inequality, ownership and household inequality puts women in cycle of disadvantage and vulnerabilities. Pursuant to the definition of gender equality defined as “equal rights, responsibilities, and opportunities of women, men, and girls and boys” (UN, 2001), the governments of ASEAN countries have made efforts in integrating gender issues into development variedly through legislative reform and gender-specific policies including establishing specific governmental bureaus as the main mechanism in advancing women’s status and gender equality.

On the occasion of 31st ASEAN Summit in the Philippines, the Heads of States or Governments of ASEAN has adopted the “ASEAN Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025 and Sustainable Development Goals”. They declared their commitment to ensure the realisation of a people-oriented and people-centered ASEAN where all women and girls are able to reach the fullest of their potentials.

As a result, with regional integration and a market capacity of more than 600 million people representing vast opportunities, ASEAN countries’ governments should strengthen women’s capacity, widen their accessibility and support their contribution towards the formal economic sphere. An increasing level of formal economic participation will enable women to possess equal access to resources, opportunities and facilities as their male counterparts which would eventually bring about women’s empowerment and a narrowed gender gap.

In a recent study “Projected Gender Impact of the ASEAN Economic Community” conducted by the UN Women Regional Office for Asia and the Pacific and the Friedrich- Ebert-Stiftung (FES), in partnership with the ASEAN Secretariat, and with the support of the Australian Government, the findings suggest that without targeted policy and programmatic interventions, it is likely that large sectors of women will be excluded from the direct benefits of the boost in trade, investment and skilled labor integration. The research finds that liberalization measures will impact unevenly because of existing inequalities including based on income, gender, geography, or ethnicity, access to resources and asset ownership will limit women’s potential gains from trade.

Women in the food, agriculture and forestry sector in ASEAN

Agriculture is a major export sector in six out of ten ASEAN Member States: Cambodia, Lao PDR, Myanmar, Thailand, Indonesia, and Viet Nam. While the major agricultural dominant countries are at varying stages of socio-economic development, there are remarkable similarities in the constraints faced by women in the food, agriculture and forestry sectors. Nearly 75 per cent of women in Cambodia are engaged in agriculture, 69 per cent of women are agricultural workers in Myanmar, followed by 48 per cent in Viet Nam, and 51 per cent in Lao PDR.

Despite growing industrialization, agriculture and agro product subsectors like livestock and forestry largely employ women. Women participate at equal levels of the value chain but do not necessarily reach the export level equally.

Since the food, agriculture and forestry sector is very vulnerable to climate variability and climate change, from a gender perspective, women and youths are more vulnerable to climate change. Women farmers face several challenges in moving beyond subsistence level to access export markets in the ASEAN Member States. Rural poverty level is high and women shoulder disproportionate amounts of physical workloads, both within households and at the farm.

Despite women’s significant involvement in agriculture, land ownership and titling and ownership of other productive assets remains largely with the men. Poor access to markets and over dependence on middlemen makes it difficult for women to access outside markets and receive a fair price for their products. Compounding this, is the fact that credit for agricultural purposes is hard to access for women because their lack of asset ownership and low education levels in some ASEAN Member States.

OBJECTIVES

The AMAF's Approach to gender mainstreaming in the food, agriculture and forestry sectors were developed to help ASEAN Member States:

- Provide guidance in understanding and introducing gender-responsive policies and programmes at the regional level
- Promote and advocate for gender equality in food, agriculture and forestry policies, programmes, systems and structures at the regional and national levels.
- Strengthen and build the capacity of policy makers, field workers and farmers on appropriate approaches to integrating gender in agriculture and climate change
- Promote gender-equitable research supporting climate-smart agricultural technologies.

The AMAF'S Approach to gender mainstreaming in the food, agriculture and forestry sectors, is a non-binding endeavour to help in the process of building stronger gender cooperation and integration in the region, by acting as common reference guide for future cooperation to enhance gender equality in the food, agriculture and forestry sector in ASEAN. The AMAF's Approach takes into account regional and national contexts and circumstances.

AMAF'S APPROACH TO GENDER MAINSTREAMING

AMAF's Statement of Policy

Acknowledging that gender equality and the empowerment of all women and girls are at the center of the 2030 Agenda for Sustainable Development, and that gender equality is recognised and affirmed as a precondition for the realisation of sustainable development, AMAF reaffirmed the need to mainstream a gender perspective and analysis, which include targeted actions and investments in the formulation and implementation of policies, plans and programmes of all the food, agriculture and forestry sector in ASEAN. These are aligned with the commitments laid out in the ASEAN Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025.

AMAF further encouraged more investments to close resource gaps for achieving gender equality and the empowerment of all women and girls.

AMAF agreed to promote women's equal access to and full participation in decision-making bodies and mechanisms involved in the implementation of all goals and targets of the 2030 Agenda for Sustainable Development and Strategic Plan for ASEAN Cooperation in Food,

Agriculture and Forestry (2016-2025) including its policy, plan and programme formulation, implementation, and monitoring and evaluation for the sub-sectors of livestock, crop, fisheries and forestry.

AMAF strongly encouraged relevant ASEAN Sectoral Bodies to promote the implementation of the AMAF's Approach in relation to the food, agriculture and forestry sectors.

Food, Agriculture and Forestry Cooperation in ASEAN

The overall gender issues that should to be considered in food, agriculture and forestry sectors are:

- Ensure equal participation of women and men in all policy discussion, capacity building activities and participation in all national and regional activities.
- Ensure the collection of gender data for all data collection during the design, implementation and monitoring and evaluation phase of all projects/activities.
- Provide opportunity for women to access different financial services such as credit, savings, remittances and insurance schemes in order to provide them with opportunities to scale up food, agriculture and forestry initiatives.

- Encourage and facilitate women's access to education as well as their participation in training aimed at improving women's marketing, trading and business skills.
- Provide leadership training to strengthen and amplify women's voices and leadership.
- Ensure equal participation of women and men in all decision making processes.
- Coordinate with other ASEAN bodies to advocate for gender mainstreaming.

Livestock

The livestock sub-sector makes important contribution to national output, employment and food security in the ASEAN region though its relative importance varies across the ASEAN Member States. Under ASEAN Cooperation in Food, Agriculture and Forestry, the ASEAN Working Group on Livestock (ASWGL) was established to provide a mechanism to develop ASEAN Standards in Livestock for Vaccines, Good Animal Husbandry Practices and other related activities in the sub-sector. In ASEAN, the major livestock products are poultry and pork. Although production growth has been rapid, the region as a whole is a net importer of both meat and dairy products. Only Thailand is a significant net exporter of meat (primarily poultry). In the case of meat, however, imports are only a small (around 5%) though increasing fraction of the total consumption. The expansion of the livestock industry has also resulted in higher imports of animal feed. Share of agriculture in national output is declining in the more advanced AMS while the share of livestock within agriculture is increasing. While intensive and larger scale production and processing are emerging in the more advanced states, smallholder livestock still dominates in the less developed AMS where they play key roles in poverty alleviation, food security and nutrition and gender equality.

It is estimated that approximately 50-85 percent of total livestock production in AMS can be attributed to smallholders. The percentage varies among and between countries depending on several factors. At the smallholder level, the production system is mainly subsistence or small market oriented enterprises, which largely depends on household feed resources and labour. The systems often have poor production. Women play an important role in feeding, cleaning and management of livestock, especially pigs, backyard poultry and small ruminants, apart from undertaking other routine day-to-day activities related to their

reproductive role in the household. Unlike many other regions, women in Southeast Asia are also involved in retailing of livestock products, especially fresh meat. Men are mainly involved in buying farm inputs, selling of livestock and livestock products, and managing larger animals like cattle and buffalo. The involvement of men increases with the increasing agricultural intensification and herd size.

Gender issues related to livestock throughout ASEAN are largely similar, with some variation depending on culture and tradition. The main constraints that women face in the livestock production and marketing system include, but are not limited to:

- Limited access to extension services, credit, technologies, trainings and information
- Lack of control in decision making at the household, community, and local institutions levels
- Limited control over income and asset and frequent loss of majority of the income to men, who do not reinvest in the household
- Poor access to, control and ownership over natural resources, particularly land
- Poor access to market
- Higher risk to food-borne and zoonotic disease because they are the primary handlers of raw animal products.

While women are involved in care of livestock, men are the ones generally invited to attend trainings, talk with extension workers/decision makers etc. In the process, men have access to knowledge and skills related to livestock that are usually not shared with the women, resulting in poor transfer of knowledge and technologies. Low representation of women in local social institutions and service delivery mechanisms of government and non-governmental agencies also makes access to knowledge and services for rural women difficult. Because of little or no ownership of land among women, it is difficult for them to access credit, resulting in limited scope for scaling up and scaling out their activities. It appears that women in Southeast Asia have more varied bargaining capacity in the market depending on location, tradition and culture. However, in the case of market access, rural women face a number of constraints due to their lower literacy level and marketing skills, as well as limitations to move outside the house premises (customary practices that prevent them to leave the house, poor driving skills). This needs to be addressed to enhance their access as well as their bargaining power in the marketplace.

Men have greater control over the income and assets deriving from livestock than women, resulting in reduced opportunities for women to gain economic independence within the family. On some occasions, income received from livestock are misused by men, and do not benefit the family. There is also a need to increase the involvement of women in decision making, not only at the household but also at the community level. Enhanced decision making choices would encourage the formation of a more conducive environment for women to have equal choices to that of men. With the emergence/re-emergence of zoonotic diseases, women are more at risk to diseases (e.g. brucellosis, tuberculosis) because of closer association with livestock that are managed under poor bio-secure environments and the handling/preparation of raw livestock products.

According to the FAO, there are seven categories of key challenges that smallholder farmers and especially women farmers face: Access and control over natural resources; Distribution of roles and responsibilities based on sex and age; Access to technologies, training and extension services; Access to financial services; Access to markets; Participation and decision-making power; Occupational health and safety (FAO 2013)

The SPA for ASEAN Cooperation in Livestock 2016-2020 Strategic Thrust 4: Support smallholder livestock for poverty alleviation, improved nutrition, food security and gender equality, includes some activities focusing on gender equality. The following gender issues should be considered in accordance to the FAO seven categories of challenges when formulating policies/programmes under the SPA for ASEAN Cooperation in Livestock 2016- 2020:

- Strengthen women's technical skills by facilitating their systematic inclusion in training in husbandry practices, processing and marketing of livestock products, ensuring that training sessions are also provided in villages and small rural communities.
- Provide opportunity for women to access different financial services such as credit, savings, remittances and insurance schemes in order to provide them with opportunities to scale up their livestock production.
- Encourage and facilitate women's access to education as well as their participation in training aimed at improving women's marketing, trading and business skills.
- Provide leadership training to strengthen and amplify women's voices and leadership within farmers' cooperatives and producers' organizations
- Acknowledge gender dimensions of occupational health and safety risks such as exposure to zoonotic diseases, such as Highly Pathogenic Avian Influenza (HPAI) and other hazards associated with the handling of raw meat and dairy products.

Crop

The ASEAN Sectoral Working Group on Crops (ASWGC) is one of subsidiary bodies under SOM-AMAF that oversees the ASEAN Cooperation on Crop Sub-Sector. Having a goal to promote the development in this sub-sector, the ASWGC has carried out activities and projects in accordance with its strategic objectives, reflected in the Strategic Plan of Action (SPA) on Crops. A number of activities/ projects have been successful implemented and many are continuing through networking arrangement as well as supported by dialogue and development partners. The scope of the ASWGC covers: i) policy framework, ii) intra- and- extra-ASEAN trade in crops commodities, iii) plant pest and disease control, iv) standards development and its promotion, v) environment protection in crops production, and vi) food security, food safety and nutrition.

Women's increasing role in food and crop systems positions them as an essential player and partner in this process. In ASEAN, women comprise over 50% of agriculture labor force. Women and men farmers have different roles related to crop production, but against a backdrop of changing economic opportunities and environmental conditions, the gender division of labour may change. Women and men farmers often have different criteria for choosing crops and varieties and performing activities such as selecting seed, cultivating, harvesting and processing. These criteria may be based on differences in taste, storage characteristics, time required for food preparation, labour requirements and marketability. Women also often lack secure tenure and resource rights, access to resources, such as land, finance, information, extension services and technology. Closing the gender gap in access to and use of productive resources and services would unlock the agricultural productivity potential of women, increasing farm output substantially. Studies on the yield gap between male and female farmers provide estimates of a gap of 20-30 per cent on average, and most attribute this to lower input use by women. According to FAO estimates, the productivity gains resulting from ensuring equal access to fertilizer, seeds and agricultural tools for women, could raise total agricultural output in developing countries by an estimated 2.5 to 4 per cent, thereby reducing the number of hungry people by between 100 million and 150 million (FAO, 2011) The following gender issues should be considered when implementing the projects/activities under the SPA for ASEAN Cooperation in Crop 2016-2020:

- Conduct gender analysis within all projects, programs and policies to assess the implications and benefits of Climate Smart Agriculture (CSA) technologies and practices on men and women.
- Provide specific support to women led SMEs and cooperatives to improve productivity, technology and product quality, to meet global market standards and increase competitiveness.
- Provide training to both women and men on CSA technologies and practices, and gender awareness.
- Facilitate women's access to land and credit through transforming laws and local practices.
- Enhance the capacity of the women and men members of farmer organization and institutions women and men farmers to engage with the private sector.

Fisheries and aquaculture

The fisheries sector plays an important role in the economic development of the ASEAN Member States. Six ASEAN Countries- Indonesia, Myanmar, Philippines, Viet Nam, Thailand and Malaysia are among the world's top fish producing countries, while four countries- Indonesia, Philippines, Malaysia and Viet Nam are among the world's top seaweed producing countries. Approximately 60 million people are employed in fisheries- related ancillary services such as boat manufacturing, fishing gear making, fish processing and

marketing. The per capita fish consumption (33.4 kg/y) in ASEAN region is remarkably higher than the world's average (19.2 kg/yr) and about 38% of animal protein consumed in the region is derived from fish, which highlights the importance of fisheries in nutritional and food security in the region. The ASEAN Sectoral Working Group on Fisheries (ASWGF) is tasked to oversee the identification, formulation, monitoring and reporting of fisheries cooperation among AMS.

Acknowledging these gender issues the Sustainable Small-Scale Fisheries (SSF) Guidelines include gender equity and equality as one of its 13 guiding principles and gender is also considered in the more detailed section on responsible fisheries and sustainable development (FAO 2015). The SSF Guideline recognizes that women and men's fisheries labor are often given different cultural and economic value, with women's work often going uncounted and not considered in fisheries governance, despite being vital to small-scale fisheries. It also acknowledges the centrality of gender to other intersecting issues, particularly human rights and well-being, food security, and climate change and it also highlights how gender differences in power and decision making exist in small-scale fisheries contexts and how those differences influence representative, fair, and sustainable small-scale fisheries governance. Interventions which limit women's role in fisheries and aquaculture systems based on their reproductive and existing economic roles may actually maintain a status quo which may be highly inequitable for rural and indigenous women.

The following gender issues should be considered when implementing the SPA for ASEAN Cooperation in fisheries 2016-2020:

- Empower women in community based fisheries management through capacity building on various technical and legal issues.
- Provide fishers with access to fishing resources, markets, financial, and marketing resources
- Encourage advocacy of equal pay for fisheries labor.
- Encourage strengthening capabilities of women's unions and organizations through resource allocation mechanisms and by increasing their management responsibilities.
- Encourage women to participate in other non-land based and downstream aquaculture-related activities such as seed production and the collection and processing of feed and aquatic products.
- Monitor changes in resources management to assess the extent to which existing formal and informal frameworks enable women's agency, voice, claims and opportunities in fisheries to determine priorities for change.
- Ensure support for research on gender in fisheries.

Forestry

Forests play an important role in the production of wood and other products and provide a home to a diminishing, yet significant number of people in the sub-region and offer employment in, among other things, production of furniture and other wood products, protected area management, and plantation development. Forests are important for local, indigenous and rural people as they provide foods, energy and shelters to millions of them in ASEAN region.

The ASEAN Senior Officials on Forestry (ASOF) is responsible body for forestry cooperation in ASEAN. ASOF has set up vision of cooperation of which "Forest resources are sustainably managed at the landscape level to meet societal needs, both socio-economically and culturally, of the present and future generations, and to contribute positively to sustainable development". The goal for the forestry sector in ASEAN is to "enhance sustainable forest management for the continuous production of forest goods and services in a balanced way and ensuring forest protection and conservation of biological diversity, as well as optimise their utilisation, compatible with social and ecological sustainability.

Across Southeast Asia, 300 million people live in rural areas and up to 70 million people rely on forests for their livelihoods, nutrition and food security. Men and women often differently use and depend on non-wood forest products, with women often disproportionately relying on these products. Women contribute to the forest sector in many ways, both formal and informal, including through agroforestry, watershed management, tree improvement and forest protection. Women make up a significant proportion of the labour force in forest industries worldwide, especially in tree nursery work but also in activities ranging from logging to wood processing. Although women contribute substantially to the forest sector, their roles are not fully recognized or documented, and their wages and working conditions are usually inferior to those of men. Moreover, women rarely have equal involvement to men in the formulation, planning and implementation of forest policies. There are also gender differentiated impacts of deforestation: for men, deforestation may lead to a loss of income, while for women, it may increase their labour burden, especially in the time taken to gather fuelwood.

The economic, social, cultural, political and legal settings can differentially affect the rights of women and men to control forest resources and own land. Even where women have ownership rights to forests, they may not have equal access to opportunities for forest-generated income. Commonly, women may have access to NTFPs but not to wood resources, which is often the domain of men and also the most commercially valuable product in most forests. This gender differentiation has major implications for forest management and also genderbased power structures in communities. A study conducted by the World Bank found that giving women a bigger say in managing forest significantly improved conservation outcomes (World Bank 2012).

Another important stakeholders are the indigenous communities living in forest areas who depend on forest for their survival. World Bank estimates there are about 60 million forest dependent indigenous peoples, which researchers believe is an underestimation (Tauli- Corpuz, 2011). The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) fully recognizes the importance of land, territories and resources for Indigenous Peoples. This is further emphasized by the recognition of Indigenous Peoples right to Free Prior and Informed Consent (FPIC) as requirement to safeguard our right over our land, territories and resources and our right to self determination. Indigenous women are the most vulnerable to climate change effects and the significance of their traditional knowledge, values and practices, and the need to collectively build on what is left to foster community resilience, both for the present and future generations.

The following gender issues should be considered when implementing the SPA for ASEAN Cooperation in Forestry 2016-2025:

1. Encourage AMS to express gender responsive forestry policies in tenure, access rights, representation in capacity-building opportunities.
2. Initiate dialogue and organize consultation meetings at national and subnational levels to discuss relevant gender issues and gaps in existing forest policies and practices
3. Engage civil society organizations, community based organizations government institutions and relevant women's networks to ensure inclusive approaches to the development and implementation of gender-responsive forest policies
4. Organize gender-awareness seminars and workshops for forestry officials, including decision-makers and policy committee members, to ensure a deeper understanding of the relevance of the concerns of women in forest policies and programmes
5. Strengthen the capacities of institutions working in gender and gender focal points within institutions to engage at a substantive level in forestry-related consultations and in policy review and development processes
6. Encourage consultation with stakeholders in existing management structures to determine gender power imbalances and to facilitate the creation of more gender-balanced forestry institutions. This is important to increase women's representation in leadership roles and their participation in decision-making
7. Analyze employment trends between men and women, specifically the percentage of women with a forestry-related education, as well as the recruitment and retention rates of women in the forestry sector.
8. Ensure equitable sharing of benefits (for e.g. payments for environmental services) between women and men, where relevant.
9. Empower women by building their capacity to participate in forest land rehabilitation/ restoration schemes.
10. Monitor forest policies through gender lens in emerging forest governance frameworks.

Climate change

Southeast Asia is highly vulnerable to climate change as a large proportion of the population and economic activity is concentrated along coastlines; the region is heavily reliant on agriculture for livelihoods; there is a high dependence on natural resources and forestry; and the level of extreme poverty remains high. Women in developing countries are particularly vulnerable to climate change because they are highly dependent on local natural resources for their livelihood. Women charged with securing water, food and fuel for cooking and heating face the greatest challenges. Women experience unequal access to resources and decision-making processes, with limited mobility in rural areas. It is thus important to identify gender-sensitive strategies that respond to these crises for women. Women and men have different access to the resources (land, credit, agricultural technology etc.) to cope with the impacts of climate change: where women have fewer resources than men, this increases their vulnerability and undermines their capacity to adapt to a changing climate. Climate change adaptation and mitigation measures (for e.g. social protection mechanisms, weather-based insurance schemes, seasonal climate forecasts and measures related to forests or soil carbon storage) often do not address gender issues and specifically, women's constraints to participating in these measures. Women commonly face higher risks in responding to natural hazards and greater burden from the impacts of climate change. Although they have intimate local knowledge and are managers of common natural resources, they are often left out of the picture when decisions on climate action are made.

Member States at the annual Conference of the Parties (COP23), convening from 6 – 17 November 2017 in Bonn, Germany, adopted a new roadmap to incorporate gender equality and women's empowerment in climate change discourse and actions. The creation of a "Gender Action Plan" was agreed upon by the Parties at COP22, to bolster the role of women in climate action. The aim of the Gender Action Plan is to ensure that women can influence climate change decisions, and that women and men are represented equally in all aspects of the UN Framework Convention on Climate Change (UNFCCC), as a way to increase its effectiveness. The Gender Action Plan sets out, in five priority areas, the activities that will help achieve this objective.

- Increasing knowledge and capacities of women and men through workshops and information exchanges
- Increase equal and meaningful participation of women in national delegations
- Increase integration of the gender considerations—such as addressing women's specific vulnerability to natural disasters as well as understanding women's role in agriculture and food production, and supporting women entrepreneurs in the energy sector—into the areas of work of all Parties to the Convention
- Increase climate-related financial resources that integrate gender priorities and reflect the needs of women and girls.
- Improve tracking of the implementation of the gender-related decisions.

ASEAN Working Group on Climate Change (AWGCC) was established to oversee the implementation of the relevant action lines in the ASEAN Socio-Cultural Community (ASCC) Blueprint. One of the objective of the ASCC Blueprint 2025 is to realise a resilient community with enhanced capacity and capability to adapt and respond to social and economic vulnerabilities, disasters, climate change as well as emerging threats, and challenges.

The following gender issues should be considered when implementing the ASCC Blueprint 2025

- Conduct an in-depth and evidence-based analysis of women's and men's roles in sectors impacted by, and their strategies for coping with climate change
- Integrate gender perspectives throughout climate change programming in order to effectively address both women's and men's needs and priorities, ensure the full and meaningful participation of women and achieve gender-equitable outcomes
- Ensure mitigation and adaptation efforts to address sources of gender-based vulnerability, gender inequality and poverty
- Incorporate gender perspectives into national and international climate change finance mechanisms and strategies.

Food security and nutrition

ASEAN has sought to ensure food security for the region, enhance agricultural productivity, and maintain sustainability of natural resources. In recognition of the rapid changes in the global market and their impacts on the agriculture and forestry sectors, as well as of the structural changes within these sectors, as the result of industrialization, the Hanoi Plan of Action (HPA) and its successor Vientiane Action Programme (VAP) on the Food, Agriculture and Forestry Sectors, has called for "Enhance Food Security and Global Competitiveness of ASEAN's Food, Agriculture and Forestry Products through developing appropriate technologies to increase productivity and by promoting intra- and extra-ASEAN trade and greater private sector investment in the food, agriculture and forestry sectors".

Food and nutrition insecurity is a gender justice issue. Low status and lack of access to resources mean that women and girls are the most disadvantaged by the inequitable global economic processes that govern food systems and by global trends such as climate change. Evidence shows strong correlations between gender inequality and food and nutrition insecurity. Gender relations between and among men and women are important in determining vulnerability to food insecurity and malnutrition. Gender discrimination in the allocation of household resources, including those related to nutrition, may result in an increased incidence of malnutrition among women and girls: this may be compounded in times of crises. Greater vulnerability to food insecurity in times of crisis compounds the problems of food insecurity

The analysis by Institute of Development Studies (IDS 2014), on Gender and Food Security emphasizes that the need for those designing food and nutrition security policies and programmes to go beyond a focus on the first pillar of ensuring the availability of food in poor countries through 'short-term' strategies of food assistance and longer-term strategies focused on boosting agricultural production, which are reliant on industrial models and trade liberalisation. The 'four pillars' of food security – availability, access, utilisation and stability – that were identified at the World Summit on Food Security in 2009 provide useful entry points for a more comprehensive analysis of the problem of food insecurity and for addressing the current, insufficient, policy responses.

The following gender issues should be considered when implementing the ASEAN integrated Food Security Framework SPA on Food Security 2015-2020:

- Enhance coherence between policies on gender, agriculture, nutrition, health, trade and other relevant areas, through national and regional processes;
- Recognise and respect the local knowledge of farmers, including women farmers, for developing locally relevant food and nutrition security solutions which are gender just;
- Develop ecologically sound approaches to food production, such as agro-ecology, that promote sustainable farming and women's empowerment;
- Promote the implementation of all people's rights to food and, in particular, women's rights to other resources, such as land, at the local level; and
- Engage women and men members of farmer cooperatives and SMEs in challenging the inequitable distribution of food

Integrating gender into food, agricultural and forestry value chains

Closing the "gender gap" in agriculture can result in major production gains: the FAO report on The State of Food and Agriculture 2010-2011 determined that women's yields could grow by 20-30 percent if the gender gap in accessing agricultural inputs were closed, an increase that could raise total agricultural output in developing countries by 2.5-4 percent, which could in turn reduce the number of food insecure people in the world by 12-17 percent (FAO, 2011). Within this context, integrating gender considerations into the development of agrifood value chains is not only necessary from a human rights perspective; it is also a prerequisite to ensuring sustainable growth in areas of intervention.

Value chain programs designed with gender equitable principles can encompass both competitiveness and gender equality and lead to poverty reduction. It is important to map gender relations and roles along the value chain. The process is based on an accurate understanding of existing gender relations in a specific country context and for specific food, agriculture and forestry products. It should include mapping men's and women's

participation and benefits along the chain and identifying the factors that shape the gender patterns in value chain operations. Gender dynamics are inextricably bound up with the value chain development cycle: value chain efficiency is highly dependent on strong linkages and positive collaboration among actors, and women are important stakeholders all along value chains, though they are often invisible or overlooked.

The FAO Gender-Sensitive Value Chain (GSVC) Framework focuses on the individual level and looks into the gender based constraints which are the underlying causes of value chain inefficiency. The aim of GSVC is to identify gender based constraints at every node of the value chain, such as participation in the chain, access to and control over productive resources and access to and control over benefits (FAO 2016)

The following gender issues should be considered when integrating gender into agricultural value chains:

- Conduct research to understand man's and women's roles and responsibilities in agricultural value chains
- Address the capacity building needs of women in the agriculture value chain
- Support women's economic advancement
- Promote gender equitable market-driven solutions
- Design equitable benefit-sharing mechanism
- Include women in defining the problem and solution
- Provide opportunities for women to gain access to inputs and market information
- Assist women's group to purchase equipment to expand processing
- Assist women to overcome mobility constraints and social barriers
- Encourage more women-owned enterprises to join trade association
- Address safer working environment/work space for women's wellbeing

REGIONAL STRATEGY AND ACTION PLAN

Mainstreaming gender in food, agriculture and forestry

There are important gender perspectives in all aspects of food, agriculture and forestry. Gender inequalities in access to resources, including land, credit, extension services, information and technology, must be taken into account in developing food, agriculture and forestry policies, programmes and activities. Women make up a large number of the poor in communities that are highly dependent on local natural resources for their livelihood and are disproportionately vulnerable to and affected by climate change. Women in rural areas in developing countries have the major responsibility for household water supply and energy for cooking and heating, as well as for food security, and are negatively affected by drought, uncertain rainfall and deforestation. Because of their roles, unequal access to resources and limited mobility, women in many contexts are disproportionately affected by natural disasters, such as floods, fires, and mudslides. It is important to identify gender-sensitive strategies for responding to the environmental and humanitarian crises caused by climate change.

ASEAN Member States should be encouraged to mainstream gender perspectives into their national policies, action plans and other measures on sustainable development and climate change, through carrying out systematic gender analysis, collecting and utilizing sex-disaggregated data, establishing gender-sensitive indicators and benchmarks and developing practical tools to support increased attention to gender perspectives. Consultation with and participation of women in climate change initiatives should be considered and the role of women's groups and networks strengthened.

Framework for a strategy for mainstreaming gender in food, agriculture and forestry

The gender mainstreaming approach in food, agriculture and forestry identifies the overall strategic objective as: "To facilitate and promote resilience agricultural policies, structures and programmes to promote gender equality towards sustainable development by 2025".

Approach and advocacy

The objective is to promote and advocate for gender equality in food, agriculture and forestry policies, programmes, systems and structures at the regional and national levels.

The following activities may be considered:

- Intensify relevant collaboration and information sharing with regional and national bodies, organisations and development partners working in the area of gender
- Advocate for gender equality in food, agriculture and forestry policies with top-level management in relevant ASEAN sectoral working groups

- Promote the sharing of experiences and lessons learnt by awarding opportunities to women to take part in relevant regional and international forum on food, agriculture and forestry
- Ensure effective participation of gender experts and women's organisations in consultative processes for the formulation on adaptation and mitigation strategies and policies in food, agriculture and forestry
- Promote conservation agriculture and climate smart agriculture and (sustainable agriculture) related activities that integrate male and female smallholder farmers designed to address gender disparities
- Promote the production of materials and publications with the objective of addressing gender based stereotypes and cultural injustice in food, agriculture and forestry
- Promote an enabling environment for gender mainstreaming in food, agriculture and forestry.
- Identify existing policies on gender in the regional and national levels

Capacity Building

The objective is to strengthen and build the capacity of policy makers, field workers and farmers on appropriate approaches to integrating gender in agriculture and climate change. The following activities may be considered:

- Conduct assessment to identify the capacity needs of all stakeholders
- Support Member States to develop training modules on climate smart agriculture and gender
- Support Member States to develop capacity for gender impact assessment mechanisms.
- promote training of female agricultural extension agents
- Facilitate the development of gender-sensitive data bases and systems to consolidate women's knowledge and experience in sustainable resource use and in particular on agricultural production systems
- Facilitate the capacity building of team of trainers/focal persons on climate smart agriculture and gender.

Institutional Framework

The objective is to strengthen linkages between regional organisations and national institutions responsible for gender, agriculture and climate change at regional and national levels. The following activities may be considered:

- Develop a situation analysis of selected regional and national institutions to determine their capacity to integrate a gender perspective into agriculture and climate change initiatives.
- Promote exchange of best practices of institutions and organisations that support female farmers' leadership in farmer cooperatives and association

- Strengthen the increased participation of national gender machineries and mainstreaming of gender in the development of the national agriculture and investment frameworks
- Strengthen the organisational structure from the national to the local level, harmonization and localization of plans, and enhancement of monitoring and evaluation mechanism.

Building and strengthening strategic partnership

The objective is to create and strengthen strategic partnerships and tripartite relations at international and regional levels including public private partnerships. The following activities may be considered:

- Conduct study tours/visits to learn and share experiences on gender, agriculture and climate change initiatives
- Provide a platform to identify and engage potential fund sources specific to gender mainstreaming activities

Information, Communication and Publicity

The objective is to establish an information management system focusing on gender, agriculture and climate change. The following activities may be considered:

- Improve awareness and avail adequate agriculture and climate change information especially targeting women, youths and men
- Develop knowledge-based information management system focusing on gender, agriculture and climate change
- Establish and disseminate gender sensitive information and materials on agriculture and climate change

Research, Innovation and technology

The objective is to promote gender-equitable research supporting climate smart agricultural technologies. The following activities may be considered:

- Conduct baselines on gender, conservation agriculture practices and technologies in the Member States.
- Strengthen research to obtain more comprehensive data on gender aspects of agriculture and climate change to support climate smart agriculture.
- Intensify collaborative and participative research and development including the upgrading of relevant and appropriate technologies, information and knowledge systems to ensure that gender equality issues are addressed.

IMPLEMENTATION PROCESS

The recommendations in the AMAF's Approach serve as reference guides for AMS in their efforts to promote gender equality in the food, agriculture and forestry sectors. SOM-AMAF, with support from ATWGARD, ASWGL, ASWGC, ASWGF, ASOF and other relevant Working groups may accordingly be guided where relevant by the recommendations in the AMAF's Approach. The ATWGARD, in close coordination with the ASEAN Secretariat may need to seek support from ASEAN partners and different stakeholders in the implementation of the AMAF's Approach as reference guides.

REFERENCES

ASEAN, 2017: Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025 and Sustainable Development Goals

ASEAN, 2016: Projected Gender Impacted of the ASEAN Economic Community

ASEAN, 2015: Vision and Strategic Plan for ASEAN Cooperation in Food, Agriculture and Forestry, 2016-2025

ASEAN, 2010: Ha Noi Declaration on the Enhancement of Welfare and Development of ASEAN Women and Children

Black, R. E., L. H. Allen, Z. A. Bhutta, L. E. Caulfield, M. de Onis, M. Ezzati, C. Mathers, J. Rivera, 2008 for the Maternal and Child Undernutrition Study Group: Maternal and Child Undernutrition: Global and Regional Exposures and Health Consequences. The Lancet 371(9608):243–260

FAO. 2016. Developing gender-sensitive value chains – A guiding framework. Rome

FAO, 2013: CEDAW- Convention on the elimination of all forms of discrimination against women. A tool for gender – sensitive agriculture and rural development policy and programme formulation

FAO (2013) Understanding and integrating gender issues into livestock projects and programmes: A checklist for practitioners.

FAO, 2012: How to mainstream gender in forestry

FAO, 2008 The World Bank and IFAD: Gender in Agriculture, Sourcebook

FAO, 2008: World Fish Center and World Bank: Small-scale capture fisheries – A global overview with emphasis on developing countries: a preliminary report of the Big Numbers Project. FAO and WorldFish Center, Rome & Penang, 62 pages

Porter, M. (2006) Gender and fisheries: A global perspective. Paper presented at Global Coasts: Gender, Fisheries and Contemporary Issues, International Symposium, University of Tromso, Norway, June 2006

UN, 2010: *UN Joint programmes integrating gender issues in food security, agriculture and rural development*

Tauli-Corpuz, Victoria. 2011. *Indigenous women, climate change and forests. Baguio City, Philippines: Tebtebba Foundation.*

World Bank, *World Development Report 2012: Gender Equality and Development, Washington, DC, 2012*

World Bank, *Food and Agriculture Organization & International Fund for Agricultural Development, 2009. Gender in agriculture source book*

Annex 1: Recommended gender intervention in sectoral SPAs

The following SPAs were reviewed to formulate the recommendations for the approach.

Strategic Plan for ASEAN Cooperation in Food, Agriculture and Forestry (2016- 2025)

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Enhance quantity and quality of production with sustainable, 'green' technologies, resource management systems, and minimise pre- and postharvest losses and waste	1.13. Standardise and harmonise concepts, methods and presentation of national statistics and strengthen technical capacity of AMS to conduct multi country studies and undertake accurate situational analysis and planning.	Develop harmonized concept and methods on integrating gender in Food, Agriculture and Forestry sectors
ST2	Enhance trade facilitation, economic integration and market access	2.5. Established business linkages among the potential agricultural cooperatives and farmers organisation.	Assure participation of women cooperatives and organizations
ST3	Ensure food security, food safety, better nutrition and equitable distribution	3.5 Improve food security and nutrition through diversifying food sources and strengthening the quality and variety of food production and improving the food value chains.	Participation of women in the decision making and implementation of this activity is crucial.
ST4	Increase resilience to climate change, natural disasters and other shocks	4.7 Integrate gender issues into climate friendly agriculture, fishery and forestry practices to reduce the higher vulnerability of women to the social and economic impact of natural disasters and climate change.	Build capacity to integrate gender
ST5	Assist resource constrained small producers and SMEs to improve productivity, technology and product quality, to meet global market standards and increase competitiveness in line with the ASEAN Policy Blueprint on SME Development	5.5 Implement competition policies to ensure a level playing field for producers and SMEs and to prevent unfair exploitation by large firms with market power in integrated supply chains.	While considering the level playing field, there is need to consider gender equity issues as well.

Strategic Thrust	Description	Activities	Gender Interventions
ST6	Strengthen ASEAN joint approaches on international and regional issues	6.2 Present ASEAN common position on the issues affecting FAF sector in regional and global fora	Present ASEAN common position on the gender equality in food, agriculture and forestry issues affecting FAF sector in regional and global fora
ST7	Promote sustainable forest management	7.3 Promote dialogue with the private sector about improving quality & efficiency of the timber industry and processing of other forest product	Promote regional dialogue on gender issues in sustainable forest management

SPA for ASEAN Cooperation in Agricultural Research and Development 2016-2020

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Enhance quantity and quality of production with sustainable, 'green' technologies, resource management systems, and minimise pre- and post-harvest losses and waste	1.2 Increase private sector participation in policy discussions, programme and project formulation, research and development (R&D) and provide incentives and foster an enabling environment for public- private partnerships (PPPs) towards enhancing productivity and quality	Recognize that 'private sector' also includes women owned SMEs
		1.6 Increase investments in collaborative R&D activities, and strengthen existing regional collaboration among AMS	Conduct collaborative research on gender and agriculture in AMS.
ST3	Ensure food security, food safety, better nutrition and equitable distribution	3.1 Promote nutrition education and consumer awareness of healthy diets	Focus on women as agents of change for advocating healthy diets and consuming micronutrient-rich foods
ST4	Increase Resilience to Climate Change, Natural Disasters and Other Shocks	4.1.1 Build the capacity of ATWGARD in proposal writing to explore funding support from the climate funds.	Build their capacity to integrate gender into the proposals.
		4.4 Integrate gender issues into climate friendly agriculture, fishery and forestry practices to reduce the higher vulnerability of women to the social and economic impact of natural disasters and climate change. (SPFAF 4.7)	Build capacity to integrate gender into the existing and new programs and policies.
ST6	Strengthen ASEAN joint approaches on international and regional issues	6.2 Present ASEAN common position on the issues affecting FAF sector in various Regional and International Fora	Engagement of ATWGARD to present ASEAN common position on the issues affecting Gender and FAF

SPA on ASEAN Cooperation in Livestock 2016-2020

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Enhance intra- and extra ASEAN trade in livestock commodities	1.1 Improved policy and regulatory environment to facilitate trade	Advocate appropriate authorities to address social and specifically gender issues of livestock production and processing.
ST2	Disease control and food safety to expand trade and protect human health		
ST3	Sustainable productivity improvement, natural resources management and livestock impact on the environment and climate change	3.1. More productive and globally competitive livestock sector	Undertake research on gendered impact on livestock sector due to climate change.
ST4	Support smallholder livestock for poverty alleviation, food security, nutrition, and gender equality	4.1. Livestock serve as an important pathway for poverty alleviation, improved nutrition and gender equality	Activity 4.1.1. Make policy advocacy for low interest livestock credit accessible to the poor, especially women, through micro-credit, SME and other programmes designed for poverty alleviation.

SPA on ASEAN Cooperation on Crops 2016-2020

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Enhance quantity and quality of production with sustainable, 'green' technologies, resource management systems, and minimise pre- and post-harvest losses and waste;	1.6 Provide institutional mechanisms and appropriate incentives for PPP in R&D and technology diffusion, collaborating with the private sector to identify priority, high pay off research issues, and utilise it as a channel for both technology generation and diffusion.	Collaborate with private sector to develop 'Business Case for Gender Equality in this fast growing crops sub-sectors'
ST2	Enhance trade facilitation, economic integration and market access		In accordance with the WTO's Buenos Aires Declaration on Women and Trade 2017, ensure equal participation in trade related issues.
ST3	Ensure food security, food safety, better nutrition and equitable distribution	3.4 Improve food security and nutrition through diversifying food sources and strengthening the quality and variety of food production and improving the food value chains	Engage with women groups and SMEs to advocate for diversification of food sources.
ST4	Increase resilience to climate change, natural disasters and other shocks	4.2 Promote access to climate finance resources to support climate smart/friendly agriculture	Build capacity on integrating gender into proposals to access climate finance.

Strategic Thrust	Description	Activities	Gender Interventions
ST5	Assist resource constrained small producers and SMEs to improve productivity, technology and product quality, to meet global market standards and increase competitiveness.		Similar to the Livestock SPA, Advocate for low interest credit accessible to the poor, especially women, through micro-credit, SME and other programmes designed for poverty alleviation.
ST6	Strengthen ASEAN joint approaches on international and regional issues	6.2 Present ASEAN common position on the issues affecting Crop sector in regional and international fora	Coordinating and strengthening joint positions on gender issues at international and regional fora and organizations

SPA on ASEAN Cooperation in Fisheries 2016-2020

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Enhance quantity and quality of production with sustainable, 'green' technologies, resource management systems, and minimize pre- and post-harvest losses and waste	1.1.4. Consultation with relevant stakeholders to identify and address investment needs (sustainable production, management systems, post-harvest investment).	Gender equal participation of fishers and women leaders of private sectors in the stakeholder discussions
		1.4.1 Update and strengthen national fisheries policy, legal and institutional frameworks through consultation and engagement of government agencies, the private sector, fishers, civil society and other relevant stakeholders [refer to POA 7]	Ensure equal participation of women and men
ST2	Enhance trade facilitation, economic integration and market access;	2.4.2 Promote strategic partnership with ASEAN Fisheries cooperatives and farmers organization, producers, consumers and traders.	Include Women farmer groups and organizations
ST3	Ensure food security, food safety, better nutrition and equitable distribution	3.2.2. Collaborate with relevant ASEAN bodies in finalizing and implementing the ASEAN Food Safety Policy, accelerate the establishment of food safety standards	Collaborate with ASEAN bodies such as ASCC Gender equal engagement on the Food Safety Policy
ST4	Increase resilience to climate change, natural disasters and other shocks;	4.1.1. Promote collaboration between concerned AMS and Partners	Conduct research on gender and climate change issues in the fisheries sectors.
ST5	Assist resource constrained small producers and SMEs to improve productivity, technology and product quality, to meet global market standards and increase competitiveness.	5.3.1 Ensure that national programs and policies on fisheries and aquaculture address social, economic and environmental aspects of sustainable fisheries and aquaculture to improve food security, livelihoods, employment and poverty alleviation	Emphasize gender issues while discussing social issues.

Strategic Thrust	Description	Activities	Gender Interventions
ST6	Strengthen ASEAN joint approaches on international and regional issues affecting the FAF sector	6.2.1. Promote dialogue among AMS to establish common positions on Fisheries issues that impact the ASEAN Region	Include AMS common positions in gender issues in fisheries.

SPA for ASEAN Cooperation in Forestry 2016-2025

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Enhance quantity and quality of production with sustainable, 'green' technologies, resource management systems, and minimize pre- and post-harvest losses and waste;	1.3. Enhancement of Forest Management involving Community living within and surrounding the Forest for the Sustainability of the Forest and Prosperity of the People.	While reviewing customary and statutory tenure arrangements, highlight gender equality and equity issues.
		1.4 Adoption of Sustainable Management Practices for Non-wood Forest Products, such as Medicinal Plants, Rattan, Bamboo, etc.	In most communities women have indepth knowledge of Non- wood Forest Product therefore it is imperative to involve them in the design of the sustainable management practices.
ST2	Enhance trade facilitation, economic integration and market access	2.2. Enhancement of Co-operation in Forest Products Development.	Conduct a value chain assessment on forest products with a gender lens. Involve women in the assessment to capitalize on their knowledge and skills for Forest Product Development.
ST3	Ensure food security, food safety, better nutrition and equitable distribution	3.1 Integration of Climate Change in the Forestry Sector	Assess the gendered impacts and risks of planned climate change mitigation and adaptation in the forestry sector.
ST4	Increase resilience to climate change, natural disasters and other shocks	4.2. Enhancement of Sharing Experiences and Lessons Learned.	Facilitate cross- learning among AMS in gender, forestry and climate change, ASEAN Working Group on social forestry
ST5	Assist resource constrained small producers and SMEs to improve productivity, technology and product quality, to meet global market standards and increase competitiveness in line with the ASEAN Policy Blueprint on SME Development;	5.2. Enhancement of ASEAN Joint Approaches in Addressing Regional and International Forestry Issues.	Adopt and articulate ASEAN common positions on Gender and Forestry and influence the outcomes of the deliberations at international and regional fora and organizations

ASEAN Integrated Food Security (AIFS) Framework and Strategic Plan of Action on Food Security in the ASEAN Region (2015- 2020)

Strategic Thrust	Description	Activities	Gender Interventions
ST1	Strengthen Food Security, including Emergency/ Shortage Relief Arrangement	1.2. Sustainability of the food supply chain with enhancement to the seed industry	Create platform for sharing social and gender issues in seed industry
ST2	Promote conducive food market and trade	2.1.3. Gather data and conduct analysis thereof to support the AFSRB technical meetings, such as policy scenarios for the rice market, impact assessment of contract growing on small-scale farmers, and related studies	Analysis can focus on gender issues on food market and trade, specifically in rice and fish.
ST3	Strengthen integrated food security information systems to effectively forecast, plan and monitor supplies and utilization for basic food commodities	3.1.3. Conduct timely, periodic assessment of the state and outlook for rice and other key food commodities in ASEAN	The assessment can also include social and gender issues related to rice and other key food commodities in ASEAN
ST4	Promote sustainable food production	4.1.7. Expand and promote farmers' knowledge beyond agriculture to include agribusiness and entrepreneurship	Capacity development on gender issues in agribusiness and entrepreneurship
ST5	Encourage greater investment in food and agri-based industry to enhance food security	5.1.1. Prepare roadmaps for demand- oriented agri-based and food regional value chains	Equal participation women groups, cooperatives and SMEs in preparation of the roadmap.
ST6	Identify and address emerging issues related to food security	6.1.1. Conduct a study on the long-term implications of bio-energy development and food security in AMS.	Study should also include section on social, gender implication.
ST7	Utilize Nutrition Information to support evidence-based food security and agriculture policies	7.1.1. Conduct regional workshops to identify/define key nutrition information and indicators, collection/compilation methodologies required for regular food security monitoring and policy development	This workshop should integrate gender issues in nutrition.
ST8	Identify policies, institutional and governance mechanisms for nutrition-enhancing agriculture development in AMS	8.1. Awareness and recognition on importance of nutrition by key stakeholders of food, agriculture and forestry	Participation of women is critical in these awareness raising activities.
ST9	Develop and strengthen nutrition-enhancing food, agriculture and forestry policies/programs and build capacity for their implementation, monitoring and evaluation	9.1. Nutrition-enhancing food, agriculture and forestry policies and programmes developed and strengthened	Build capacity to integrate gender into the Nutrition-enhancing food, agriculture and forestry policies and programmes



Adopted at the 40th AMAF Meeting
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**ASEAN MULTI-SECTORAL FRAMEWORK FOR
CLIMATE CHANGE: AGRICULTURE AND FORESTRY
TOWARDS FOOD AND NUTRITION SECURITY AND
ACHIEVEMENT OF SDGs
(Proposed Integrated Framework for AFCC Component 4)**

2018

Executive Summary

Agriculture and forestry constitute 30.08% and 48.82% respectively, or a total of 78.89% (342,454,000 ha) of Southeast Asia's total land area of 434,070,000 ha. By the mere size of their coverage alone, it is no doubt that these sectors are important pillars in contributing to food and nutrition security in the region as well as to the achievement of sustainable development goals (SDGs). For instance, many ASEAN countries belong to the top 3 world ranking in many agri-food commodities produced. While both agriculture and forestry's contribution to gross domestic product (GDP) of the ASEAN countries is declining, they are still important sources of livelihood for many people especially in lower-income economies (Teng 2016). A study by the Center for International Forestry Research (CIFOR) estimated that forests and tree-based agricultural systems contribute directly and indirectly to the livelihoods of around one billion people globally (Sunderland et al. 2013). The same study argues that wild foods from forests are important for food and nutrition security while trees and forests are crucial in the provision of ecosystem services to agriculture.

Agriculture and forestry in the Southeast Asian Region, however, are among the more vulnerable sectors in terms of threats associated with climate change. Yet, they also offer great potential for safeguarding food and nutrition security and contributing to the attainment of SDGs. These are key sectors that can contribute to the stabilization of atmospheric greenhouse gas concentrations through the reduction of emission by source from deforestation and forest degradation and removals by sinks through forest rehabilitation, sustainable forest and land (e.g. wetlands) management, and improved agricultural practices, among others. More than other sectors, agriculture and forestry also offer great possibility to link mitigation and adaptation measures that can produce better outcomes.

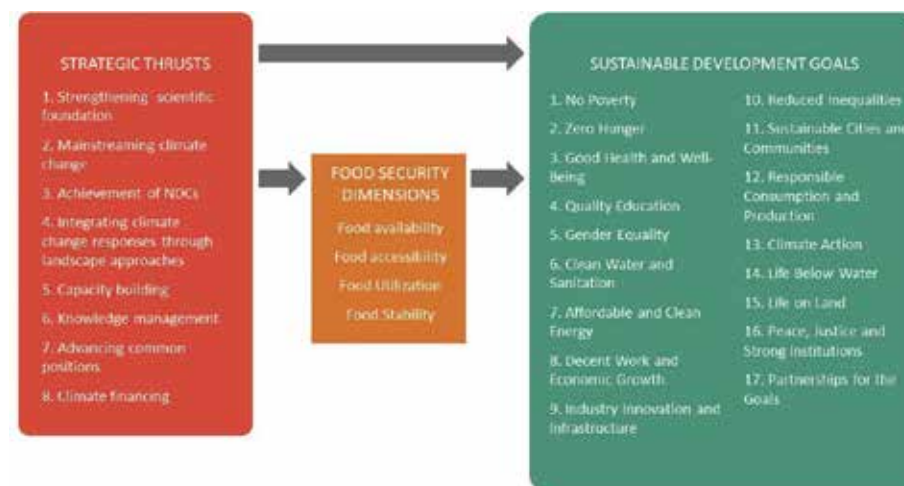
Recognizing that Southeast Asia is the one of the most vulnerable regions of the world in terms of adverse climate change impacts that can undermine food and nutrition security and the attainment of SDGs, and capitalizing on its potential to strengthen the resilience of its people and ecosystems towards a more sustainable future, the development of a more comprehensive multi-sectoral strategic framework that builds on the existing ASEAN Multi-sectoral Framework on Climate Change: Agriculture and Forestry Towards Food Security (AFCC) was deemed of central importance. The AFCC Ad Hoc Steering Committee recognizes the need to adopt a common conceptual understanding to guide the development of AFCC's Component 4, namely, a comprehensive multi-sectoral strategic framework and roadmap for implementation for 2020 and beyond. During its 5th AFCC Steering Committee Meeting held in Bali, Indonesia in December 2016 with Singapore

Senior Officials Meeting of the ASEAN Ministers of Agriculture and Forestry (SOM-AMAF) as Chair, the AFCC agreed to develop such a conceptual framework and requested the ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC) through its support for the ASEAN Working Group on Social Forestry (AWG-SF), formerly the ASEAN Social Forestry Network, to take the lead.

The process of developing this Proposed Integrated Framework for AFCC Component 4 and a roadmap for its implementation is meant to facilitate dialogue and collaboration across the different sectors of the ASEAN Sectoral Ministerial Bodies, and promote regional cooperation on matters related to food security and climate change. A major challenge in crafting the framework is how to simultaneously address local and national needs and priorities such as food security while contributing to broader development goals particularly the SDGs. To address this challenge, the proposed framework has the following three core elements:

1. A set of strategic interventions consisting of strategic thrusts and actions based on proven and promising approaches that address climate change-related issues and in the food, agriculture, and forestry (FAF) sectors;
2. The dimensions of food security that are expected to be enhanced by these strategic interventions; and
3. The SDGs to which both the strategic interventions and the achievement of food security and its dimensions are expected to contribute.

Proposed Conceptual Framework



Taking into consideration internationally accepted and officially adopted concepts, definitions and processes, the proposed integrated framework is grounded on the following conceptual building blocks: 1) governance and institutional mechanisms; 2) food and nutrition security; 3) livelihoods and asset building; 4) landscapes, ecosystems and well-being; and 5) climate change vulnerability, resilience, adaptation and mitigation. The framework is designed to contribute to food and nutrition security and achievement of the SDGs through the strategic thrusts and actions proposed below:

Strategic Thrust 1: Mainstreaming cross-sectoral, collaborative, inclusive approaches and mechanisms to addressing climate-related challenges and opportunities into regional, national, and local policies, programs, plans and investments to contribute to food security and Sustainable Development Goals (SDGs)

Action 1: Strengthen the legal basis and regulatory framework of climate change initiatives by creating enabling laws and policies in the food, agriculture and forestry (FAF), energy, transport, industry, water, urban, and other relevant sectors in support of food and nutrition security and SDGs.

Action 2: Establish appropriate institutional arrangements and support systems to effectively formulate, implement and monitor and evaluate climate-smart, rights-based and gender sensitive policies, programs, plans and investments in the FAF and other relevant sectors.

Action 3: Put in place appropriate mechanisms for stakeholder engagement and participatory/inclusive processes, including the active partnership of the private sector, and recruit climate change champions at different levels to mobilize stakeholders' support and facilitate successful implementation.

Action 4: Institute effective, accessible and transparent and participatory monitoring and evaluation systems to track progress on policies, programs and investments and assess outcomes and impacts in relation to food security and the achievement of relevant SDGs.

Strategic Thrust 2: Strengthening the scientific foundation with local knowledge on climate change and food security to improve decision-making at various levels with the participation of civil society and the private sectors

Action 1: Increase investment in research, development and extension services (RDE) for improved technologies and management systems to enhance resilience and facilitate climate-smart/friendly agriculture, land use, and fishery, in cooperation with research programs and networks on the basis of best practices.

Action 2: Institute national and regional climate change assessments similar to IPCC with special emphasis on food security.

Action 3: Support regional and national collaborative researches on climate change and food security similar to the approach of the Asia-Pacific Network for Global Change Research Asia-Pacific Network for Global Change Research (APN) within the context of capacity development including participatory action research (PAR).

Action 4: Formulate and implement innovative geographically-based climate-smart/friendly pilot projects (e.g. organic agriculture, drought/salt tolerant varieties, system of rice intensification, sustainable livelihoods, etc.) in vulnerable areas (e.g. coastal area) including participatory approaches to research, for possible upscaling.

Action 5: Conduct regular science-policy dialogues including different stakeholders (government, private and civil society) to ensure policy uptake of relevant researches.

Strategic Thrust 3: Facilitating the achievement of Nationally Determined Contributions (NDCs) in the agriculture and forestry sectors

Action 1: Establish national level data bases based on common standards, with provision for information sharing among ASEAN Member States in support of NDC implementation.

Action 2: Formulate, implement and communicate long-term low carbon emission strategies (low carbon society) and resilience-building adaptations in the relevant sectors under the AFCC umbrella in support of NDCs.

Action 3: Mobilize support of different stakeholders, including the private sector, from local to international level to ensure NDC compliance.

Action 4: Promote collective action among the ASEAN Member States to facilitate mobilization of financial support for NDC implementation, including through joint proposal development.

Action 5: Institute an effective monitoring, evaluation system and reporting system of NDC performance in the agriculture and forestry sectors to keep track of progress through time and promote transparency and accountability.

Strategic Thrust 4: Advancing integrated climate change mitigation and adaptation responses through landscape approaches to safeguard food and nutrition security, promote sustainable livelihoods, and improve climate resiliency especially among poor farmers and other vulnerable groups

Action 1: Develop and promote the adoption of appropriate climate-smart technologies, including indigenous practices for agriculture, fisheries and forestry that are suitable for landscape approaches and promote food security (e.g. organic agriculture that does not pollute water bodies and fisheries, rainwater harvesting technologies, community water storage system, etc.) *Action 2:* Document and upscale existing good and innovative practices like agroforestry, climate-smart agriculture, integrated watershed/coastal resources management/ ridge to reef approaches, etc., and traditional knowledge and practices that contribute to food and livelihood security and sustainable natural resources management.

Action 3: Integrate ecosystem-based adaptation and sound climate mitigation strategies like Reducing Emission from Deforestation and Forest Degradation Plus (REDD+) and other mechanisms in land use planning and development using landscape approaches.

Action 4: Conduct long-term monitoring and assessment of environmental and social changes in landscape/watershed areas and its impacts on food and livelihood security and climate resiliency with emphasis on smallholder farmers, fishers, indigenous people, and other vulnerable groups and provide responsive strategies to enhance their resilience.

Action 5: Adopt and continuously improve appropriate governance models suitable for landscape approaches to promote successful interventions.

Action 6: Create enabling policies, legislation and related institutional mechanisms including incentives to promote the wider application of landscape approaches that contributes to food security and sustainable development.

Action 7: Continue to assess the effectiveness of integrated climate change adaptation and mitigation responses, i.e., actions that reduce society's vulnerability while reducing greenhouse gas emissions, in the context of landscape approaches using appropriate metrics of effectiveness.

Strategic Thrust 5: Initiating and sustaining comprehensive capacity development of local, national and regional institutions to achieve food and nutrition security and sustainable development in the context of climate change

Action 1: Evaluate the impacts/effects of past and present climate-related capacity development initiatives in Southeast Asia including the potential for coordination and synergies among and within countries, to improve effectiveness and impacts of present and future capacity development efforts.

Action 2: Conduct comprehensive capacity need assessments at the local, national and regional levels on the human resource and organizational needs of relevant institutions to effectively tackle the challenge of food and nutrition security amidst changing climate.

Action 3: Invest more on continuing capacity development by developing and implementing comprehensive, collaborative, and long-term capacity development programs to address the challenge of climate change including safeguarding food security.

Action 4: Integrate climate science in school curricula (including extra curricula) from the elementary to the post-graduate level, linking climate change responses with the importance of environment-related initiatives like agroforestry, reforestation, organic agriculture, biodiversity conservation, landscape approaches and other activities that improve ecosystem services while promoting food security.

Action 5: Institute mechanisms and appropriate incentive systems to maintain the gains of capacity development.

Strategic Thrust 6: Strengthen knowledge management mechanisms to safeguard food and nutrition security amidst changing climate

Action 1: Evaluate the effectiveness of past and existing climate change capacity development for knowledge management systems at the national and regional level to enhance their effectiveness.

Action 2: Develop and institutionalize protocols for data and information sharing related to climate change and food and nutrition security at the national and regional levels.

Action 3: Institutionalize innovative methods of climate information sharing at the grassroots level, e.g. effective early warning system from drought, floods and storms; market information on prices of commodities, etc., to support food and nutritional security and ensure more open access to relevant information.

Action 4: Strengthen national and regional dialogues, coordination and cooperation to distill and share experiences and knowledge on the impacts of and responses to climate change in agriculture, fisheries, livestock, and forestry sectors towards food and nutrition security and sustainable development.

Action 5: Put in place institutionalized mechanisms for relevant working groups to communicate and exchange information amongst themselves outside and in addition to regularly scheduled ASEAN meetings.

Strategic Thrust 7: Providing and strengthening platforms for developing and advancing ASEAN common interests on issues related to climate change and food security in international fora.

As the vision of ASEAN integration increasingly becomes reality, ASEAN Member States will have to better coordinate and more strategically communicate to advance their common interests in international forums. The ASEAN Vision for Food, Agriculture and Forestry along with a number of issue and sector-based regional cooperation frameworks, guidelines and action plans provide solid foundation for defining and advancing Member States' common interests in international forums related to climate change, food security and the SDGs. In order to facilitate the clarification of ASEAN common interests and planning of concerted efforts for their advancement, the following actions are proposed:

Action 1: Strengthen regional and cross-Ministerial coordination as follow-up on advancing ASEAN Common interests on food security at international fora.

Action 2: Strengthen the AFCC as a platform where all relevant sectoral bodies could be engaged in developing ASEAN common interests on issues related to food, agriculture and forestry and climate change at international fora.

Action 3: Strengthen the capacity of ASEAN Member States individually and collectively to implement decisions and resolution from UNFCCC COP SBSTA and other negotiation processes.

Strategic Thrust 8: Securing climate change financing to support climate change initiatives supportive of food and nutritional security and sustainable development

Action 1: Explore non-traditional sources of funding like carbon tax and payment for ecosystem services to finance food security-related initiatives.

Action 2: Strengthen partnership with the private sector to increase climate funding.

Action 3: Promote climate budget tagging to ensure government support for climate change initiatives.

Action 4: Coordinate efforts at the ASEAN regional level to secure funding under the Paris Agreement mechanism.

If adopted and implemented this proposed framework can serve as a starting point for a roadmap for action on climate change and food and nutrition security in line with the SDGs and the Paris Climate Agreement. It can facilitate dialogue, enhance sectoral and regional

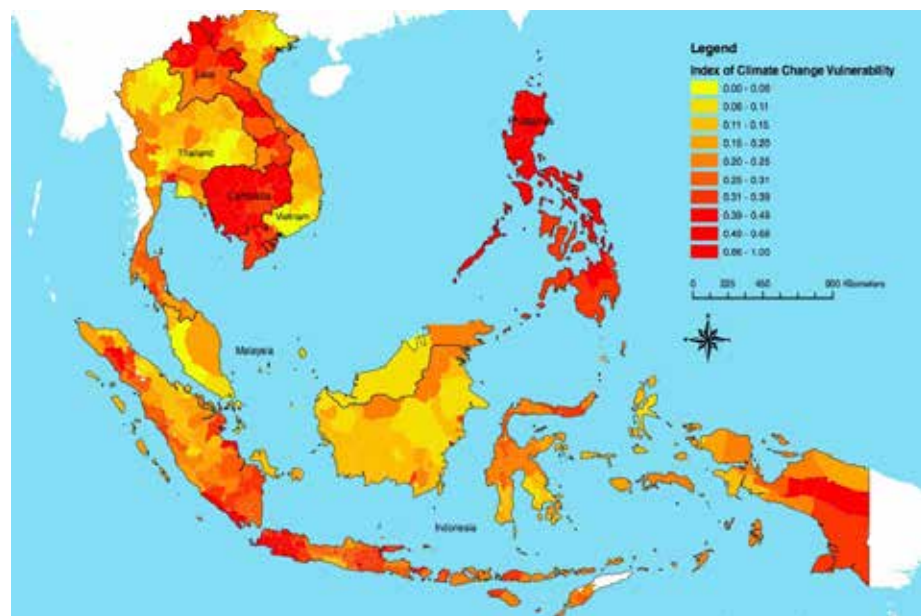
cooperation, and provide guidance in regional and national priority setting. The present AFCC Ad Hoc Steering Committee will need to evolve into a permanent Steering Committee with a strong mandate to lead in the implementation of the proposed framework and monitor progress. As a living document, the framework will have to be regularly reviewed, ideally every 3-5 years, and updated to keep up with new developments and effectively respond to the changing needs and priorities of the ASEAN region.

Context of ASEAN Regional Cooperation on Climate Change and Food Security

With most Southeast Asian economies heavily relying on agriculture for employment and natural resources for livelihood and well-being despite the sector's declining share of GDP, it is expected that the region will be immensely impacted by adverse effects of climate change. According to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), communities situated along coastal and delta regions are at risk of being flooded as sea level is expected to rise. Specifically, the Lower Mekong River Basin (LMB), which produces half of the world's rice supply, will be affected, submerging farmlands in Vietnam and decreasing rice production yield due to saltwater intrusion in Myanmar (IPCC 2014; Dasgupta et al. 2009; Wassmann et al. 2009). The area has also tallied erratic observations of climate change such as temperature rise, rainfall variability, intensified flooding and drought and sea level rise (ICEM, 2010; IRG, 2010).

Specific areas in Southeast Asia have been identified as being susceptible to climate change impacts. To understand the current level of vulnerability to climate change in the region, the Environment and Economy Program for Southeast Asia (EEPSEA) has conducted a study that produced a climate change vulnerability index. The assessment in **Figure 1** shows that "all regions in the Philippines, the Mekong River Delta in Vietnam, almost all regions in Cambodia, North and East Lao PDR, Bangkok region in Thailand, and West Sumatra, Western Java, and Eastern Java of Indonesia are among the most vulnerable regions in Southeast Asia."

Figure 1. Climate Change Vulnerability in Southeast Asia



Source: Yusuf and Francisco (2009); IDRC (2009)

Market impacts related to economic activity in farmlands and fisheries in Indonesia, the Philippines, Thailand and Viet Nam, will be affected, projecting a mean loss of 2.2% of GDP by 2100. Non-market risks such as health and ecosystems, as well as disaster and calamity risks, can cost up to 5.7% and 6.7% of GDP (ADB 2009).

Aside from climate change and natural resources degradation, food security is another pressing problem that has been a major area of priority in Southeast Asia following the food price crisis in 2007-2008 and 2010-2011. The region has demonstrated several issues in each of the four dimensions of food security as defined by the Food and Agricultural Organization namely, food availability, food accessibility, food utilization and food stability.

With approximately 625 million people and a rising middle class, the population of Southeast Asia has been undergoing dynamic changes in migration and employment in recent years. **Table 1** indicates the relevant statistics to food security in Southeast Asia. Most countries in the region have been experiencing rural to urban migration, given better employment opportunities and access to basic services in the metropolis (Amare et al. 2012). The migration of people has, one way or another, led to a decline in the labor force for the agricultural sector in the region and a shift in employment to the services and

manufacturing sector. With a rapidly growing population in need of more food supply and a decrease in people in rural areas and workers in the agricultural sector, the region's food availability is definitely at risk.

Table 1. Statistics Relevant to Food Security in Southeast Asia

	Rural-Urban Population (as % of population)				Share of Employment (%)				Share of GDP (%)			
	Rural		Urban		Agriculture		Non-Agriculture		Agriculture		Non-Agriculture	
	2000	2016	2000	2016	2000	2016	2000	2016	2000	2016	2000	2016
Brunei	28.8	22.5	71.2	77.5	-	-	-	-	1.0	1.2	99.0	98.8
Cambodia	81.4	79.1	18.6	20.9	73.7	64.3 (2014)	26.3	35.7 (2014)	37.9	26.3	62.1	73.7
Indonesia	58.0	45.5	42.0	54.5	45.3	31.9	54.7	68.1	15.6	14	84.4	86
Lao PDR	78.0	60.3	22.0	39.7	82.7 (2001)	72.2 (2010)	17.3 (2001)	27.8 (2001)	48.5	19.5	51.5	80.5
Malaysia	38	25.2	62	74.8	16.7	11.4	83.3	88.6	8.3	8.8	91.7	91.2
Myanmar	73.0	70.5	27.0	29.5	-	53.2	-	46.8	57.2	25.5	42.8	74.5
Philippines	52.0	55.7	48.0	44.3	37.1	27.0	62.9	73.0	14.0	9.7	86	90.3
Singapore	0	0	100.0	100.0	0.1	0.1	99.9	99.9	0.1	0.0	99.9	100
Thailand	68.9	55.5 (2013)	31.1	44.5 (2013)	44.2	31.2	55.8	68.8	8.5	8.3	91.5	91.7
Viet Nam	75.8	65.5	24.2	34.5	65.1	41.8	34.9	58.2	24.5	18.1	75.5	81.9

Source: ADB. 2017. *Key Indicators for Asia and the Pacific 2017*. Manila, Philippines: Asian Development Bank (ADB).

The food accessibility and food utilization dimensions of food security can be linked to rampant development issues in Southeast Asia. Despite the region's fast-growing economy, growth is still not inclusive and the poor have yet to reap the benefits of growth to combat hunger, malnutrition and undernourishment. According to the Global Hunger Index of 2015 (**Figure 2**), the Philippines, Indonesia, Lao PDR and Myanmar are experiencing serious level of hunger, while Thailand, Malaysia and Viet Nam have moderate levels of hunger.

Figure 2. Global Hunger Index 2015



Source: IFPRI (2015)

Malnutrition and undernourishment are good indicators of food insecurity. The “double burden of malnutrition” has been evident in especially in children, setting off the alarms to physical and mental health risks. ASEAN’s latest statistics on nutrition rates among Southeast Asian children under 5 years reported that an average of 31.5% or 17.7 million are stunted, 4 million are wasted and 4.5 million are either overweight or obese (ASEAN 2016).

Food stability can also be affected by climate variability. Intermittent changes in rainfall and temperature that cause the warming of surface waters pose serious threats on the region’s vast coastal regions and the already dwindling supply of fish and marine resources. Food production will be greatly affected, for example projections show that rice yields are estimated to decrease by 50% by 2100 (ADB 2009).

In response to the overriding concerns on climate change and food security, the ASEAN has addressed these issues through various policy responses and initiatives by its sectors and

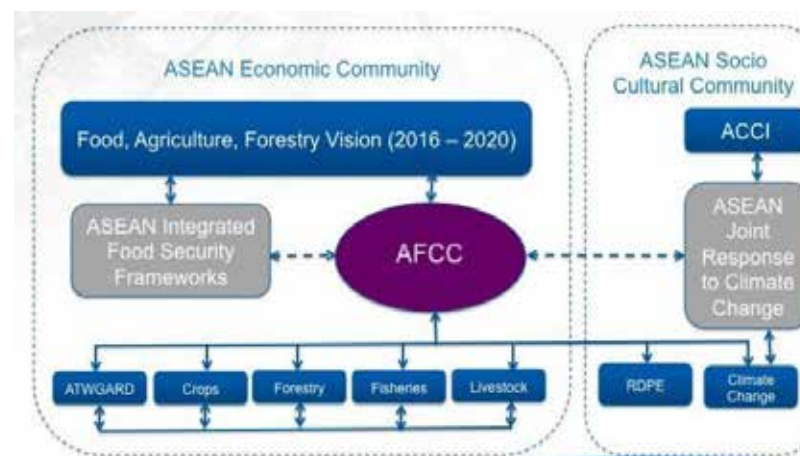
working groups. In 2009, the ASEAN adopted the ASEAN Integrated Food Security (AIFS) Framework, supported with the Strategic Plan of Action – Food Security (SPA-FS) 2009-2013, as a regional initiative and systematized approach to food security. Its two-fold aim is to ensure long-term food security in ASEAN and improve the livelihood of farmers in the region. It is now on its second phase as a new AIFS and SPA-FS 2015-2020 has been adopted.

Moreover, with the increasing relevance of climate change and its effects on various sectors of the regional economy, the Vision and Strategic Plan for ASEAN Cooperation on Food, Agricultural and Forestry (FAF) was endorsed and adopted during the 37th SOM-AMAF in 2015. The FAF envisages a “competitive, inclusive, resilient and sustainable Food, Agriculture, and Forestry (FAF) sector integrated with the global economy, based on a single market and production base contributing to food and nutrition security and prosperity in the ASEAN community”.

The ASEAN Socio-Cultural Community (ASCC) Pillar supervises all ASEAN programs for cooperation and joint activities on climate change through the ASEAN Climate Change Initiative (ACCI) that works under the purview of the ASEAN Senior Officials on Environment (ASOEN). The ASEAN Working Group on Climate Change (AGWCC) is the implementing arm of the ACCI through the ASEAN Joint Response to Climate Change.

All aforementioned frameworks and bodies (Figure 3) work in cooperation and coordination with one another and are relevant to AFCC, which will be comprehensively discussed in the next section.

Figure 3. ASEAN Frameworks and Bodies Relevant to the AFCC



Source: ASEAN (2015)

Overview of AFCC and its Modalities

The ASEAN Multi-Sectoral Framework on Climate Change: Agriculture, Fisheries and Forestry Towards Food Security (AFCC) was created to address Strategic Thrust 6 (Identify and address emerging issues related to Food Security) of the ASEAN Integrated Food Security Framework (AIFS) and Strategic Plan of Action on Food Security (SPA-FS) 2009-2013. The AFCC Framework links the three ASEAN Community pillars, namely ASEAN Economic Community (AEC), ASEAN Political Security Community (APSC) and ASEAN Socio-Cultural Community (ASCC) to comprehensively tackle the region's persistent issues on climate change and food security. It also captures related components of the Initiative for ASEAN Integration (IAI) Strategic Framework and IAI Work Plan 2.

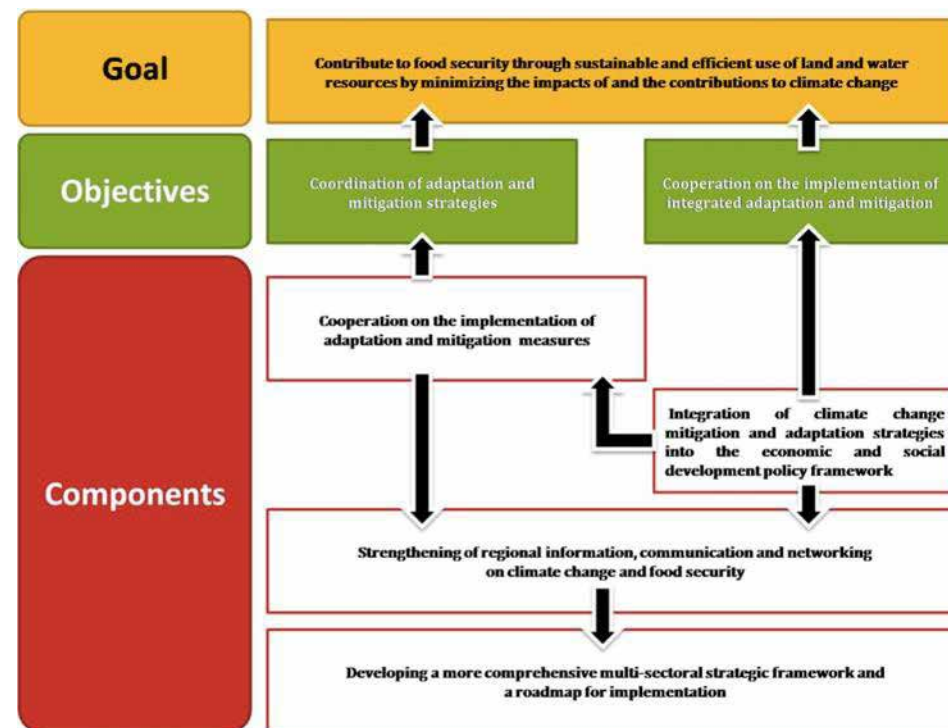
The AFCC was created under the purview of the Ad-Hoc Steering Committee on Climate Change and Food Security (AHSC-CCFS), headed by the Senior Officials Meeting of the ASEAN Ministers of Agriculture and Forestry (SOM-AMAF). The Framework is implemented by working groups under the ASEAN Ministers on Agriculture and Forestry (AMAF) that deals with livestock, crops, fisheries, forestry and agricultural R&D (Figure 4). It further extends to coordination and collaboration with other sectoral bodies on environment, rural development and poverty eradication, disaster management, health and energy.

Figure 4. AFCC Coordination Structure



In general, the Framework aims to contribute to food security through sustainable, efficient and effective use of land, forest, water and aquatic resources by minimizing the risks and impacts of climate change. It provides an organized platform for the creation of actions and activities and supports open dialogue and cooperation amongst different ASEAN bodies and working groups to address current threats, challenges and concerns. To ensure that the goal of this Framework is fully realized, two main objectives are highlighted: (1) coordination on the development of adaptation and mitigation strategies; and (2) cooperation on the implementation of integrated adaptation and mitigation measures. The goal and objectives support the Strategic Plan of Action (SPA) which is further explained by components and its thrusts as shown in Figure 5 and elaborated in Box 1.

Figure 5. AFCC Goal, Objectives and Components



Source: ASEAN (2009)

Box 1. AFCC Components and Strategic Thrusts

(ASEAN, http://www.asfnsec.org/www2/wp-content/uploads/2016/10/Flyer_AFCC_web_version.pdf. Retrieved 24 April 2017)

Component 1: Integration of climate change mitigation and adaptation strategies into the economic and social development policy framework

Strategic Thrust 1: Assess the impacts of climate change on and risks for Agriculture, Fisheries, Livestock and Forestry and contributions of those sectors to climate change (in line with AEC A6 and A7, ASCC B3 and B7, IAI D 10);

Strategic Thrust 2: Assess environmental impacts and risks, specifically on biological diversity (in line with ASCC D8);

Strategic Thrust 3: Assess the socio-economic impacts and risks of climate change, and identify the most vulnerable and priority geographic areas and communities for climate change adaptation and mitigation; *Strategic Thrust 4:* Formulate food security measures to address and respond to climate change to enhance sustainable development and strengthen livelihoods (in line with AEC A7);

Strategic Thrust 5: Incorporate climate change adaptation and mitigation measures and strategies into national development strategies, policies and programs (in line with AEC A6 and A7, ASCC B3, S3).

Component 2: Cooperation on the implementation of adaptation and mitigation measures
Strategic Thrust 1: Strengthen land- and water-use planning at national and sub-national levels (AEC A6 and A7);

Strategic Thrust 2: Cooperate on the promotion of integrated adaptation and mitigation of agricultural production systems including crops and livestock management (in line with AEC 7, ASCC B3, B7, S1, S2); *Strategic Thrust 3:* Cooperate on the promotion of adaptation and mitigation in forestry (in line with AEC A6 and A7, ASCC D 11, IAI D 11, S1, S2);

Strategic Thrust 4: Cooperate on the promotion of adaptation and mitigation in fisheries (AEC A6 and A7); *Strategic Thrust 5:* Foster co-benefit approaches integrating environmental concerns such as biodiversity conservation into climate change-related measures (in line with ASCC D1 and D8, S1, S2);

Component 3: Strengthening of national and regional knowledge sharing, communication and networking on climate change and food security

Strategic Thrust 1: Synergize databases and information systems related to climate change and food security (in line with AEC A7, ASCC D6);

Strategic Thrust 2: Strengthen national and regional cooperation, coordination, consultation and communication on the impacts of and response to climate change on agriculture, fisheries, livestock and forestry towards food security (in line with AEC A6 and A7, AIFS C3);

Strategic Thrust 3: Strive for coordinated or common positions on climate change and food security (AEC A7); *Strategic Thrust 4:* Strengthen regional partnerships and coordination with ASEAN partners on climate change and food security (AEC A7).

Component 4: Developing a more comprehensive multi-sectoral strategic framework and a roadmap for implementation.

Note: AEC – ASEAN Economic Community; ASCC – ASEAN Socio-Cultural Community; IAI – Initiative for ASEAN Integration; AIFS – ASEAN Integrated Food Security Framework

These components and thrusts are solidified and supplemented by the proposed Key Performance Index (KPIs) wherein key contributions, expected results and contributing thrusts are identified.

The AHSC CCFS, chaired by the SOM-AMAF, meets once in a year and is attended by the Chair of the ASEAN Working Groups related to the AFCC, the relevant Divisions of the ASEAN Secretariat, and Partner Organizations. During the 5th AHSC Meeting held in Bali, Indonesia on 1-2 December 2016 which was chaired by Singapore, important recommendations were made that relate to the development of a common conceptual understanding to guide the development of AFCC's Component 4 and facilitate learning and collaboration across different sectors impacted by issues of climate change and food security. The 5th AHSC Meeting agreed to: 1) develop multi-sectoral conceptual framework for climate change and food security in the context of the SDGs, Paris Agreement and the ASEAN Vision on FAF with the ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC) as the lead; 2) ensure the participation and representation of all AMS and relevant AWGs in developing said conceptual framework and in identifying priority areas for collaboration; and 3) engage cross-sectoral working groups on the proposed framework from all concerned SOMs.

Building Blocks for the Proposed AFCC Component 4 Framework: Towards a Common Conceptual Understanding

The AFCC Component 4 framework proposed below is anchored on officially adopted and internationally accepted concepts and definitions as well as proven and promising approaches and strategies that relate to agriculture and forestry in the context of safeguarding food and nutrition security considering climate change challenges and the 2030 Sustainable Development Goals (SDGs). It has five building blocks which include concepts and approaches on: 1) governance and institutional mechanisms; 2) food and nutrition security; 3) livelihoods and asset building; 4) landscapes, ecosystems and well-being; and 5) climate change vulnerability, resilience, adaptation and mitigation. These building blocks are briefly summarized here and elaborated in Appendix A.

Governance and institutional mechanisms

Keen interest in advancing a more sustainable development base has triggered the establishment of various governance and institutional mechanisms that simultaneously address the need for socioeconomic development while sustaining the natural resource base. The last few years have witnessed the emergence of such mechanisms at the global and regional levels to serve as the framework to guide the collective action of the community of nations towards a set of common goals.

At the international level, the year 2015 was a breakthrough in the history of development and environment fields with the creation of two major international frameworks relevant to sustainable development and climate change that will impact on food security: 1) the **Sustainable Development Goals (SDGs)** covering the period of 2016 to 2030 adopted in September 2015 by the UN General Assembly in New York; and 2) the **Paris Climate Agreement**, which was agreed in December 2015 and entered into effect on 4 November 2016 with the ratification of majority of the UN-member countries.

At the heart of the SDGs, officially known as “Transforming our world: the 2030 Agenda for Sustainable Development,” is a set of 17 “Global Goals” and 169 targets (**Table 2**). The overarching challenge is “to eradicate poverty and hunger in all forms, to combat inequalities within and among countries, to build peaceful, just and inclusive societies, to protect human rights and promote gender equality and the empowerment of women and girls, and to ensure the lasting protection of the planet and its natural resources by 2030” (UN 2015).

Table 2. Sustainable Development Goals

1. No Poverty	End poverty in all its forms everywhere
2. Zero Hunger	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Good Health and Well-Being	Ensure healthy lives and promote well-being for all at all ages
4. Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Gender Equality	Achieve gender equality and empower all women and girls
6. Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all
7. Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all
8. Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth full and productive employment and decent work for all.
9. Industry Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduced Inequalities	Reduce inequality within and among countries
11. Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable
12. Responsible Consumption and Production	Ensure sustainable consumption and production patterns
13. Climate Action	Take urgent action to combat climate change and its impacts
14. Life Below Water	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development
15. Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and biodiversity loss
16. Peace, Justice and Strong Institutions	Promote just, peaceful and inclusive societies
17. Partnerships for the Goals	Revitalize global partnership for sustainable development

Source: UN (2015)

On the other hand, the Paris Agreement is an agreement within the UNFCCC involving a comprehensive strategy of addressing the global challenge of climate change through greenhouse gases emissions mitigation, adaptation and finance starting in the year 2020. An important feature of the agreement is the “nationally determined contributions” (NDCs) which is the contribution that each individual country should make in order to achieve the worldwide goal that sets the limit for carbon emissions. **Table 3** provides the checklist on NDCs for the Southeast Asian ADB developing member countries. As reflected in the table, the Paris Agreement advances an innovative policy that provides a balanced treatment

between climate change mitigation and adaptation which is an improvement of the previous international efforts that mainly favored climate change mitigation measures.

Table 3. Summary of Intended Nationally Determined Contributions (NDCs) of ASEAN Member States

	Conditionality		Mitigation Targets					Sectoral Measure						Adaptation Measures	Financing Requirements
	Conditional	Combined	Increased Use of Renewable Energy	Enhanced Energy Efficiency	Reduced Carbon / GHG Emission Intensity	Reduced Carbon / GHG Emission	Carbon Neutral / Ecosystems Neutral GHG Emission	Agriculture and Natural Resources	Energy	Industry and Trade	Transport	Urban	Water		
Brunei*															
Cambodia	√					√		√	√	√	√	√		√	√
Indonesia		√				√		√	√	√	√	√		√	
Lao PDR	√		√					√	√	√	√	√	√	√	√
Malaysia		√			√			√	√	√	√	√	√	√	
Myanmar	√							√	√	√	√	√	√	√	
Philippines	√					√								√	
Singapore**	n/a	n/a	√	√	√			√	√	√	√	√	√	√	√
Thailand		√				√		√	√	√	√	√	√	√	√
Viet Nam		√			√	√		√	√	√	√	√	√	√	√

Source: Amponin and Evans (2016); Note: Checklist does not include Brunei and Singapore

* not available

** the analysis of Singapore's NDC was not part of the original source but used the same methodology

At the ASEAN regional level, food security and climate change initiatives and commitments are governed by the following frameworks and initiatives:

1. ASEAN Integrated Food Security (AIFS) Framework – a regional umbrella for food security-related initiatives, including bioenergy, climate change;
2. ASEAN Climate Change Initiative (ACCI) – a comprehensive and cross-sectoral platform for coordination and cooperation; and
3. ASEAN Multi-Sectoral Framework on Climate Change: Agriculture, Fisheries and Forestry towards Food Security (AFCC) – an initiative under AIFS Framework that provides inputs to ACCI

Food and nutrition security

Article 25 of the 1948 Universal Declaration of Human Rights recognized the right to food as part of the right to an adequate standard of living which is also enshrined in Article 11 of the 1966 International Covenant on Economic, Social and Cultural Rights. Moreover, the United Nations Committee on Economic, Social and Cultural Rights adopted the General Comment No. 12 in 1999 which states that “the right to adequate food implies the right to

food in quantity and quality sufficient to satisfy the dietary needs of individuals, the right to food that is free from adverse substances and acceptable within a given culture, as well as sustainable access to this food” (Gordillo and Jeronimo 2013).

There are four widely acceptable pillars of food security as stated in the in 2009 Declaration of the World Summit on Food Security: availability, access, utilization, and stability (FAO, 2008). **Box 2** specifies the definition of each of the four pillars as contained in the AIFS Framework Document (2014).

Box 2. Four Dimensions of Food and Nutrition Security
(FAO, www.foodsec.org/docs/concepts_guidepdf. Retrieved 24 April 2017)

Physical AVAILABILITY of food. Food availability addresses the “supply side” of food security and is determined by the level of food production, stock levels and net trade.

Economic and physical ACCESS to food. An adequate supply of food at the national or international level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives.

Food UTILIZATION. Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals.

STABILITY of the other three dimensions over time. Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status.

For food security objectives to be realized, all four dimensions must be fulfilled simultaneously.

The nutritional dimension is integral to the concept of food security. As contained in the AIFS Framework Document (2014):

Nutrition security exists when all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care.

Agriculture, which in the 2009 Declaration of the World Summit on Food Security comprises crops, livestock, forestry and fisheries, is at the core of advancing food and nutrition security. The same AIFS document therefore defines the characteristics of nutrition-enhancing agriculture as follows:

Nutrition-enhancing agriculture: *When agriculture [that] effectively and explicitly incorporates nutrition objectives, concerns and considerations to improve nutrition through increasing the availability, access to and consumption of a nutritionally adequate diet from a variety and diversity of nutritious and safe foods.*

Livelihoods and asset building

The concept of **Sustainable Livelihood (SL)** was developed in response to the challenge of addressing poverty in an integrated manner instead of the traditional narrow view of “livelihood” associated mainly with economic improvement. The idea of sustainable livelihoods was first introduced at the global level by the Brundtland Commission on Environment and Development and was further expanded in the 1992 United Nations Conference on Environment and Development (UNCED) which advocated for the achievement of sustainable livelihoods as a broad goal for poverty eradication. Such broader conceptualization is captured in the early work of Chambers and Conway who defined livelihood in the following manner:

A livelihood comprises the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels in the short and long term (Chambers and Conway, 1991, p.6).

The concept of Sustainable Livelihood Approach (SLA) has been adopted as a useful framework not only for reducing poverty among poor rural poor communities across sectors but also for reducing vulnerability and enhancing adaptive capacities of upland and coastal communities to climate and weather-induced disasters. SLA involves the transformation of six types of capital assets: 1) human (e.g. education and training, health); 2) physical (e.g. roads, communication facilities); 3) social (e.g. social network, trust, reciprocity); 4) financial (e.g. savings, credit); 5) natural (land, water); and 6) political (e.g.

distribution of rights and power) in order to produce desirable outcomes like improved income, increased in well-being, reduced vulnerability, improved food security, and more sustainable use of natural resource-base.

Landscapes, ecosystems and well-being

The concepts of *landscapes* and *ecosystems and well-being* have gained prominence among scholars and researchers in various fields as well as development agencies, policy makers, and development practitioners. They have been powerful conceptual tools in policy and decision-making, integrated environment and natural management, and the promotion of sustainable development through area-based interventions.

Sayer et al. (2017) defined landscape approach as follows:

Landscape approach is “a long-term collaborative process bringing together diverse stakeholders aiming to achieve a balance between multiple and sometimes conflicting objectives in a landscape or seascape”.

On the other hand, interest in the links between **ecosystems** and **human well-being** has gained momentum at the international and national levels with the conduct and completion of the **Millennium Ecosystem Assessment (MA)**. The 2005 MA report defines ecosystem as follows:

An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment, interacting as a functional unit. Humans are an integral part of ecosystems. A well-defined ecosystem has strong interactions among its components and weak interactions across its boundaries. A useful ecosystem boundary is the place where a number of discontinuities coincide, for instance in the distribution of organisms, soil types, drainage basins, or depth in a water body. At a larger scale, regional and even globally distributed ecosystems can be evaluated based on a commonality of basic structural units.

The MA reports highlighted the strong link between ecosystem condition and human well-being. The Executive Summary of Chapter 3 and the MA framework define the elements of human well-being and how these are linked to the condition of ecosystems and the services they provide:

Human well-being has several key components: *the basic material needs for a good life, freedom and choice, health, good social relations, and personal security. Well-being exists on a continuum with poverty, which has been defined as “pronounced deprivation in well-being.”*

Ecosystems are essential for human well-being through their provisioning, regulating, cultural, and supporting services.

Climate change vulnerability, resilience, adaptation and mitigation

With the recognition of climate change being one of the greatest threats to human and biophysical systems in the 21st century, there has been an explosion of related concepts to better understand this phenomenon and implement effective responses to minimize adverse impacts from the global to local level. The following key concepts which are officially adopted by the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) in its 2014 Fifth Assessment Report are helpful in these regard¹:

Climate change, based on **IPCC 2014**, “refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.”

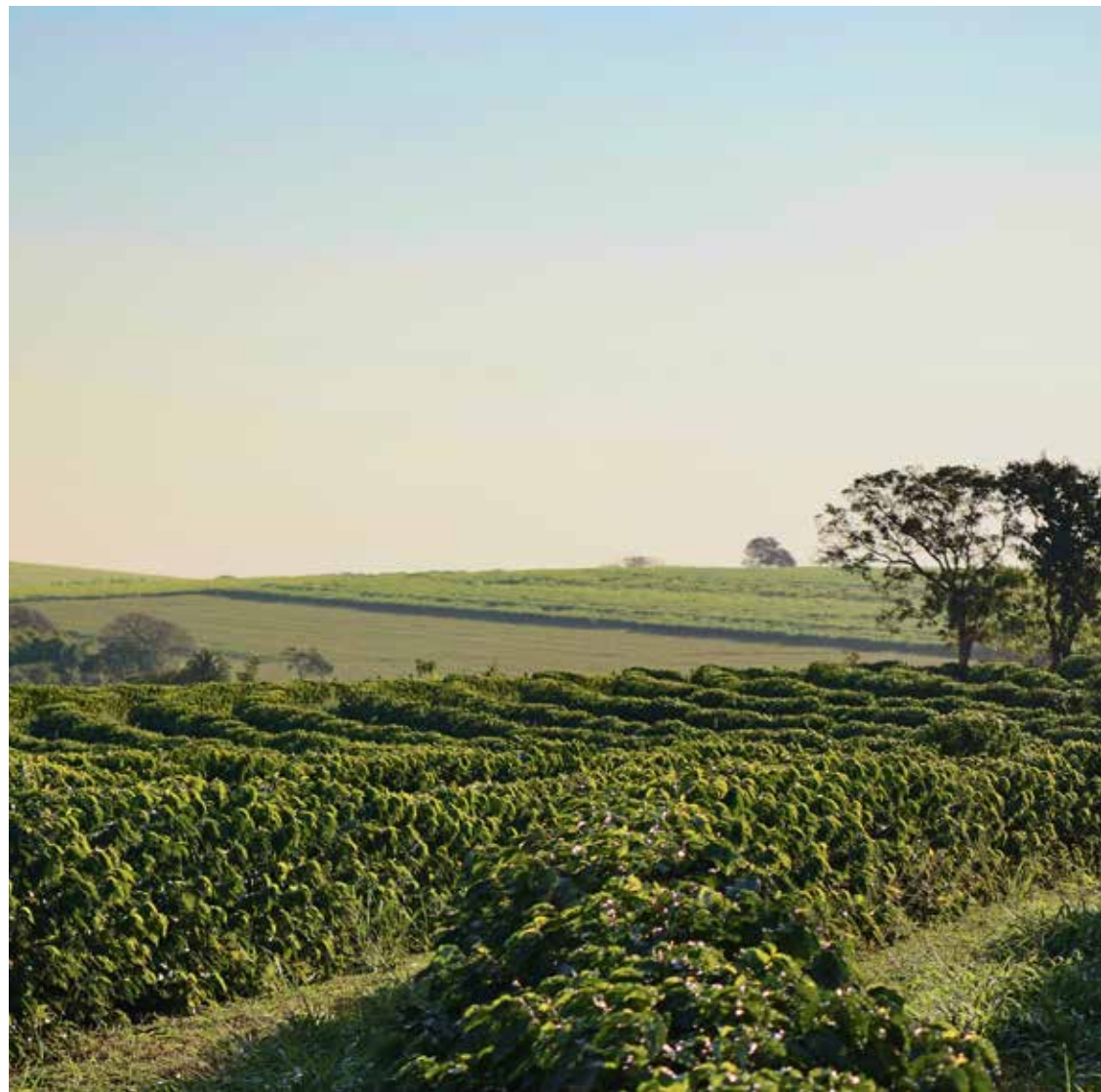
Climate variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability), or to variations in natural or anthropogenic external forcing (external variability).

Vulnerability. The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt”.

Resilience. The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.

Adaptation. The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effect.

Mitigation (of climate change). A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs). This report (IPCC 2014) also assesses human interventions to reduce the sources of other substances which may contribute directly or indirectly to limiting climate change, including, for example, the reduction of particulate matter emissions that can directly alter the radiation balance (e.g., black carbon) or measures that control emissions of carbon monoxide, nitrogen oxides, Volatile Organic Compounds and other pollutants that can alter the concentration of tropospheric ozone which has an indirect effect on the climate.



¹ Except when indicated, the following definitions are from the Glossary of Terms of the IPCC 2014.

The Proposed Framework

The proposed ASEAN Multi-Sectoral Framework on Climate Change: Agriculture and Forestry Contributing to Food Security and Sustainable Development Goals (AFCC-SDGs) otherwise known as the proposed “AFCC Component 4 Framework”, builds on the AFCC that was endorsed by the ASEAN Ministers of Agriculture and Forestry (AMAF) in November 2009 in Bandar Seri Begawan, Brunei Darussalam. It incorporates salient points of the recent global agreements of the United Nations (UN) that relates to climate change and sustainable development particularly the 2015 Paris Agreement and the 2030 SDGs. At the regional level, it also incorporates the existing initiatives of the ASEAN such as the IFS Framework and Strategic Plan of Action, ACCI, AFCC, and the Vision and Strategic Plan for ASEAN Cooperation in FAF (2016-2025) and the proposed ASEAN public-private partnership framework for technology development which has now been expanded to cover technology development for the food, agriculture and forestry sector. Moreover, it integrates some of the officially adopted and generally accepted concepts in the fields of agriculture, forestry, rural development, climate change, and governance as well as some of the proven and promising approaches in these fields relevant to food security and sustainable development.

Goal

The proposed integrated framework for AFCC aims to contribute to food and nutrition security through people-centered, equitable, efficient and sustainable use and management of land, forest, water, and aquatic resources by minimizing the risks and enhancing resilience to climate change and weather-induced disasters towards the achievement of the Sustainable Development Goals.

Proposed Strategic Thrusts and Actions

Drawing from the conceptual building blocks discussed in section 3, this section proposes a set of strategic interventions consisting of strategic thrusts and actions based on proven and promising approaches to deal with the potential adverse impacts of climate change while safeguarding food security, with the end view of contributing to the SDGs. These approaches and strategic interventions are proposed as AFCC’s Component 4 Framework.

Strategic Thrust 1: Mainstreaming cross-sectoral, collaborative, inclusive approaches and mechanisms to addressing climate-related challenges and opportunities into regional, national, and local policies, programs, plans and investments to contribute to food security and relevant Sustainable Development Goals

In the context of climate change, mainstreaming refers to the incorporation of climate change considerations into established or on-going development programs, policies or management strategies, rather than developing adaptation and mitigation initiatives separately (FAO, 2009). The close linkage between development and climate change responses has put to fore the idea of ‘mainstreaming’ to tackle both issues in an integrated way (Ayers et al., 2014). Mainstreaming involves the integration of information, policies and measures into ongoing development planning and decision-making to address climate change and a way of making more sustainable, effective, and efficient use of resources than designing and managing policies separately from ongoing activities.

Progress towards mainstreaming climate change concerns in the ASEAN region from national down the local level varies. In general, however, more efforts are needed to mainstream climate change concerns in the region to advance food security and help achieve the SDGs. To effectively mainstream climate change concerns into regional, national, and local policies, programs, plans and investments in ASEAN towards contributing to food security and relevant sustainable development goals, the following strategic actions should be pursued:

1. Strengthen the legal basis and regulatory framework of climate change initiatives by creating enabling laws and policies in the FAF, energy, transport, industry, water, urban, and other relevant sectors in support of food and nutrition security and SDGs.
2. Institute appropriate institutional arrangements and support systems to effectively formulate, implement and monitor and evaluate climate-smart, rights-based and gender sensitive policies, programs, plans and investments in the FAF and other relevant sectors.
3. Put in place appropriate mechanisms for stakeholder engagement and participatory/inclusive processes, including the active partnership of the private sector, and recruit climate change champions at different levels to mobilize stakeholders’ support and facilitate successful implementation.
4. Institute effective, accessible and transparent and participatory monitoring and evaluation systems to track progress on policies, programs and investments and assess outcomes and impacts in relation to food security and the achievement of relevant SDGs.

Strategic Thrust 2: Strengthening the scientific foundation with local knowledge on climate change and food security to improve decision-making at various levels with the participation of civil society and the private sectors

Sound scientific foundation is the bedrock of successful climate change responses. Policies and decision-making should therefore be based on sound scientific researches instead of the rule of thumb or political interests. ASEAN lags behind in terms of scientific

studies that relate to food production systems and food security involving both observed and projected climate change impacts (Hijioka et al. 2014). It has also limited studies on the terrestrial and inland ecosystems as well as on the projected impacts of climate change on human health, security, livelihoods and poverty. In the area of technology development, ASEAN is also in urgent need of post-harvest technologies to minimize post-harvest losses. Moreover, studies on the contribution of local and indigenous knowledge in addressing climate change issues are wanting. To strengthen the scientific foundation of decision-making in the region on matters that concern climate change and food security, the following key strategic actions may be pursued:

1. Increase investment in research, development and extension services (RDE) for improved technologies and management systems to enhance resilience and facilitate climate- smart/friendly agriculture, land use, and fishery in cooperation with research programs and networks on the basis of best practices (Action Program 4.1 of the Strategic Plan for the FAF Sector 2010-2025).
2. Institute national and regional climate change assessments similar to IPCC with special emphasis on food security.
3. Support regional and national collaborative researches on climate change and food security similar to the approach of the Asia-Pacific Network for Global Change Research Asia-Pacific Network for Global Change Research (APN) within the context of capacity development including participatory action research (PAR).
4. Formulate and implement innovative geographically-based climate-smart/friendly pilot projects (e.g. organic agriculture, drought/salt tolerant varieties, system of rice intensification, sustainable livelihoods, etc.) in vulnerable areas (e.g. coastal area) including participatory approaches to research, for possible upscaling.
5. Conduct regular science-policy dialogues including different stakeholders (government, private and civil society) to ensure policy uptake of relevant researches.

Strategic Thrust 3: Facilitating the achievement of Nationally Determined Contributions in the agriculture and forestry sectors

All the ASEAN countries are signatories to and have ratified the Paris Agreement. It will therefore be beneficial not only to the region but also to the global community to facilitate the NDC achievement of each of the ASEAN Member States towards food security and to contribute to the achievement of SDGs in the ASEAN region. Towards this end, the following strategic actions are presented for consideration:

1. Establish national level databases based on common standards, with provision for information sharing among ASEAN Member States in support of NDC implementation.
2. Formulate, implement and communicate long-term low carbon emission strategies (low carbon society) and resilience-building adaptations in the relevant sectors under the AFCC umbrella in support of NDCs.

3. Mobilize support of different stakeholders, including the private sector, from local to international level to ensure NDC compliance.
4. Promote collective action among the ASEAN Member States to facilitate mobilization of financial support for NDC implementation, including through joint proposal development.
5. Institute an effective monitoring, evaluation system and reporting system of NDC performance in the agriculture and forestry sectors to keep track of progress through time and promote transparency and accountability.

Strategic Thrust 4: Advancing integrated climate change mitigation and adaptation responses through landscape approaches to safeguard food and nutrition security, promote sustainable livelihoods, and improve climate resiliency especially among poor farmers and vulnerable groups.

Landscape approaches are driving a paradigm shift in the international environmental and development community (Freeman et al. 2015). A landscape approach is a long-term collaborative process bringing together diverse stakeholders aiming to achieve a balance between multiple and sometimes competing objectives in a landscape. It has the potential to holistically balance multiple goals related to both environmental and non-environmental processes, for example, livelihoods and sustainable resource management in a given geographic scale. It has also been recognized by the Convention on Biodiversity (CBD) as a promising approach in improving the sustainable use of biodiversity (UNEP 2011; Sayer et al. 2013). Assessment of literature and experiences on landscape approaches points to its great potential to contribute to food security and to achievement of SDGs.

Despite its increasing prominence and the great potential of landscape approaches to realize multiple and competing objectives, such potentials have yet to be fully realized owing to its limited application in the ASEAN context especially as a key component of addressing the threats of climate change. It is therefore crucial to advance integrated climate change mitigation and adaptation responses through landscape approaches to safeguard food security, promote sustainable livelihoods, and improve climate resiliency especially among the poor farmers and other vulnerable sectors. In view of this, the following key strategic actions are proposed:

1. Develop and promote the adoption of appropriate climate-smart technologies, including indigenous practices for agriculture, fisheries and forestry that are suitable for landscape approaches and promote food security (e.g. organic agriculture that does not pollute water bodies and fisheries, rainwater harvesting technologies, community water storage system, etc.).
2. Document and upscale existing good and innovative practices, e.g. agroforestry, climate- smart agriculture, integrated watershed/coastal resources management/

ridge to reef approaches, etc., and traditional knowledge and practices that contribute to food and livelihood security and sustainable natural resources management.

3. Integrate ecosystem-based adaptation and sound climate mitigation strategies like Reducing Emission from Deforestation and Forest Degradation Plus (REDD+) and other mechanisms in land use planning and development using landscape approaches.
4. Conduct long-term monitoring and assessment of environmental and social changes in landscape/watershed areas and its impacts on food and livelihood security and climate resiliency with emphasis on smallholder farmers, fishers, indigenous people, and other vulnerable groups and provide responsive strategies to enhance their resilience.
5. Adopt and continuously improve appropriate governance models suitable for landscape approaches to promote successful interventions.
6. Create enabling policies, legislation and related institutional mechanisms including incentives to promote the wider application of landscape approaches that contributes to food security and sustainable development.
7. Continue to assess the effectiveness of integrated climate change adaptation and mitigation responses, i.e., actions that reduce society's vulnerability while reducing greenhouse gas emissions, in the context of landscape approaches using appropriate metrics of effectiveness.

Strategic Thrust 5: Initiating and sustaining comprehensive capacity development of local, national and regional institutions to achieve food and nutrition security and sustainable development in the context of climate change.

Experience in development work indicates that building institutional capacity and human resources are among the best investments to address the challenge of climate change. It is therefore important to develop the technical and organizational capacities of relevant institutions from regional down to the local level to effectively tackle the long-term and compounding impacts of climate change. Capacity development initiatives on climate change in SEA vary considering the different contexts and levels of institutional capacities that exist among nations. By and large, however, there appears to be very limited coordination and synergy among capacity development initiatives even within the same country that leads to waste of resources and limited impacts. Considering the fast development in the climate and related sciences and the need to address pressing climate change concerns, a continuing capacity development program should be instituted in Southeast Asia regardless of the current state of institutional capacities in these countries. There is also the need to strengthen coordination and collaboration within and among nations to promote synergy, conserve resources, and achieve better outcomes. The following strategic actions are therefore proposed:

1. Evaluate the impacts/effects of past and present climate-related capacity development initiatives in Southeast Asia including the potential for coordination and synergies among and within countries, to improve effectiveness and impacts of present and future capacity development efforts.
2. Conduct comprehensive capacity need assessments at the local, national and regional levels on the human resource and organizational needs of relevant institutions to effectively tackle the challenge of food and nutrition security amidst changing climate.
3. Invest more on continuing capacity development by developing and implementing comprehensive, collaborative, and long-term capacity development programs to address the challenge of climate change including safeguarding food security.
4. Integrate climate science in school curricula (including extra curricula) from the elementary to the post-graduate level, linking climate change responses with the importance of environment-related initiatives like agroforestry, reforestation, organic agriculture, biodiversity conservation, landscape approaches and other activities that improve ecosystem services while promoting food security.
5. Institute mechanisms and appropriate incentive systems to maintain the gains of capacity development.

Strategic Thrust 6: Strengthening knowledge management mechanisms to safeguard food and nutrition security amidst changing climate

Knowledge management involves the practice of capturing, storing and sharing knowledge to distill lessons from the past and apply them in the future (Egan 2003). There has been a growing movement in recent years that emphasized the importance of improved application of knowledge management as a means to improve development work and outcomes. In the Southeast Asian context, as the impacts of climate change continue to intensify, threatening the food security and livelihoods of millions, there is a pressing need to enhance the way knowledge is translated into advocacy, policy, and action. Despite on-going efforts there remains the necessity to strengthen knowledge management on climate change at the local, national, and regional levels to maximize their contribution towards climate resiliency. The following strategic interventions are proposed to strengthen knowledge management mechanisms in Southeast Asian countries towards food security and climate resiliency:

1. Evaluate the effectiveness of past and existing climate change capacity development for knowledge management systems at the national and regional level to enhance their effectiveness.
2. Develop and institutionalize protocols for data and information sharing related to climate change and food and nutrition security at the national and regional levels.
3. Institutionalize innovative methods of climate information sharing at the grassroots level like effective early warning system from drought, floods and storms; market

information on prices of commodities; etc. to support food and nutritional security and ensure more open access to relevant information.

4. Strengthen national and regional dialogues, coordination and cooperation to distill and share experiences and knowledge on the impacts of and responses to climate change in agriculture, fisheries, livestock, and forestry sectors towards food and nutrition security and sustainable development.
5. Put in place institutionalized mechanisms for relevant working groups to communicate and exchange information amongst themselves outside and in addition to regularly scheduled ASEAN meetings.

Strategic Thrust 7: Providing and strengthening platforms for developing and advancing ASEAN common interests on issues related to climate change and food security in international fora.

As the vision of ASEAN integration increasingly becomes reality, ASEAN Member States will have to better coordinate and more strategically communicate to advance their positions in international fora. The ASEAN Vision for Food, Agriculture and Forestry along with a number of issue and sector- based regional cooperation frameworks, guidelines and action plans provide solid foundation for defining and advancing Member States' common interests in international fora related to climate change, food security and the SDGs. In order to facilitate the clarification of ASEAN common interests and planning of concerted efforts for their advancement, the following actions are proposed:

1. Strengthen regional and cross-Ministerial coordination as follow-up on advancing ASEAN Common interests on food security in international fora.
2. Strengthen the AFCC as a platform where all relevant sectoral bodies could be engaged in defining and advancing ASEAN common interests on issues related to food, agriculture and forestry and climate change in international fora.
3. Strengthen the capacity of ASEAN Member States individually and collectively to implement decisions and resolutions from UNFCCC COP SBSTA and other negotiation processes.

Strategic Thrust8: Securing climate change financing to support initiatives that promote food and nutritional security and sustainable development

Many national and local governments in the ASEAN Region have committed or are mandated by law to allocate financial resources to support climate change programs of various kinds. International funding institutions like the Asian Development Bank, World Bank, as well as the overseas development agencies also provide resources to support climate change efforts. Yet, given the limited resources of many governments in Southeast

Asia, the long- term sustainability of the different climate change initiatives will largely depend on the continuous flow of financial support. In addition to government budget, and funding from donor agencies, tapping the contribution of the private sector and other groups in financing climate change programs is crucial. To mobilize adequate financial support to achieve food security, the following strategic actions are proposed:

1. Explore non-traditional sources of funding like carbon tax and payment for ecosystem services to finance food security-related initiatives.
2. Strengthen partnership with the private sector to increase climate funding.
3. Promote climate budget tagging to ensure government support for climate change initiatives.
4. Coordinate efforts at the ASEAN regional level to secure funding under the Paris Agreement mechanism.

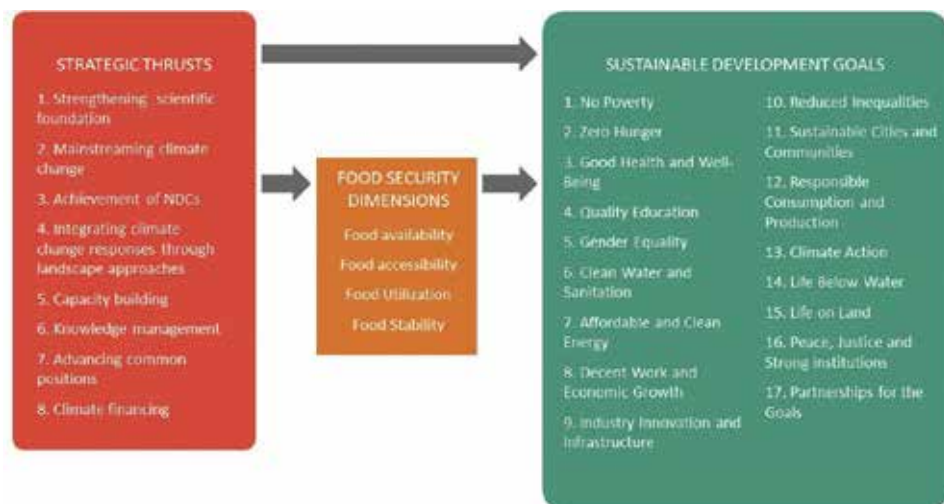
Elements of the Framework and their Linkages

A major challenge in implementing the proposed AFCC Component 4 Framework is how to simultaneously address local and national needs and priorities such as food security while contributing to broader development goals particularly the SDGs. Thus, the proposed framework has the following three core elements:

1. A set of strategic interventions consisting of strategic thrusts and actions based on proven and promising approaches (the details of which are discussed above) that address climate change-related issues and challenges in the FAF and other relevant sectors;
2. The dimensions of food security (i.e. availability, accessibility, utilization and stability) that are expected to be enhanced by these strategic interventions; and
3. The SDGs to which both the strategic interventions and the achievement of food security are expected to contribute.

Figure 6 presents a schematic diagram of the proposed framework. As shown in the figure, the different approaches serve as the “inputs” (or climate change interventions) to contribute to food security and ultimately to the different sustainable development goals. Here, food security serves as the “outputs” of the climate change approaches while the SDGs may serve as the ultimate impacts of the different approaches as well as the safeguarded food security brought about by the successful implementation of the different approaches. In essence, food security serves as an “intermediary variable” between the “approaches” or climate change interventions and SDGs. This implies that different approaches, when successfully pursued, can contribute to food security and ultimately to SDGs.

Figure 6. Proposed Conceptual Framework



Operationalizing the Framework

As indicated earlier, the proposed AFCC Component 4 Framework and the roadmap for its implementation is designed to facilitate dialogue and collaboration across the different sectors of the ASEAN Sectoral Ministerial Bodies on matters related to food security and climate change with the end view of contributing to the achievement of the SDGs in the ASEAN Region. Inputs from and ownership of the framework not only by the FAF sector but also of the other relevant ASEAN sectors are therefore essential for the framework and the roadmap to serve their purpose. To realize this, the following sections discuss the uses and users of the framework, required institutional mechanisms, progress monitoring, as well as how the framework can evolve over time. The final section proposes some initial steps and activities towards operationalizing and implementing the framework.

Uses and Potential Users of the Framework

As the ASEAN strives to fully develop into a unified economic and socio-cultural community, it should simultaneously address major threats that can undermine the realization of this goal, one of which is climate change. One can therefore never overemphasize the importance of a comprehensive multi-sectoral strategic framework to collectively address climate change challenges that threatens the potential of FAF and other relevant sectors to contribute to food and nutrition security in the region and to SDGs as a whole. Specifically, following are the anticipated uses and users of the proposed framework:

1. Promote common understanding of important concepts, approaches and terminologies relevant to addressing climate change and food and nutrition security which may be useful to policy makers and other groups who may not have technical expertise in the field
2. Serve as a starting point for defining a roadmap for regional action on climate change and food and nutrition security
3. A tool to facilitate dialogue and enhance collaboration on climate change and food and nutrition security-related actions across the different sectors in the 3 ASEAN pillars
4. Guide in setting regional and national priorities in the ASEAN FAF sectors on matters concerning climate change, food and nutrition security and sustainable development

Aid in mobilizing resources for integrated, cross-sectorally coordinated actions on climate change, food and nutrition security and sustainable development

Institutional Mechanisms Required

Central to the effective operationalization of the framework is an appropriate institutional mechanism that will be responsible carrying out the operationalization of the framework. The ASEAN Ad-Hoc Steering Committee on Climate Change and Food Security (AHSC CCFS) will have a crucial role to play in translating the framework into a roadmap and in monitoring progress and learning. Towards this end, AHSC CCFS has to facilitate the following key strategies:

1. Put in place enabling mechanisms for continuous and spontaneous sharing of information among technical working groups across sectors and stakeholder groups, and facilitate cross-sectoral meetings (whole or part of the group) even outside of or in addition to formally scheduled ASEAN meetings, including for example, inviting cross-sectoral representation in individual/sectoral working group conferences, technical group meetings etc.
2. Organize and enable procedural flexibility within ASEAN support mechanisms to encourage different sectoral bodies to directly link with each other
3. Facilitate linkages between this proposed framework/mechanism with existing and emerging national-level mechanisms for cross-sectoral coordination e.g. those related to NDCs, SDGs, food and nutrition
4. Define explicit key performance indicators (KPIs) for progress under this proposed framework/mechanism and establish their links with FAF KPIs and SDGs and NDC targets
5. Institutionalize effective monitoring system as discussed below.

In order to be effective, the AHSC CCFS must evolve into a permanent Steering Committee with a strong mandate to lead in the implementation of the proposed framework and monitor progress.

Monitoring Progress and Learning

Appropriate monitoring systems should be developed and effectively implemented to determine the progress of the operationalization of the framework and the roll out of the AFCC road map for action. Lessons learned in adopting the framework and in implementing the roadmap should likewise be captured to improve processes and outcomes. With measurable outputs, outcomes and impacts, indicators should be specified and baseline values measured to determine the contribution of the roadmap implementation to food and nutrition security and to achieving SDGs in the ASEAN Region.

Further Evolution of the Framework

This framework is meant to serve as a living document to guide ASEAN Bodies dealing with climate change and food and nutrition security policies, programs and projects in the FAF and other relevant sectors. It needs to be regularly reviewed, ideally every 3-5 years, and updated to conform with new developments and adapt to the changing needs

and priorities of the Region. The regular review of the framework should be initiated by the fully mandated Steering Committee of the AFCC with support from relevant ASEAN Bodies, technical working groups and partners

Initial Steps Forward

The 6th AHSC CCFS Meeting held in Lombok in January 2018 broadly supported this proposed framework and adopted a set of recommendations to SOM AMAF to support its implementation. These included the strengthening of the AHSC CCFS as a permanent committee to oversee the implementation of the AFCC with a mandate to engage with relevant Bodies and Working Groups across ASEAN. The 6th AHSC CCFS Meeting also recommended that the SOM AMAF Chair lead and coordinate with other relevant SOMs, notably ASOEN and AWGCC, to implement the framework. The Meeting and Member States also encouraged activities to be pursued to initiate the implementation of the framework to guide the AFCC going forward.

Accordingly, building on these decisions and guidance from the 6th AHSC CCFS, the following initial activities are proposed:

1. Convene expert workshops to clarify and further develop details of the framework, with priority on:
 - Clarifying the meaning of integrated climate change adaptation and mitigation responses in the context of landscape approaches and how these may be operationalized;
 - Defining key performance indicators (KPIs) for progress under this proposed framework and establishing their links with FAF KPIs and SDG and NDC targets;
 - Establishing national level databases based on common standards, with provision for information sharing in support of NDC implementation;
 - Clarifying strategies and tactics for collective action among ASEAN Member States to facilitate joint financial resources mobilization;
 - Defining indicators and establishing baseline values to be used for monitoring progress; and
 - Defining priority activities under the framework's strategic thrusts with emphasis on activities to support the achievement of NDCs.
2. Facilitating dialogues, information exchange and coordination to ensure cross-linkages and consistency among relevant FAF guidelines, particularly on:
 - Agroforestry;
 - Public-Private Partnership;
 - Promotion of Responsible Investment; and
 - Gender Mainstreaming
3. Developing a regional capacity building program to support and facilitate the implementation of integrated, cross-sectoral strategic actions within the framework of AFCC

References

ADB. 2017. *Key Indicators for Asia and the Pacific 2016*. Manila, Philippines: Asian Development Bank (ADB).

ADB. 2009. *The Economics of Climate Change in Southeast Asia: A Regional Review*. Manila, Philippines: Asian Development Bank (ADB).

Amare, M., L. Hohfeld, S. Jitsuchon, and H. Waibe. 2012. *Rural–Urban Migration and Employment Quality: A Case Study from Thailand*. ADB Economics Working Paper Series No. 209, Manila, Philippines: Asian Development Bank (ADB).

Amponin, J. A., and J. W. Evans. 2016. *Assessing the Intended Nationally Determined Contributions of ADB Developing Members: Assessing the Intended Nationally Determined Contributions of ADB Developing Members*. Working Paper, Manila, Philippines: Asian Development Bank (ADB).

ASEAN. 2009. "AFCC Concept Paper." *31st AMAF Meeting*. Bandar Seri Begawan, Brunei Darussalam.

—. 2016. *Regional Report on nutrition Security in ASEAN – Volume 1*. Jakarta, Indonesia: Association of Southeast Asian Nations (ASEAN).

Ayers, J. M., S. Huq, A. M. Faisal, and S. T. Hussain. 2014. "Mainstreaming climate change adaptation into development: a case study of Bangladesh." *WIREs Climate Change* 5 (1): 37-51.

B.Fr de-Thierfelder, and T. Schwedersky. 2011. *Integrating climate change adaptation into development planning*. Eschborn, Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Baumann, P., and S. Sinha. 2001. *Linking Development with Democratic Processes in India: Political Capital and Sustainable Livelihoods Analysis*. Natural Resource Perspectives Working Paper, London, UK: Overseas Development Institute.

Chambers, R., and G.R. Conway. 1991. *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*. Institute of Development Studies DP 296.

Costanza, R., R. d'Arge, R. de Groot, S. Farber, M. Grasso, B. Hannon, K. Limburg, et al. 1997. "The value of the world's ecosystem services and natural capital." *Nature* 387: 253-260.

Daily, G. 1997. *Nature's Services: Societal Dependence on Natural Ecosystems*. Washington, DC, USA: Island Press.

Dasgupta, S., B. Laplante, C. Meisner, D. Wheeler, and J. Yan. 2009. "The impact of sea level rise on developing countries: a comparative analysis." *Climatic Change* 93 (3-4): 379-388.

Dewulf, A., S. Meijerink, and H. Runhaar. 2015. "Editorial: The governance of adaptation to climate change as a multi-level, multi-sector and multi-actor challenge: a European comparative perspective." *Journal of Water and Climate Change* 6 (1): 1-8.

DFID. 2015. *DFID's Conceptual Framework on Agriculture*. London, UK: Department for International Development (DFID).

DFID. 2015. *DFID's Conceptual Framework on Agriculture*. London, UK: Department for International Development.

DFID. 2001. *Sustainable Livelihoods Guidance Sheets*. London, UK: Department for International Development (DFID).

Egan, M. 2003. "Creating a knowledge bank." *Strategic Human Resource Review* 2 (2): 30-34.

FAO. 2008. *An Introduction to the Basic Concepts of Food Security*. Accessed April 24, 2017.

—. 2008. "An Introduction to the Basic Concepts of Food Security." Accessed April 24, 2017. <http://www.fao.org/docrep/013/a1936e/a1936e00.pdf>.

FAO. 2009. *How to Mainstream Climate Change Adaptation and Mitigation into Agriculture Policies*.

Rome, Italy: Food and Agricultural Organization (FAO).

Freeman, O. E., L. A. Duguma, and P. A. Minang. 2015. "Operationalizing the integrated landscape approach in practice." *Ecology and Society* 20 (1).

Frost, P., B. Campbell, G. Medina, and L. Usongo. 2006. "Landscape-scale approaches for integrated natural resource management in tropical forest landscapes." *Ecology and Society* 11 (30).

Gordillo, G, and O. Jeronimo. 2013. *Food Security and Sovereignty*. Food and Agricultural Organization (FAO).

Hijioka, Y., E. Lin, J.J. Pereira, R.T. Corlett, X. Cui, G.E. Insarov, R.D. Lasco, E. Lindgren, and A. Surjan. 2014. "Asia." In *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by V.R. Barros, C.B. Field, D.J. Dokken,

M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, et al., 1327-1370. Cambridge, UK and New York, NY, USA: Cambridge University Press.

Holmgren, P. 2014. Forests feature in final UN meeting for framing Sustainable Development Goals. Accessed April 24, 2017. <http://blog.cifor.org/21117/forests-feature-in-final-un-meeting-for-framing-sdgs?fnl=en>.

ICEM. 2010. *Climate Change Baseline Assessment Working Paper*. Hanoi, Vietnam: International Center for Environmental Management (ICEM), 51.

ICRAF. 2015. *Climate-Smart Landscapes: Multifunctionality In Practice*. Edited by P. A. Minang, M. van Noordwijk, O. E. Freeman, C. Mbow, J. de Leeuw and D. Catacutan. Nairobi, Kenya: World Agroforestry Centre (ICRAF).

IDRC. 2009. *Climate Matters in Southeast Asia*. International Development Research Center (IDRC). IFAD. 2007. *The Sustainable Livelihoods Approach*. Accessed April 24, 2017.

<https://www.ifad.org/topic/resource/tags/sla/2179541>.

IFPRI. 2015. *2015 Global Hunger Index: Armed Conflict and the Challenge of Hunger*. Washington DC, USA: International Food Policy Research Institute (IFPRI).

IPCC. 2014. *Climate Change 2014: Synthesis Report. PCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: IPCC.

IRG. 2010. *USAID Asia-Pacific Regional Climate Change Needs Assessment. Final Report: Findings and Recommendations*. International Resources Group (IRG), 135.

Lassa, J., A. Lai, and T. Goh. 2016. "Climate extremes: an observation and projection of its impacts on food production in ASEAN." *Natural Hazards* 84 (Supplement 1): 19-33.

Millennium Ecosystem Assessment. 2005. *Ecosystems and Human Well-Being*. Washington, DC, USA: Island Press.

Oliver, M., and T. Shapiro. 1997. *Black Wealth/White Wealth: A New Perspective on Racial Inequality*.

New York, USA: Routledge.

Pretty, J. 2001. "An assets-based approach to the sustainable use of land and water." *Presentation on Sustainable Use of Land and Water for Food Security*. Rome: Food and Agricultural Organization.

Pretty, J. 1999. "Can Sustainable Agriculture Feed Africa? New Evidence on Progress, Processes and Impacts." *Environment, Development and Sustainability* 1 (3): 253-274.

Pretty, J., and R. Hine. 2000. "The promising spread of sustainable agriculture in Asia." *Natural Resources Forum* 24 (2): 107-121.

Reed, J., J. van Vianen, S. Foli, J. Clendenning, K. Yang, M. MacDonald, G. Petrokofskyd, C. Padoch, and T. Sunderland. 2017. "Trees for life: The ecosystem service contribution of trees to food production and livelihoods in the tropics." *Forest Policy and Economics*.

Sayer, J., T. Sunderland, J. Ghazoul, J. Pfund, D. Sheil, E. Meijaard, M. Venter, et al. 2013. "Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses." *Proceedings of the National Academy of Sciences of the United States of America* (United States National Academy of Sciences) 8349-8356.

Sayer, J.A., C. Margules, A.K. Boedhihartono, T.C.H. Sunderland, J.D. Langston, J. Reed, R. Riggs, et al. 2017. "Measuring the effectiveness of landscape approaches to conservation and development." *Sustainability Science* 12 (3): 465-476.

Sunderland, T., B. Powell, A. Ickowitz, S. Foli, M. Pinedo-Vasquez, R. Nasi, and C. Padoch. 2013. Food security and nutrition: The role of forests. Discussion Paper, Bogor, Indonesia: Center for International Forestry Research (CIFOR).

Teng, P. 2013. *A food security framework for collaboration*. Discussion Paper Series, Laguna, Philippines: Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA).

Teng, Paul. 2016. "Challenges for ASEAN Agriculture and Food Security." *Sustainable Food Security in ASEAN - Role of Genetics and New Technologies*. Singapore.

Teng, Paul, Mely Caballero-Anthony, Jonatan Lassa, and Tamara Nair. 2015. "Towards Asia 2025: policy and technology imperatives. Summary of the main findings of the second international conference on Asian food security held in Singapore on 21–22 August 2014." *Food Security* 7 (1): 159-165.

UN. 2015. *Transforming our World: The 2030 Agenda for Sustainable Development*. New York, USA: United Nations (UN).

UNEP. 2011. "United Nations Environment Programme Report on How to Improve Sustainable Use of Biodiversity in a Landscape Perspective: Executive Summary (UNEP/CBD/SBSTTA/14/13)." *United Nations Environment Programme Subsidiary Body on Scientific, Technical and Technological Advice, 15th Meeting, Montreal, Canada November 7–11, 2011*. Accessed April 24, 2017. <http://www.cbd.int/doc/meetings/sbstta/sbstta-15/official/sbstta-15-13-en.pdf>.

USAID. 2009. *Livelihood and Food Security Framework*. US Agency for International Development. stefeld, M. 2013. Food and Nutrition Security. *United Nations System Standing Committee on*

Nutrition (UNSCN) Meeting of the Minds Nutrition impact of food systems.

Wassmann, R., S.V.K. Jagadish, K. Sumfleth, H. Pathak, G. Howell, A. Ismail, R. Serraj, E. Redona, R.K. Singh, and S. Heuer. 2009. "Regional vulnerability of climate change impacts on Asian rice production and scope for adaptation." In *Advances in Agronomy, Vol. 102*, edited by D.L. Sparks, 91-133. Burlington, MA, USA: Academic Press.

World Food Summit . 1996. "Rome Declaration on World Food Security."

Yusuf, A., and H. Francisco. 2009. *Climate Change Vulnerability Mapping for Southeast Asia*. Singapore: Economy and Environment Program for Southeast Asia (EEPSEA).

Appendix A. Building Blocks for the Proposed AFCC Framework: Towards a Common Conceptual Understanding

To facilitate dialogue and enhance collaboration across the different sectors, the AFCC Steering Committee recognized the need to foster a common conceptual understanding of key terminologies to guide the development of AFCC's Component 4, namely, a comprehensive multi-sectoral strategic framework and roadmap implementation for 2020 and beyond. Such conceptual understanding is anchored on officially adopted and generally accepted concepts and definitions that relate to agriculture and forestry in the context of safeguarding food and nutrition security considering climate change challenges and the 2030 SDGs. More than the definitions however, the context by which these concepts evolved and the major institutions that espoused them are briefly discussed in this section to better understand these concepts.

Governance and institutional mechanisms

Keen interest in advancing more ecological sustainable development has triggered the establishment of various governance and institutional mechanisms that simultaneously address the need for socioeconomic development while conserving or enhancing the natural resource base. The last few years have witnessed the emergence of such mechanisms at the global and regional levels to serve as the framework to guide the collective action of the community of nations towards a common goal.

International frameworks

The year 2015 was a breakthrough in the history of development and environment fields with the creation of two major international frameworks relevant to sustainable development and climate change that will impact on food security. In September 2015, a new set of development goals—the **Sustainable Development Goals (SDGs)** covering the period of 2016 to 2030 were adopted by the UN General Assembly in New York. This was followed by a new climate change agreement—the **Paris Agreement**—under the UNFCCC which was agreed in December 2015 and entered into effect on 4 November 2016 with the ratification of majority of the UN-member countries.

Sustainable Development Goals

At the heart of the Sustainable Development Goals (SDGs), officially known as "Transforming our world: the 2030 Agenda for Sustainable Development," is a set of 17 "Global Goals" and 169 targets. The overarching challenge is "to eradicate poverty and hunger in all forms, to combat inequalities within and among countries, to build peaceful,

just and inclusive societies, to protect human rights and promote gender equality and the empowerment of women and girls, and to ensure the lasting protection of the planet and its natural resources by 2030” (UN 2015).

The SDGs builds on the Millennium Development Goals (MDGs), a global development framework with 8 goals, 21 targets and 60 indicators. The progress of this earlier framework varied across countries, continents and goals with least developed and landlocked developing countries in Africa and small island states unable to sufficiently attain their health-related and other goals.

Paris Agreement

The Paris Agreement is an agreement within the UNFCCC involving a comprehensive strategy for addressing the climate change problem through greenhouse gases emissions mitigation, adaptation and finance starting in the year 2020. Article 2 of the Agreement stipulates that it “aims to strengthen the global response to the threat of climate change in the context of sustainable development and the efforts to eradicate poverty”, including by:

- “(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
- (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
- (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.”

An important feature of the agreement is the “nationally determined contributions” (NDCs) which is the contribution that each individual country should make in order to achieve the worldwide goal that sets the limit for carbon emissions. The contributions should be reported every five years with each further contribution more ambitious than previous ones representing the principle of “progression.”

The Paris Agreement emphasizes adaptation and loss and damage issues. Article 7 focuses entirely on adaptation issues where collective long-term goals are included. The global goal on adaptation focuses on enhancing adaptive capacity, increasing resilience, and limiting vulnerability. Acknowledging the significant need for adaptation, the Agreement urges governments and related stakeholders to undertake measures that embody the Cancun Adaptation Framework for sharing information, strengthening institutional mechanisms, strengthening scientific knowledge, assisting developing

countries in identifying suitable adaptation practices, and improving effectiveness and durability of adaptation actions.

The Paris Agreement also calls for a balance of climate finance between adaptation and mitigation, highlighting the need to increase adaptation support for parties most vulnerable to the effects of climate change, including Least Developed Countries and Small Island Developing States. It also prompts parties on the importance of public grants, because adaptation measures receive less investment from the public sector.

Food and nutrition security

Concerns about food security throughout history well documented and its definition has developed through time. The concept has evolved from “freedom from hunger” (Wüstefeld 2013) to an emphasis on supply, and the more recent comprehensive definitions that incorporate access and demand issues associated with rights.² A more holistic and rights-based definition was officially adopted during the 2009 World Food Summit:

The State of Food Insecurity in the World 2001 published by the Food and Agricultural Organization (FAO) the following year further refined the definition as follows:

“Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (World Food Summit 1996).

Conversely, *food insecurity* exists when people do not have adequate physical, social or economic access to food as described in the above definition.

As maybe gleaned from the above two definitions, the nutritional dimension is integral to the concept of food security. Despite the strong linkage between food security and nutrition security, they evolved from a quite different context (Wüstefeld 2013). Food security evolved over time from the discourse on “freedom from hunger” in the early 1940s to a broad concept encompassing four dimensions. Nutrition security on the other hand, developed from the “multi-sectoral nutrition planning” approach in the 1970s and the United Nations Children’s Fund (UNICEF) conceptual framework with three determinants, namely, 1) access to adequate food; 2) care and feeding practices; and 3) sanitation and health. This later conceptual framing is reflected in the current definition of human security as contained in the AIFS Framework Document (2014), to wit:

² For instance, the 1974 World Food Summit defined food security as “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” which focus on the supply side (United Nations 1975). Please refer to FAO, UN, 2003 *Trade Reforms and Food Security: Conceptualizing the Linkages* for the evolution of the definitions of food security.

Nutrition security exists when all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care.

Agriculture, which in the 2009 Declaration of the World Summit on Food Security comprises crops, livestock, forestry and fisheries, is at the core of advancing food and nutrition security. The same AIFS document therefore defines the characteristics of nutrition-enhancing agriculture as follows:

Nutrition-enhancing agriculture: *When agriculture [that] effectively and explicitly incorporates nutrition objectives, concerns and considerations to improve nutrition through increasing the availability, access to and consumption of a nutritionally adequate diet from a variety and diversity of nutritious and safe foods.*

Consistent with the rights-based approach, other actors, such as NGOs and Civil Society Organizations (CSOs), coined the term 'food sovereignty' to expand the concept of food and nutrition security. The Ny l ni 2007 Forum for Food Sovereignty held on February 23 - 27, 2007 in S lingu , Mali proposed the following six pillars of food sovereignty: 1) focuses on food for the people; 2) values food providers; 3) localizes food systems; 4) places control at a local level; 5) promotes knowledge and skills; and 6) works with nature.

Climate change and the degradation of natural resource base for production are among the mid- to long-term challenges confronting the ASEAN food and nutrition security (Lassa et al. 2016; Teng 2013). Considering the observed and projected detrimental impacts of climate change in the region, especially on food production in agriculture and fisheries, as well as in the forestry sector, the threat to food security will likely multiply. The combined effects of declining land area for agricultural production and environmental degradation compounded by the adverse impacts of drought, floods and changing precipitation pattern, will bring significant challenges in food production for ASEAN, especially after 2050 (Lassa et al. 2016). Extreme weather events continue to inflict agricultural loss and damage, especially rice production, and will likely increase in the future. Particularly vulnerable are the marginal farmers, fishers, and forest-dependent communities especially indigenous people considering their limited capacity to cope with and recover from extreme weather conditions. Governments in the ASEAN region should therefore mainstream climate change in the national development plans, programs and investments to safeguard food and nutrition security.

Livelihoods and asset building

According to the USAID's (2009) Livelihood and Food Security Framework, the term "livelihood" is often associated with economic improvement and refers generally to economic production, employment and household income. This conventional perspective was found to be too narrow focusing only on certain aspects or manifestations of poverty, particularly low income, and missing other vital aspects of poverty such as vulnerability and social exclusion. There has been a recognition through time that a more holistic understanding of livelihood should incorporate other dimensions of poverty such as reduced vulnerability and environmental sustainability in addition to economic development.

The concept of **Sustainable Livelihood (SL)** was developed in response to the challenge of addressing poverty in an integrated manner. The idea of sustainable livelihoods was first introduced at the global level by the Brundtland Commission on Environment and Development and was further expanded in the 1992 United Nations Conference on Environment and Development (UNCED) which advocated for the achievement of sustainable livelihoods as a broad goal for poverty eradication. Such broader conceptualization is captured in the early work of Chambers and Conway who defined livelihood in the following manner:

A livelihood comprises the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels in the short and long term (Chambers and Conway, 1991, p.6).

The concept of asset building as a perspective and tool for advancing agricultural and poverty reduction initiatives has gained wide interest not only among academics and development practitioners, but also among funding institutions (see for instance Constanza et al. 1997; Daily 1997; Oliver 1998; Pretty 1999; Pretty and Hine 2000; and Pretty 2001). In an important contribution to the literature on sustainable agriculture, Pretty and Hine (2000) advanced that "agricultural and rural systems at all levels, from farms, livelihoods, communities to national economies, rely for their success on the total stock of natural, social, human, physical and financial capital" that constitute the rural sectors' most valuable assets (See **Appendix Box 1** for definition of these assets). Appropriate agricultural interventions shaped by agricultural policies and institutions in a given context can improve livelihoods, well-being and equity as well as the protection of natural resources that can result in the accumulation of these assets and contribute to more sustainable production systems.

Appendix Box 1. Livelihood Assets

(USAID, <http://theliftproject.org/wp-content/uploads/2013/03/Livelihood-and-Food-Security-Conceptual-Framework.pdf>. Retrieved 24 April 2017)

Human assets refer to the livelihood knowledge and capabilities possessed by individuals, in addition to

the intangible character traits (ambition, drive, persistence, etc.) and health status that determine how effectively individuals apply their knowledge and capabilities to livelihood activities. Critical determinants of human assets include individuals' access to education and training, health services, sanitation, clean water, and adequate amounts of nutritious food.

Physical assets include the physical economic infrastructure along with the household's productive and other assets that enable the household to pursue its livelihood. The physical economic infrastructure includes, among other things, roads, rail networks, communication facilities, ports, etc. The household's productive assets include land, machinery, tools, and draft animals. Other household physical assets include moveable assets that can be converted into cash or exchanged for goods or services, such as jewelry, furniture, electronics, appliances, or animals.

Social assets are commonly referred to as social capital. Social capital is generated by the household's connections in a social network, and the trust, reciprocity, and resource-sharing qualities of those connections. It can be activated by households to gain social support or social leverage, or by communities to facilitate organization and collective action. Social capital is a resource in which households can invest with the expectation of a future flow of benefits. Social capital is commonly viewed as a positive resource, but can become negative when used to exclude outsiders, impose social sanctions, or advance special interests that are detrimental to the greater good.

Financial assets are financial resources that are available to the household and include savings, credit, insurance, remittances, pensions, cash transfers from social welfare programs, and assets held as a store of value, such as livestock or jewelry. To act as a store of value, assets must be able to be saved and retrieved at a later time and have a predictable value when liquidated or exchanged.

Natural assets include the physical environment and the natural resource stocks that can be controlled by the household and used to expand or enhance livelihoods. Natural assets include land, water, wildlife, biodiversity, and forests.

Political assets are defined as the ability to use power to further political or economic positions, which in turn affects livelihood options and outcomes (Baumann and Sinha, 2001). They refer to the legitimate distribution of rights and power, and how illicit operations of power can frustrate efforts of households to access and defend entitlements. Illicit use of political power by state officials and community elites can divert significant resources away from vulnerable households.

Parallel to this development is the emergence of the Sustainable Livelihood Approach (SLA) developed by the Department for International Development (DFID) of the United Kingdom (DFID, 1999) in collaboration with the Institute of Development Studies as described in **Appendix Box 2**. SLA has been adopted as a useful framework not only for reducing poverty among poor rural poor communities across sectors but also for reducing vulnerability and enhancing adaptive capacities of upland and coastal communities to climate and weather-induced disasters. Many researchers have also used it as an analytical tool on climate-related vulnerability assessments and in defining appropriate interventions to achieve climate resiliency.

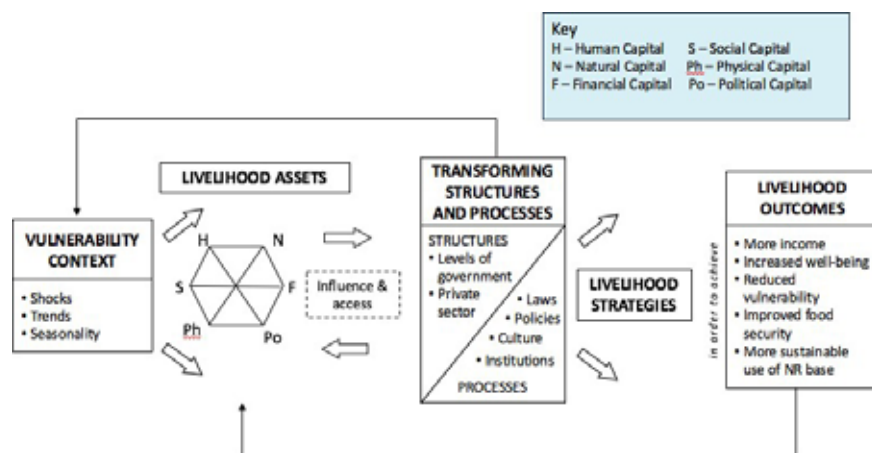
Appendix Box 2. The Sustainable Livelihood Approach

(IFAD, <https://www.ifad.org/topic/resource/tags/sla/2179541>, retrieved 24 April 2017)

The **Sustainable Livelihood Approach** (SLA) is a way to improve understanding of the livelihoods of poor people considering the main factors that affect their livelihoods and the typical relationships between these factors. It has two components: 1) a framework that helps in understanding the complexities of poverty; and 2) a set of principles to guide action to address and overcome poverty. The SL framework places people, particularly rural poor people, at the center of a web of interrelated influences that affect how they create a livelihood for themselves and their households (See Figure below). Closest to the people at the center of the framework are the five capital assets. The extent of their access to these assets is strongly influenced by their vulnerability context, which takes account of trends (for example, economic, political, technological), shocks (for example, epidemics, natural disasters, civil strife) and seasonality (for example, prices, production, employment opportunities). Access is also influenced by the prevailing social, institutional and political environment, which affects the ways in which people combine and use their assets to achieve their goals through different livelihood strategies.

The sustainable livelihood approach is guided by the following principles: people centered, holistic, dynamic, build on strengths, promote micro-macro links, encourage broad partnerships, and aim for sustainability.

Appendix Figure 1. Sustainable Livelihood Framework (Revised)



Source: Adapted from DFID (2001) with the addition of political capital introduced by Baumann and Sinha (2001)

Landscapes, ecosystems and well-being

The concepts of *landscapes* and *ecosystems and human well-being* have gained prominence among scholars and researchers in various fields as well as development agencies, policy makers, and development practitioners. They have been powerful conceptual tools in policy and decision-making, integrated environment and natural management, and the promotion of sustainable development through area-based interventions.

Landscapes and landscape approaches

Frost et al (2016) defined landscapes in the following manner:

Landscapes are place-based systems that result from interactions between people, land, institutions (laws, rules and regulations) and values. These interactions shape the dimensions of peoples' lives and either produce the food, fuel, fiber they need, or generate the income to buy these from elsewhere. Landscapes shape ecological services and the social and economic relationships on which people depend (Frost et al. 2006).

Based on ICRAF (2015), there are three outstanding interlinked aspects that define a landscape: functional interactions, negotiated spaces and multiple scales.

1. **Functional interactions:** Ecological, economic and social processes in a landscape interact. Landscapes can be seen as a mosaic of components, named land units by Zonneveld (1989), who defined these as ecologically homogenous areas of land with associated variation in land use. The management of the various land units is linked to multiple and different sectors of a national economy (including agriculture, forestry, water management, infrastructure, rural development), and also to actor interests and biophysical characteristics.
2. **Negotiated spaces:** Landscapes typically have a diverse set of stakeholders with different perspectives, interests, power and ambitions, which can often be conflicting. Hence, negotiations are needed for the different actors to accept and live within decisions shaping the landscape. Therefore, landscapes are negotiated spaces, differing in degree of achieving harmony.
3. **Multiple scales:** Landscapes often have households, farms and other institutions (e.g., community-based organizations or the private sector) as elements, potentially engaged in collective action. Landscapes are interacting with neighboring landscapes and are nested in coarser-scale subnational units, watersheds/basins or eco-regions. A convenient landscape scale is one that is large enough to contain the heterogeneity of biophysical characteristics as well as social, economic, political and cultural dimensions, but small enough to be socially coherent.

In the past two decades, the term “**landscape approach**” has been used broadly to describe a more integrative and transdisciplinary approach and increasingly used by aid agencies,

governments, and conservation organizations in attempts to reconcile competing claims on land in geographically defined areas (Sayer et al. 2017). The approach is recognized as a mechanism for achieving the Aichi targets of the UN Convention on Biological Diversity and a widely accepted strategy to achieve climate smart landscapes that integrate climate change mitigation and adaptation measures. Landscape approach is being embraced by large environmental nongovernmental organizations (NGOs) such as the World Wildlife Fund, the International Union for the Conservation of Nature, the African Wildlife Foundation, and Conservation International; international research organizations such as the World Agroforestry Centre and the Center for International Forestry Research; and international organizations such as the Food and Agriculture Organization of the United Nations, the World Bank, and the United Nations Environmental Programme (Freeman et al. 2015).

Sayer et al. (2017) came up with succinct definition of landscape approach as follows:

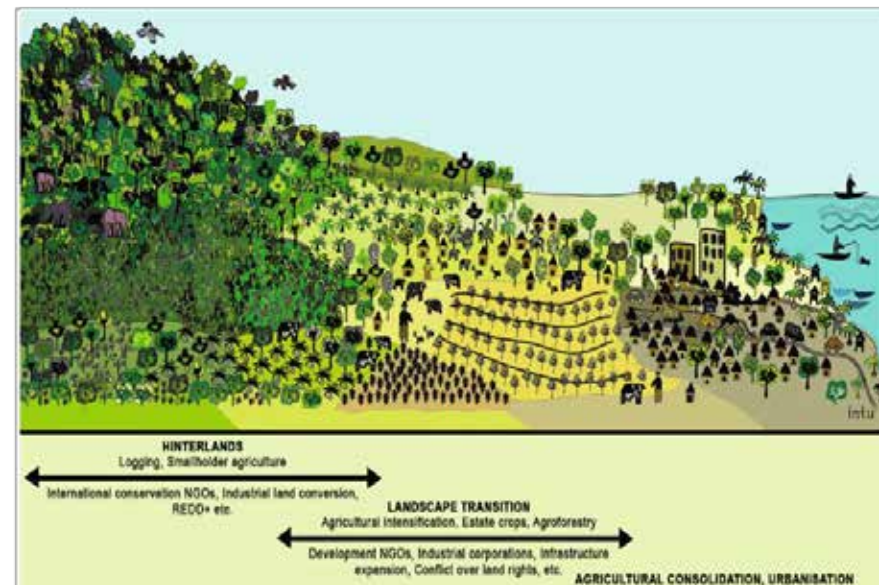
Landscape approach is “a long-term collaborative process bringing together diverse stakeholders aiming to achieve a balance between multiple and sometimes conflicting objectives in a landscape or seascape”.

According to Reed et al. (2017), there are two general overarching objectives of the landscape approach:

1. *Enhancing sustainability.* Sustainability should encompass social, economic, environmental, cultural, and often political objectives and relate to the ability of the system of interest to increase resistance to stochastic changes and resilience to future shocks—whether natural or market-induced.
2. *Multi-functionality within the landscape to achieve multiple outcomes.* Multi-functionality in this context means functional integration with multiple concurrent functions operating on the same unit of land. Implementation efforts should therefore address the complexity of balancing the objectives of multiple stakeholders—potentially across a range of sectors (e.g. extractive resources to forest conservation) and scales. This suggests that stakeholder engagement, sufficient institutional support, and effective structures of governance at various levels are necessary for success.

In their recent assessment of 150 case studies from unpublished grey literature and 24 peer-reviewed studies that exhibit basic characteristics of landscape approaches, Reed et al (2017) find that landscape approaches show potential as a framework to achieve the following: 1) reconcile conservation and development and improve social capital; 2) enhance community income and employment opportunities; and 3) reduce land degradation and conserve natural resources. The same study suggests that multi-level, or polycentric, governance structures are crucial in implementing landscape approaches and relate well with intervention success.

Appendix Figure 2. Landscape Dynamism Curve



The diagram shows a spectrum of situations where landscape approaches are used. It shows generic changes in land cover and social processes as areas develop. Transitions occur when management intensity increases and infrastructure expands across development gradients from remote hinterlands to more developed regions. The key participants and the objectives that are pursued at different points on this trajectory are identified in the lower part of the figure. (Source: Sayer et al. 2017)

Ecosystems and well-being

Interest in **ecosystems** and **well-being** gained momentum at the international and national levels with the conduct and completion of the **Millennium Ecosystem Assessment (MA)** - a major assessment of the human impact on the environment called for by the United Nations Secretary-General Kofi Annan conducted from 2001-2005. The first product of the assessment was a book entitled “Ecosystems and Well-Being”, released in 2005 that provided the conceptual framework for the assessment and the foundation concepts needed by participants in moving forward. The Executive Summary of Chapter 2 of the assessment framework defines ecosystem as follows:

*An **ecosystem** is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment, interacting as a functional unit. Humans are an integral part of ecosystems. A well-defined ecosystem has strong interactions among its components and weak interactions*

across its boundaries. A useful ecosystem boundary is the place where a number of discontinuities coincide, for instance in the distribution of organisms, soil types, drainage basins, or depth in a water body. At a larger scale, regional and even globally distributed ecosystems can be evaluated based on a commonality of basic structural units.

The same section of the book also provides a simple and useful description of environmental services:

Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as flood and disease control; cultural services such as spiritual, recreational, and cultural benefits; and supporting services, such as nutrient cycling, that maintain the conditions for life on Earth.

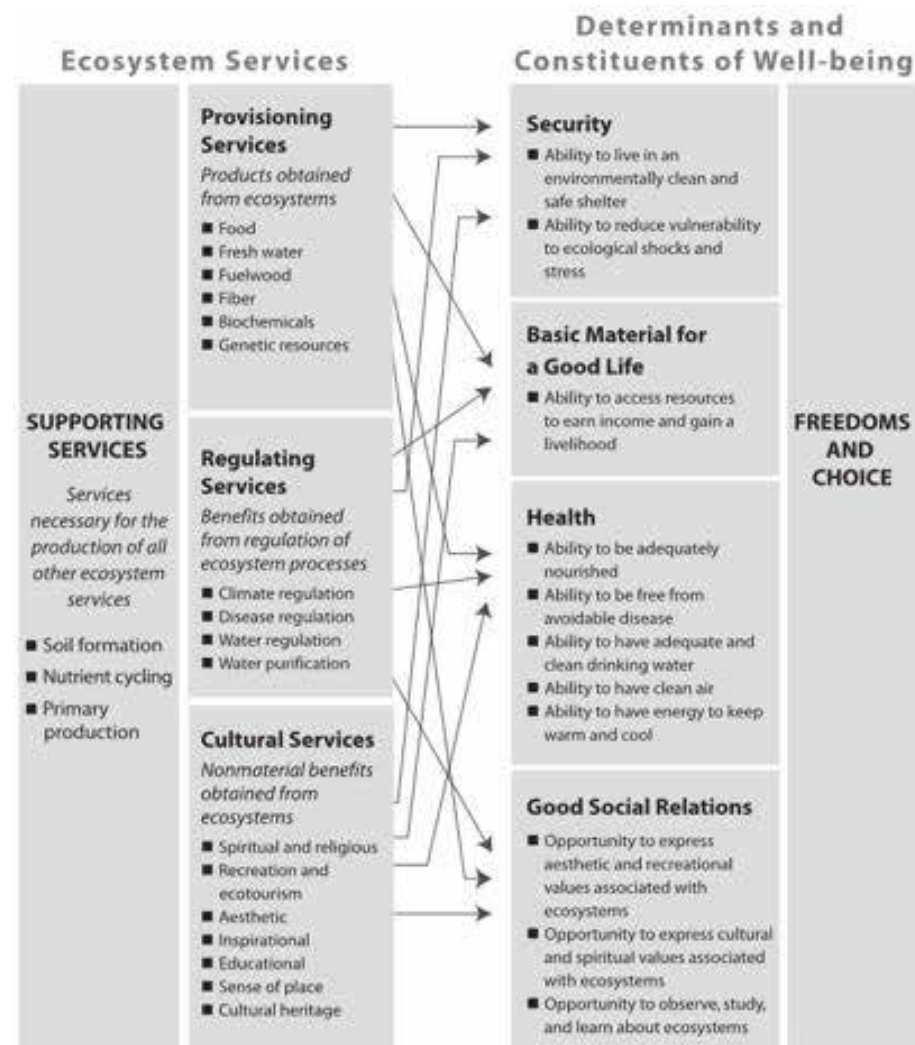
The MA reports highlighted the strong link between ecosystem condition and human well-being. The Executive Summary of Chapter 3 and the MA framework define human well-being and its strong links to the condition of ecosystems and the services they provide, as presented below. Such link is also illustrated in **Appendix Figure 3**.

Human well-being has several key components: the basic material needs for a good life, freedom and choice, health, good social relations, and personal security. Well-being exists on a continuum with poverty, which has been defined as “pronounced deprivation in well-being.” Ecosystems are essential for human well-being through their provisioning, regulating, cultural, and supporting services. Evidence in recent decades of escalating human impacts on ecological systems worldwide raises concerns about the consequences of ecosystem changes for human well-being.

Human well-being can be enhanced through sustainable human interaction with ecosystems with the support of appropriate instruments, institutions, organizations, and technology. Creation of these through participation and transparency may contribute to people’s freedoms and choices and to increased economic, social, and ecological security.

Indigent, poorly resourced, and otherwise disadvantaged communities are generally the most vulnerable to adverse ecosystem change. Spirals, both positive and negative, can occur for any population, but the poor are more vulnerable.

Appendix Figure 3. Ecosystem Services and Their Links to Human Well-being



Source: Millennium Ecosystem Assessment (2005)

Climate change and related concepts

The Intergovernmental Panel on Climate Change (IPCC) in its 2014 Fifth Assessment Report (AR5) concluded that the “warming of the climate system is unequivocal” and that “changes in climate have caused impacts on natural and human systems on all continents and across the oceans”. Recognizing the imminent threats associated with climate change, there has been an explosion of related concepts to better understand this phenomenon and implement effective responses to minimize adverse impacts from the global to local level. The following key concepts which are officially adopted by the United Nations Framework Convention on Climate Change (UNFCCC) and the IPCC (2014) are helpful in these regard³:

Climate change “refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.” Note that the **Framework Convention on Climate Change (UNFCCC)**, in its Article 1, defines climate change as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”. The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes.

Climate variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability), or to variations in natural or anthropogenic external forcing (external variability).

Vulnerability. The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt”.

Impacts. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The

impacts of climate change on geophysical systems, including floods, droughts and sea level rise, are a subset of impacts called physical impacts.

Resilience. The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.

Responses to climate change. There are two general responses to climate change: adaptation and mitigation:

Adaptation. The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effect.

Mitigation (of climate change). A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs). This report (IPCC 2014) also assesses human interventions to reduce the sources of other substances which may contribute directly or indirectly to limiting climate change, including, for example, the reduction of particulate matter emissions that can directly alter the radiation balance (e.g., black carbon) or measures that control emissions of carbon monoxide, nitrogen oxides, Volatile Organic Compounds and other pollutants that can alter the concentration of tropospheric ozone which has an indirect effect on the climate.

³ Except when indicated, the following definitions are from the Glossary of Terms of the IPCC 2014.



Adopted by 17th AMAF Plus Three
29 September 2017



**ASEAN PLUS THREE COOPERATION STRATEGY ON
FOOD, AGRICULTURE AND FORESTRY (APTCS)**

2016-2025

Based on the successful implementation of the ASEAN Plus Three Cooperation Strategy on Food, Agriculture and Forestry (APTCS) 2011-2015, AMAF Plus Three decided to continue implementing the APTCS for the period 2016-2025. The APTCS (2016-2025) is developed to provide scope and joint actions for APT cooperation on food, agriculture and forestry with the aims of ensuring food security and livelihoods, promoting sustainable development of agriculture and forestry sectors, enhancing trade of agricultural and forestry based products, and addressing issues and challenges facing agriculture and forestry sectors of the APT countries. The new cooperation strategy is envisioned to contribute towards the realization of the ASEAN Community Vision 2025 and advancing the APT collaboration in priority areas of shared interest.

The APTCS (2016-2025) takes into account the emerging measures identified in the new Vision and Strategic Plan for ASEAN Cooperation on Food, Agriculture and Forestry (2016-2025), ASEAN Integrated Food Security Framework (IAFS) and SPA on Food Security in the ASEAN Region (2015-2020), ASEAN Plus Three Bioenergy and Food Security Framework (2015-2025) and ASEAN Plus Three Leaders' Statement on Promoting Sustainable Development Cooperation in 2016.

Strategic Areas of Cooperation

In order to continue enhancing and deepening the cooperation, the APT countries will continue to pursue the nine strategic areas of cooperation along with knowledge sharing, technology transfer and some activities concerning investment and cooperation .” At the same time, seven priorities of cooperation and relevant action programmes stipulated under the Strategic Plan for ASEAN Cooperation in Food, Agriculture and Forestry, 2016-2025 could be considered to implement, with a focus on: (i) regulatory and institutional changes, (ii) harmonisation of procedures on the development of standards of technical regulation and (iii) food safety related initiatives, including strengthening laboratory competencies.

Strategic Area 1: Strengthening Food Security

- Continue to support activities of APTERR through further implementation of the Tier 3 Program and encouragement of the utilization of Tier 1 Program.
- Continue the ASEAN+3 Roundtable Meeting on Food Security Cooperation Strategy a platform for knowledge sharing about improved food and nutrition security.
- Continue to support the sustainable development of agricultural heritage systems through mobilizing regional and national recognition and conducting capacity building activities.
- Strengthen the quality and variety of food production and improve the food value chain.
- Develop capacity to mainstream nutrition-enhancing food, agriculture and forestry policies/programs.
- Encourage greater investment in food, agriculture, and forestry-based industry through public- private or public-community partnership.

Strategic Area 2: Biomass Energy Development

- Continue to hold the ASEAN+3 Forum on Biomass Energy to facilitate exchanges on sustainable biomass energy development.
- Support the implementation of activities under the APT Bioenergy and Food Security Framework (2015-2025) focusing on enhancing bioenergy policy and investment, sustaining bioenergy production and utilization, and improving data and information system.

Strategic Area 3: Sustainable Forest Management

- Enhance capacities and human resources, including research and development institution in the forestry sector of AMS.
- Collaborate on forest product development and trade.

- Strengthen Forest Law Enforcement and Governance (FLEG).
- Promote the exchange of knowledge on implementing sustainable forest management and improve forest governance.

Strategic Area 4: Climate Change Mitigation and Adaptation

- Continue to support capacity development and institutional strengthening for Green House Gas (GHG) mitigation and adaptation in the agriculture sector, including approaches that strengthen resilience and adaptive capacity of small-scale farmers and rural communities to respond to climate change.
- Forge closer cooperation in the development, transfer and diffusion of climate smart agriculture and aquaculture technologies and best practices.
- Promote to support the development of climate-friendly agriculture.
- Promote greater protection of the environment, addressing the challenge of climate change, and sustainable management of natural resources

Strategic Area 5: Management of Animal Diseases and Plant Pests

- Continue to develop capacity in transboundary animal diseases and plant pests, prevention and control i.e. diagnosis, surveillance, quarantine, treatment, biosecurity measures.
- Continue supporting the establishment of Greater Mekong Sub-region Transboundary Animal Disease Control System
- Enhance collaboration on regional warning system on animal and plant health and diseases to improve the notification system for animal and plant epidemics, and strengthen the joint prevention and control of major transboundary animal diseases and plant pests.
- Strengthen regional efforts to address the threat of antimicrobials resistance through improving public awareness, developing capacity for surveillance and monitoring, promoting good practices and responsible use of antimicrobials, and policy development support.

Strategic Area 6: Enhancement of Capacity-building and Human Resource Development

- Continue to promote human resource development cooperation in food and agricultural areas with universities in ASEAN countries, and capacity building project in the agriculture sector of ASEAN countries.
- Promote and strengthen cooperatives and farmers organizations to better integrate small producers in the value chains, and to provide collective platforms to deal with production and market risks.
- Expand and promote farmer's knowledge beyond agriculture to include capacity-building program in agri-business and entrepreneurship.

Strategic Area 7: Enhancement of Productivity, Quality and Marketability of Agricultural Products

- Continue the development of food value chain in ASEAN countries, and pilot demonstration fields for high quality and yield crops showcasing technological innovation in agriculture.
- Continue to engage in the meetings and training courses of the East Asia Plant Variety Protection Forum.
- Continue to hold forums, workshops, exhibits and training courses on seed development, high quality fruit promotion, and food quality and safety.
- Promote technologies, innovations, best practices and management system to improve productivity, and optimize the utilization of harvest, reduce post-harvest losses, and minimise wastes and discard.
- Dissemination and utilization of GAP certification of international level.
- Promote and strengthen the protection of geographical indications.

Strategic Area 8: Strengthening of Information and Knowledge Networking and Exchange

- Continue to strengthen the agricultural production data collection and improve data accuracy. Establish real-time early warning and monitoring mechanisms on food security in the region, including the strengthening capacity building.
- Promote the use of information and communication technology (ICT) in agriculture.
- Facilitate sharing, exchange and compilation of agricultural statistics, market information and agro-food value chain statistics.
- Support rural and community development by encouraging relevant agencies to conduct information and expertise exchanges, capacity building activities and pilot projects in land use, planning, development and management

Strategic Area 9: Strengthening Collaboration on Research and Development

- Facilitate on-the-job research capacity building for sustainable agriculture.
- Promote Public-Private Partnership in research and development and diffusion of agricultural technology.
- Develop new technologies and best practices to improve agricultural productivity, address health/disease and environmental issues, and minimize post-harvest losses in agriculture, livestock and fisheries.
- Strengthen problem-oriented exchanges on advanced and applicable technologies.
- Organise workshops on modern agriculture-related topics

Implementation Arrangement

The SOM-AMAF/AMAF+3 will coordinate the implementation of the APTCS (2016-2025), while relevant government agencies will be responsible for overseeing the preparation and implementation of more detailed action plans and projects at the national level.

Projects will be approved by SOM-AMAF+3 (based on ASEAN Project Appraisal and Approval process). Projects should be regional in nature and of benefit to the ASEAN+3 Countries. As much as possible, projects should involve the participation of all Member Countries. A monitoring and evaluation mechanism should be included and strengthened to assess the efficiency of the related projects/activities being implemented at national/regional level and including the cooperation mechanism to provide accountability of the deliverables under each project/activity.

The main funding modality to support the implementation of APTCS (2016-2020) is through cost-sharing among ASEAN+3 Countries. Additional funding support could be sought from Dialogue Partners, International Organizations and Donor Agencies.

Cooperation arrangements with International Organizations, Donor Agencies, private sector, and industry associations at regional and national levels are encouraged for successful implementation of various projects.

Progress in the implementation of the APTCS (2016-2025) will be reported to SOM-AMAF+3 annually. The ASEAN Secretariat will review and monitor compliance of such implementation.

Review

The APTCS and the SPA will be reviewed periodically taking into account dynamic regional and global developments and evaluated after the end of year period in 2025.





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Jalan Sam Ratulangi No.2, Menteng
Jakarta 10350, Indonesia
Telp +62 21 3192 4833 ext. 113
www.aseanfoundation.org

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