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# CLIMATE ACTION FOR AGRICULTURE IN ASIA

Strengthening the role of scientific foresight and  
climate-smart agriculture in addressing NDC



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# CLIMATE ACTION FOR AGRICULTURE

Strengthening the role of scientific foresight and climate-smart agriculture in addressing NDC priorities

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## WORKSHOP REPORT

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## Acronyms

AgMIP	Agricultural Model Intercomparison and Improvement Project
APRACA	Asia Pacific Rural Credit Association
ASEAN	Association of Southeast Asian Nations
ASEAN-CRN	ASEAN Climate Resilience Network
AWD	Alternate Wetting and Drying technology for rice production
CEADIR	USAID-funded Climate Economic Analysis for Development, Investment and Resilience Activity
CIAT	International Centre for Tropical Agriculture
COP	Conference of the Parties UNFCCC
CSA	climate-smart agriculture
CSR	corporate social responsibility
ESG	environment, social and governance
FAO	Food and Agriculture Organization of the United Nations
FD	Facilitative Dialogue
GACSA	Global Alliance for Climate-Smart Agriculture
GHG	greenhouse gas
GCF	Global Climate Fund
GLOBIOM	Global Biosphere Management Model
IMPACT	International Model for Policy Analysis of Agricultural Commodities and Trade
IRRI	International Rice Research Institute
NDCs	nationally determined contributions
PA	Paris Agreement
PPP	public-private partnerships
REDD	Reducing emissions for forest degradation and deforestation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SDGs	Sustainable Development Goals
SMEs	small and medium-sized enterprises
SRP	Sustainable Rice Platform
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework on Climate Change Convention
USAID	United States Agency for International Development
WBCSD	World Business Council for Sustainable Development

## Executive summary

The commitment period for the Paris Agreement in 2020 is fast approaching. The forthcoming Facilitative Dialogue (FD) in 2018 will review progress in preparing for the commitment period, including the preparation of countries' Nationally Determined Contributions (NDCs). Most developing countries in Asia have identified measures to both strengthen the resilience of the agriculture sector and reduce emissions from agriculture and land-use activities as part of their NDCs but there has been little assessment of what the achievement of the NDC priorities will mean at the national or regional levels in the short, medium and long term, including potential gains and trade-offs within and between sectors. Developing actions at scale to achieve the NDC targets will require renewed investment in agriculture and more sustainable land use practices. The challenge for government is to put in place the systems, incentives and regulations that can channel private sector investment toward low-emission, climate-resilient and inclusive agriculture business models consistent with their broader NDC priorities.

From 10–12 October 2017, government and leading private sector representatives attended the regional workshop *Climate Action for Agriculture in Asia: Strengthening the role of scientific foresight and CSA in addressing NDC priorities* in Bangkok to strengthen the capacities of countries in Asia to achieve their NDC targets for the agriculture and land-use sectors, through improved use of scientific information in sector planning and enhanced public and private sector engagement in accelerating climate-smart agricultural (CSA) investments.

Specific workshops objectives included:

- Enhanced understanding of the valuable role that CSA could play in achieving mitigation and adaptation priorities highlighted in the NDCs of countries and strengthening actions in the agriculture and land-use sectors under the Paris Agreement, including through the use of foresight modelling;
- Improved capacity for sector-level engagement in national preparations for UNFCCC FD 2018 and UNFCCC COP23;
- Clearer vision and strategy to accelerate public and private investment to address NDC priorities for the agriculture and land-use sectors; and
- Identification of current gaps to strengthen foresight analysis for future policy and implementation needs under different scenarios, and preparation of preliminary plans to overcome them.

### **Progress since Paris in addressing NDC priorities for agriculture and land-use**

Following briefings on the key elements, implementation process, and progress to date of the Paris Agreement; the development of an ASEAN Common Position on agriculture; and the challenges, gaps and important contributions agriculture can make to support sector-level implementation of NDC targets, country groups reported on the current status of strategies, plans and programmes developed to support sector-level implementation of NDC priorities for agriculture and land-use sectors ([Annex 2](#)).

### **Role of climate-smart agriculture in achieving the NDCs**

Participants were briefed on the role and relevance of CSA in reducing climate change vulnerabilities through mitigation and adaptation, and informed about the launch of the Second Edition 2017 of the Climate-Smart Agriculture Sourcebook of FAO. It was followed by an introduction to the work of Global Alliance on Climate Smart Agriculture (GACSA) and the ASEAN Climate Resilience Network to assist countries' agriculture sectors adapt to climate change impacts and optimize the sector's mitigation potential. The development of CIAT's CSA country profiles to assist both governments and donors to

understand the status of CSA in each country was described. The profiles take stock of CSA activities at national level, identify promising practices and offer information on enabling environments and barriers for mainstreaming CSA. Country perspectives on scaling up CSA were shared in a panel discussion, followed by partners' perspectives on providing support for scaling up CSA in a second panel discussion.

The following challenges and opportunities were highlighted:

- More communication (at farmer level), incentives, data, capacity and finance is needed to upscale practices more widely.
- Upscaling from local-level or grassroots practices involves the cooperation of many stakeholders, effective communication and recognition of stakeholder experience.
- It is important to identify existing CSA practices as a first step to help governments promote and guide the introduction of CSA approaches.
- Providing direct monetary benefits to farmers is the key to success. It is crucial to demonstrate the benefits to draw investments.
- Good collaboration with extension services (government or private sector) are required to build capacity and implement CSA practices
- Improving communication and trust between the private sector and government will help direct government policies to support CSA investment.
- Consistent methodologies and data measurement are important for the private sector to showcase the benefits of investing in CSA. Progress in advancing private sector engagement will be enhanced through data sharing between farmers and upstream; data aggregation and reporting of GHG emissions; and finding a common language between government and private sector actors.

Following the discussion panels, country groups conducted a gap analysis of the needs for strengthening knowledge, strategies and capacities required as part of developing the draft pre-2020 NDC implementation roadmap.

### **Climate action in agriculture through development of foresight modelling and scenario analysis**

Climate foresight modelling and scenario development are increasingly being used for planning and decision-making in the agriculture sector. Participants were briefed on the development and use of a range of models to develop and assess a range of possible future scenarios to guide investment and action in agriculture and land use sectors. Two projects using foresight modelling to guide CSA planning and investment in Cambodia and Bangladesh were presented. The following discussion focused on how to choose the right model to develop and assess scenarios for agriculture planning and strategies. Key elements were highlighted including:

- Start with scenario/pathway development first and then decide which model to use. Use a demand- or country-driven process to develop meaningful scenarios.
- It is important to consider modelling skills and capacity available in-country to support country-specific analysis.
- Scale is a crucial factor to consider – national or subnational, cross-sectoral or specific crop. Choosing which model depends on the country-specific needs.

Using a participatory approach, country participants developed a national long-term vision and quantifiable objectives for the agriculture sector, inspired by policy priorities outlined in the NDCs and relevant national development plans and strategies. Potential strategies, policies and technologies to achieve the objectives were identified. Each group outlined a timeline for implementation of a prioritized set of technologies and policies to achieve the vision. Drawing upon the discussions on CSA,

foresight modelling and scenario analysis, participants identified national, subnational and regional level actions, programmes, and strategies required to further strengthen each of the modules of the NDC implementation framework. A visual overview of the pre-2020 NDC roadmap where key milestones were identified, including a long-term goal and sector-specific milestones for countries' 2<sup>nd</sup> NDC submission and the 2018 FD.

## Accelerating investment

The final session addressed the key challenge of how to enable and promote private sector investment and finance to help meet significant gaps in funding country NDCs. Findings were shared from a USAID-led high-level workshop<sup>1</sup> in March 2017 that convened government and private sector leaders in the region to identify investment challenges and priority actions, including for finance, data, communication, and capacity strengthening. To develop country-specific recommendations for public-private sector engagement in CSA investment, the USAID-funded Climate Economic Analysis for Development, Investment and Resilience (CEADIR) activity interviewed private and public sector leaders in Cambodia, Indonesia, Philippines and Vietnam. Preliminary results indicated that there is a lack of common understanding between the public and private sectors, limited channels for effective communication, and insufficient private sector inputs in policies affecting CSA investment incentives. Respondents indicated the need for more regular dialogue on climate-smart practices and technologies, policy development to support and incentivize CSA, capacity development in the public sector, and increased access to finance for small and medium-sized enterprises (SMEs).

Two panel discussions focused on how to channel private sector investment opportunities into CSA and the available public sector sources of funding and finance to incentivize private investment. The following opportunities and challenges were highlighted:

- Central banks can play an enabling role through providing a variety of regulatory and agricultural-friendly credit policies for other banks and financial institutions, including through microfinance.
- Technical assistance should be provided to local banks to strengthen understanding of CSA approaches and finance opportunities.
- Blended finance (public-private co-funding) offers exciting opportunities in many areas, including through agricultural extension services.
- There are opportunities to use donor funding (e.g. Green Climate Fund, bilateral assistance, and multilateral development bank finance) to promote a CSA transition, in connection with global climate initiatives such as REDD+.
- Risk mitigation is crucial. Banks and financial institutions need to be actively involved in minimizing risks by developing policies to address them, e.g. setting up an insurance fund to guarantee loans. Development finance and central banks can also play an important role to incentivize private sector CSA investment by reducing credit risk. There are a variety of credit risk reduction mechanisms for companies to invest in CSA.
- It is important to create well-structured, credible, bankable projects for CSA investment. The availability of bankable projects, paired with mechanisms such as guarantees, grants, and other financing incentives, will accelerate progress.
- The development and promotion of credit cooperatives in Thailand has been successful in strengthening the capacity of farming communities to self-manage agricultural cooperatives. More

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<sup>1</sup> O'Mealy, M. et al. 2017. Convening Private Sector to Invest in Climate-Smart Commodity Production: Workshop Report, Bangkok, March 29, 2017. Washington, DC; Climate Economic Analysis for Development, Investment and Resilience (Crown Agents and Abt Associates).

recently, cooperatives have pioneered a “smart farmer” programme that includes CSA strategies, technologies and market linkages.

- Public banks providing incentives (e.g. cheaper line of credit) to private banks for funding CSA projects has been successful in Europe. There is capital available in Asia, but local banks need support and tools to better engage, access, and deploy funds.

Based on priority commodities and CSA actions identified in the pre-2020 Roadmaps, participants worked in facilitated country groups to identify needs and opportunities for public-private sector coordination to accelerate investment and finance for CSA, aligned with NDC priorities and targets. The top priority actions needed to address challenges were identified, as were timelines and key entities that are most appropriate to lead and support the implementation of priority actions. In the final session country groups presented their pre-2020 roadmaps and private sector engagement strategies and identified concrete next steps that can be taken to turn their roadmaps into reality.

## Background and objectives

The commitment period for the Paris Agreement in 2020 is fast approaching. In 2018, the UNFCCC will be organizing a Facilitative Dialogue (FD 2018) to take stock of *collective efforts* of Parties in support of achieving the 2°C target and to inform the preparation of Parties' Nationally Determined Contributions (NDCs). The agriculture and land-use sectors, comprising crops, livestock, fisheries, aquaculture and forestry, feature prominently in the NDCs of most developing countries. Asia is no exception. Most developing countries in the region have identified measures to both strengthen the resilience of the agriculture sectors and reduce emissions from agriculture and land-use activities as part of their NDCs.

To date, there has been little assessment of what the achievement of the NDC priorities will mean at the national or regional levels in the short, medium and long term, including potential gains and trade-offs within and between sectors. Developing actions at scale to achieve the NDC targets in the priority areas will require renewed investment in agriculture and more sustainable land use practices. Private sector entities, comprising farmers at all scales, small and medium agribusinesses and large commodity producers and traders make up the largest investors in the agriculture and land-use sectors. The challenge for government is to put in place the systems, incentives and regulations that can channel private sector investment toward low-emission, climate-resilient and inclusive agriculture business models consistent with their broader NDC priorities. Already some countries in Asia have been drawing upon mechanisms such as Public-Private Partnerships (PPP) and multilateral climate finance to help catalyze the necessary investments.

Five developing countries<sup>2</sup> from South and Southeast Asia have specifically highlighted climate-smart agriculture (CSA) in their NDCs in acknowledgement of the potential benefits of integrated approaches for enhancing productivity, strengthening resilience and reducing emissions in the agriculture and land-use sectors and more are relying on CSA as drivers of their agricultural development programmes. At the same time, to successfully achieve the implementation of NDC targets, it will be important to understand the trade-offs across various CSA policy and implementation scenarios under different timeframes (short, medium and long-term). Foresight modelling tools can play a central role in supporting decision makers mapping policy options and understanding their respective implications.

In this context, the regional workshop **Climate Action for Agriculture in Asia: Strengthening the role of scientific foresight and CSA in addressing NDC priorities** took place from 10–12 October 2017 in Bangkok. Organized by the Food and Agriculture Organization of the United Nations (FAO) Regional Office for Asia and the Pacific with the support of the United States Agency for International Development (USAID), ASEAN Climate Resilience Network (ASEAN-CRN), GIZ, the International Centre for Tropical Agriculture (CIAT), Global Alliance for Climate-Smart Agriculture (GACSA) and the World Business Council for Sustainable Development (WBCSD), the overarching objective was to strengthen the capacities of countries in Asia to achieve their NDC targets for the agriculture and land-use sectors, through improved use of scientific information in sector planning and enhanced public and private sector engagement in accelerating CSA investments.

### Specific objectives included:

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<sup>2</sup> FAO (2016). [The Agriculture Sectors in the Intended Nationally Determined Contributions](#). Thirty-two developing countries (mainly least developing countries) reference CSA in their INDC/NDCs of which five are in South and Southeast Asia.

- Enhanced understanding of the valuable role that CSA could play in achieving the climate change mitigation and adaptation priorities highlighted in the NDCs of Asian countries and strengthening actions in the agriculture and land-use sectors under the Paris Agreement, including through using foresight modelling;
- Improved capacity for sector-level engagement in national preparations for UNFCCC FD 2018 and UNFCCC COP23;
- Clearer vision and strategy to accelerate public and private investment to address NDC priorities for the agriculture and land-use sectors; and
- Identification of current gaps to strengthen foresight analysis for future policy and implementation needs under different scenarios, and preparation of preliminary plans to overcome them.

Participants included government representatives from Bangladesh, Cambodia, Indonesia, the Lao People’s Democratic Republic, Myanmar, the Philippines, Thailand and Vietnam. FAO staff provided support and resources, working in partnership with staff from USAID-funded Climate Economic Analysis for Development, Investment and Resilience Activity (CEADIR), ASEAN Climate Resilience Network, GIZ, Centre for International Tropical Research (CIAT), and World Business Council for Sustainable Development (WBCSD). Other country and regional NGOs, CSOs and private sector representatives were present. See [Annex 4](#) for the full participant list.

## Opening remarks



Jongjin Kim, FAO Deputy Regional Representative

Jongjin Kim, FAO Deputy Regional Representative, warmly welcomed all participants and thanked all partners for excellent cooperation in organizing the workshop.

He noted that the landmark Paris Agreement to keep the average increase in global temperatures below two degrees Celsius, a key pillar of the 2030 Agenda for Sustainable Development, the Sustainable Development Goals (SDGs) and now an instrument of international law, is fast approaching important milestones. With the forthcoming Facilitative Dialogue (FD) in 2018 to review progress in preparing for the commitment period, including countries’ Nationally Determined Contributions (NDCs), the opportunity for countries to reflect on progress is timely.

Mr Kim highlighted that addressing the impacts and drivers of climate change in the food and agriculture sectors is a priority in Asia. Agriculture is also a key source of greenhouse gas (GHG) emissions – mainly from the conversion of forests to farmland but also from livestock and crop production. Governments have identified priority actions as part of their NDCs including improved, more resilient crop varieties, efficient irrigation, better animal and fisheries management, enhanced fertilizers, and strengthened institutions and planning processes. Climate-smart agriculture approaches encompasses many of these actions.

He went on to highlight that there are many FAO technical projects in the region to support this work, working with countries and partners, such as the UN-REDD Programme and the Global Environment Facility, to implement CSA approaches in both agriculture, forestry and aquatic systems.

While trade-offs need to be carefully assessed and managed, numerous opportunities exist to scale-up climate-smart approaches. Bringing about these changes at scale will be incredibly challenging.

In many countries, meeting the ambition embedded in their NDC targets for the agriculture sectors through climate-smart agriculture currently goes beyond what can be achieved with existing technical capacity, policy frameworks and available financial resources. However, the private sector has signaled strong support for the Paris Agreement. The investment opportunities based on the Paris Agreement and the SDGs in food and agriculture sectors could be substantial. The NDCs provide a series of incentives to invest, creating productive employment and income generating opportunities in rural areas. Growth in rural areas has proven to be pivotal in addressing food insecurity and malnutrition in this region.

He indicated the event is an important step in the road to the implementation of the Paris Agreement by working towards concrete plans, partnerships and investment between government, technical partners, financial institutions, farmers and private agribusinesses that will help find ways to leverage shared interests and the incentives available to invest in climate action for agriculture.

## Session 1: Progress since Paris – perspectives for agriculture

### Paris Agreement: Key elements, implementation process and progress to date

Jens Radschinski, Team Lead UNFCCC Regional Collaboration Centre Bangkok, briefed participants on the significance, expectations and next steps to implement the Paris Agreement (PA).

#### Nationally determined contributions

As part of the PA, the NDC of each country explains how they intend to combat climate change and reduce GHG emissions.

- 161 countries have submitted NDCs; six countries have submitted long-term low GHG emission development strategies which embed NDCs in scenarios to 2050 and beyond.
- Five-year cycle of NDC revision, improvement and increase ambition is planned. Progress is to be tracked, with robust transparency and accountability.
- Many countries' NDCs have recognized synergies between adaptation and mitigation in the agriculture sectors, as well as economic, environmental and social co-benefits.
- More than 85 per cent of developing countries refer to agriculture and/or land use, land-use change and forestry (LULUCF) in their mitigation contributions.
- In the case of adaptation, agriculture is a highest priority sector, other sectors include food security, water resources, ecosystems and forestry.

#### Next steps for countries

- Countries are currently working on implementation plans for their NDCs. Climate change actions identified in NDCs should be integrated and embedded into development planning, national strategies and international frameworks.

- COP23 (November 2017) will focus on progress on pre-2020 commitments; a work programme on implementation and clarification of the design for UNFCCC Facilitative Dialogue (FD) in 2018.
- UNFCCC FD will take stock of the collective efforts of countries in relation to progress towards the long-term goals and to focus on how to achieve more in the NDCs.
- The Subsidiary Body for Scientific and Technological Advice (SBSTA) will continue work in the following areas relating to agriculture - development of early warning systems and contingency plans in relation to extreme weather; assessment of risk and vulnerability of agricultural systems to different climate change scenarios; identification of adaptation measures, and identification and assessment of agricultural practices and technologies to enhance productivity.

### Country support

- Launched at COP22, the UNFCCC Climate Action Agenda aims to maximize collaboration and cooperation among stakeholders; ensure the realization of existing commitments and facilitate a greater number of and more ambitious commitments.
- Identification of Global Climate Action Champions to strengthen initiatives and coalitions through high-level advocacy, including communication of success and barriers faced in implementation.
- Establishment of UNFCCC Regional Collaboration Centres (RCCs) to help under-represented countries in the Clean Development Mechanism (CDM) to increase their potential for CDM projects, by building capacity and reducing the risk for investors. RCCs also support countries in the development and implementation of NDCs to enhance and strengthen climate action under the Paris Agreement



Panelists (from left to right): Beau Damen, FAO; Margaret Yoovatana, MoAC Thailand; Jens Radschinski; UNFCCC

### **Update on ASEAN Common Position on Agriculture for UNFCCC COP processes**

Margaret Yoovatana, Focal Point ASEAN Climate Resilience Network (ASEAN-CRN), presented an overview of ASEAN's work on the development and endorsement of a Common Position on Agriculture to strengthen the role of agriculture in the UNFCCC COP negotiations and SBSTA sessions. ASEAN-CRN is guided by several policy frameworks in ASEAN, notably the Vision and Strategic Plan for ASEAN Cooperation in Food, Agriculture and Forestry 2016-2025, especially on

strategic thrusts 4 and 6 (positions on relevant issues including climate change). The ASEAN Common Position has found its entry point at COP in 2016 through the G77 & China Group, with Thailand as the appointed ASEAN Lead Agriculture Coordinator. The work has been important to show ASEAN Member States the opportunities for agricultural issues in the PA, highlight co-benefits of adaptation and mitigation, and demonstrate the links between the SDGs and PA.

Next steps include:

- Proposals to overcome existing UNFCCC disagreements on adaptation and adaptation co-benefits versus mitigation in the context of agriculture.

- Participation and assessment of SBSTA’s workshops addressing the development of early warning systems and contingency plans in relation to extreme weather; assessment of risk and vulnerability of agricultural systems to different climate change scenarios; identification of adaptation measures taking into account the diversity of the agricultural systems and indigenous knowledge systems; and identification and assessment of agricultural practices and technologies to enhance productivity.
- Engagement of the ASEAN Working Group on Climate Change, taking into account the ASEAN MultiSectoral Framework on Climate Change towards Food Security, to support preparation for SBSTA.
- Mapping exercise of other UNFCCC bodies, to consider agricultural issues.

### **Agriculture, Paris and the NDCs: Advancing Climate Action for Agriculture**

Beau Damen, FAO Natural Resources Officer - Climate Change & Bioenergy, outlined the opportunities and challenges of implementing the NDCs in Asia, noting that the NDCs provide a blueprint for collective government action at country and regional level. Many NDC actions are moving the global community away from mitigation to focus on resilience and adaptation.

- Countries present at this workshop have signaled agriculture as a key concern, identifying 98 intended NDC priority actions for the agriculture and land-use sectors
- There are opportunities for using the NDCs as a tool for regional collaboration and action with a common technical focus on forestry, water management, climate planning and policy, disaster risk reduction and resilient crop production.
- Key challenges include improving transparency to track progress towards NDC commitments, scaling up programmes and activities across often disaggregated agricultural production systems; and finance.
- Standardized approaches may help articulate needs for countries and enable access to further support implementation. It is important to emphasize that the PA targets are not enough to reach the two-degree Celsius target and countries will need to revisit NDCs and increase emission reduction targets.



Participants engaged in discussions regarding the features and associated processes of the Paris Agreement

The agriculture sector has an important and unique contribution to make in combating climate change through both adaptation and mitigation, while ensuring food security.

- Food security is affected by both climate change drivers and impacts. Action is essential to both enhance resilience (adaptation) to impacts and reduce emissions (mitigation) – in any sector – over

time. Mitigation and adaptation activities are linked and of equal importance. Both are socio-economic processes that influence both drivers and impacts of climate change.

- There are key gaps in the understanding of climate change impacts on food security, across the region. Majority of papers cited are from China and India and most research is focused on cropping systems. Further verifiable knowledge on adaptation options across other agricultural subsectors are required.
- It is estimated that nearly 70 per cent of the technical mitigation potential in the agricultural sector occurs in tropical agriculture but information about how much mitigation is needed in the sector versus how much is feasible remains poor.
- Significant technical support will be essential to realize agriculture's potential contribution, including data to report against NDCs. With improved data and reporting of mitigation and adaptation activities, there are investment and finance opportunities.

## Country status of planning and implementation of NDC goals and targets for the agriculture and land-use sectors

Eight country groups reported on the current status and progress made in planning for and implementing NDC actions for the agriculture and land use sector by preparing a list of strategies, plans and programmes against the following NDC modules – governance, adaptation, mitigation, finance, and monitoring ([Annex 2](#)).

## Session 2: Role of climate-smart agriculture in achieving the NDCs

### Agriculture in the NDCs and the role of climate-smart agriculture

#### Overview of agriculture in the NDCs and the role of CSA

Marwan Ladki, CSA Focal Point FAO

Over the years, the UNFCCC negotiation process led to the development of two parallel work streams, one on adaptation to climate change impacts, the other on climate change mitigation. Important efforts from the scientific community to highlight synergies between mitigation and adaptation, of particular importance on the agriculture sector. These synergies led FAO to develop in 2010 the concept of Climate-Smart Agriculture (CSA), as an approach to maximize the synergies and co-benefits between mitigation, adaptation and food security. The development of CSA has been fostered by two processes – a scientific process led by the Global Science Conference on CSA (GSC-CSA) and a policy process through the Global Alliance for CSA (GACSA).

Many countries' NDCs refer to adaptation and mitigation actions in the agriculture sector

- Agriculture and LULUCF feature prominently in mitigation contributions (168 countries, 89 %).
- Agriculture sectors (crops, livestock, forestry, fisheries and aquaculture) feature prominently in meeting adaptation objectives (131 countries, 69 %).
- Fifty-seven countries prioritized the actions based on the potential synergies between mitigation and adaptation.
- Thirty-three countries specifically refer to CSA but many more countries are relying on CSA as a driver for agricultural programmes.

CSA is an approach to develop the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change. CSA is not a set of practices that can

be universally applied, but rather an approach that involves different elements embedded on-farm and beyond the farm and incorporates technologies, policies, institutions and investment. The specific context of countries and communities will shape how it is ultimately implemented.

CSA follows three inter-twined objectives:

- Sustainably increasing agricultural productivity and incomes
- Adapting and building resilience to climate change
- Reduce and/or remove GHG emissions, where possible

Based on FAO's five principles for sustainable food and agriculture, FAO's methodology to implement a CSA approach at country level involves five key actions including expanding the evidence base, strengthening national and local institutions, supporting enabling policy frameworks, enhance financing options, and implementing CSA practices at the field level.

To help reorienting our agricultural and food systems to support sustainable development and food security in the face of climate change, FAO has produced the Second Edition 2017 of the Climate-Smart Agriculture Sourcebook. It comprises a wide range of knowledge and expertise to help guide policy makers, programme managers, academics, extension services and other practitioners make the agricultural sectors more sustainable and productive while also contributing to food security and lower carbon intensity. This second edition is a living digital resource, designed to be easy-to-update in order to regularly integrate new analysis, case studies and concrete examples from the field. The sourcebook provides updated knowledge on the content of the first edition with the most recent case studies, and adds new modules investigating climate change adaptation and mitigation, integrated production systems, knowledge-support systems for rural producers, the role of gender and a theory of change for how to improve implementation. It is available at: [www.fao.org/climate-smart-agriculture-sourcebook](http://www.fao.org/climate-smart-agriculture-sourcebook). More resources are also available online<sup>3</sup> including training modules and reference manuals.

### **Relevance of CSA in reducing climate change vulnerabilities and the use of a multi-stakeholder knowledge platform in promoting and disseminating CSA**

Imelda Bacudo, GIZ, outlined the work of the ASEAN Climate Resilience Network as a successful multi-stakeholder knowledge platform in assisting ASEAN Member States to adapt countries' agriculture sectors to climate change impacts and optimize the sector's mitigation potential through exchange of information, expertise, and experiences on CSA.



Participants during workshop sessions

The ASEAN Climate Resilience Network acts as a platform to:

- Strengthen regional cooperation, facilitate knowledge exchange, mutual learning and capacity building, including the identification of CSA practices across ASEAN.
- Provide evidence-based policy recommendations, protocols and guidelines on the promotion of CSA, e.g. publications on the promotion of climate resilience in different crops.

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<sup>3</sup> FAO website [Climate-Smart Agriculture](http://www.fao.org/climate-smart-agriculture)

- Mobilize resources and build partnerships, to develop and coordinate collaborative initiatives such as building effective climate information services.
- Involve relevant stakeholders such as private sector, academia and the research community to develop partnerships.
- Facilitate and strengthen the capacities of ASEAN in engaging in international negotiations and policies, e.g. UNFCCC processes such as SBSTA and COP.
- Support is also provided for some national-level projects support, e.g. promotion of stress-tolerant rice varieties in Cambodia, and a national agricultural insurance pilot programme in Vietnam.
- The network continuously furthers the promotion of CSA practices by sharing its work to reach other networks such as GACSA, APEC Climate Center, and the Climate Services for Resilient Development.

### Tailoring CSA interventions to national and local contexts: the CSA country profiles in South and Southeast Asia

Godefroy Grosjean, CIAT, presented the CSA country profiles in South and Southeast Asia, developed in consultation with national stakeholders, to assist both governments and donors to understand the status of CSA in each country. The profiles take stock of CSA activities at national level, identifies promising practices and offers information on enabling environments and barriers for mainstreaming CSA.



Participants during workshop sessions

In Asia, profiles for seven countries (Bangladesh, Bhutan, Nepal, Pakistan, Philippines, Sri Lanka and Vietnam) have been finalized and more are being planned. The profiles are aimed at a general audience, to include many stakeholders, and are short and non-technical. The profile structure is based on the following three pillars:

1. Understanding the national context of agriculture in the country, imports and exports, GDP, key production systems, emission sources, impact modelling of climate change on net trade, yield and area. This helps decision makers to prioritize intervention actions and key areas.
2. Identifying potential CSA practices with stakeholders and the extent to which those practices have been adopted, including benefits and trade-offs within practices, to assess effectiveness.

3. Understanding the policy, financial and institutional landscape, mapping actors who are contributing to CSA and how they are contributing, identifying financing opportunities for CSA, and understanding the policies that contribute to CSA. This helps identify gaps in policy support.

Next steps will address how to scale up CSA practices, develop more localized profiles at subnational level to be able to target more action at the local level.

## Country perspectives on scaling up CSA and climate-resilient agriculture

Peter Ettema, Manager International Climate Change Policy, Government of New Zealand, moderated a panel discussion on CSA country perspectives and how CSA practices can be scaled up. The panel included Chu Van Chuong, Deputy Director General, International Cooperation Department, Ministry of Agriculture and Rural Development Vietnam; Aulia Damayanti, CSA Youth Network Indonesia; Hazel Tanchuling, Executive Director Rice Watch Action Network Philippines; and Miranti Ariani, Indonesian Agricultural Environment Research Institute. The following key points were highlighted in the discussion:

**The Government of Vietnam recognizes the importance of CSA but more communication (at farmer level), incentives and finance is needed to upscale practices more widely.** Vietnam has undertaken an assessment of CSA practices in seven provinces including over 900 cropping practices, 130 livestock practices, and 47 integrated practices of forestry and fisheries. An online website for farmers and businesses provides technical guidance, e.g. pilot trials, case studies including technology for growing rice, using less fertilizer, in upland and lowland areas. This website is available at: <http://csa.mard.gov.vn/General/home.aspx>

**Scaling up CSA in Indonesia faces major challenges including lack of finance, data, capacity and communication/awareness of climate impact risks.** There are several models of CSA including integrated models for livestock and crops but there is a lack of data on the number of farmers using CSA and area farmed. One priority is to convince farmers to uptake new practices, particularly after pilot projects end. It is important to ensure markets are accessible to maintain farmer incomes.

**The establishment of a youth network for CSA (CSAYN) to share information and advice has been established worldwide,** with Indonesia the first country in Southeast Asia invited to join. In partnership with schools and university, the focus is to engage young farmers and agribusiness owners to uptake best practices and act as agents of change in local areas.

**Upscaling from local-level or grassroots practices involves the cooperation of many stakeholders, effective communication and recognition of stakeholder experience.** The Philippines Department of Agriculture and local government partners are working to adopt and scale-up small-scale practices promoted by the NGO, RWAN. Challenges will include managing the changing context from local to national level, developing an effective implementation and governance structure at the national scale in alignment with government processes, and finance. RWAN is primarily an advocacy organization and aim to communicate study results with other institutions using a network of “champions”.

**It is important to identify existing CSA practices as a first step to help governments promote and guide the introduction of the CSA approach.** New CSA practices must be linked to markets to add value for rural communities. CSA practices must be about increasing productivity, not just producing niche products, to support farmers’ livelihoods.

**To implement CSA, we need “smart farmers” with access to knowledge and finance.** Agriculture extension networks and resources (water, fertilizer, seeds) are necessary to reduce the costs of production and increase yields. In the Philippines, five resilient strategies have been developed to help farmers reduce damage and loss, promotion of technology, diversification, and promotion of the value of insurance and emergency support (e.g. seed bank). A fifth strategy focuses on community organization and markets.



Participants during workshop sessions

## Partners’ perspectives on support for scaling up CSA

Imelda Bacudo, GIZ, facilitated a panel of international partners to discuss support for scaling up CSA. Panel members included Bjoern Ole Sander, International Rice Research Institute (IRRI); Sue Kyoung Lee, APEC Climate Centre; Mikell O’Mealy, CEADIR; Tony Siantonas, Manager Climate-Smart Agriculture, WBCSD; and Marwan Ladki, FAO and facilitator of the Regional Engagement Team of GACSA. The panel and group discussion highlighted the following points:

**Providing direct monetary benefits to farmers is the key to success.** For example, the introduction of Alternate Wetting and Drying (AWD) technology for rice production in the Philippines and Vietnam reduces both water pumping costs and emissions.

**Strong collaboration with extension services is required to build capacity and implement CSA practices.** In introducing AWD technology, for example, extension workers need mapping support to identify high potential areas and researchers need local knowledge to develop maps. USAID is supporting a team with IRRI and partners to develop a concrete investment plan for AWD in the Mekong River Delta that will identify priority investment areas. The plan will focus on both financial incentives for farmers and concrete evidence to encourage investment.

**Improving communication and engagement between the private and public sectors will help align government policies to accelerate CSA investment.** There are limited channels for financial institutions, businesses, and smallholder farmers to exchange views with governments on policy support needed to scale climate-smart approaches and investment. Improved public-private sector coordination is also needed to share evidence-based best practices in order to increase confidence among investors related to the technical and financial feasibility of climate-smart technologies.

**Consistent data measurement and methodologies are important for the private sector to demonstrate the benefits of CSA investments and increase awareness along the value chain.** It is crucial to demonstrate concrete benefits of CSA through reliable evidence in order to attract investments. Improved data sharing with farmers and upstream commodity producers is also important, including data on good CSA

practices. In addition, governments need to be able to aggregate, report, and verify emissions reductions achieved by all stakeholders in order to track progress toward NDC targets.

**CSA is seen as a good tool to meet the WBCSD sustainability agenda but there is a need to bridge the gap between private sector funding and CSA practices.** WBCSD is looking at ways in which members can be involved to scale up CSA, using different modalities, in partnership with other institutions. In-kind extension advice is one way businesses can be involved.

**Climate information services is a priority in the region.** APCC provide climate information services using 16 different climate models. The Centre partners with APEC, countries, research institutions, the public and private sectors, particularly in the Republic of Korea.

The ASEAN region can benefit from experience exchange and collaboration with other regions of the world engaged in scaling up CSA through regional CSA alliances and networks. GACSA's Regional Engagement Group is providing such a platform for sharing experiences with the other regional alliances worldwide, especially during the GACSA Annual Forum. The three other Action Groups, respectively on Knowledge, Investment, and Enabling Environment, can also leverage multi-institutional action to generate problem-solving knowledge and partnerships, as currently done on the CSA metrics issue that can benefit to the region.



Participants during workshop sessions

### Knowledge and strategy gaps for a pre-2020 NDC roadmap for the agriculture and land-use sectors

Country groups conducted a simple gap analysis of their country's needs for strengthening knowledge, strategies and capacities required for developing the draft pre-2020 NDC implementation roadmap, including the design and implementation of key national and subnational plans and programmes to support the NDC implementation process where possible.

## Session 3: Climate action in agriculture through development of foresight modelling and scenario analysis

### Climate change and land use and implications of the Paris Agreement: Setting the scene with foresight modelling

Climate foresight modelling and scenario development are increasingly being used for planning and decision-making for investment and action in the agriculture sector. The following four speakers presented work on the use of models to develop and assess a range of possible future scenarios for the agriculture and land use sectors.



Panelists (from left to right):  
Aline Mosnier, IIASA; Steve Prager, CIAT; Toshihiro Hasegawa, NARO

#### Achieving the PA: Implications for the agriculture sector - insights from GLOBIOM

Aline Mosnier, International Institute for Applied Systems Analysis (IIASA), presented an overview of the different types of scenarios developed and used in modelling the impact of and response options to climate change, under the global framework for the assessment of climate change mitigation and adaptation. Each scenario describes a different narrative or trajectory, depending on quantified indicators, such as population, GDP, or crop yields. Following participatory workshops, four alternative scenarios (Shared Socioeconomic Pathways or SSPs) have been developed for Southeast Asia.

IIASA's Global Biosphere Management Model (GLOBIOM) is used to analyze the competition for land use between agriculture, forestry, and bioenergy, which are the main land-based production sectors. Based on the middle-of-the-road scenario (SSP2), the model results indicate that there will be challenges in mitigation and negative emissions required to achieve climate stabilization below two degrees Celsius. Land use sectors will provide 20 to 30 per cent of total mitigation effort but most should come from energy and transport sectors. Technical non-carbon dioxide mitigation options have been identified for crops and livestock and include improved fertilizer management, improved crop management systems, feed supplements, changes in herd management and anaerobic digesters.

She presented the predicted baseline emissions for Southeast Asia to 2050 (based on SSP2 assumptions) and the mitigation potential with improved rice management and livestock system transition.

To improve foresight analysis and be able to use the model in country and regional contexts, she noted the following recommendations:

- It is necessary to develop more meaningful scenarios for each country, with stakeholders
- There is a need for high quality statistics in all sectors.
- There is a need to be critical of the results of models and provide feedback to modelling team, to help improve the models.
- Building capacities in countries will help tailor the models to the national context

### **ASEAN futures - plausible scenarios and potential threats**

Steven Prager, Senior Scientist for Integrated Modelling CIAT, outlined the work of CIAT and partners to evaluate the future direction of agrosystems and its ability to engage in climate change mitigation and adaptation, taking into account socio-economic development factors. The challenges are complex, multiscale and long-term with a high degree of uncertainty. He presented the results of IMPACT model analysis for ASEAN and east Asia for baseline and investment scenarios:

- There will be increasing food supply in a number of different commodities across the region but need to consider sustainability and resilience.
- Using WHO diet, nutrition and health targets, ASEAN region aligns well with healthy diets.
- Comparing world food prices in 2030 relative to 2010, prices will go down under the investment scenario; this underscores the importance of investments in ASEAN.
- Hunger will decline in 2030; food security and resilience should be the focus.
- The east Asia Pacific region will have an economic surplus of cereals over time, but for certain crops, there will be challenges, e.g. sugar. These are trends that allow investment options be focused by understanding the potential for investment in agricultural systems.
- Changes in crop land will lead to changes in emissions, some countries will reduce crop land but the vast majority will increase crop land, probably related to rice production. Additional information is needed to understand regional changes.

In summary the analyses show that agriculture has the potential to reduce emissions, largely due to crop land, but it is important to consider that pressure in one area may have positive (or negative) tradeoffs in other areas. There is no one answer – this is a set of potential futures and it is important to find synergies and understand the local context and information. It is also important to consider the “compound interest” effect; by starting now, there will be critical accumulative changes over time.

### **Areas of uncertainties and gaps in knowledge in predicting agricultural production and need for international collaboration**

Toshihiro Hasegawa, National Agricultural Research Organization, presented the work of the Agricultural Model Intercomparison and Improvement Project (AgMIP) - a platform that integrates science-based agricultural decision-making models and assessments of climate variability to achieve global food security.

As an example, he outlined the work of the crop modelling team which compared 13 existing rice models. While the models are generally consistent in trends, there are huge differences in predicted yields. Using chamber studies to measure yield under different carbon dioxide conditions, the results indicate there is still a large range of uncertainty. To reduce this uncertainty and improve projections, it is necessary to close the gap by moving from a science-driven approach towards a demand-driven approach (with country stakeholders).

This platform can be used by scientists and policymakers to work together cooperatively to develop more accurate and representative agricultural pathways and adaptation packages. Coordination to integrate assessments at regional and global levels, is done through the Climate Global Research Alliance (CGRA) Climate and Food Research Framework. One example of a collaborative research project is the Greenhouse Gas Mitigation in Irrigated Rice Paddies in Southeast Asia (MIRSA) project which will develop a protocol to measure GHG emissions in irrigated rice paddies in Southeast Asia.

### **Using climate foresight methods to develop and test CSA plans at national and subnational levels - the case of Cambodia**

Rathana Peou, CCAFS/Utrecht University, presented her work on developing CSA plans at national and subnational levels in 36 villages and three provinces, in partnership with the Cambodian government, over the last five years. The Ministry was looking for an approach or tool to allow more inclusivity in the development of subnational plans and scenarios. Six different steps have been developed to build scenarios and CSA plans at subnational level. Lessons learned and main challenges include the following points:

- Important to have the right people to develop the right narrative.
- There is a limitation in capacity and skills at subnational level and a low knowledge of climate change impacts
- Extremely costly process
- Lack of clarity in subnational plans, and how this feeds into the national plan or national policies.

A panel and group discussion focused on how to choose the right model to develop scenarios for agriculture planning and strategies.

- It is recommended to start with scenario/pathway development and then decide which model to use. Use a demand- or country-driven process to develop pathways and scenarios.
- Comparison studies on models are available to find which one fits the country context. Each model has weaknesses and advantages.
- It is important to consider modelling skills available in-country, e.g. university capacity. These skills need to be sustainable over the long term to effectively use models. It may be possible to team up with other platforms/countries/institutions to develop expertise and capacity.
- Scale is a crucial factor to consider – national or subnational, cross-sectoral or specific crop. Choosing which model is context specific - need to consider in each context, what are the questions and who is using the model.
- There is a lot of model duplication and overlaps. AgMIP are trying to classify/group the models according to purpose/context through international cooperation and collaboration. This will help countries to choose an appropriate model.
- AgMIP are also classifying datasets according to quality and timescale. This will enable countries to assess available and appropriate datasets.

- Tools are being developed to communicate climate change complexity (Cambodia) which will help to farmers to understand possible scenarios and analysis.

Godefroy Grosjean presented the **Asia Climate Policy Hub**, a new initiative in the region with the following three objectives:

1. Provides a link between CIAT scientific output through new partnerships with policymakers, private sector, academia, to help guide CIAT on what products/decisions will be needed in the future.
2. Create a centre for economic and policy analysis to support integration of methodologies to provide comprehensive analyses and guidance on climate policy
3. Tailor knowledge, develop user-friendly tools and build capacities at multiple levels.



Speaker: Godefroy Grosjean, CIAT

### **Climate-Smart Investment Plan in Bangladesh – foresight modelling for informed investment decisions**

Feleccitas Röehrig, CIAT, presented preliminary results of an ongoing project in Bangladesh to develop a climate-smart investment plan. The objectives are to build capacity to develop an agriculture sector that is climate-smart in the short and medium/longer term; and build a simplified agriculture sector model (using Excel) to develop a set of robust, quantified strategic priorities for investment and policy.

An inception workshop identified a vision (until 2041), nine concrete goals, a set of prioritized policies and technologies, and key drivers of uncertainty. The model was built to include the vision, goals, and quantified scenarios and each strategy was tested to see how they perform under the different scenarios. Model outputs included production in key agricultural commodities (crops, livestock, aquaculture and wild fisheries) and impacts on water use and poverty. Different crop, livestock and aquaculture technologies were also included and tested in model. Next steps will include a policy workshop to prioritize investment packages by assessing which are most feasible, scalable, and robust.

### **Developing a normative vision for the future of agriculture**

Using a participatory approach, country participants developed a national long-term vision and quantifiable objectives for the agriculture sector, inspired by policy priorities outlined in the NDCs and relevant national development plans and strategies.

### **Identifying strategies, policies and technologies to achieve the normative vision**

Country groups identified potential strategies, policies and technologies to achieve the objectives set in their long-term vision. Each group outlined a timeline for implementation to achieve the vision, after prioritizing a set of technologies and policies.

### **Actions and timeframes for a pre-2020 NDC roadmap for the agriculture and land use sectors**

Drawing upon the discussions on CSA, foresight modelling and participatory scenario analysis, participants identified national, subnational and regional level actions, programmes, and strategies required to further strengthen each of the modules of the NDC implementation framework. A time frame was identified for each action.

The groups also prepared a visual overview of the pre-2020 NDC roadmap where key milestones were identified, including the long-term goal, 2<sup>nd</sup> NDC submission and the 2018 FD. Changes or improvements needed by these dates to ensure the country is prepared for implementing sector NDC priorities were noted.



Participants during workshop sessions

## Session 4: Accelerating investment

### Key challenges limiting private sector investment in CSA in Southeast Asia

With at least USD \$16 trillion needed to finance the NDC targets that have been submitted to the UNFCCC, Mikell O’Mealy, Asia Activity Manager for the USAID-funded CEADIR Activity, stated that the key challenge is to enable and promote private sector investment and finance aligned with those targets<sup>4</sup>. Strategies for using public and international funds to leverage and accelerate private sector finance are essential, as are government policy and regulatory actions that can help attract private investment at scale.

Private sector leaders in the region have embraced the business and economic case for ambitious climate action. As examples, forest sector companies have committed to move toward net zero

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<sup>4</sup> A. Soezer, United Nations Development Program, September 2016, [www.undp.org/content/undp/en/home/blog/2016/9/22/Are-we-finally-getting-an-inclusive-instrument-in-place-to-finance-climate-actions-.html](http://www.undp.org/content/undp/en/home/blog/2016/9/22/Are-we-finally-getting-an-inclusive-instrument-in-place-to-finance-climate-actions-.html).

deforestation in key commodity supply chains by 2020, working with the Tropical Forest Alliance 2020. Agribusinesses have pledged to make 50 percent more food available while reducing GHG emissions by 50 percent by 2030, led by the WBCSD. Regional and global markets are calling for commodities certified as sustainable, and banks, investors and companies are beginning to develop climate-smart products and services in response to this changing market demand.

There is a significant opportunity for greater public-private sector coordination to better enable private sector investment and finance aligned with country NDC targets. In March 2017, USAID and FAO convened a high-level workshop with private sector and government representatives working to accelerate CSA investment in the region.<sup>5</sup> Private sector participants, including representatives of multinational and domestic corporations, financial institutions, investors, and SMEs, identified key challenges that are limiting private sector investment in CSA, and priority actions governments can take to attract and enable private sector investment at scale.



Participants during workshop sessions

Key challenges identified by private sector participants included:

- **Finance:** Smallholder farmers, small agribusinesses, and SMEs, which comprise a large portion of the region's supply chains, have limited access to finance, and that significantly constrains their ability to invest in climate-smart practices. The banking sector tends to perceive agricultural lending for smallholder farmers and SMEs in Asia as high-risk compared with lending to larger companies, due to high transaction costs associated with reaching remote clients, higher perception of non-repayment, and limited understanding on how to manage transaction costs and agriculture-specific risks.
- **Communication:** There are limited channels for financial institutions, businesses, and smallholder farmers to exchange views with governments on policy support needed to scale climate-smart approaches and investment. Improved public-private sector communication is also needed to share evidence-based best practices in order to increase confidence among investors related to the technical and financial feasibility of climate-smart technologies.
- **Capacity building:** Private sector leaders identified significant capacity strengthening needs in both the private and public sectors in order to enable climate-smart investment and finance at scale. Some top examples include: many SMEs and smallholder farmers have limited technical capacity to use tools for collecting, verifying and reporting farm-level data; most banks have limited capacity to incorporate sustainability principles and environmental, social and governance (ESG) standards

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<sup>5</sup> O'Mealy, M. et al. 2017. Convening Private Sector to Invest in Climate-Smart Commodity Production: Workshop Report, Bangkok, March 29, 2017. Washington, DC; Climate Economic Analysis for Development, Investment and Resilience (Crown Agents and Abt Associates).

in their core values and lending criteria; and governments generally have limited ability to aggregate GHG emission reductions by stakeholders and to promote climate-smart approaches and strategies.

- **Data:** To track progress toward NDC targets, private sector leaders noted that there is a real need for a systematic way to aggregate, report, and verify GHG reductions in agricultural and forestry value chains. Although tools for data collection are available, the capacity of smallholder farmers to collect data remains very limited. In many cases, where data is available, it is not shared due to distrust among different actors.

## Priority actions to accelerate private sector investment and finance

To address these challenges, private sector leaders identified and prioritized near-term actions needed to accelerate finance and investment. The top six priority actions included:

- **Finance:** Identifying pathways and solutions to enable SMEs to access financing.
- **Communication:** Facilitating more regular dialogue between national-level policymakers with business and smallholder farmers.
- **Policy:** Developing and implementing policies that incentivize (or penalize) companies that pursue (or do not pursue) climate-smart approaches.
- **Data:** Improving data sharing with farmers and upstream commodity producers, including data on weather and best practices for climate-resilience.
- **Data:** Aggregating, reporting and verifying GHG emission reductions achieved by all stakeholders towards national climate change commitments to track progress.
- **Communication:** Finding a common “language” or understanding on climate change actions between the private sector and government.

Government officials participating in the March workshop also identified top priority actions to attract, promote, and enable private sector investment and finance for CSA at scale. These included:

- **Policy:** Seeking private sector inputs during policy preparation and implementation reviews, to better understand what policy and regulatory support the private sector needs to scale up investment.
- **Communication:** Facilitating more regular dialogue between national-level policymakers with business and smallholder farmers. *This was also identified by private sector leaders.*
- **Communication:** Finding a common “language” or understanding on climate change actions between the private sector and government. *This was also identified by private sector leaders.*
- **Policy:** Developing and implementing policies that incentivize (or penalize) companies that pursue (or do not pursue) climate-smart approaches. *This was also identified by private sector leaders.*
- **Finance:** Tailoring credit guarantee instruments to apply to climate-smart agriculture; an important opportunity for national and central banks to take up.
- **Finance:** Identifying pathways and solutions to enable SMEs to access financing for climate-smart actions. *This was also identified by private sector leaders.*

## Country-specific recommendations for public-private sector engagement

Building on the regional challenges and priority actions identified, CEADIR conducted a survey and interviews with private and public sector representatives in Cambodia, Indonesia, Philippines, and Vietnam to develop country-specific recommendations for public-private sector engagement in CSA investment. Interviewees included a high ratio of private sector respondents in each country. Natcha

Tulyasuwan, Sustainable Landscapes Advisor and Economic Analyst for the USAID-funded CEADIR Activity, presented preliminary results of the analysis.



Participants during workshop sessions

Country-specific challenges included:

- **Insufficient common understanding of climate-smart practices** between the public and private sectors was one of the most significant challenges identified by respondents in Cambodia, Indonesia, Philippines, and Vietnam. The challenge goes beyond awareness and understanding of climate-smart practices. Low levels of interest in pursuing climate-smart agriculture and forestry actions and investments were underlying issues in all four countries. Many private sector entities in the region have not integrated sustainability into their core business processes. Governments are often concerned about tradeoffs between short- and medium-term economic development and environmental protection, which can result in less favorable policies and regulations to provide incentives for climate-smart investments.
- **Insufficient private sector inputs during policy preparation and review** was also one of the most significant challenges identified by respondents in Cambodia, Philippines, and Vietnam. Although there are some mechanisms and requirements for stakeholder input in policy formulation in Cambodia, and relatively more established and advanced mechanisms and requirements in the Philippines and Vietnam, respondents did not think these mechanisms incorporated private sector inputs effectively. In all four countries, small-scale producers stated that they did not have sufficient time or resources to participate in policy dialogues that do not result in immediate outcomes.
- **Limited channels to exchange views on the policy or regulatory environment** was a significant challenge identified by respondents in Cambodia, Philippines, and Vietnam, despite periodic opportunities at the regional level. There was a perceived need for more consistent public-private sector dialogues at the national level to build momentum and trust over time. These dialogues should include financial institutions and investors.

To address these challenges, many respondents in all four countries recommended **regular dialogues on the policy or regulatory environment** and greater information-sharing on the technical and financial viability of climate-smart practices and technologies. Policy outcomes were the most frequently identified desired outcome of effective public-private sector communications in each country, while finance, data, and capacity strengthening outcomes were also identified.

- High percentages of respondents in all four countries recommended the **development of policy incentives to promote climate-smart investment** and encourage replication of good practices, with specific references made to the forestry sector in Indonesia and the rice sector in Cambodia. Respondents in Indonesia and Cambodia also suggested removal of existing policies that act as disincentives for adopting climate-smart practices. In addition, many respondents in the Philippines and Vietnam identified finance outcomes as key objectives of effective public-private sector communications, specifically **facilitating access to finance for small-scale producers and SMEs**. Respondents in the Philippines and Vietnam also called for additional support for financial institutions to de-risk lending to small-scale producers and SMEs to enable long-term lending products on affordable terms.
- The majority of respondents in Cambodia, Indonesia, Philippines, and Vietnam identified **in-person meetings or workshops** as the most effective method for public-private sector communications. Some commented that in-person interactions and meetings can be more effective because they provide opportunities to establish or strengthen relationships, build trust and familiarity, and connect to a community of practice. Some respondents also recommended **smaller, targeted group meetings** for in-depth discussions on particular issues. A portion of private sector respondents noted the importance of relatively immediate and tangible results to justify the time spent in public-private sector dialogues.



Participants during workshop sessions

- Most respondents in all four countries identified national **governments as the most appropriate entities to convene and lead public-private sector dialogues** on climate-smart agriculture and forestry. Not only does the national government have the convening ability to obtain participation from key stakeholders, but it also has responsibility for the policy and regulatory environment and NDC targets.
- Many respondents noted the important **roles of donors and other development partners in supporting communication between the public and private sectors**. Donors are sometimes seen as neutral parties that can help overcome distrust between public and private stakeholders, especially in the early stages of developing new communication channels and increasing transparency on controversial issues. Financial support from donors and development partners can promote new dialogues and increase local capacity, but should not be assumed to remain available over the long term.

## Group discussion on accelerating investment

Workshop participants shared valuable perspectives on these issues during a group discussion following the presentations. Key points included:

- Countries need more effective platforms to support public-private sector dialogue to address the challenges identified.
- Governments, donors and development partners should evaluate existing platforms and identify opportunities to leverage resources and networks in order to improve public-private sector communication and collaboration for CSA investment.
- Fostering a common understanding and language between the public and private sectors is very important. The meaning of CSA, for example, is different for public and private stakeholders. It may be helpful to use terms that are more familiar to the private sector, such as “market linkages” or “reducing food loss.” Using terms familiar to each sector will help support meaningful public-private sector communication.
- For small farmers with no collateral to engage with banks, there are models available to provide finance. For example, Vietnam is piloting a “pull mechanism” designed to engage 75,000 smallholder farmers, including provision of advance financing and results-based financing. The mechanism is designed to encourage farmers to invest in technology to reduce costs of production, improve productivity, and lower emissions.
- Examples of dis-incentivizing policies were identified in Indonesia and Cambodia, including policies related to fertilizer subsidies in the rice and forestry sector. Participants expressed support for removing dis-incentivizing policies such as these.
- There are new and exciting examples for facilitating public-private sector dialogue within the context of multi-stakeholder platforms. It is often more effective for a neutral multi-stakeholder forum (rather than a government) to serve as facilitator. Some multi-stakeholder platforms also have mechanisms to provide funding and support to engage stakeholder groups that may otherwise be unable to participate in dialogues due to lack of representation or limited resources. GACSA is collaborating with examples of these multi-stakeholder forums in Africa.



Participants during workshop sessions

## Channeling private sector investment opportunities into CSA

Christy Owen, Chief of Party for USAID Green Invest Asia, facilitated a panel discussion on the challenges and opportunities for greater public-private sector coordination to help accelerate investment for climate-smart agriculture and forestry production, aligned with country NDC targets. Panel members included Arindom Datta, Asia Head of Sustainability, Rabobank; Paul Nicholson, Vice President of Rice Research and Sustainability, Olam; and Rachel Zedeck, Director of Sustainable Programmes, Control Union.



Panelists (from left to right): Christy Owen, USAID Green Invest Asia; Arindom Datta, Rabobank; Paul Nicholson; Olam; Rachel Zedeck, Control Union

The panelists highlighted the following challenges and opportunities.

### Challenges

- **There are significant costs associated with effectively engaging farmers in CSA.** The interest and ability of farmers to invest in climate-smart agriculture is often underestimated. Farmers need to be more included in public-private sector dialogue, but effective engagement and meaningful participation requires significant resources. Incentive models to adopt climate-smart approaches are not clear for farmers in many commodity supply chains. Research is important to prioritize CSA strategies and clarify the incentives and opportunities for farmers.
- **Public-private sector engagement is difficult for both governments and small-scale producers.** It is important for governments to consider the entire value chain in order to identify strategic opportunities for engagement and to work in partnership with the private sector in the context of clear roles and incentives for each group. Communication is a challenge, but there is strong interest in bridging the gap from both sides.
- **There is an absence of a good model to monitor, report, and verify GHG emission reduction potential associated with sustainable rice production practices.** An important next step would be to develop models for selected technologies, such as AWD. Such models could also evaluate risks related to soil loss, weeds, yields, water, temperature, and disease, which would provide useful information to farmers.
- **In scaling up commodity certification, it is important to strengthen community engagement with a focus on verifiable data.** Although forestry certification can be expensive, scaling up the adoption and use of certification is important to reduce emissions in the forestry sector. Strengthening

community participation is necessary to engage more small-scale producers, which can bring more verifiable data into supply chain monitoring and tracking systems. In some commodities, there is a perception that certification is only effective for niche products, but certification does provide an incentive that can affect the value chain overall.

- **Markets need more blended-finance solutions.** In order to create more opportunities to deploy blended finance mechanisms, however, public-private sector finance experts that understand both sides are needed.



Participants during workshop sessions

### Opportunities

- **Lowering investment risks for private sector stakeholders creates important incentives.** Risks can be reduced, for example, through public sector funding of infrastructure such as micro-irrigation systems, or through warehouse receipt financing in which banks invest in the commodities, rather than in the farmers. Warehouse receipt financing is a technical and complex mechanism, but has been a powerful investment incentive in Africa.
- **Providing risk management tools and mechanisms also increases farmer profitability.** Examples include targeted insurance products or mechanisms that enable farmers to postpone sales in order to gain higher prices, rather than having to sell immediately after harvest. A mechanism such as this would be a powerful tool in the rice sector, because rice traders such as Olam buy rice on an ongoing basis, even if at slightly varied prices, and often sell immediately to maintain high turnover. The business models of many commodity traders are based on high volume and turnover, rather than just on capital.
- **Biomass and bio digestion for rice waste presents income opportunities for farmers** and is not currently being pursued, due to lack of awareness and policy obstacles (e.g. classification of rice waste as “industrial waste product”).
- **Creating a single code for trading sustainable certified rice and providing reduced tariff rates for shipping it would incentivize change.** Currently there are disaggregated international trading codes

for rice, and sufficient data does not yet exist to make the case for the benefits of sustainable rice. Olam believes in the concept of sustainable rice and is investing in demonstrating its benefits in the hope that competitors and others in the rice sector will then follow and adopt more sustainable practices. With broader industry buy-in, the case could be made for creating a single code for trading sustainable certified rice and establishing trading incentives.

- **Incentivizing farmers to use CSA strategies benefits the industry overall.** The impacts of climate change on rice production and yields are a real risk for the private sector. Because rice is a low-margin product, profits are made from high turnovers of large volumes of rice. Supporting farmers to adopt CSA approaches strengthens supply chain resilience to climate change impacts and other stressors, helping to maintain consistent production and supply in the market.
- **Enabling marginalized farmers to access markets will increase transparency and equity.** This can be facilitated by private sector associations that are positioned to reach and engage marginalized communities and farmers.
- **Pilot projects play an important role in demonstrating the business model for local companies and farmers to adopt CSA practices.** Recent projects have successfully demonstrated this in Vietnam. More localized pilot projects are needed, addressing the specific opportunities and challenges in each country, to prove that sustainable production models are profitable.

## Public sector sources of funding and investment for inclusive growth in the agriculture sector

John McGinley, Mekong Strategic Partners, facilitated a panel discussion on the key sources of national and international public sector funding and finance for agricultural development and action to address climate change risks. Panelists included Khondkar Millat, Central Bank, Bangladesh; Edgardo Luzano, Land Bank of Philippines; Prasun Kumar Das, Asia Pacific Rural Credit Association (APRACA); and Ivo Mulder, UN Environment Programme (UNEP).



Panelists (from left to right): [John McGinley](#), Mekong Strategic Partners; [Ivo Mulder](#), UN Environment; [Khondkar Millat](#), Bangladesh Central Bank; [Edgardo Luzano](#), Land Bank of Philippines; [Prasun Kumar Das](#), APRACA

The panelists highlighted the following opportunities and key points.

- **Central banks and public banks have a key role to play in accelerating private sector investment in CSA.** The Bangladesh Central Bank, for example, has issued an agriculture-friendly credit policy for public and private banks and financial institutions, developed in consultation with relevant government ministries. The policy allows farmers to open accounts with only small deposits (10 Taka), in order to take small collateral-free loans (50,000 Taka per farmer); farmer groups and cooperatives guarantee the loans. The Bangladesh Central Bank also supports microfinance institutions that serve areas with insufficient commercial bank coverage, and developed environmental and social risk management guidelines (i.e., ESG standards) that include a due diligence checklist for CSA. In Cambodia, state-owned banks have an important role in addressing market failure in the finance sector and opening up new sectors. Microfinance is growing rapidly in Cambodia, as a result of state-owned banks being guided by policy to support microfinance. The Land Bank of the Philippines has financing programmes specifically supporting small farmer adoption of CSA technologies, as well as Programmes for non-agriculture sectors to help achieve NDC targets.

Land Bank of Philippines also launched a special financing programme for small farmers who do not qualify under the bank's regular lending criteria. The programme allocates public funds to banks to distribute to small farmers and includes capacity strengthening assistance to help farmers qualify for future loans under the Bank's regular lending stream.

Participants during workshop sessions



- **Central banks and public banks can also help reduce transaction costs.** The high transaction costs associated with reaching a large number of dispersed small-scale producers is a significant factor limiting their access to finance and ability to adopt CSA approaches. To address this issue, APRACA has worked with central banks to install kiosks (rather than full bank branches) in lesser-served areas that farmers can easily access, significantly reducing transaction and service costs. In the Philippines, APRACA worked with the International Rice Research Institute (IRRI) and Department of Agriculture to pilot a project that invests in drones to collect low-cost data used to demonstrate farmer productivity, which is then used by banks to make investments.
- **Public and international finance must leverage private finance for blended solutions.** APRACA is working with its members to leverage public, private, and philanthropic sources of financing in new

blended finance mechanisms. For example, to achieve better and more expansive extension services in Bangladesh, APRACA is securing finance from philanthropies and donors (e.g., IFAD to fund farmer communities' capacity development on CSA through FAO farmer field schools in three locations), the private sector (e.g., financing from BRAC), and other sources. In addition, extension services are increasingly being offered through the private sector due to focused expertise, reach, and alignment with business activities, and this could be a key area for greater leveraging with private sector resources. International funds, such as the Green Climate Fund (GCF), multilateral development banks, and bilateral donors have committed billions in funding and finance to address climate change and REDD+. UNEP recognizes the opportunity to align and leverage international climate change and REDD+ funding with private sector finance to accelerate a transition to CSA.

- **Actions by central banks and public banks can reduce finance and investment risks throughout the value chain.** Production, market, and price are the main risks in agriculture. Banks and financial institutions need to be actively involved in minimizing risk by developing policies that help avoid and address the risks. Central banks can provide green banking guidelines to encourage the banking industry to adopt ESG standards and develop CSA products and services. In the Philippines, for example, the Land Bank partnered with the central bank to establish a fund with contributions from local institutions such as cooperatives and local governments. Loans are guaranteed up to ten times the contribution of the cooperative, and risk is mitigated through an insurance fund that provides funds to guarantee the loans.



Participants during workshop sessions

- **Credit cooperatives can build the capacity of farmers to invest in CSA.** The development and promotion of credit cooperatives in Thailand, for example, led by the Bank for Agriculture and Agricultural Cooperatives (BAAC), has been successful in building the capacity of farming communities to self-manage local cooperatives, including managing the chain of production to market. BAAC is a leader in this space and covers 95 per cent of farming families in Thailand. This successful model has been replicated by other banks in the region, such as the National Bank for Agriculture and Rural Development (NABARD) in India. BAAC also pioneered agriculture marketing cooperatives to improve the negotiating position of farmer groups. More recently, BAAC pioneered a “smart farmer” programme that includes CSA strategies.
- **Public banks can provide finance to private banks to incentive CSA and support small-scale farmers.** Public or multilateral development banks often provide credit lines to support commercial banks, but it is a complex arrangement that must be context-specific. In Europe, for example, Rabobank identified SME clients that were sustainability “front runners.” The European Investment Bank

provided Rabobank with a line of credit at a rate cheaper than Rabobank's own cost of funding to finance loans to these front runners, with Rabobank holding the risk. The funds were deployed in three months. Due to costs, private banks can rarely give farmers financial incentives (e.g., loans with a lower interest rate or other preferential terms), but this model enabled Rabobank to do so for sustainability front runner SMEs in Europe and could be considered for Asia. There is capital available in the Asia region, but private banks need support and tools to better engage and access those funds toward CSA goals.

In Bangladesh, the Central Bank is providing concessional interest rates to private banks to encourage and enable them to lend to farmers. As part of CSR initiatives, each bank is required to form a fund to support community investments, which could include investments in CSA. There is also a monitoring and evaluation requirement for banks to report quarterly to the Central Bank on their performance to maintain eligibility for concessional public money.

### Developing a private sector NDC engagement strategy

Based on the presentations, panel discussions, and CSA actions identified in the pre-2020 roadmaps, participants worked in facilitated country groups to identify needs and opportunities for public-private sector coordination to accelerate investment and finance for CSA, aligned with NDC priorities and targets. The top priority actions needed to address these challenges were identified as well as a timeline and key entities who are most appropriate to lead and support the implementation of these priority actions.



## Session 5: The way forward

### Roadmap to reality - catalyzing action and investment through collaboration and partnership

Each country presented their pre-2020 roadmaps and private sector engagement strategies and identified concrete next steps that can be taken to turn their roadmaps into reality ([Annex 3](#)).

In closing, Beau Damen thanked all participants and partners for a productive workshop. It is clear there are many common issues across the region including the need for greater data sharing and collection to help planning and build a business case for investment. Greater collaboration and trust will be required between the private and public sectors to move forward to achieve the NDC commitments.



Group Photo

## Annex 1 Agenda

Time	Session	Speakers
<b>Day 1: Tuesday 10 October 2017</b>		
<b>SESSION 1: PROGRESS SINCE PARIS – PERSPECTIVES FOR AGRICULTURE</b>		
08:30-09:00	<b>Registration</b>	
09:00-09:15	<b>Opening remarks</b>	Jongjin Kim FAO Deputy RR
09:15-09:30	<b>Welcome, Background to the meeting and Objectives</b>	Beau Damen FAO
09:30-10:40	<p><b>Briefing Session: Significance of the Paris Agreement (PA) for the Agriculture and Land-Use Sectors</b></p> <p>Description: During this session, a panel of experts will discuss the following topics:</p> <ul style="list-style-type: none"> <li>• The agriculture and land-use sectors in the negotiation process,</li> <li>• The Paris Agreement: Key elements, implementation process, and progress to date</li> <li>• Preparing for the UNFCCC Facilitative Dialogue 2018 (FD 2018)</li> <li>• ASEAN Common Positions on Agriculture</li> <li>• The NDCs of Asian countries: The place of agriculture and adaptation/mitigation/CSA related actions</li> <li>• Developing/adapting national strategies, plans and programmes to support sector-level implementation of NDC targets for agriculture and land-use sectors (incl. NAPs, NAMAs, Agricultural Development Programs, etc.)</li> </ul> <p>This will be followed by a Q&amp;A and discussion session.</p>	<p><i>Imelda Bacudo</i> GIZ</p> <p>Jens Radschinski UNFCCC</p> <p>Margaret Yoovatana ASEAN CRN</p> <p>Beau Damen FAO</p>
10:40-11:10	<i>Group Photo + Coffee Break</i>	
11:10-12:30	<p><b>Interactive Session: Progress since Paris in Addressing NDC Priorities for Agriculture and Land-use</b></p> <p>Description: Country representatives will report on strategies, plans and programmes developed to support sector-level implementation of NDC priorities for agriculture and land-use sectors. Facilitators will provide support and help guide the presentations and discussion session that will follow.</p>	<i>Beau Damen</i> FAO
12:30-13:30	<i>Lunch</i>	
<b>SESSION 2: ROLE OF CLIMATE SMART AGRICULTURE (CSA) IN ACHIEVING THE NDCS</b>		
13:30-14:15	<p><b>Briefing Session: Agriculture in the NDCs and the Role of CSA</b></p> <p>Description: The session will encompass a series of brief presentations and examples on</p> <ul style="list-style-type: none"> <li>• Overview of agriculture in the NDCs and the role of CSA</li> <li>• Relevance of CSA in reducing climate change vulnerabilities, and multi-stakeholder knowledge platform in promoting and disseminating CSA</li> <li>• Tailoring CSA interventions to national and local contexts: The CSA country profiles in South and Southeast Asia</li> </ul>	<p><i>Beau Damen</i> FAO</p> <p>Marwan Ladki FAO - GACSA</p> <p>Margaret Yoovatana</p>

Time	Session	Speakers
	This will be followed by moderated Q&A between participants and speakers.	DoA, Thailand Godefroy Grosjean CIAT
14:15-15:15	<p><b>Panel Discussion: Country Perspectives on Scaling up CSA</b></p> <p>Description: The session will include a question based panel discussion among experts who will bring in important perspectives on,</p> <ul style="list-style-type: none"> <li>• Enabling environment for scaling up CSA</li> <li>• Youth in CSA</li> <li>• Scaling up of successful grassroots model to national scale</li> <li>• Best practices of climate resilient agriculture</li> </ul> <p>This will be followed by moderated Q&amp;A between participants and panelists</p>	<p>Peter Ettema MPI, New Zealand</p> <p>Chu Van Chuong MARD, Vietnam</p> <p>Aulia Damayanti CSAYN, Indonesia</p> <p>Hazel Tanchuling, RWAN, Philippines</p> <p>Miranti Ariani IAERI, Indonesia</p>
15:15-15:45	<i>Coffee Break</i>	
15:45-16:30	<p><b>Panel Discussion: Partners' Perspectives on Support for Scaling up CSA</b></p> <p>Description: The session will include a panel discussion where panelists will respond to a question / issue raised during the preceding panel discussion on country perspectives for scaling up CSA.</p> <p>This will be followed by moderated Q&amp;A between participants and panelists</p>	<p>Imelda Bacudo GIZ</p> <p>Sue Kyoung Lee, APCC</p> <p>Bjoern Ole Sander IRRI</p> <p>Tony Siantonas WBCSD</p> <p>Mikell O'Mealy USAID-funded CEADIR Activity</p> <p>Marwan Ladki FAO - GACSA</p>
16:30-17:15	<p><b>Interactive Session: Knowledge and Strategy Gaps for a Pre-2020 NDC Roadmap for the Agriculture and Land Use Sectors</b></p> <p>Description: Based on the previous session, where countries reported their progress in achieving the NDC targets, facilitators will guide country groups to reflect and identify the current state of knowledge that countries are at and what they need to know in the future in order to develop strategies and programs for designing their NDC roadmaps and as well to achieve the NDC goals and targets.</p>	<p>Beau Damen FAO</p>
17:15-17:30	<p><b>Wrap-up - Summary of the Day 1 and Evaluation</b></p> <p>Description:</p>	<p>Beau Damen FAO</p>

Time	Session	Speakers
	A short summary and other announcements followed by Day 1 evaluation by participants.	
<b>Day 2: 11 October 2017, Wednesday</b>		
<b>SESSION 3: CLIMATE ACTION IN AGRICULTURE THROUGH DEVELOPMENT OF FORESIGHT MODELLING AND SCENARIO ANALYSIS</b>		
08:00-08:30	<b>Registration</b>	
08:30-10:30	<p><b>Briefing Session : Climate Change and Land Use and Implications of the Paris Agreement: Setting the Scene with Foresight Modelling</b></p> <p>Description: During this session, experts in foresight modelling will inform participants about the current scientific knowledge available for understanding the impacts of climate change on agriculture and land use sector. The important topics to be covered will include:</p> <ul style="list-style-type: none"> <li>• Current and projected impacts at both global and regional levels with and without the NDC targets</li> <li>• Consequences of socio-economic development</li> <li>• Adaptation and mitigation potentials of current actions</li> <li>• Areas of uncertainties and gaps in knowledge</li> <li>• Implications of achieving the Paris Agreement in terms of emissions reduction globally, regionally, nationally and per sector</li> </ul> <p>This will be followed by a Q&amp;A and discussion session.</p> <p><b>Presentation(s):</b> CIAT, Potsdam Institute for Climate Impact Research (PIK), International Institute for Applied Systems Analysis (IIASA), University of Utrecht/CCAFS and Ag MIP</p>	<p><i>Peter Laderach</i> CIAT</p> <p>Aline Mosnier IIASA</p> <p>Steven Prager CIAT</p> <p>Rathana Peou CCAFS / Utrecht University</p> <p>Toshihiro Hasegawa AgMIP</p>
10:30-11:00	<i>Coffee Break</i>	
11:00-12:30	<p><b>Interactive Session: Developing a Normative Vision for the Future of Agriculture</b></p> <p>Description: Using a participatory approach, participants will be guided through an exercise to review and further develop national and ASEAN/regional long-term visions for the agriculture sector. This will be inspired by policy priorities in the NDCs as well as relevant national development plans and strategies. The discussions will be aimed at identifying long-term quantifiable objectives for the sector.</p>	<p><i>Godefroy Grosjean</i> CIAT</p> <p>Aline Mosnier IIASA</p>
12:30-13:30	<i>Lunch</i>	
13:30-15:30	<p><b>Interactive session: Identifying Strategies, Policies and Technologies to achieve the Normative Vision</b></p> <p>Description: Using a participatory approach, participants will be guided through an exercise to discuss, review and identify potential strategies, policies and technologies to achieve the objectives set in their long-term visions in the preceding session.</p>	<p><i>Godefroy Grosjean</i> CIAT</p> <p>Felicitas Roehrig CIAT</p>
15:30-16:00	<i>Coffee Break</i>	

Time	Session	Speakers
16:00–17:00	<p><b>Interactive session: Actions and timeframes for a Pre-2020 NDC Roadmap for the Agriculture and Land Use Sectors</b></p> <p>Description: Drawing upon the discussions on CSA, foresight modelling and participatory scenario analysis, participants will discuss long-term objectives, actions and time frames and identify needs for technical, financial, or other assistance associated with the pre-2020 Roadmap to prepare for implementation of NDC priorities in the agriculture and land use sectors.</p>	<p>Beau Damen FAO</p>
17:00–17:30	<p><b>Wrap up</b></p> <p>Description: A short summary of day 2 activities and discussions followed by day 2 evaluation by the participants.</p>	<p>Beau Damen FAO</p>
<b>Day 3: 12 October 2017, Wednesday</b>		
<b>SESSION 4: ACCELERATING INVESTMENT</b>		
08:00-08:30	<b>Registration</b>	
08:30–09:45	<p><b>Briefing Session: Key Challenges and Priority Actions for Accelerating Private Sector Investment in CSA in Southeast Asia</b></p> <p>Description: During this session, presenters will summarize the highlights from a regional workshop held in Bangkok in March 2017, including key challenges, recommendations, and priority actions to accelerate private sector investment and finance, showcasing perspectives of public and private sector stakeholders.</p> <p>Findings will also be presented from a new study that developed country-specific recommendations for enhanced public-private sector engagement to increase CSA investment in Cambodia, Indonesia, Philippines, and Vietnam, aligned with country NDC targets.</p>	<p>Mikell O’Mealy USAID-funded CEADIR Activity</p> <p>Natcha Tulyasuwan USAID-funded CEADIR Activity</p>
09:45–10:45	<p><b>Panel Discussion:: Channeling Private Sector Investment Opportunities into CSA</b></p> <p>Description: A panel moderator will provide a brief introduction, including highlighting opportunities for bankable business models for climate-smart agriculture and forestry production, which if financed at scale, have the potential to significantly contribute to GHG emission reductions and to help countries achieve NDC targets. Representatives of leading private sector financial institutions and companies will then share insights on opportunities for greater public-private sector coordination to help accelerate investment for climate-smart commodity production aligned with country NDC targets.</p>	<p>Christy Owen USAID Green Invest Asia</p> <p>Arindom Datta Rabobank</p> <p>Rachel Zedeck Control Union</p> <p>Paul Nicholson Olam</p>
10:45–11:15	<i>Coffee Break</i>	

Time	Session	Speakers
11:15–12:15	<p><b>Panel Discussion: Public Sector Sources of Funding and Investment for Inclusive Growth in the Agriculture Sector</b></p> <p>Description: This panel discussion will focus on key sources of national and international public sector funding and finance for agricultural development and action to address climate change risks. Panelists will include representatives of public sector financial institutions and international finance organizations to share their perspectives on current opportunities and future needs for upscaling CSA activities and for achieving NDC targets related to agriculture, forestry and land use.</p>	<p>John McGinley Mekong Strategic Partners</p> <p>Khondokar Millat Central Bank, Bangladesh</p> <p>Edgardo Luzano Land Bank of Philippines</p> <p>Ivo Mulder UN Environment</p> <p>Prasun Kumar Das APRACA</p>
12:15–13:15	Lunch	
13:15–14:30	<p><b>Interactive Session: Developing a Private Sector NDC Engagement Strategy</b></p> <p>Description: Based on priority commodities and CSA actions identified in the pre-2020 Roadmaps, participants will continue working in country-specific facilitated groups to identify needs and opportunities for public-private sector coordination to accelerate investment and finance for CSA, aligned with NDC priorities and targets. Interactive exercises will support groups in developing country-specific strategies for private sector engagement, including recommended priority actions by key government entities and next steps for implementation.</p>	<p>Mikell O’Mealy USAID-funded CEADIR Activity</p>
14:30–15:00	Coffee Break	
15:00–16:15	<p><b>Interactive Session: Roadmap to Reality - Catalyzing action and investment through Collaboration and Partnership</b></p> <p>Description: Countries will present their pre-2020 Roadmaps and private sector engagement strategies and identify concrete next steps that can be taken to turn their roadmaps into reality. Participants will be asked to suggest collaborations and partnerships that will support countries with their ongoing preparations for FD 2018 and the Paris Agreement commitment period.</p>	<p>Beau Damen FAO</p>
<b>SESSION 5: THE WAY FORWARD</b>		
16:15–16:30	<b>Workshop Evaluation</b>	<p>Beau Damen FAO</p>
16:30–17:30	<p><b>Wrap up and closing of the workshop</b></p> <ul style="list-style-type: none"> <li>• Overview of the key messages from the workshop</li> <li>• Next steps for increasing investments in CSA through engaging the private sectors</li> </ul>	<p>Beau Damen FAO</p>

## Annex 2 Country status in achieving the NDC goals and targets for the agriculture and land use sector

### Key:

√ - Action has been taken for this indicator

X - No action has been taken under this indicator

— - Actions currently underway

? – Participants were unsure of progress

Modules	Elements	Countries							
		Bangladesh	Cambodia	Indonesia	Lao PDR	Myanmar	Philippines	Thailand	Vietnam
Governance	Establish sector NDC focal point	√	X	√	—	√	√	√	√
	Set up institutional arrangements for sector NDC engagement	√	X	√	—	—	—	√	√
	Undertake NDC capacity building activities for sector	—	X	—	—	—	—	—	?
	Engage external stakeholders	—	X	—	√	?	√	√	—
Adaptation	Review NDC adaptation priorities	√	√	—	√	—	—	√	√
	Appraise sector adaptation options and potential to scale-up	—	—	—	—	X	—	√	—
	Develop sector adaptation plans	√	—	√	√	—	X	√	√
	Develop supplementary policies, projects and programmes	—	—	—	—	—	—	√	X
Mitigation	Analyze sector emissions reduction potential and possible adaptation synergies	—	√	√	—	√	—	—	—
	Appraise sector emissions reduction or CSA options	—	X	—	X	—	X	—	—
	Consider policies and complimentary initiatives	—	X	√	—	?	—	X	—

Modules	Elements	Countries							
		Bangladesh	Cambodia	Indonesia	Lao PDR	Myanmar	Philippines	Thailand	Vietnam
Finance	Compile overall costing of sector priority actions	√		—	√	—	—	X	√
	Identify funding needs	√		—	√	—	X	X	√
	Assess public and private financing options	—	X	X	—		—	X	—
	Develop climate investment plans and project pipeline	—		—	√	?	X	X	—
Monitoring	Assess data needs and gaps	—	X	√	—	—	√	—	—
	Design sector monitoring systems for priority actions	√	X	√	—	—	—	—	—
	Establish data management systems for archiving and reporting	?	X	√	—	?	X	—	—
	Build capacity for NDC monitoring and tracking progress	—	X	—	—	—	X	—	?

## Annex 3: Roadmap to reality - catalyzing action and investment through collaboration and partnership

Final country presentations can be accessed by clicking on the corresponding country:

<a href="#">Bangladesh</a>	<a href="#">Cambodia</a>	<a href="#">Indonesia</a>	<a href="#">Lao PDR</a>
<a href="#">Myanmar</a>	<a href="#">Philippines</a>	<a href="#">Thailand</a>	<a href="#">Vietnam</a>

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