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Integrating Agriculture in National Adaptation Plans (NAP-Ag) Programme

*Experiences of integrating agriculture
in sectoral and national adaptation
planning processes*

May 2020

Case study

Thailand

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Highlights

- ➔ The agriculture sectors (including forestry, livestock, and fisheries) are crucial for Thailand employing around 30.67 percent of Thailand's workforce (2018) and contributing 8.1 percent of the country's GDP (2018).
- ➔ The observed and projected negative impacts of climate change in Thailand pose a risk to key agricultural systems and the livelihoods of people dependent on those systems. This undermines national progress towards poverty eradication and food security. These issues have been outlined by Thailand's Nationally Determined Contributions (NDCs), which identified "safeguarding of food security" and "promoting sustainable agriculture" as core strategies to cope with climate change impacts.
- ➔ Thailand's climate change governance structure is underpinned by the Climate Change Master Plan (CCMP) (2015-2050) and overseen by the National Committee on Climate Change Policy (NCCC), which is chaired by the Prime Minister.
- ➔ The National Adaptation Plan (NAP) process in Thailand was initiated in 2015 by the Office of the Natural Resources and Environmental Policy and Planning (ONEP) under the Ministry of Natural Resources and Environment (MoNRE). The NCCC approved the NAP in late 2018. The NAP includes developed sector-specific components, including ones for agriculture.
- ➔ Thailand's Agriculture Strategic Plan on Climate Change (ASPCC) (2017-2021) guides adaptation in Thailand's agriculture sectors. The Office of Agricultural Economics (OAE) under the Ministry of Agriculture and Cooperatives (MoAC) manages the ASPCC, which was developed with support from the NAP-Ag programme. The plan provides a synthesis of knowledge on climate change impacts on agriculture sectors and outlines prioritised response strategies that will inform the development of the agricultural components of Thailand's NAP.
- ➔ The OAE, with support from the NAP-Ag programme, is now working at the provincial level to develop local climate change risk assessments and planning processes to better inform the allocation of technical and budgetary support for agricultural adaptation activities.
- ➔ MoAC is also working to develop improved processes to assess and prioritise sector-specific adaptation investments. Using multi-criteria analysis, the NAP-Ag programme has supported the development of methodologies to screen and prioritise budgetary requests for adaptation activities. OAE is conducting impact evaluation, in collaboration with NAP-Ag experts, to better understand the potential economic costs and benefits of farm-level adaptation.
- ➔ Monitoring and evaluation (M&E) of adaptation activities remains a challenge for the successful implementation of the ASPCC. The NAP-Ag programme is supporting OAE to strengthen sector M&E processes for adaptation consistent with the results framework of the NAP.
- ➔ In order to ensure future sustainability of sector adaptation activities, the NAP-Ag programme is supporting sub-national adaptation capability that will be the foundation for a GCF Readiness Project proposal focusing on increasing resilience to climate change impacts in marine and coastal areas along the Gulf of Thailand.

Case study objectives

This country case study on Thailand is part of a series that describes the steps taken to formulate and implement National Adaptation Plans (NAPs), with a particular emphasis on adaptation in agriculture (including forestry, livestock and fisheries). The series aims to provide national policy makers with valuable information from colleagues and counterparts in Asia, Africa and Latin America who are on the same NAP journey to address the multiple challenges posed by climate change.

Each case study describes the contribution and lessons learnt from the UNDP–FAO Integrating Agriculture in National Adaptation Plans (NAP–Ag) programme, which is funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) through the International Climate Initiative (IKI). The contribution of this work in achieving national and international development and climate change goals (e.g. particularly the Paris Agreement and the Sustainable Development Goals) is also presented.

Where possible, the case study series aims to show the links between long-term adaptation planning/NAPs and activities supported by the NAP–Ag programme in Thailand as well as the resulting impacts. Given that the NAP–Ag programme in Thailand has been operational since 2015, it significantly contributed to the sectoral climate change response strategies outlined in the NAP and provides valuable insights into lessons learned and best practices. The preparation of this case study is based on interviews with the NAP–Ag country coordinator, representatives from the Royal Thai Ministry of Agriculture and Cooperatives (MoAC) and the Office of Natural Resources and Environmental Policy and Planning (ONEP), as well as extensive review of country reports and publications.

Box 1

National Adaptation Plans (NAPs)

National Adaptation Plans were established in 2010, as part of the Cancun Adaptation Framework to enhance urgent action on adaptation, and were adopted by Parties to the United Nations Framework Convention on Climate Change (UNFCCC) (Decision 1/CP.16.). NAPs enable countries to identify, prioritize and implement the most needed medium–and long–term adaptation actions.

They aim to:

- reduce vulnerability to climate change by building adaptive capacity and resilience; and
- ensure that climate change adaptation is integrated into development planning in all sectors and at all levels of planning within the country.



Adaptation and the Paris Agreement

The 2015 Paris Agreement recognises the urgent need for adaptation as a key component in our global response to climate change. Section 9 of Article 7 of the agreement requests that “each Party shall, as appropriate, engage in adaptation planning processes and the implementation of actions”. This requests that countries voluntarily initiate the process. The Agreement, further, enables countries to present adaptation goals, priorities, actions and needs in their Nationally Determined Contributions (NDCs). Most initial NDC submissions included a section on adaptation. The significance of the agriculture sectors in adapting to and mitigating climate change was acknowledged through the decision on the Koronivia Joint Work on Agriculture (KJWA), which was reached at the UN climate conference (COP23) in November 2017.

The Kingdom of Thailand¹ submitted its INDC in 2015, which later became its first NDC when the country ratified the Paris Agreement in 2016. It emphasises both mitigation and adaptation actions to be implemented in line with Thailand’s Climate Change Master Plan (CCMP) (2015-2050), Thailand’s Twelfth National Economic and Social Development Plan (2017-2021), and other relevant national development plans.

Thailand’s NDC identifies adaptation as a “top priority in Thailand’s national response to climate change” and lists adaptation priorities for the country. These include (summarised version of each priority):

- promote and strengthen Integrated Water Resources Management (IWRM) practices;
- safeguard food security through the guidance of Sufficiency Economic Philosophy;
- promote sustainable agriculture and Good Agricultural Practices (GAP);
- increase capacity to manage climate-related health impacts;
- increase national forest cover to 40 percent;
- safeguard biodiversity and restore ecological integrity in protected areas;
- develop participatory, integrated marine conservation and coastal rehabilitation plans;
- promote nature-based and sustainable tourism;
- strengthen disaster risk reduction;
- strengthen climate modelling capacity while promoting collaboration among relevant agencies;
- establish effective early warning systems and enhance the adaptive capacity of national agencies; and
- build regional climate resilience by serving as a knowledge hub.

Box 2

Climate change and the Sustainable Development Goals (SDG)

Climate change has implications for each of the 17 Sustainable Development Goals (SDGs). National Adaptation Plans (NAPs) play an important role as a means of SDG implementation. In the agricultural, livestock and forestry sectors, adaptation can contribute to sustainable food production systems as well as development of resilient agricultural practices, and ultimately to SDG 2 to achieve Zero Hunger. SDG 13 on climate change, explicitly highlights adaptation as a key mechanism to combat climate change and its impacts, with targets to:

- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.
- Integrate climate change measures into national policies, strategies and planning.
- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

“Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development.”

(Article 7 of the Paris Agreement)

¹ Subsequently referred to in its shorter form ‘Thailand’.

Climate change and agriculture

Thailand is projected to be severely affected by climate change, with its vulnerability shaped by geographical and socioeconomic features. It has an extensive coastline, rural communities dependent on agriculture, and heavily populated urban areas located on flood prone plains.

The Kingdom of Thailand is located in Southeast Asia's tropical peninsula with an area of 513,000 km². Its territory includes 936 islands, as well as a mountainous northwest with peaks up to 2.57km, a low-lying plane alongside the Chao Phraya river, and an extensive plateau in the northeast. With 68.9 million inhabitants, Thailand ranks as the 20th most populous country in the world. It is an upper middle-income country with a 2016 GDP of USD 411.76 billion, USD 5,979 per capita and its key economic sectors include the service, industrial, and agriculture sectors. The agriculture sectors (agriculture, forestry and fisheries) employ around 30.67 percent of Thailand's workforce (2018), contribute to 8.1 percent of the country's GDP (2018), and are key to provide nutrition for the rural society.

Thailand's agriculture sector in particular will be impacted by changing precipitation patterns with increasingly common extreme rain events and floods in some areas, and more extensive drought periods in others. In 2011, 66 out of 77 provinces in the country were affected by flooding, with over 20,000 sq. km of agricultural land damaged and nearly 900 lives lost. In 2012, the World Bank reported Thailand suffered USD 46.5 billion in total damages and losses, and had to secure an estimated USD 14 billion in loans for rehabilitation and reconstruction from the 2011 flooding.

Changes in average growing season conditions will put the agriculture sectors at risk. For example, research undertaken by OAE and FAO in 2013 indicated that some regions of Thailand are already experiencing average growing season maximum temperatures above 34°C, which is a temperature threshold above which rice yields can be negatively affected unless corrective action is taken. These trends are expected to continue, and the area of the country affected is projected to grow as the climate changes further.

With respect to greenhouse gas emissions, Thailand's agriculture sectors do not contribute significantly to the country's overall emissions. According to Thailand's Second Biennial Update Report to the UNFCCC, only 15.98 percent of the country's CO₂ emissions (2013) stem from the agriculture, forestry and fishery sectors. The main emitting sectors were: energy, with about 41.59 percent; transportation with 25.82 percent; and manufacturing and construction, with 19.64 percent. The agriculture sectors, however, specifically rice farming and livestock raising, accounted for more than 70 percent of Thailand's methane (CH₄) emissions in 2000.

“For Thailand, climate change has a direct effect on the export of food and agricultural products, which is one of the main revenue sources of the country. Furthermore, agriculture is the main income basis of poor farmers. Thus, climate change has a tremendous impact on poor individual farmers and has aggravated the poverty issue.”

(Thailand's Twelfth National Economic and Social Development Plan 2017-2021, p. 35)

Frameworks and institutions for climate change coordination

Thailand is a signatory of the UNFCCC and has ratified the Kyoto Protocol and the Paris Agreement. The country launched its NAP development process in 2015. The NAP will build upon and complement a number of national frameworks and policies developed since 2008.

Table 1

Key climate specific policy documents of Thailand

Year	Title
2008	Strategic Plan on Climate Change (2008-2012)
2008	Global Warming Mitigation Plan on Agriculture sector (2008-2011)
2011	Second National Communication, 2011
2013	Agriculture Strategic Plan on Climate Change (APSCC) (2013-2016)
2015	Thailand Climate Change Master Plan (2015-2050)
2015	National Disaster Prevention and Mitigation Plan 2015
2015	Intended Nationally Determined Contribution (INDC)
2015	First Biennial Update Report, 2015
2016	Nationally Determined Contribution (NDC)
2017	Second Biennial Update Report, 2017
2017	Nationally Determined Contribution (NDC) Roadmap on Mitigation
2017	Agriculture Strategic Plan on Climate Change (ASPCC) (2017-2021)
2018	National Adaptation Plan (NAP), (2018-2037)

Thailand's Climate Change Master Plan (CCMP) (2015-2050) is the highest-level policy document guiding the national climate change response. It focuses on climate change preparedness initiatives in line with Thailand's economic and socio-cultural context, including adaptation, mitigation and capacity building objectives. The CCMP includes adaptation goals in seven sectors: water management (floods and droughts), agriculture and food security, tourism, public health, natural resource management, human settlement and security. Relevant government entities in these sectors, including MoAC, Ministry of Natural Resources and Environment MoNRE, Ministry of Health, and Ministry of Tourism and Sports, formulated sectoral plans to address climate change. In the agriculture sector, for example, an Agriculture Strategic Plan on Climate Change (ASPCC) (2017-2021) has been developed to align with the CCMP. This plan also provides sectoral input to Thailand's Thailand's NAP.

Other key policy documents that address climate change include the Strategic Plan on Climate Change (2008-2012) (developed by ONEP), which seeks to "build adaptive capacity to cope with climate change and to reduce vulnerability of various sectors", as well as the National Economic and Social Development Plans. These plans identify a need for research and innovative climate change response action to enhance the overall resilience of the country. Another key document, the country's National Disaster Prevention and Mitigation Plan (2015), supports integrated policies on climate change and disaster preparedness initiatives in line with the country's flagship Sufficiency Economy Philosophy (see Box 3).



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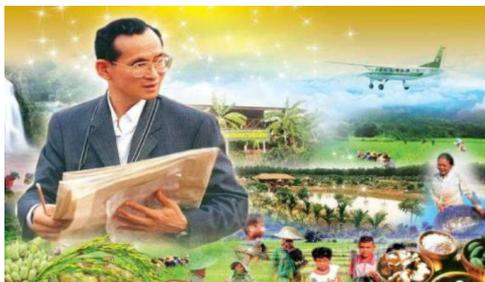
Thailand's NAP puts strong emphasis on the context specific issues facing different sectors and regions of the country. The NAP process has encouraged the development of sector specific risk assessments that can be openly shared to facilitate risk informed decision making by public and private sector actors alike. The Thailand NAP aims to ensure wide buy-in to the adaptation planning process by fostering inter-ministerial, inclusive coordination and cooperation based on sharing experiences and identifying synergetic interests among key stakeholders.

Thailand's NAP and its NDC recognise the importance of adapting the agriculture sectors to climate change. The NDC identified "safeguarding of food security" and "promoting sustainable agriculture" as top priority strategies to cope with climate change impacts. The NAP lists the goals of: (i) creating resilience of and readiness for adapting agriculture sectors to natural disaster risks; and (ii) maintaining food security at all levels.

The NAP process in Thailand is funded by the national budget and also supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), funded by IKI (BMU). UNDP and FAO provide additional support through the NAP-Ag programme. All of these efforts helped the government of Thailand progress through the NAP process, and the NAP was approved by NCCC in late 2018. Moreover, Thailand is also supported by the GEF funded NAP-Global Support Programme (NAP-GSP) led by UNDP and UN Environment (UNDP-UN Environment) on developing a proposal for Marine and Coastal Planning and mobilising resources from the GCF to advance those goals.

Box 3

Sufficiency Economy Philosophy and the link to adaptation in agriculture

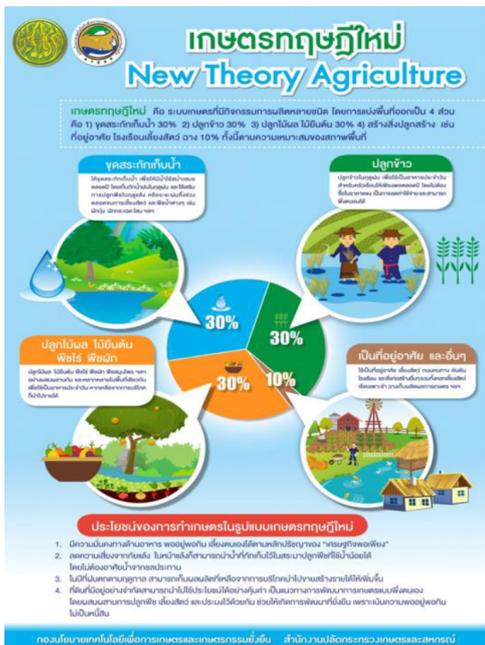


The Sufficiency Economy Philosophy (SEP) originates from the development philosophy of the late King Bhumibol Adulyadej (Rama 9).

The SEP is built on three pillars:

- **Moderation:** Sufficiency, manifested as not acting too little or too much at the expense of oneself or others. For example, producing and consuming at a moderate level.
- **Reasonableness:** The decision concerning the level of sufficiency must be made rationally, with consideration of the factors involved and careful anticipation of the outcomes that may be expected from such action.
- **Risk Management:** Preparing to cope with the likely impact and changes in various aspects by considering the possibility of future situations.

His Majesty King Bhumibol initiated the New Theory of Agriculture (NTA), which is the clearest application of SEP, to help Thai farmers build resilience against economic crisis and natural disasters. NTA is a system of integrated and sustainable agriculture which aims to optimise farmland. It is apparent how both the SEP, particularly its applied NTA, supports the successful climate change adaptation processes of Thailand's agriculture sectors. Proposed adaptation actions include multi-cropping systems, diversified land-use, focus on households rather than commercialisation (mass production), and promotion of resilient seed varieties.



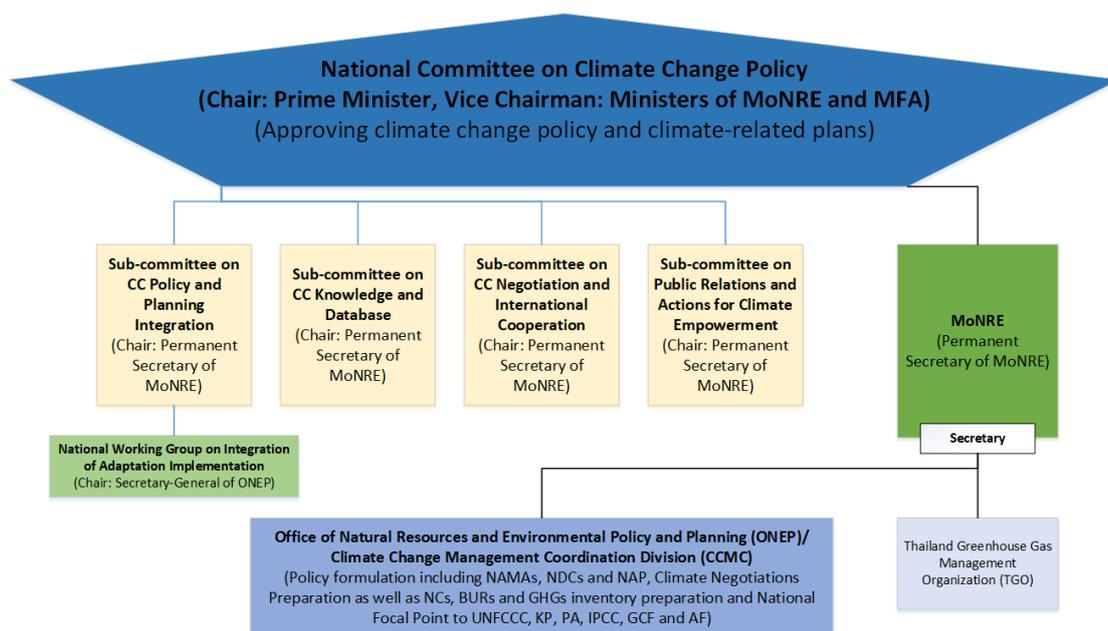
Several organisations mandated to develop and/or oversee climate change response strategies and legislation comprise the public institutional framework in Thailand. Figure 1 provides an overview of the climate change related governance structure in Thailand.

The highest-level entity for policy guidance on climate change and international negotiations is the National Committee on Climate Change Policy (NCCC). The NCCC was established in 2007, and is chaired by the Prime Minister and co-vice chaired by the Ministers of MoNRE and the Ministry of Foreign Affairs (MFA). The NCCC serves as a forum for discussing and formulating climate change aspirations and policy. The NCCC has four thematic sub-committees, which are all chaired by the Permanent Secretary of MoNRE.

The key operational body in Thailand's climate change governance structure is the Office of Natural Resources and Environmental Policy and Planning (ONEP). The Climate Change Management and Coordination Division leads climate change efforts on behalf of ONEP. It is mandated to act upon all matters related to climate finance and prepares national climate change response strategies. This includes the development of Thailand's NAP, for which the Division initiated a series of scientific studies and stakeholder consultations, and a national vulnerability assessment (VA) to foster an inclusive and knowledge-based NAP development process.

Figure 1

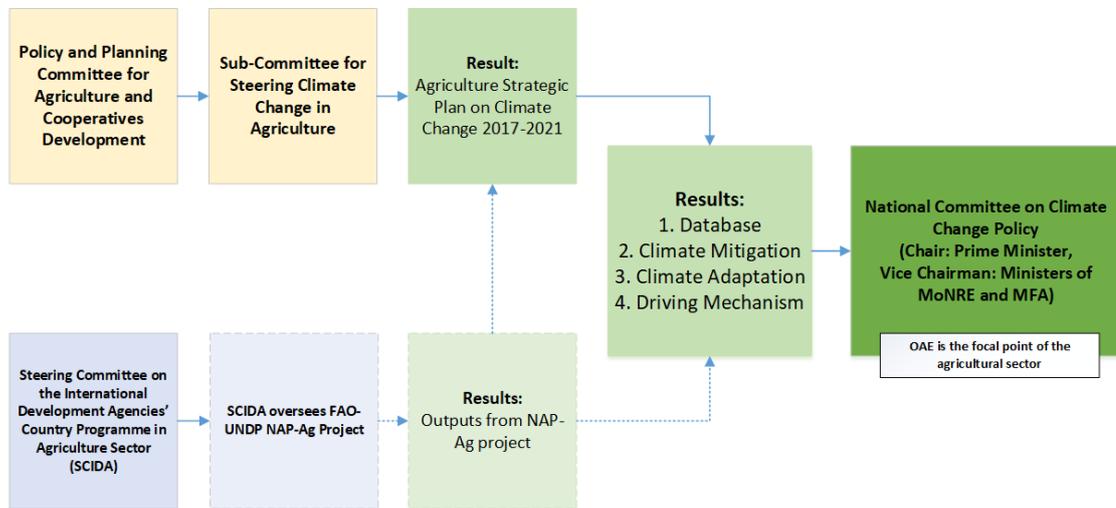
Organizational structure of national bodies on climate change



The Office of Agricultural Economics (OAE) is the MoAC focal point for climate change issues and the lead agency for strengthening adaptation planning in the agriculture sectors. During the first phase of the NAP-Ag programme, the Sub-Committee for Steering Climate Change in Agriculture guided the OAE's efforts to update Thailand's Agriculture Strategic Plan on Climate Change (ASPCC) (2017-2021) (see Box 5 and Figure 2). Once the updated ASPCC was endorsed, NAP-Ag programme activities in Thailand supported the implementation of the ASPCC results related to adaptation. The results under the ASPCC contribute to the work of the National Sub-Committee on Climate Change Policy and Planning Integration. OAE is also the focal point on this sub-committee for the agriculture sector.

Figure 3

Sufficiency Economy Philosophy and the link to adaptation in agriculture¹⁷



Agricultural adaptation planning process

The NAP-Ag programme engages with the framework laid down by the UNFCCC Technical Guidelines for the NAP process (2012), which recommends four elements in the preparation of a NAP:

Element A - Lay the groundwork and address gaps	Element C - Implementation strategies
Element B - Preparatory elements	Element D - Reporting, monitoring and reviewing

For the agriculture sector adaptation planning, FAO developed specific Supplementary Guidelines on Addressing Agriculture, Forestry and Fisheries in National Adaptation Plans. These are aligned with the elements of the NAP process, but also provide sector-specific guidance for each step of the process (see Table 2), explaining how the agriculture sectors can further mainstream climate change and DRR in accordance with the national adaptation planning processes. Table 2 provides an overview on each step of these supplementary guidelines and corresponding key achievements reached in Thailand through the support of NAP-Ag activities.

Element A focuses on setting the scene for integrating the agriculture sectors in NAPs and engaging agricultural stakeholders in the process of formulating and implementing NAPs. Under MoAC, an interdepartmental working group on climate change has been established. The working group, together with NAP-Ag, undertook a stocktaking process to identify and understand past adaptation projects and efforts under MoAC. The development and implementation of the ASPCC (2017-2021) built the capacities of key stakeholders (see Element C).

Element B analyses climate change scenarios, risks and vulnerabilities in the agriculture sectors in an attempt to identify, select and prioritise medium- to long-term adaptation options. Various stakeholders conducted national level analysis of long-term climatic conditions in Thailand and their impacts on agriculture production. Stakeholders also undertook sector-specific vulnerability and risk assessments at both national and subnational levels. Key public sector stakeholders attended trainings on cost-benefit analysis (CBA) and multi-criteria analysis (MCA) tools to prioritise adaptation options. In the field of climate finance, suitable economic valuation and investment appraisal methods were being developed for use in Thailand.

Element C emphasises developing strategies and enhancing capacities to implement adaptation actions in the agriculture sectors. A milestone reached under this element was the inclusive development of the ASPCC (2017-2021), which provided the basis to inform the agriculture sector components of Thailand's NAP. Through the ASPCC, stakeholders prioritised adaptation activities and projects for the agriculture sector. While the ASPCC targeted the national level, provincial and district level sector-specific climate change risk assessment and adaptation planning exercises were initiated to encourage improved integration of local level adaptation priorities into the implementation of the ASPCC.

Element D aims to build effective monitoring and review systems to assess adaptation planning and implementation of agricultural adaptation actions, with a possibility for evidence-based learning and revisions. With the support of NAP-Ag potential indicators to monitor adaptation processes of agriculture sectors have been explored, building on existing M&E frameworks within the MoAC. This was complemented through capacity building of MOAC staff to monitor and evaluate implementation of adaptation activities in support of ASPCC.

An NAP-Ag roadmap document is currently being prepared. The document will guide continued sectoral adaptation planning and the implementation of ASPCC and agriculture sector components of Thailand's NAP. Per the element, the document will provide thorough gap analysis and an outlook on when, and by whom, these remaining gaps will be addressed. Additionally, the roadmap will provide a strong foundation for agriculture sectors in anticipation of the Climate Change Act that is currently being drafted.

“Thailand is resilient with adaptive capacity to climate change impacts, and moves towards sustainable development.”

(Vision statement, Thailand's NAP)

Table 2

Status of NAP Formulation and Implementation in relation to FAO's Supplementary Guidelines on Addressing Agriculture, Forestry and Fisheries in National Adaptation Plans.

Step	A. Laying the groundwork and address gaps	Achievements
A1	Initiate and launch the agriculture sectors' participation in national adaptation planning, including clarifying mandates and engaging subsectors	<ul style="list-style-type: none"> NAP-Ag programme integrated as part of broader set of initiatives to support Thailand's NAP process
A2	Take stock of existing vulnerability and risk assessments, knowledge, methodologies, and possible capacity and institutional gaps, policies, plans and investment frameworks in the agriculture sectors	<ul style="list-style-type: none"> Cross-departmental stocktaking process implemented at MoAC to understand past adaptation projects
A3	Address capacity gaps and weaknesses in adaptation planning in the agriculture sectors	<ul style="list-style-type: none"> Inter-departmental working group under MoAC established
A4	Assess and identify links between adaptation needs and development goals in the agriculture sectors	<ul style="list-style-type: none"> ASPCC linked to sector development plan
Step	B. Preparatory elements	Achievements
B1	Analyse current and future climate scenarios for production and sustainability	<ul style="list-style-type: none"> Analysis of long-term climatic conditions in Thailand and their impacts on agriculture production conducted at the national level
B2	Assess climate vulnerabilities, risks and impacts, and identify adaptation options for the agriculture sectors	<ul style="list-style-type: none"> Sector-specific vulnerability and risk assessments conducted at national and subnational levels

B3	Select and appraise adaptation options in the agriculture sectors	<ul style="list-style-type: none"> • Training on multi-criteria analysis tools conducted and tools applied
B4	Compile and communicate agricultural perspectives for NAPs	<ul style="list-style-type: none"> • MoAC officials engaged in intersectoral NAP consultation meetings
B5	Reviewing integration of climate change adaptation in the agriculture sectors in development planning, including national, subnational and sectoral plans	<ul style="list-style-type: none"> • Assessment of the effectiveness of institutional processes for adaptation planning and budgeting prepared • Development of suitable economic valuation and investment appraisal methods to be used in Thailand
Step	C. Implementation strategy	Achievements
C1	Ensure appropriate priorities for the agriculture sectors in national adaptation planning and the NAP	<ul style="list-style-type: none"> • Adaptation activities and projects for the agriculture sector prioritised under the ASPCC
C2	Develop a long-term adaptation implementation strategy	<ul style="list-style-type: none"> • ASPCC developed, with long-term goals for sector-specific adaptation
C3	Improve capacity for planning and implementing adaptation in the agriculture sectors	<ul style="list-style-type: none"> • Provincial and district level sector-specific climate change risk assessment and adaptation planning exercises initiated
C4	Promote coordination and synergy at the national and subnational levels	<ul style="list-style-type: none"> • ASPCC and NAP-Ag Technical Working Groups formed
Step	D. Reporting, monitoring and review	Achievements
D1	Prepare for monitoring adaptation planning and implementation in the agriculture sectors	<ul style="list-style-type: none"> • Draft NAP-Ag M&E Framework developed including elements of the ASPCC
D2	Review the national planning process assessing how all the agriculture sectors are addressed	<ul style="list-style-type: none"> • Capacity building for MoAC staff
D3	Monitor and iteratively update the process of adaptation planning and implementation in the agriculture sectors	<ul style="list-style-type: none"> • Training provided at provincial levels on log-frame preparation and monitoring of adaptation projects
D4	Outreach on the process and report on progress and effectiveness	<ul style="list-style-type: none"> • Periodic reporting on the implementation of the ASPCC (ongoing)



NAP-Ag programme support

Thailand submitted the First and Second National Communications (2000, 2011) to the UNFCCC, under which a range of impact and vulnerability assessments were undertaken. In the Agriculture Development Plan (ADP) (2012-2016), for example, MoAC defines three broad strategies and notes that climate change is one of the key driving forces that will influence the future of rural Thailand. It outlines the need to improve the adaptive capacity of Thailand's agriculture sectors.

These studies, undertaken through NAP-Ag, allowed the government to identify priority sectors and inform the country's NDC. The NDC highlights that Thailand's adaptation efforts aim to enhance climate resilience using the guidance of the Philosophy of Sufficiency Economy, bestowed by His Majesty King Bhumibol Adulyadej.

The NAP-Ag programme built upon and incorporated previous and ongoing work into its Thailand activities (see table 3) and provided support to Thailand's government, helping to comprehensively integrate climate response strategies into the government's agriculture planning processes in line with the programme outcomes (see Box 4).

Table 3

Agriculture and climate change related adaptation projects in Thailand

Year	Title and Publisher
2018 - 2021	Thai-German Climate Programme (TGCP), GIZ
2018 – 2020	NDC Support Project: Delivering Sustainability through Climate Finance Actions in Thailand, UNDP (cabinet endorsement pending)
2017 - 2019	TEEB Implementation: Supporting Biodiversity and Climate Friendly Land Management in Agricultural Landscapes, UN Environment
2015 - 2019	Risk-based National Adaptation Plan (Risk-NAP), GIZ
2015 - 2019	Integrating Agriculture in National Adaptation Plans Programme (NAP-Ag), UNDP
2013 - 2017	Strengthening Thailand's Capacity to Link Climate Policy and Public Finance, UNDP
2013 - 2017	Water Management Pilot Project: Improved Management of Extreme Events through Ecosystem-Based Adaptation in Watersheds (ECOSWAT), GIZ
2011 - 2013 (ongoing work since 2004)	Development and Scaling up of a Climate Change Community-Based Adaptation (CC CBA) Model for Food Security in Thailand, Oxfam, Earth Net Foundation (ENF), Healthy Public Policy Foundation (HPPF)
2006 - 2010	Global Change Systems for Analysis, Research and Training (START), Chulalongkorn University (CU), National Research Council of Thailand (NRCT), and International START

Box 4

NAP-Ag programme outcomes

- 1. Strengthen technical capacity** – Building up partner countries' use of appropriate tools and analyses to assist key ministries with investment planning and budgeting.
- 2. Develop integrated roadmaps for NAPs** – Strengthening the technical capacity of individuals and institutions to develop a roadmap of economically viable, gender-responsive, medium and long-term adaptation options for the agriculture sectors.
- 3. Improve evidence-based results for NAPs** – Developing and introducing impact assessment frameworks for the agriculture sectors, which generate evidence-based results and can be used in policy dialogues (e.g. on adaptation planning and monitoring, tracking and reporting).
- 4. Promote agricultural NAPs through advocacy and knowledge-sharing** – Sharing and providing information to other countries and sectors on how to integrate adaptation needs into national planning and budgeting processes.

The NAP–Ag programme in Thailand achieved several milestones between 2015 and 2019, including the development of strategic plans and frameworks (climate smart agriculture (CSA) strategies), capacity building activities, monitoring of adaptation, tools that can be used at the central level for prioritisation (cost-benefit analysis, multi-criteria analysis), demonstration of risk and vulnerability assessments at sub-national levels, adaptation studies, and a forthcoming Roadmap for future adaptation planning in the agriculture sectors. This roadmap will provide guidance for future adaptation planning for Thailand’s agriculture sectors.

Key activities and milestones achieved are briefly described below:

CSA Strategies



Supported the development of Thailand’s Agriculture Strategic Plan on Climate Change (ASPCC) (2017-2021) – The NAP-Ag programme has provided technical knowledge and policy expertise to facilitate the participatory process, engaging all departments of the MoAC to update and strengthen the ASPCC (2017-2021) (see Box 5). The plan provides a synthesis of knowledge on observed and projected climate change impacts on the agriculture sector in Thailand, and also outlines prioritised response strategies. The NAP-Ag programme organised a comprehensive stocktaking process and a series of planning meetings to develop the ASPCC in an integrated manner. It also provided support as stakeholders conducted sector-specific risk and vulnerability assessments that fed in to the knowledge base of the ASPCC. The ASPCC is a strategic document, developed and owned by MoAC. It will guide the climate change response of the agriculture sectors of Thailand and inform the adaptation strategies of the agriculture sector under the ONEP-developed NAP.

Box 5

Summary of Thailand’s Agriculture Strategic Plan on Climate Change (ASPCC) (2017-2021)

Vision: Thailand’s agriculture has climate resilience and contributes to mitigate climate change problems under the sustainable development pathways.

Strategy 1: Database, knowledge, and technology – Collection, development, and building up databases, knowledge and technology to raise awareness of climate change.

Strategy 2: Adaptation Actions – Increasing the ability of farmers, farmers’ institutions, and related businesses to adapt to climate change.

Strategy 3: Mitigation Actions – Contributing to reducing greenhouse gas emissions and developing an environmentally friendly growth model.

Strategy 4: Driving Mechanism – Strengthening the capacity of agriculture managers to cope with climate change.

Climate Change Adaptation Priorities:

Priority 1: Water management: i) Integrated and participatory water resource management; ii) increasing water use efficiency; iii) expanding irrigation areas; and iv) increasing number of farm ponds for water storage.

Priority 2: Sustainable Soil Management: i) Preventing soil degradation (such as planting cover crops, and crop rotation); ii) rehabilitating degraded soils (such as soil condition analysis and organic fertilizer promotion); and iii) optimising agricultural land use through agricultural zoning (by using agricultural-mapping tools).

Priority 3: Strengthening farmers’ climate resilience: i) Climate change risk mapping for all main crops; ii) promoting climaterisk insurance (index-based insurance); iii) developing the climate-resilient index for the agriculture sector; iv) promoting integrated farming and sustainable agriculture (organic farming and New Theory Agriculture); v) promoting technology transfer on precision farming and biotechnology; vi) developing early warning systems (EWS) for agriculture sector; and vii) promoting market-based policies and economic incentive for climate action.

Priority 4: Strengthening measures to support farmers’ and businesses’ ability to adapt: i) Develop measures to compensate and support climate adaptation and resilience to farmers and businesses, and ii) strengthen measures, mechanisms, and institutional structure as appropriate.

Contributed to the overall Thailand NAP process, generating lessons and evidence from NAP-Ag activities at federal level to realign planning and budgeting processes

– The knowledge generated through the NAP-Ag activities (e.g. wider stocktaking exercise, exploration of adequate M&E indicators, and laying the groundwork in economic assessments of adaptation actions) strengthened the planning processes for adaptation of the agriculture sectors in Thailand. The development of the ASPCC as a national level sector climate change strategy that incorporates adaptation was particularly effective. The ASPCC informed the agriculture components of Thailand’s NAP and will be valuable in the process to update Thailand’s NDC to the UNFCCC. The co-facilitation of the process through MoAC (lead on ASPCC) and ONEP (lead on NAP and NDC) for agriculture sector planning processes will enable the transfer of knowledge and facilitate the sustainable integration of these best practices in key public institutions in Thailand.

Contribution to sub-national level adaptation planning processes through vulnerability assessments and adaptation prioritisation

– Building on experiences from the development of the ASPCC, NAP-Ag initiated a process in three districts to assess climate change vulnerabilities and identify adaptation options for agriculture sectors at the sub-national level. The activities built on vulnerability assessments of agriculture sectors to provide a demonstration of adaptation planning for provincial and central agriculture sector planning units under MoAC. The NAP-Ag programme incorporated best practices and lessons learned from other contexts into the vulnerability assessment activities in Thailand. These activities will lay a solid foundation that allows local government units to develop sub-national agriculture adaptation plans in an inclusive manner that includes local communities, decision makers at all public levels, and private sector representatives. These activities are expected to contribute to the effective implementation of the ASPCC.

Capacity building and monitoring

Supported institutional capacity development to mainstream risk-informed adaptation planning and programming

– Building on capacity enhancement trainings and tools to identify and prioritise adaptation options, MoAC, supported by NAP-Ag, mainstreamed climate change into planning and programming. These efforts included Climate Change Benefit Analysis (CCBA) and multi-criteria analysis (MCA) trainings with different government departments. At the institutional level, a national technical working group was established in 2016 to improve coordination processes in adaptation planning. The working group is composed of representatives from different departments under the MoAC and other ministries. Its mandate includes: i) coordinating with and informing sub-committees and working groups in different departments; ii) formulating sub-sector specific action plans; iii) supporting the mainstreaming of climate change risk-informed planning and budgeting processes; and iv) supporting the update and development of the ASPCC.



Strengthened performance-based monitoring and economic assessments of adaptation actions – The NAP-Ag programme organised a series of training events and workshops to enhance the capacity of decision makers in the national and agriculture sectors to rank and appraise adaptation options using tools such as MCA, CCBA and impact evaluation. In addition, the FAO Thailand country office and technical personnel from the Office of Agricultural Economics (OAE) are developing a standardised evaluation process instrument to quantify the impact of the New Theory Agriculture, an agricultural extension programme that is being scaled up in Thailand (see box 3). These activities contribute to the range of available methodological tools and processes used to develop the capacity of Thailand's public institutions, allowing the institutions to identify and adopt the most effective and feasible adaptation options.

Finance and budgeting

Support with leveraging climate finance and to develop climate risk-informed budgeting processes – NAP-Ag provides support to governments trying to identify and utilise opportunities to leverage climate finance for the implementation of climate change adaptation strategies and frameworks in the agriculture sectors. This support led to the development of a bankable funding proposal and more robust programme budget requests, which built on the prioritisation and appraisal of adaptation options. In addition, an impact assessment pilot will be launched to bring more evidence-based monitoring into current planning and budgeting processes.



Lessons learned

NAP-Ag has made considerable progress since the programme's inception in 2015. The following are a number of challenges, success factors and lessons learnt to date:

- **Developing a strong knowledge base is essential for risk-informed adaptation planning** – Data availability for climate and impact analysis across different agencies within MoAC is inconsistent and negatively affects mainstreaming into their programming and planning processes. NAP-Ag can assist MoAC in addressing this obstacle. The expansion of the existing climate change knowledge base on agriculture and adaptation options through risk and vulnerability assessments and MCA processes is critical in enhancing the quality and justifiability of adaptation planning. Similarly, there is a distinct need for effective systems for M&E that are able to complement existing monitoring systems at the sector level. The NAP-Ag programme has been careful to work with existing mechanisms and available resources to develop options that strengthen M&E processes linked to the ASPCC and expand the knowledge base for sector adaptation planning.
- **Capacity development is key to adaptation planning at several levels** – Throughout NAP-Ag activities it became apparent that while the existing capacity at the national level was successfully developed, the sub-national level decision-makers lacked the capacity and resources to develop and implement national plans and frameworks. Officials in sub-national line ministries, farmer association representatives, and local communities could benefit from enhanced expertise about climate change. Thus, developing sub-national adaptation plans through an inclusive process of risk and vulnerability assessments and MCA can strengthen the ability of a country to successfully implement adaptation plans and create a sense of ownership among decision makers at several levels.
- **Coordination between different government entities facilitated the streamlining of monitoring indicators** – Through NAP-Ag's partnership and coordination with both ONEP and MoAC, as well as GIZ, the project has created avenues for communication and feedback that will help to strengthen the connections between national and sectorial indicators and activities on climate change. These achievements will provide the groundwork for a standardised progress evaluation of the sectoral adaptation plan (ASPCC) and the agriculture components of the NAP. However, while the ASPCC lays out a solid framework for monitoring the implementation of the agriculture components of the NAP, resources must be dedicated to the collection and evaluation of data on agriculture adaptation projects for the plan to be effectively implemented. The stocktaking exercises that supported the development of the ASPCC found that detailed information on adaptation projects implemented by different departments within MoAC is not always readily available.
- **Strategies to leverage and mobilise finance should be an integral part of adaptation planning processes** – Many national development or adaptation plans do not fully incorporate linkages between local needs and national strategic directions. A major challenge is the adequate prioritisation of adaptation actions at all levels of government so they can be coordinated toward the common goal of addressing climate change within the agriculture sectors. The programme identified the importance of utilising prioritisation frameworks through MCA with inputs from the vulnerability assessments to better link local demands of resources with national strategic objectives. Further, strategies must be developed to identify sources of finance, technical assistance, and technology during the adaptation planning processes. NAP-Ag leveraged funding in Thailand by developing a GCF Readiness Project proposal that focuses on increasing the resilience of key economic sectors (including agriculture) to climate change impacts in marine and coastal areas along the Gulf of Thailand.
- **Guidelines or standard operating procedures for integrating adaptation into planning and budgeting must be developed and adopted for certain departments** – Specifically, staff of MoAC at central and local levels require guidance on what procedures can fully internalise the adaptation planning process in their regular activities to enhance implementation in adaptation. The NAP-Ag is preparing a roadmap which will provide this needed guidance. This guidance will allow the MoAC officials to consider climate change in their daily work and extend the achievements of the NAP-Ag (or other similar programmes) beyond the programme's end date.

The priority areas that the NAP-Ag will be working on through to the end of the programme include: integration as part of broader set of initiatives to support Thailand's NAP; creation of stronger links in the planning and budgeting process between the NDC Support project on the inclusive, gender-responsive Climate Change Benefit Analysis (CCBA) piloting in the agriculture sector and NAP-Ag's MCA tool to prioritise subnational processes; and launching an impact assessment pilot to bring more evidence-based monitoring into current planning and budgeting processes.

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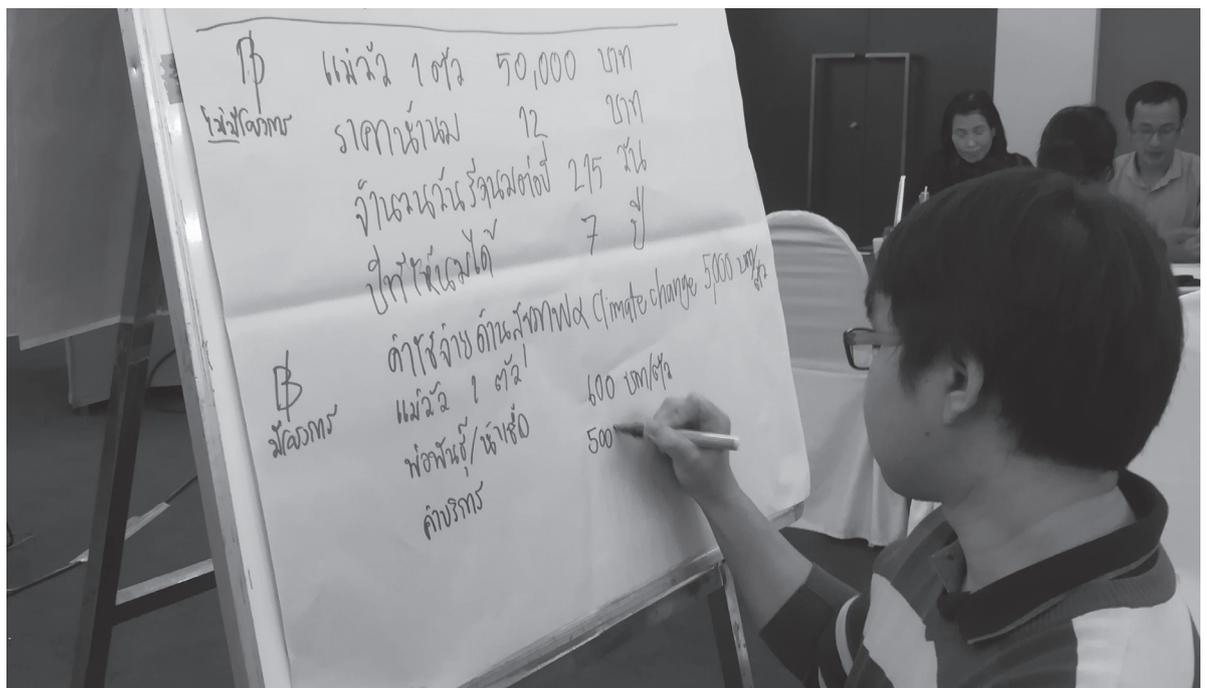
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Further information

NAP-Ag

www.fao.org/in-action/naps/partner-countries/thailand
www.adaptation-undp.org/naps-agriculture/partner-countries/thailand

Guidelines:

- UNFCCC National Adaptation Plan – Technical guidelines for the national adaptation plan process (2012)
- Addressing Agriculture, Forestry and Fisheries in National Adaptation Plans – Supplementary guidelines (2017)

Thailand:

- Thailand Climate Change Master Plan 2015-2050
- Intended Nationally Determined Contribution (2015)
- National Disaster Prevention and Mitigation Plan (2015)
- Agriculture Strategic Plan on Climate Change (ASPCC) 2017-2021
- Strategic Plan on Climate Change 2008-2012
- National Adaptation Plan NAP (2018-2037)

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➤ Germany's Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU)

www.bmu.bund.de
International Climate Initiative (IKI)
www.international-climate-initiative.com

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