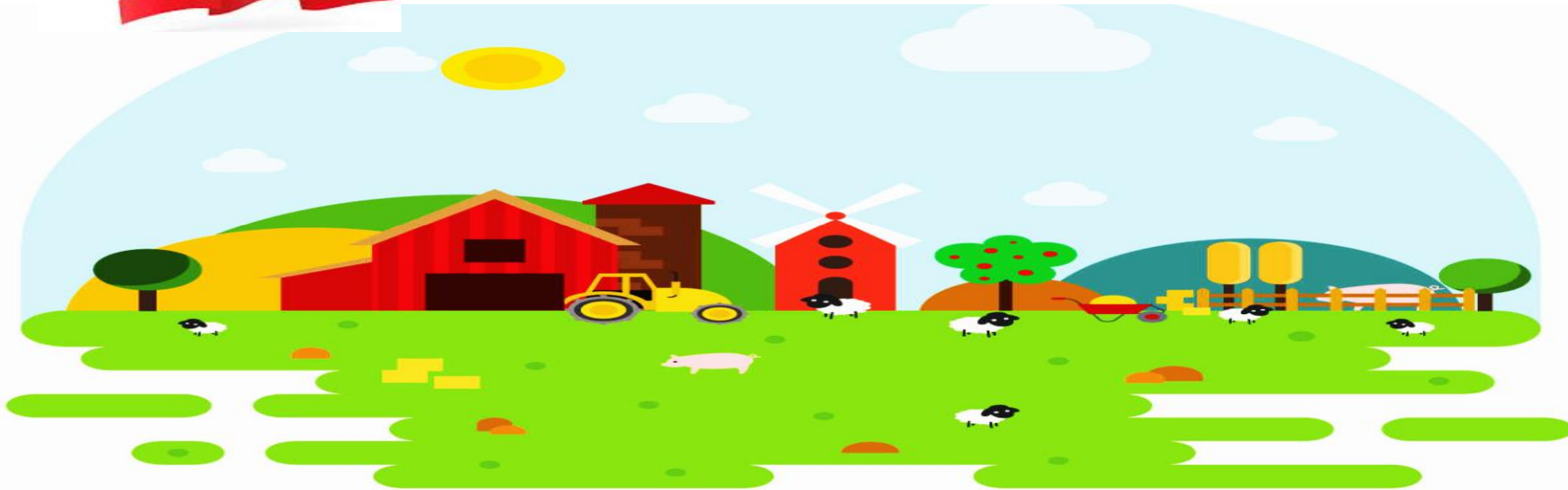


Parallel Session 2.1:

**Country approaches in designing the formulation of NAPs and
experience with accessing GCF readiness
support for the formulation of NAPs
under the NAP Global Support Programme (NAP GSP)**

Thailand Experience

Ministry of Agriculture and Cooperatives

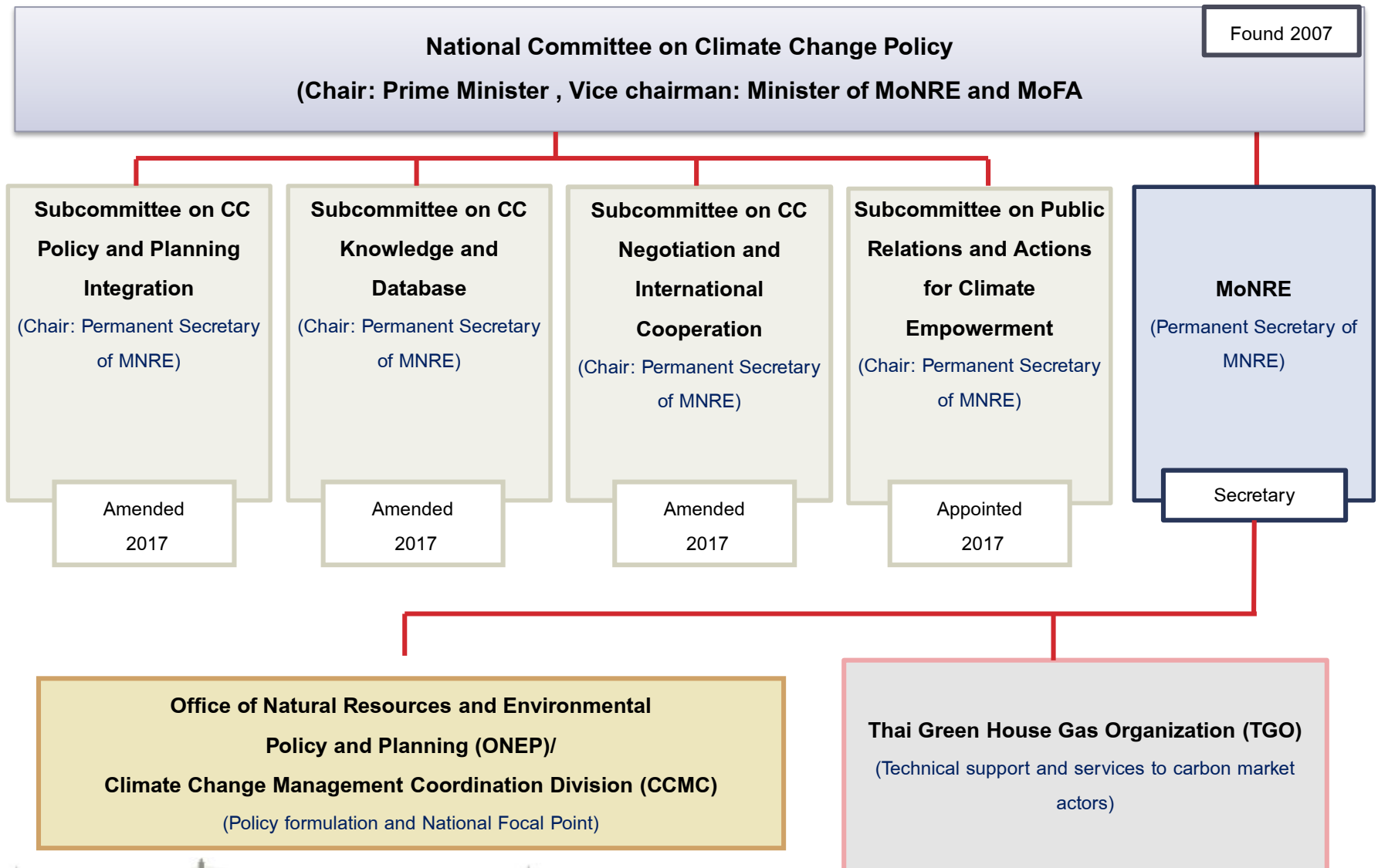


CONTENTS

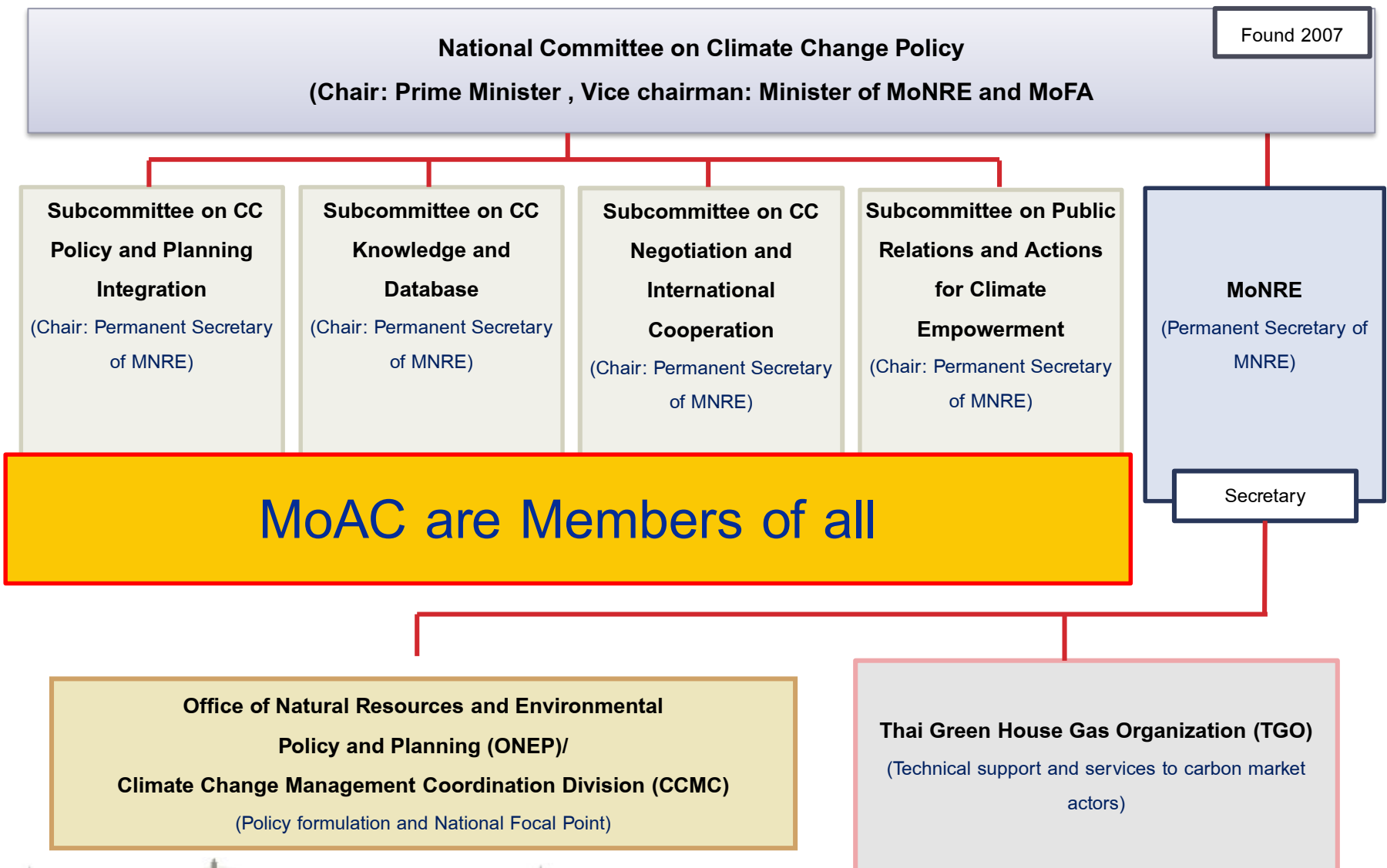
- ▶ **National Committee on Climate Change**
- ▶ **Linkage Policy and Planning on Climate Change**
- ▶ **Agriculture Strategic Plan on Climate Change**
- ▶ **NAP Process and ASPCC Integration**
- ▶ **Lesson Learnt and Prioritization**
- ▶ **GCF case with CCBA**

National Committee on Climate Change

National Committee on Climate Change

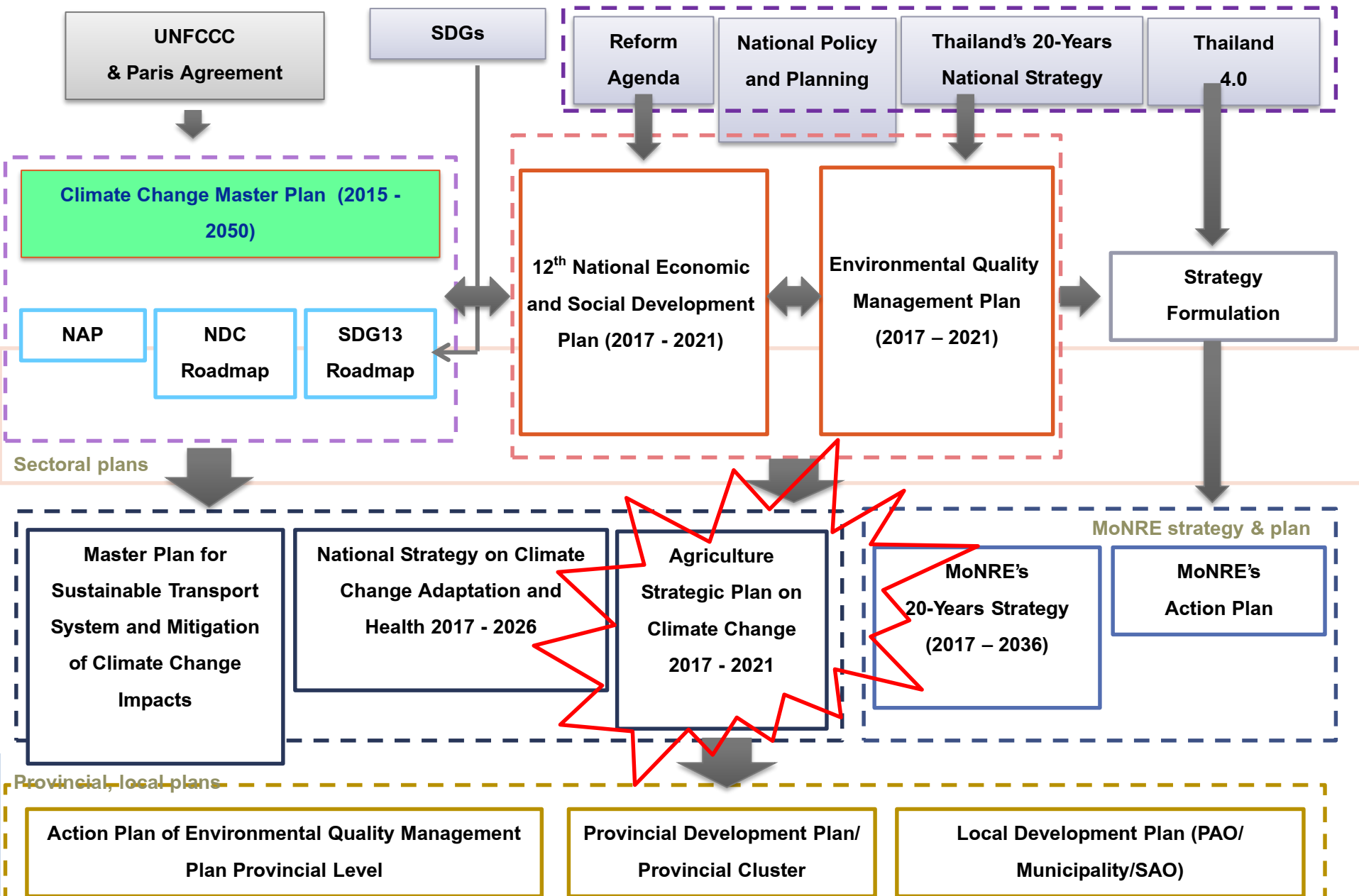


National Committee on Climate Change

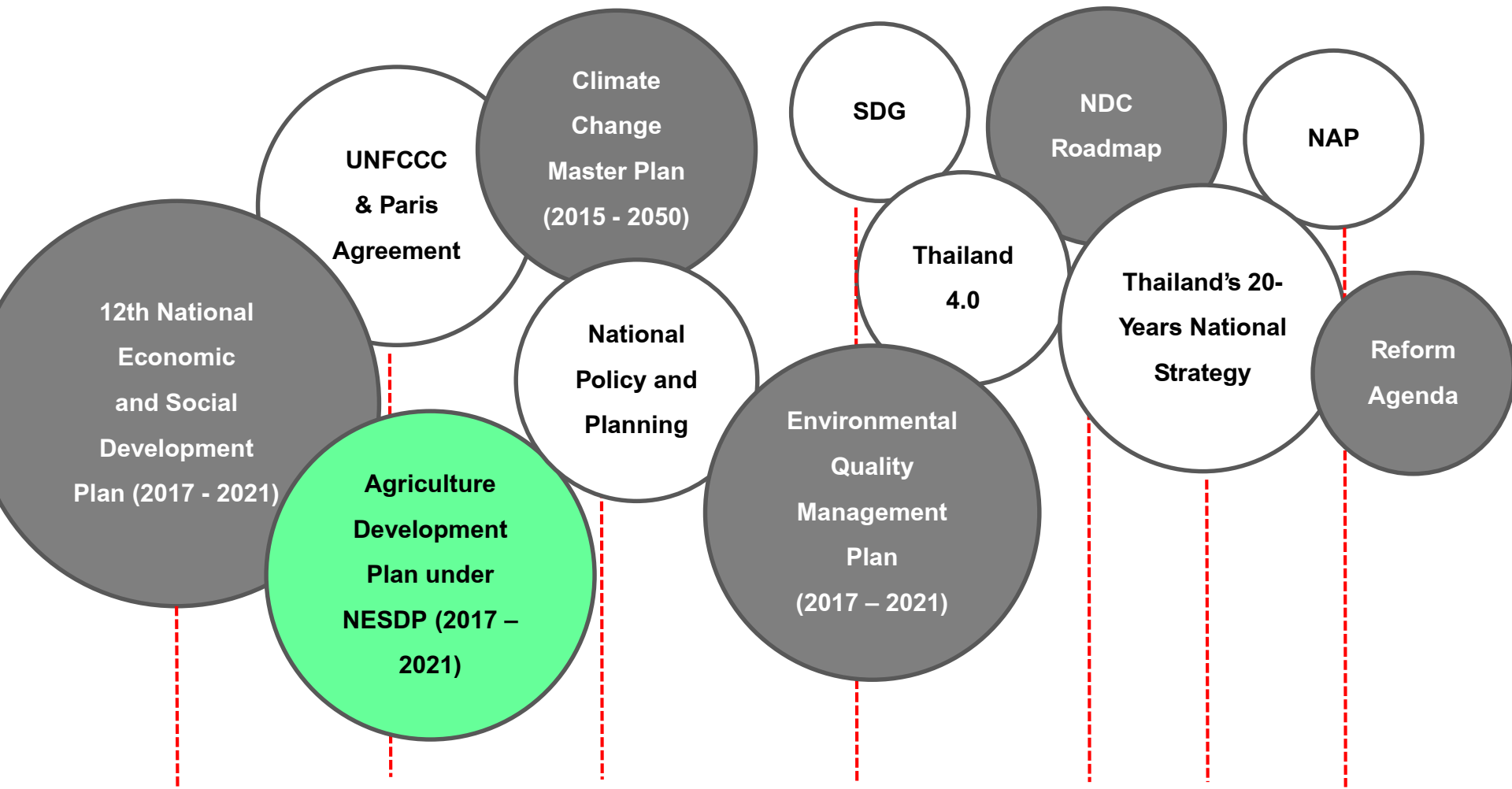


Linkage Policy and Planning on Climate Change

Linkage of Policy and Planning

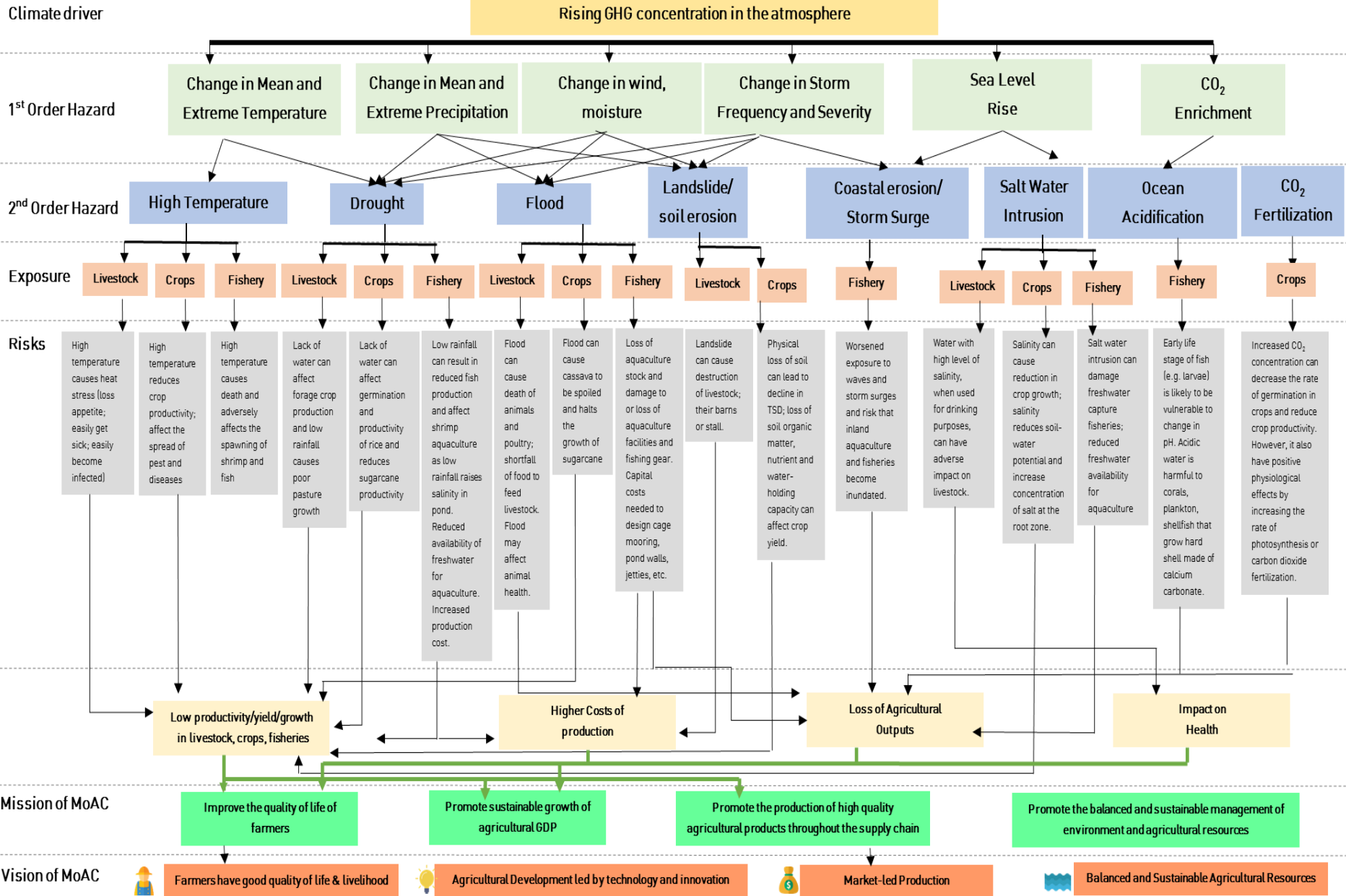


Agricultural Strategy Plan on Climate Change

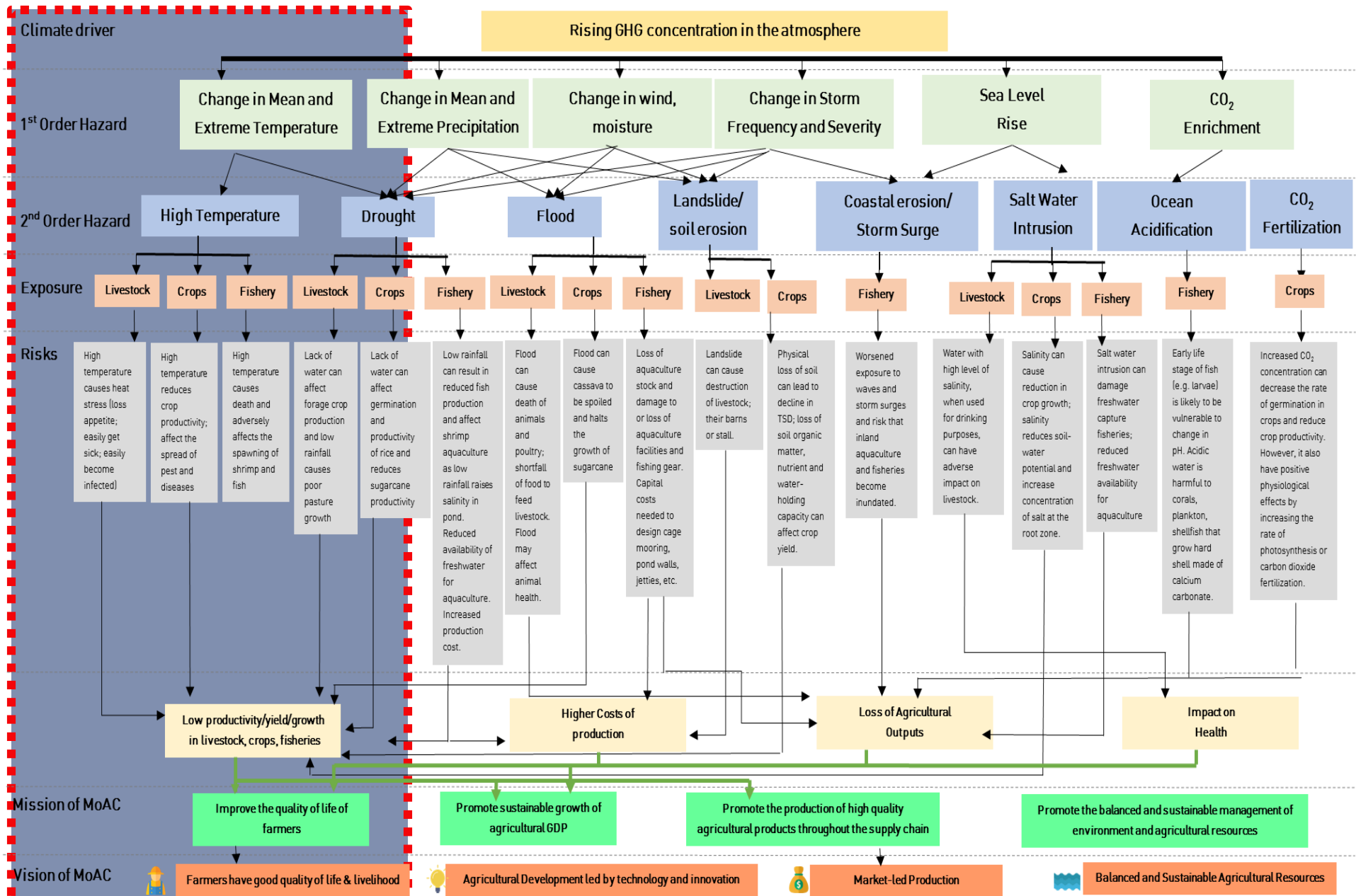


Agriculture Strategic Plan on Climate Change : ASPCC

Agricultural Project Related to CC. Stocktaking



Agricultural Project Related to CC. Stocktaking



Agricultural Project Related to CC. Stocktaking

Climate Driver
1st Order Hazard

Change in Mean and Extreme
Temperature

Rising the GHGs concentration in
Atmosphere

2nd Order Hazard

High Temperature

Exposure

Livestock

Crop

Fisheries

Risk

causes heat
stress loss
appetite; easily
get sick; easily
become infected

Reduce crop
productivity;
affect the spread
of pest and
diseases

Cause death
and adversely
affect the
spawning of
shrimp and fish

Low productivity/yield/growth

Mission of MoAC

Improve quality of life of farmer

Farmer have quality of life and
livelihood

Agricultural Strategic Plan on Climate Change

Security Wealthy and Sustainability



Data Collection
EWS
Knowledge Hub



Adaptation and
Resilience



Participating
Mitigation and Low
carbon



Capacity Building
and Institutional
Arrangement

NAP process and ASPCC

**Risk Assessment
/Risk MAP (Sectors
based)**

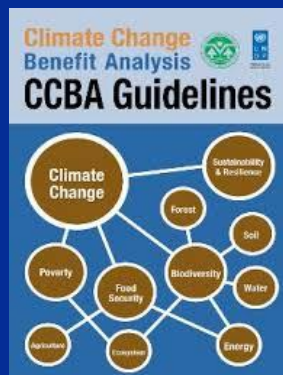
2015

**Stocking /
MoAC working
group committee**

**Database of Best
practices/Adaptation
options**

2016

CCBA



**Integration Adaptation
in pilot areas/sector**

2017

**MCA meeting
group and ASPCC
kicking off**

**Studying structure of
M&E Adaptation**

2018

2021

CONCEPT

- Thailand's National Strategy
- Reform Agenda
- Thailand 4.0
- National Economic and Social Development Plan

Thailand Climate Change Master Plan

- Policy and plan on Promotion and Conservation of National Environmental Quality Environmental
- Quality Management Plan

Global Mechanism

- SDGs
- UNFCCC/Paris Agreement & other
- NDC Adaptation
- Sendai Framework
- Convention on Biodiversity & Ramsar
- ETC.

National Adaptation Plan

Sectoral Plans

- NAP-Ag
- H-NAP
- National Water Resources Management Strategy Plan
- Master Plan for Integrated Biodiversity Management
- ETC.



water



Agriculture



Tourism



Health



Natural Resources



Human Settlement

Ecosystem

Watershed

Region

Cluster

Province

City

Community

Local

individual

Other



Water Management

- Water Security Index
- Economic loss of life and asset from water related disaster

Agriculture and Food Security

- Economic loss of Agriculture product per Agriculture GDP
- Self Sufficient ability

Lesson Learnt on Prioritization



Food and Agriculture
Organization of the
United Nations



Integrating Agriculture in National Adaptation Plan (NAP-Ag)



Formulating Plan



Budget constraint Management



Food and Agriculture
Organization of the
United Nations



Integrating Agriculture in National Adaptation Plan (NAP-Ag)



Formulating Plan



Budget constraint Management



Food and Agriculture
Organization of the
United Nations



Integrating Agriculture in National Adaptation Plan (NAP-Ag)

Budget constraint Management



Bureau of Budget

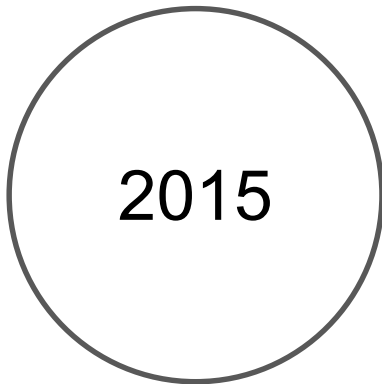
- Mainstreaming Plan
- Integrating
- Quantifying for Indicator



Green Climate Fund

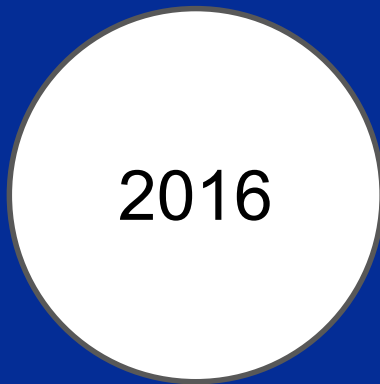
GREEN
CLIMATE
FUND

Risk Assessment
/Risk MAP (Sectors
based)

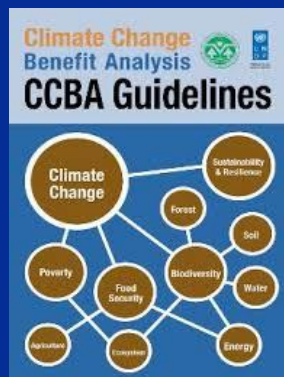


Stocking /
MoAC working group
committee

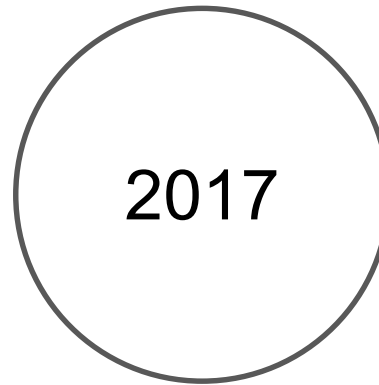
Database of Best
practices/Adaptation
options



CCBA

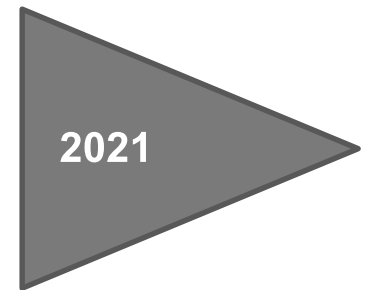
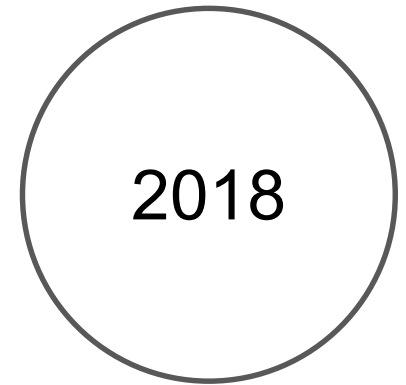


Integration Adaptation
in pilot areas/sector



MCA meeting group and
ASPCC kicking off

Studying
structure of
M&E Adaptation



Climate Change Benefit Analysis CCBA Guidelines



Step 1: Define the scope of analysis.

Step 2: Identify all potential physical impacts of the project.

Step 3: Quantify the predicted impacts: With and without project

Step 4: Monetize impacts.

Step 5: Discount to find present value of costs and benefits.

Step 6: Calculate net present value.

Step 7: Perform expected value and/or sensitivity analysis.

Step 8: Make recommendations.

GCF case: Enhancing climate resilience in Thailand through effective water management and sustainable agriculture

Context

The Government of Thailand intends to request financial support from the Green Climate Fund (GCF) to fund an investment project in north central Thailand.

Proposals submitted to GCF MUST contain an economic analysis – and sometimes also a financial analysis.

In a GCF proposal:

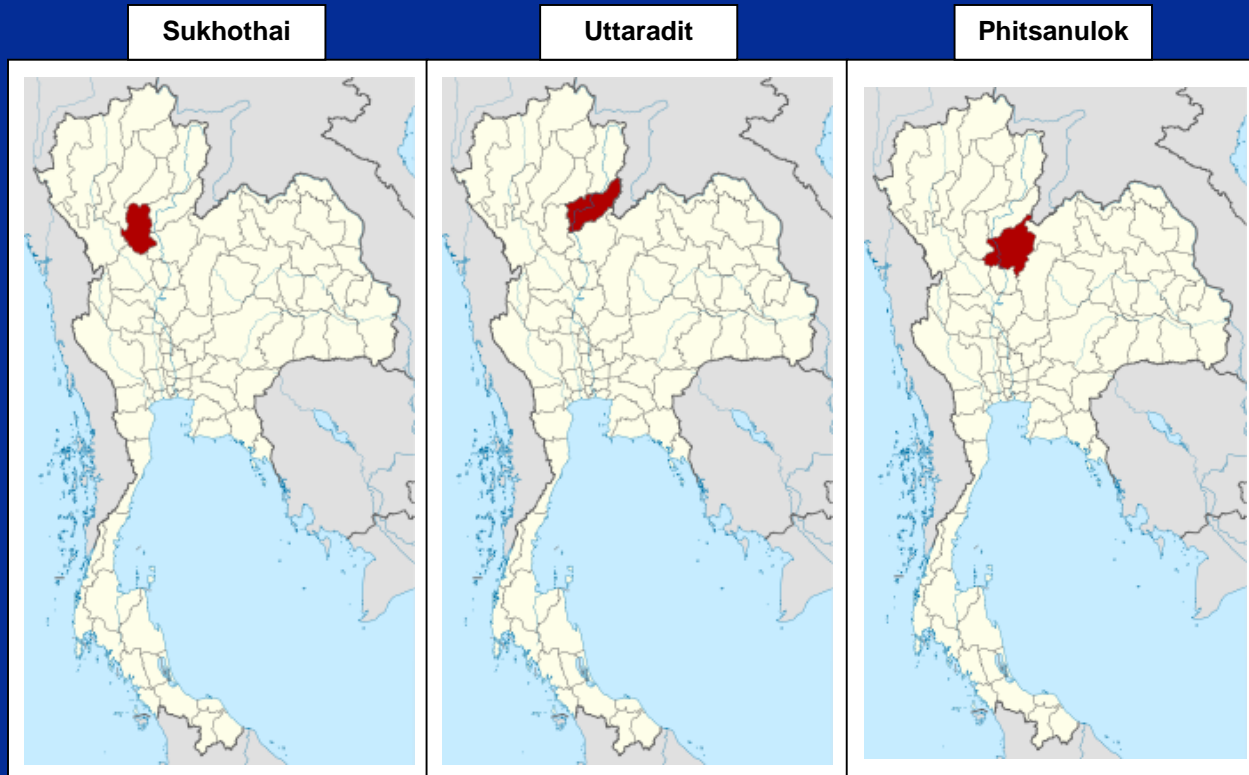
Section E.6: Efficiency and Effectiveness (discuss economic and, if appropriate, financial soundness of the project).

Section F.1: Economic and Financial Analysis.

Annex XII: Economic Analysis (detailed economic analysis plus Excel spreadsheet with economic analysis).

Project description

The project is taking place in 3 provinces of Thailand: Phitsanulok, Uttaradit and Sukhothai.



Project description

Problem:

Climate projections: A significantly greater frequency and intensity of flooding during wet season, and extended drought periods during the dry season, presenting a significant challenge to effective water management in Thailand.

Project description

Problem:

Flood and drought events have become more severe, causing losses and damages to crop production and farmers' income.

Higher levels of poverty for the Northern-Central region in turn, means that this area also has an increased level of vulnerability to climate change impacts, with lower levels of access to resources for adaptation strategies and in which to build climate resilience.

Calculations for the region, found that on average (with variations between the provinces) during 2040 -2049, farmland values per rai, are projected to decrease from \$2,703 to \$2,068 and \$2,538 per rai in climate scenarios A2 and B2 respectively.

Project description

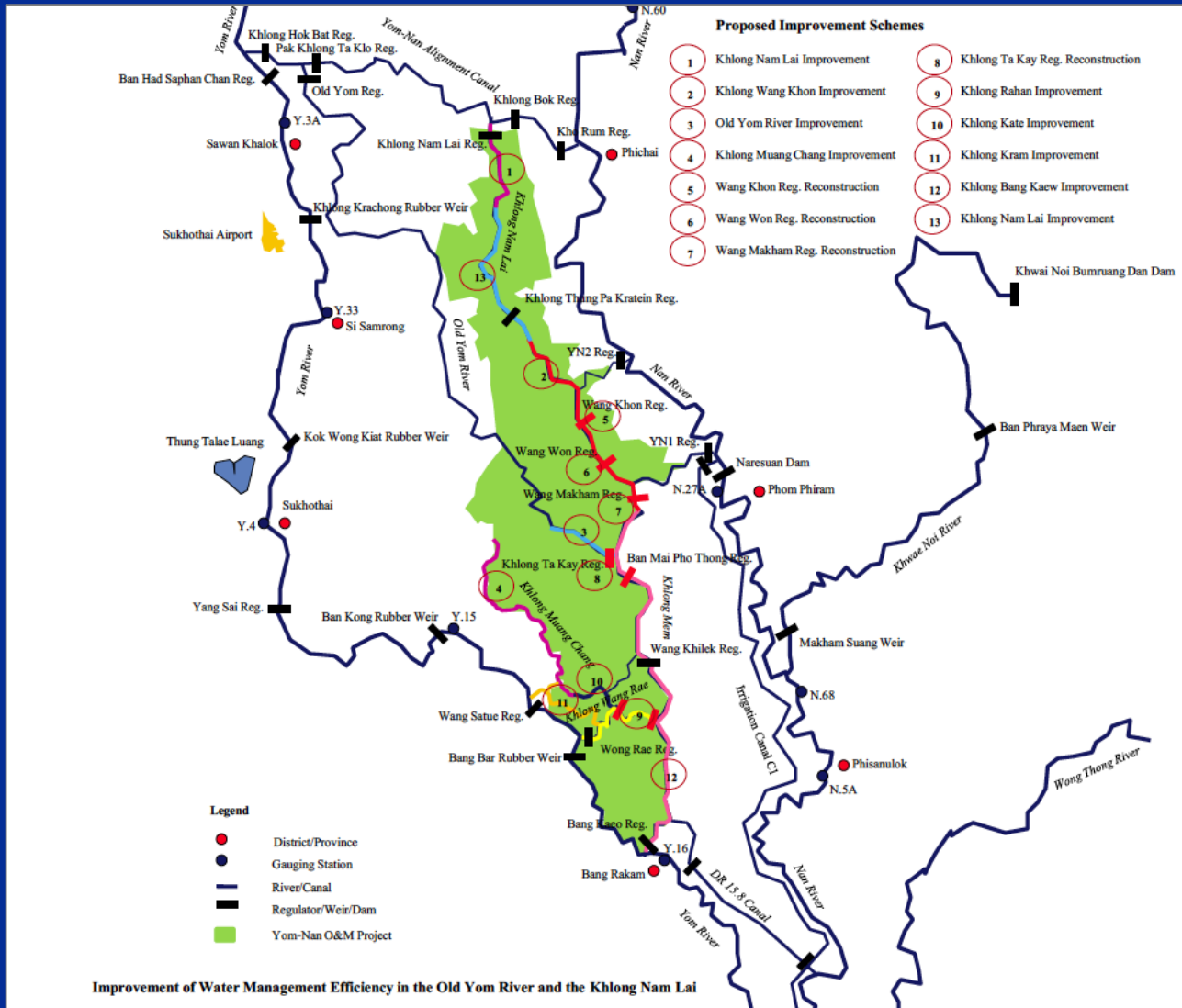
Overall purpose of proposed project

The objective of the proposed GCF project is to adapt water management and use in the Yom and Nan river basins to changing climatic conditions.

4 components

- Improved climate and risk informed planning in the water and agricultural sectors.
- Strengthened water management infrastructure for greater resilience to projected climate change.
- Increased resilience of agriculture livelihoods in drought and flood prone areas.
- Project management

Project description



Estimated Cost

TOTAL PROJECT COST AND FINANCING PER OUTPUT

Output	Total cost (\$)	GCF funding	Co-financing
Output 1	8,600,000	4,600,000	4,000,000
Output 2	85,000,000	28,000,000	57,000,000
Output 3	5,900,000	4,900,000	1,000,000
Output 4	2,500,000	1,500,000	1,000,000
Total	102,000,000	39,000,000	63,000,000

Question: When conducting the economic analysis of this project, is it important to distinguish between “GCF funding” and “Co-financing”?

Estimated Cost

How about the operation and maintenance costs?

We read in the proposal: “Once the totality of assets is in place, annual operation and maintenance (O&M) costs have been estimated to be \$1,120,000.”

What to do with this information?

Easiest approach would be: Investment is taking place from 2018 to 2022. For those years, we will put ZERO (O&M), and then we will enter \$1,120,000 in 2023.

Another approach?

Estimated Cost

We have the annual breakdown of the capital cost:

Total	2018	2019	2020	2021	2022
102,000,000	14,600,000	20,950,000	26,200,000	25,200,000	15,050,000

This implies the following disbursement schedule (% of disbursement):

2018	2019	2020	2021	2022	2023
14.3	20.5	25.7	24.7	14.8	
	14.3	34.9	60.5	85.2	100.0

First row: % annual disbursement

Second row: Cumulative % disbursement

What could we do with this information?

Nature of Benefit

2 types of benefits

Preventing a decline of agricultural productivity resulting from climate change.

Mitigating damages from future floods.

Estimating Economic Benefit to Agriculture

Please discuss methodological framework you would use to estimate the potential economic benefits of the proposed investment project on agriculture.

Agriculture Benefit

Methodological approach:

1. Determine the number of rais (area) benefiting from the project investment.
2. Assess the potential impacts of climate change on productivity without project (scenario with climate change, without project).
3. Assess the potential impacts of the project on productivity (scenario with climate change, with project).

The difference between the “yield with project” and “yield without project” will be the benefits of the project measured in physical terms (incremental quantity of agricultural output).

4. Compute the net economic returns of the incremental agricultural output allowed by the project.

Agriculture Benefit

Potential impacts of CC without project

What is next question to ask?

What could happen to these yields in the future without the project?

Go to literature.

Then what do we do?

Given the above uncertainty, the economic analysis assumes a reduction of 5%, 10%, and 15% and 20% by 2042.

Agriculture Benefit

Projected agriculture yield with project

How to answer this?

Activities of a similar nature have been recently implemented in Thailand. Under such circumstances, yields have been shown to reach between 750 and 1,000 kg per rai. For purpose of this economic analysis, the lower bound value of 750 kg per rai is used in the analysis.

Now we can calculate how many more kg of rice we may get as a result of the project.

1) Context and project description

2) Estimated costs

3) Nature of benefits

4) Estimating economic benefits on agriculture

5) Estimating economic benefits of reduced flood damages

6) Estimating net present value

7) Sensitivity analysis

8) Recommendations

- 1) Context and project description
- 2) Estimated costs
- 3) Nature of benefits
- 4) Estimating economic benefits on agriculture
- 5) Estimating economic benefits of reduced flood damages
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- 6) Estimating net present value
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- 8) Recommendations

THANK YOU!

