Implementation of Nationally Determined Contributions in Thailand: Updates, Issues and Options

WORKSHOP REPORT 2022

Contents

List of Acronyms

ADPC	Asian Disaster Preparedness Center
AWD	Alternative Wetting and Drying
CbA	Community-based Adaptation
CCMC	Climate Change Management Coordination Division
CU	Curtin University
DDPM	Department of Disaster Prevention and Mitigation
DFAT	Department of Foreign Affairs and Trade
DRR	Disaster Risk Reduction
EbA	Ecosystem-based Adaptation
GCCA	Global Cold Chain Alliance- Cement and Concrete Industry Roadmap for Net Zero Concrete
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
IPPU	Industrial Processes and Product Use
LT-LEDS	Long-term low greenhouse gas emission development strategies
M&E	Monitoring and Evaluation
MOE	Ministry of Energy
MRV	Measurement, Reporting and Verification
$MtCO_2e$	Metric ton of carbon dioxide equivalent
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NDC	Nationally Determined Contributions
ONEP	Office of Natural Resources and Environmental Policy and Planning
QA/QC	Quality Assurance and Quality Control
SDG	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction
SRP	Sustainable Rice Platform
TCMA	Thai Cement Manufacturers Association

1. Summary of Event

Date and Venue:	24th June 2022
Venue:	Asoke 1 Hall- C Floor, Grande Centre Point Terminal 21 Hotel, Bangkok, Thailand
Duration:	9:00 – 14:00
Co-organized by:	Asian Disaster Preparedness Centre, Office of Natural Resources and Environmental Policy and Planning and Curtin University, with financial support from the Department of Foreign Affairs and Trade, Australia

2. Background and Introduction

Nationally Determined Contributions (NDCs) are the necessary non-binding action plans on climate change targeted by each country as their long-term goals on reducing emissions and combating climate change impacts. NDCs are intended to be dynamic; countries regularly update them and advance the level of ambition, science and implementation experience required to meet the long-term temperature goal, in line with the Paris Agreement.

While NDCs form a critical piece towards climate action and pathways to a net-zero economy, it is essential to identify gaps and needs to effectively implement these actions. Initiatives such as policy analysis interlinking with the updated NDC review process present opportunities for synergies, through the alignment of global mechanisms such as the National Adaptation Plans, Sustainable Development Goals, and the Sendai Framework for Disaster Risk Reduction.

Against this backdrop, the Government of Australia's Department of Foreign Affairs and Trade (DFAT) has commissioned Curtin University Australia and the Asian Disaster Preparedness Center (ADPC) to develop a framework for facilitating NDCs in the Indo-Pacific countries. In this connection, ADPC organized a series of national workshops in Asia to discuss the current status of NDCs, key challenges, and capacity needs to successfully implement the NDCs over the next five years. As a result, the workshops would lead to developing a framework for how Australia can support countries in the Indo-Pacific region in implementing their respective NDCs.

3. Workshop Objectives

The overall objective of the workshop is to understand the current status of country's nationally determined contributions (NDCs), impacts of climate change on key economic sectors, mitigation and adaptation targets, and challenges faced by Thailand in the implementation of NDCs.

The following are the specific objectives discussed:

1.1. Understand the current implementation status of NDCs

1.2. Identify innovative localized climate change solutions

1.3. Discuss capacity-building activities (e.g. trainings) around estimating the impact of climate change across economic sectors

1.4. Discuss key challenges and identify capacity needs towards implementing NDCs in Thailand

1.5. Identify best practices for the implementation of NDCs in Thailand

The workshop is expected to help draft a report on the situation analysis of NDCs for Paris Commitments that include the following outcomes:

i. Updates on the prevailing status of the implementation of NDCs and a summary of the challenges as well as key capacity needs

ii. Best practices for NDC implementation in Thailand

4. Overview

The consultation workshop started with Ms. Pannawadee Somboon, Senior Project Manager, welcoming the distinguished guests, renowned experts, strategic partners, speakers, and all participants to the workshop.

i. Welcome remarks by Mr. Hans Guttman, Executive Director, ADPC

Mr. Hans Guttman, Executive Director of ADPC, warmly welcomed distinguished guests and all participants to the consultation workshop. He briefly spoke about climate change and its impacts, seen around the globe. He iterated the importance of limiting global temperatures to reduce greenhouse gas (GHG) emissions and the removal of carbon from the atmosphere. ADPC, as an autonomous intergovernmental institution, supports the member countries in the development of climate actions, promoting programs at regional and sub-regional levels committed to under the Paris Agreement.

He mentioned that NDCs form the basis for countries to commit to the Paris Agreement and reduce emissions through targets, policies and measures for reducing national emissions and adapting to climate change impacts. The NDCs contain information on needs for, and provision of, finance, technologies and capacity-building for these actions. He briefly talked about the objectives of the national workshop, that would eventually lead to discussions at the regional workshop. He thanked DFAT for providing financial support to the project, ONEP for technical inputs and assistance in planning for the workshop, and Curtin University as a key regional partner in the delivery of the program.

ii. Welcome remarks by Mr. Keegan Robertson, Researcher, Centre for Research in Applied Economics, Curtin University, Australia

Mr. Keegan Robertson, Researcher at Curtin University, spoke briefly on NDCs as essential in the long-term goals of reducing emissions and addressing the impacts of climate change. NDCs will form a critical component of policies and actions towards a net zero economy, he stressed, focusing on the importance of the workshop from Curtin University perspective, and on the project aligning with three strategic pillars: Partnerships, Planet and People.

He mentioned that the workshop was an excellent example of partnerships that characterize Curtin's research and brings together key representatives with expertise in research, policy, and multiple areas of practical expertise. These partners are all essential for sharing the necessary ingredients, so as to produce the insights and approaches to address complex social, economic, and technical challenges. He also mentioned the aim of the initiative: to contribute to a more secure and productive planet for everyone.

Lastly, he extended his warm welcome to distinguished guests and presenters, and expressed his gratitude for everyone's participation and endorsement of this important initiative.

iii. Opening Remarks by Ms. Anita Margaret Wise, Second Secretary, The Australian Embassy, Thailand

Ms. Anita Wise, Second Secretary at Australian Embassy, thanked everyone and spoke briefly on this timely workshop on climate action, bringing together policymakers, academia and civil society to map out a greener future. She spoke about Australia's new ambitious 2030 target to reduce GHG emissions by 43 per cent below 2005 levels, to achieve the net zero emissions target by 2050. Australia also enhanced their NDC, with the government urgently implementing new measures across the economy to meet an ambitious 2030 target and drive the transition to net zero.

She also mentioned their commitment to supporting enhanced climate action in the region through increased climate finance and new partnerships in the Southeast Asia and the Pacific. She briefly spoke about Australia's partnership with Thailand such as Water, Energy and Climate in Mekong countries in areas of water management, promoting energy transition, and adapting to and mitigating adverse impacts of climate change and pollution.

Ms. Wise mentioned the Thailand-Australia Strategic Partnership, and their collaboration with Thailand's Royal Irrigation Department in thematic areas such as enhancing early warning systems, building the capacity of river basin committees, and exploring work with MOE on promoting electric vehicles, energy storage, and green energy development. Australia and Thailand have experiences to share with one another, and lessons from mistakes made and successes achieved, she said: as the world faces unpredictable climate patterns, new models of cooperation are needed. She acknowledged and appreciated the workshop joined by experts from Curtin University in Australia to continue the long tradition of knowledge exchange between the two countries.

iv. Opening Remarks by Ms. Nareerat Panmanee, Director, Climate Change Management Coordination Division (CCMC), Office of Natural Resources and Environmental Policy and Planning (ONEP), Thailand

Ms. Nareerat Panmanee, Director of Climate Change Management Coordination Division (CCMC), Office of Natural Resources and Environmental Policy and Planning, spoke about previous targets of 20 percent and 25 percent GHG emission reduction by 2030; also, about the new mitigation target after COP26. Thailand aims to reach carbon neutrality in 2050, and Net Zero Emission by 2065. With adequate international support, Thailand can raise the ambition of the 1st NDC target to 40 percent GHG emission reduction by 2030.

Ms. Panmanee informed everyone that Thailand is updating its NDC and developing its long-term strategy document for a clear emission pathway.

Implementation faces challenges which require a large investment in mitigation and adaptation actions. The energy sector is by far the most important sector in terms of emission reduction, with technologies to reduce emissions with potentially high efficiency. Thailand's priority is the forestry sector; the intention is to increase carbon sequestration of 120 million tons of CO2 emission with the addition of 55 percent green areas.

She emphasized the need for cooperation from all sectors, so as to increase the green areas of the country to lead to net zero by 2050. Currently, the National Adaptation Plan (NAP) has been developed to focus on adaptation. However, the implementation on adaptation will be very specific according to six sectors – agriculture and food security,

water management, tourism, public health, natural resources management, and field settlement and human security. She appealed for support in the gaps identified to achieve the targets.

Ms. Panmanee also discussed the Thailand Climate Action Conference, to be held from August 5-6, 2022, as an initiative used to coordinate with different stakeholders on limate change. The meeting will provide an overview of the status of Thailand in each sector and help to partner with private and public sectors, social enterprises, as well as international organizations and other countries, to reach the target committed to by Thailand. She welcomed all the participants to provide suggestions which can be incorporated into the upcoming event resulting from this workshop.

v. *Mr. Teerapong Laopongpith, Director of Policy and Strategy Section, CCMC, ONEP*

Mr. Teerapong Laopongpith, Director, Policy and Strategy Section, CCMC, ONEP provided a detailed presentation on Thailand's national priorities for mitigation and adaptation. He explained the different national policies and plans of the country, in alignment with climate change actions such as National Strategy 2018-2037, National Reform Plan, 13th National Economic and Social Development Plan, and Climate Change Master Plan 2015-2050. The priority sectors are agriculture and food security, natural resource, human health, tourism, human settlement and security, and water management. He elaborated that under Thailand's NDC Roadmap on Mitigation 2021-2030, the aim is the reduction of 115.6 MtCO2eq GHG emissions from energy, transport, waste, and industrial process and product use (IPPU) sectors.

In addition, the NDC Sectoral Action Plans 2021-2030 has been formulated to support NDC implementation in coordination with ministries of energy, transport, waste and industry. Mr. Teerapong elaborated the revisions of NDC and long-term low greenhouse gas emission reduction development strategies (LT-LEDS), where Thailand has 40 percent of emission reduction with international support. He also mentioned the total carbon sink as -120 MtCO2eq with carbon neutrality by 2050 and net zero GHG emission target by 2065 for energy, transport, IPPU, waste, and agriculture sectors.

He spoke on the vision of Thailand's National Adaptation Plan (NAP), which intends to build resilience and adapt to the impacts of climate change and achieve sustainable development. The first NAP includes six different sectors such as: water management, agriculture and food security, tourism, public health, natural resources management, and human settlement and security. The NAP was developed while taking into consideration the national context and circumstances, using the following guiding principles including: sustainable development goals, human rights and gender responsiveness, community-based adaptation, precautionary principles and proactive approach, good governance and public participation, national and local wisdom, ecosystem-based adaptation and the sufficiency economy philosophy of King Rama 9th.

Lastly, he highlighted on the climate change risk map database system where the users can access maps and information on future climate projections, climate hazards, non-climate index and climate risks in different sectors.

vi. Ms. Pannapa Na Nan, Director of International Cooperation Division, Department of Disaster Prevention and Mitigation (DDPM)

Ms. Pannapa Na Nan, Director, International Cooperation Division, DDPM briefly spoke on disaster and climate change in the context of Thailand. She highlighted the climate risk index of Thailand and challenges faced due to increasing trends of disaster impacts. She also mentioned recognizing that the importance of policies, strategies and budgets from the government on disaster risk management (DRM). Investment in DRM has not received attention from all sectors. Similarly, application of innovation and technology in decision-making processes is still lacking. She briefly mentioned how climate risks accelerate disaster risk and impact development, and that integrating CCA and DRM should be emphasized to strengthen communities, making them resilient and able to adapt to new risks, reducing carbon emissions and leading to sustainable development.

Ms. Nan explained the similarities in three global frameworks: Sendai Framework for DRR (SFDRR), Sustainable Development Goals (SDGs) and the Paris Agreement. She also highlighted Thailand's current policies and strategies focusing on different global frameworks and sub-strategy components like prevention and mitigation of disaster and key areas of climate change, capacity building and development, risk management, conservation of natural resources and promoting cooperation with foreign countries to manage the risk from disasters and climate change.

She provided highlights on different projects in partnership with ADPC such as community-based DRR, early warning system and numerous technical assistances provided under different programs. She also mentioned that Thailand hosted ADPC's 15th Regional Consultative Committee (RCC) meeting. Lastly, she spoke about different knowledge products and policy briefs developed under different projects.

vii. Dr. Wonchalerm Chalodhorn, Chair of Working Group – TCMA on Sustainability, Thai Cement Manufacturers Association (TCMA)

Dr. Wonchalerm Chalodhorn, Chair of Working Group-TCMA on Sustainability, TCMA, representing the IPPU sector, spoke on the GHG reduction of the cement industry with clinker[1] replacement measures on the sustainability of the industry.

He explained different working groups within the association all collaborating to achieve the sustainable development goals and target of the association, leading towards sustainable development. In addition, the TCMA is also committed to social responsibility engagement, becoming an environmentally friendly industry, and providing basic infrastructure. He further emphasized the importance of involving community, civil society, academia, foreign cooperation agencies, government agencies and private entities, which can all lead to the sustainable development of the industry.

Dr. Chalodhorn emphasized the use of hydraulic cement in the clinker substitution in the cement industry under IPPU as a local action towards the global commitment of NDC and net zero target. Hydraulic cement is a performance-based standard using incineration techniques; the cement clinker substituted with cleaner materials reduces CO_2 emissions. According to Global Cold Chain Alliance (GCCA) 2050, the roadmap to achieve "net zero concrete" for the cement and concrete industry is 2050, and TCMA is focused on

[1] Clinker is a nodular material produced in the kilning stage during the production of cement and is used as the binder in many cement products. The lumps or nodules of clinker are usually of diameter 3-25 mm and dark grey in color.

collaborations to develop a Cement Roadmap for Net Zero in Thailand as a local action that is part of the global agreement.

Currently, it works with 6 ministries and 25 organizations from government agencies, the professional sector, industrial sector and academic sectors as members to achieve tangible results for emission reductions. He explained that the roadmap has progressed from extended collaboration, setting specifications and rules, training and communication, and support scheme in policy, with a first achievement of 300,000 tons CO2 reduction from 5.8 MT hydraulic cement till 2021. The aim is to reduce 1,000,000ton CO2 from 20MT hydraulic cement by 2023.

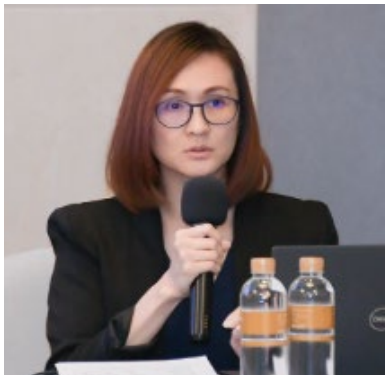
viii. Mr. Ole Henriksen, Project Director, GIZ

Mr. Ole Henriksen, Project Director, GIZ spoke on the Thai Rice Nationally Appropriate Mitigation Actions (NAMA) facility. He emphasized that the agricultural sector is the second largest GHG-emitting sector after energy. Within the agricultural sector, rice accounts for more than half of the emissions, which is the reason for the government's action towards implementing Thai Rice NAMA. Mr. Henriksen gave a brief background on the technical and financial cooperation provided by the Ministry of Agriculture and Cooperatives, and the Ministry of Finance's efforts in initiating the project. The objective of the project is to shift from conventional farming to achieving low emission rice farming in Thailand.

Mr. Henriksen mentioned that the project intervention strategy consists of three components: the first component is focused on rice farming and farmers, supporting the implementation of low emissions technology or climate-smart best practices to reduce GHG emissions, and realizing the co-benefits by adopting a sustainable rice platform (SRP) standard. These technologies not only reduce GHG emissions, they also increase the resources for efficiency and reduce production costs. The second component focuses on supporting entrepreneurs in providing mitigation services to farmers. The last component is on policy support to work to provide incentives for adopting and scaling up technologies. The project also provides close cooperation with private sectors and international rice markets for sustainable rice for small holder farmers.

The financial component has access to green loans and a revolving fund to support the farmers and refinance the investment costs of technology. He explained the mitigation technologies and practices such as laser land leveling, straw and stubble management, alternative wetting and drying (AWD), and site-specific nutrient management. The most important is the AWD on reducing GHG emissions i.e. letting the topsoil dry out 2-3 times during the cropping season over the traditional method of continuous wetting, which reduces GHG emissions by 70 percent. He concluded by highlighting the achievements of the project in supporting about 25,000 farming households who benefitted from the capacity building and extension services which led to the reduction of the equivalent of 305 tons CO2 emissions by 2021. He further mentioned supporting the establishment of National Monitoring, Reporting and Verification systems for emissions in rice, and facilitated the development of a Thai National Standard for a Sustainable Rice Platform.

ix. Ms. Chompunut Songkhao, Environmental Official, CCMC, ONEP



Ms. Chompunut Songkhao, Environmental Official, CCMC - ONEP provided an overview of the impacts of climate change across economic sectors with key highlights focusing on the challenges of implementing NDCs. She highlighted that according to the Global Climate Risk Index 2021, Thailand is in the 9th most affected by extreme weather events such as floods, droughts, extreme storm events, temperature rise and sea level rise. She added the challenges and gaps in adaptation and mitigation actions for sectors. In adaptation, for example, there is the lack of accurate information on potential risks of climate change, low recognition of the role of the private sector in climate change adaptation, and limited monitoring and evaluation. And in mitigation, for example, financial challenges include the lack of climate finance support for all relevant sectors, resulting in less investment opportunities for non-energy sectors, and untapped potential for GHG mitigation in small- and medium-sized enterprises and their access to finance, and lack of capacity to systematically track public and private investments.

She emphasized the support required for different sectors as well as capacity building for policy implementation. Under the GHG inventory, capacity building is required on additional testing technologies and improvement of quality assurance and quality control (QA/QC) procedures. She added that support is required in four categories: (1) policy implementation, (2) mechanisms and instruments, and (3) climate information and M&E Systems. She further elaborated on capacity-building needs towards developing financial proposals to access a funding source and implementation measures. In addition, technical support is required to promote community participation in the conservation of natural resources ecosystems and information on climate information, so as to enhance an early warning system for disaster risk management.

5. Recommendations and Way Forward

The following recommendations were put forth during the workshop:

- Increase policy coherence and awareness at sub-national levels to address NDCs as a national priority and educate the public on climate change and integration into public programs.
- Prioritize loss and damage data as a communication method and awareness amongst the public and understand its impact on society.
- Conduct a social and economic impact assessment to scale up activities on adaptation.
- Promote cooperation and partnerships with interested ministries, departments and agencies including financial instruments from public and private partnerships, so as to scale up mitigation and adaptation solutions.
- Establish a better mechanism on knowledge exchange and information sharing among different ministries on research and development, capacity-building and technical support of all stakeholders (universities, local government, practitioners) in implementing net zero and NDC targets.
- Technical support and capacity building to support sectoral and sub-national agencies in integrating mitigation and adaptation actions into plans for policy coherence and strengthening of monitoring and evaluation systems.
- Support and capacity-building of key stakeholders (government and private sector) in accelerating climate finance through international resources such as the Green Climate Fund.

6. Annex: Workshop Agenda

Implementation of Nationally Determined Contributions in Thailand: Updates, Issues and Options

Workshop Agenda

9:00 – 9:30	**Registration**	
9:30 – 9:35	Workshop Opening	Ms. Pannawadee Somboon, Senior Project Manager, ADPC
9:35 – 10:05	**Welcome Speech**	
9:35 – 9:40	Welcome Remarks	Mr. Hans Guttman, Executive Director, ADPC
9:40 – 9:45	Welcome Remarks	Mr. Keegan Robertson, Curtin University [English]
9:45 – 9:50	Opening Remarks	Ms. Anita Margaret Wise, Second Secretary Politic/Economic Division, Australian Embassy, Thailand [English]
9:50 – 9:55	Opening Remarks	Ms. Nareerat Panmanee, Director of CCMC, ONEP
9:55 - 10:05	Workshop introduction	Mr. Nawraj Pradhan, Climate Finance Specialist, ADPC [English]
10:05 – 10:35	***Status of NDCs in Thailand: key challenges and identification of capacity needs for implementing NDCs***	
10:05 – 10:25	Thailand's National Priorities/ Mitigation Priorities/ Adaptation Priorities	Mr. Teerapong Laopongpith, Director of Policy and Strategy Section, ONEP
10:25 - 10:35	Q&A Discussion	
10:35 – 11:05	***Disaster and Climate Change***	
10:35 – 10:55	Disaster and Climate Change in the Context of Thailand	Ms. Pannapa Na Nan, Director of International Cooperation Division, DDPM
10:55 – 11:05	Q&A Discussion	
11:05 – 11:20	**Coffee Break**	
11:20 – 12:00	***Sharing of best practices and technological innovations for climate resilience***	
11:20 – 11:30	Industry Practice on Cement clinker Substitution	Dr. Wonchalerm Chalodhorn, Chair of Working Group - Thai Cement Manufacturers Association (TCMA)
11:30 – 11:40	Thai Rice Nationally Appropriate Mitigation Actions	Mr. Ole Henriksen, Project Director, GIZ [English]
11:40 – 12:00	Q&A Discussion	
12:00 – 12:50	***Impacts of climate change across economic sectors***	
12:00 - 12:20	Issues and needs of Capacity building in economic sectors – key highlights on the challenges to implement NDCs	Ms. Chompunut Songkhao, Environmental Official, ONEP
12:20 - 12:50	Open Discussion	Mr. Nawraj Pradhan, Climate Finance Specialist, ADPC
12:50 – 13:00	Concluding Remarks and Way Forward	Mr. Keegan Robertson, Curtin University [English]
13:00 – 14:00	**Lunch**	

7. Annex: List of Participants

	Name	Designation, Organization
1.	Ms. Anita Margaret Wise	Second Secretary (Political – Economic), Australian Embassy
2.	Ms. Nareerat Panmanee	Director, Climate Change Management and Coordination Division (CCMC), ONEP
3.	Mr. Teerapong Laopongpith	Director, Policy and Strategy Section/CCMC, ONEP
4.	Ms. Chompunut Songkhao	Environmental Official, Professional Level/CCMC, ONEP
5.	Ms. Chanutsakul Supirak	Environmental Official, Professional Level, ONEP
6.	Ms. Suriwassa Thanyanattawit	Environmental Official, Professional Level, ONEP
7.	Ms. Pathitta Thumcharoen	Environmental Official, Practitioner Level, ONEP
8.	Ms. Siriwan Boonma	Environmental Official, Practitioner Level, ONEP
9.	Ms. Karnpanich Tunskul	Environmental Official, Practitioner Level, ONEP
10.	Ms. Kanyakarn Sripila	Project Coordinator, ONEP
11.	Ms. Netnapa Saelim	Project Coordinator, ONEP
12.	Ms. Wasana Thepsanga	Project Coordinator, ONEP
13.	Ms. Toungporn Rodpitak	Project Coordinator, ONEP
14.	Ms. Korapin Chuangchai	Intern, ONEP
15.	Mrs. Chutinthorn Mankhong	Chief of Sustainable Transport Promotion Group Office of Transport and Traffic Policy and Planning (OTP)
16.	Ms. Supanat Chalermsupanimit	Plan and Policy Analyst, Professional, OTP
17.	Ms. Supawan Intoon	Environmentalist practitioner level, Department of Environment, Bangkok Metropolitan Administration (DOE-BMA)
18.	Mr. Teerati Prateep	Environmentalist practitioner level, DOE-BMA
19.	Mr. Paiboon Techakampolsarakij	Office of Agricultural Economics (OAE)
20.	Ms. Pimnapas Chada	Office of Agricultural Economics (OAE)
21	Dr. Jiraporn Charoenvattanaporn	Department of Marine and Coastal Resources (DMCR)
22.	Ms. Sineenat Chawna	Scientist, Practitioner Level Department of Industrial Works (DIW)
23.	Mrs. Apiporn Ketkanokwarakit,	Environmentalist, Professional Level, Strategy and Planning Division Pollution Control Department (PCD)
24.	Ms. Nutkritta Udomkittayachai	Environmentalist, Strategy and Planning Division, PCD
25.	Mr. Anupong Sukee, Scientist, Practitioner Level	Department of Alternative Energy Development and Efficiency (DEDE)
26.	Ms. Patcharee Sattayarangsan, Plan and Policy Analyst, Practitioner Level	Department of Alternative Energy Development and Efficiency (DEDE)
27.	Ms.Prattana Meesincharoen Potts	Policy and Plan Analyst Director of International Cooperation Division Royal Forest Department (RFD)

28.	Ms. Pannapa Na Nan	Director of International Cooperation Division Department of Disaster Prevention and Mitigation (DDPM)
29.	Dr. Wonchalerm Chalodhorn	Chair of Working Group TCMA on Sustainability, Thai Cement Manufacturers Association
30	Mr. Nabodee Na Thalang	Department of Public Works & Town Planning and Country Planning
31.	Mr. Ole Henriksen	Project Director Rice Department, GIZ
32.	Mr. Keegan Robertson	Research Officer, Curtin University
33.	Ms. Aneta Nikolova	Environmental Affairs Officer, UNESCAP
34.	Mr. Poonperm Vardhanabindu	Scientific Advisor- Consultant, UNESCAP
35.	Mr. Hans Guttman	Executive Director, ADPC
36.	Mr. Israel Jegillos	Senior Project Manager, ADPC
37.	Ms. Pannawadee Somboon	Senior Project Manager, ADPC
38.	Mr. Nawraj Pradhan	Climate Finance Specialist, ADPC
39.	Ms. Serena Amatya	Project Officer, ADPC
40.	Mr. Kamal Ahmad	Regional DFRI Specialist, ADPC
41.	Mr. Andries Straten	Knowledge Management Officer, ADPC
42.	Ms. Asama Sincharoenkul	Administrative Assistant, ADPC
43.	Ms. Wirekha Traipipat	Office of Natural Water Resources (ONWR)
44.	Ms. Thidarat Bubpakong	ONWR
45.	Ms. Thanchanok Nunta	DDPM
46.	Dr. Rattikarn Khambud	DDT

Asian Disaster Preparedness Center
SM Tower, 24th Floor, 979/66-70 Paholyothin Road,
Phayathai, Bangkok 10400 Thailand

Tel: +66 2 298 0681-92
Fax: +66 2 298 0012
Email: adpc@adpc.net

www.adpc.net
Asian Disaster Preparedness Center - ADPC
@ADPCnet
Asian Disaster Preparedness Center (ADPC)