กรมอนามัย
Department of Health

WORKSHOP PROCEEDING REPORT

ON REVIEW OF IMPLEMENTATION PERFORMANCE AND UPDATE OF THE HEALTH NATIONAL ADAPTATION PLAN (HNAP) 2021 – 2030

ORGANIZED BY

HEALTH IMPACT ASSESSMENT DIVISION,
DEPARTMENT OF HEALTH,

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IN COLLABORATION WITH

WORLD HEALTH ORGANIZATION (WHO)

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Executive Summary

Climate change poses increasing and interrelated risks to population health, requiring coordinated responses that link national policy frameworks with effective sectoral and local implementation. This report presents the key outcomes of a national workshop reviewing progress, challenges, and future directions for climate change adaptation in the health sector under Thailand's National Adaptation Plan (NAP) and the Health National Adaptation Plan (HNAP).

The workshop brought together policymakers, technical experts, and implementing agencies to examine alignment between national strategies, sectoral implementation, and international commitments, including the Global Goal on Adaptation (GGA). Discussions highlighted that strengthening climate-resilient health systems requires action across communities, institutions, and systems, supported by robust monitoring, evaluation, and learning mechanisms.

Policy Context and Strategic Framework

Thailand's NAP provides the overarching framework for climate change adaptation across six priority sectors, including public health, and is embedded within national development strategies and international commitments under the UNFCCC. Within this framework, the HNAP (2021–2030) operationalizes health adaptation through four interrelated strategies:

(1) health literacy and community resilience;

(2) cross-sectoral integration and capacity building;

(3) national preparedness to support economic, social, and security objectives; and

(4) strengthening public health systems and standards.

Policy discussions emphasized that effective adaptation depends on understanding the full policy and planning cycle, ensuring that implementation, monitoring, evaluation, and feedback mutually reinforce continuous policy improvement.

Key Findings from Breakout Group Discussions

Across the four HNAP strategies, participants reported measurable progress alongside persistent implementation challenges.

- Community-level capacity and health literacy (Strategy 1) showed tangible results, with improved public awareness, expanded community health networks, and targeted interventions for vulnerable groups. However, uneven data availability, sustainability of behaviour change, and continuity of local capacity remain key constraints.
- Cross-sectoral coordination (Strategy 2) demonstrated strong policy-level engagement and institutional coverage, but gaps persist between national coordination and consistent operational delivery at the local level, highlighting the need for clearer alignment between strategies, indicators, and projects.
- National preparedness (Strategy 3) advanced through initiatives in economically and strategically significant areas, such as tourism zones and border regions. Competing priorities, limited subnational data integration, and long-term financing challenges continue to affect preparedness efforts.
- System strengthening and standards (Strategy 4) achieved progress in surveillance, early warning systems, workforce capacity, and innovation, yet challenges related to data interoperability, reporting consistency, and scaling up innovations remain.

Overall, the discussions underscored that progress is strongest where policy direction, institutional capacity, and local engagement are aligned, while fragmentation across these dimensions constrain outcomes.

Key Messages and Way Forward

The workshop generated several overarching messages:

- Health adaptation requires both social and systemic transformation, combining community resilience with strong governance and system readiness.
- Cross-sectoral integration is essential but must be translated into sustained local action.
- Preparedness and resilience require long-term investment, not only short-term responses.
- Monitoring and evaluation should support learning and adaptive decision-making, not reporting alone.

Moving forward, priority actions include strengthening coherence between NAP, HNAP, and GGA frameworks; enhancing subnational capacity and continuity; improving integration of health, climate, and environmental data; securing sustainable financing for system resilience; and scaling up proven innovations and good practices.

Conclusion

The workshop reaffirmed Thailand's strong policy foundation for climate change and health adaptation while highlighting the need to further bridge policy intent and implementation practice. By reinforcing coordinated action across communities, institutions, and systems—and by embedding evidence-based learning into policy cycles—Thailand is well positioned to advance climate-resilient health systems that support sustainable development and protect population health. The findings reflect workshop-based synthesis and reported implementation status, and should be read as indicative of progress and system readiness rather than as formal impact evaluation.

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Part I

Background and Context

1) General Context and Objectives

Climate change is widely recognized as one of the most pressing global challenges, posing significant and multifaceted risks to population health. These risks arise through direct and indirect pathways, including increasing frequency and intensity of heatwaves, extreme weather events, infectious disease transmission, air pollution, food and water insecurity, population displacement, and adverse mental health outcomes. According to the World Health Organization (WHO), environmental factors related to climate change contribute to millions of preventable deaths each year, underscoring the urgency of integrating health considerations into climate adaptation policies.

In response to these global challenges, Thailand has demonstrated strong political commitment by developing a **National Adaptation Plan (NAP)** that addresses climate change impacts across six priority sectors, including public health. Building on this national framework, the Ministry of Public Health formulated the **Health National Adaptation Plan (HNAP) 2021–2030** as a strategic instrument to strengthen health system resilience, reduce climate-related morbidity and mortality, and mitigate economic losses associated with health impacts of climate change.

While significant progress has been made during the early years of HNAP implementation, monitoring efforts have revealed several constraints, particularly related to data availability, consistency of indicators, coordination across agencies, and the linkage between project-level activities and strategic outcomes. These challenges highlighted the need for a comprehensive review mechanism to take stock of achievements, identify gaps, and refine implementation approaches. Accordingly, the present workshop was convened as part of the **midterm review process for HNAP Phase 1 (2021–2030)**, providing a structured platform for evidence-based reflection and joint learning among stakeholders.

The primary objectives of the workshop were to:

- Review and synthesize implementation progress of the HNAP across relevant agencies
- Analyze achievements, challenges, constraints, and enabling factors affecting implementation
- Support the HNAP midterm review with consolidated technical and policy inputs
- Develop practical recommendations to improve plan alignment, monitoring and evaluation mechanisms, and future implementation.

2) Workshop Components

The workshop was conducted over two days, from 13–14 November 2025, and comprised a combination of policy-oriented presentations, technical briefings, and participatory discussions. The program was designed to balance national-level strategic perspectives with practical insights from implementation.

Key components of the workshop included:

- Policy and technical presentations addressing global and national trends in climate change and health, WHO frameworks for climate-resilient health systems, and Thailand's NAP and HNAP
- Presentations on HNAP implementation progress in 2025, highlighting ongoing projects, achievements, and emerging challenges
- Structured breakout group discussions, organized according to the four core strategies of the HNAP, focusing on 1) Alignment of projects and activities with HNAP strategies and indicators; 2) Assessment of implementation performance and outcomes; 3) Identification of gaps, bottlenecks, and operational constraints; and 4) Development of proposals for priority actions during the 2026–2030 period.
- Plenary discussions and synthesis sessions, aimed at consolidating key findings and formulating joint policy-relevant recommendations.

This design enabled participants to critically reflect on both strategic directions and operational realities, while fostering shared understanding across sectors.

3) Participants

The workshop brought together approximately 100 participants, representing a broad range of institutions involved in climate change adaptation and public health. Participants included:

- Representatives from departments and agencies under the Ministry of Public Health;
- Officials from other relevant government bodies contributing to climate adaptation efforts;
- Representatives from the World Health Organization (WHO); and
- Practitioners and technical experts work at both policy and subnational implementation levels.

The diverse composition of participants was intended to promote cross-sectoral dialogue, strengthen coordination, and enhance mutual understanding of roles and responsibilities in advancing the HNAP. By facilitating interaction between policy-makers, implementers, and technical experts, the workshop sought to build a stronger foundation for collaborative and effective climate adaptation in the health sector.

Part II

Opening and Key Messages

Opening Remarks

The workshop was officially opened by **Dr. Jittima Rodsawad**, **Director of the Division of Health Impact Assessment,** Department of Health, Ministry of Public Health, who delivered the opening remarks **on behalf of the Director-General and Deputy Director-General of the Department of Health**.

In her address, Dr. Jittima emphasized that climate change represents one of the most critical and complex health threats facing Thailand and the global community. She highlighted that climate-related health risks are no longer a distant concern, but an immediate challenge affecting morbidity, mortality, health service delivery, and social equity.

She reaffirmed the Ministry of Public Health's strong commitment to the **Health National Adaptation Plan (HNAP) 2021–2030)** as a key national framework for strengthening preparedness, resilience, and adaptive capacity of the health system, particularly for vulnerable populations. The importance of cross-sectoral collaboration, continuity of implementation, and evidence-based decision-making was underscored as essential to ensuring that HNAP objectives translate into tangible health outcomes.

The remarks concluded with the formal opening of the workshop and an expression of expectation that the deliberations would lead to practical and actionable recommendations to strengthen the implementation of HNAP Phase 1 and inform future directions.

Welcome Remarks

The welcoming remarks were delivered by **Dr. Ailan Li**, **Representative of the World Health Organization (WHO) to Thailand**, who warmly welcomed all participants to the workshop and commended Thailand for its leadership in integrating health considerations into national climate change adaptation planning.

In her address, Dr. Li highlighted that Thailand's **Health National Adaptation Plan (HNAP)** is among the relatively few dedicated national health adaptation plans globally and serves as an important example for other countries. She noted that Thailand is also one of the early countries to undertake a systematic review of its health adaptation plan, demonstrating strong commitment not only to national implementation but also to contributing to global learning on climate change and health.

Dr. Li emphasized that the review of HNAP implementation provides a critical opportunity to assess progress, identify gaps, and refine actions to ensure that adaptation efforts are responsive to current and emerging health risks. She underscored the importance of strengthening health data, health vulnerability assessments, and evidence generation to support prioritization, planning, and access to climate adaptation financing at both national and international levels.

The remarks also drew attention to persistent challenges, particularly gaps in adaptation financing and the limited allocation of resources for health within broader climate adaptation efforts. Dr. Li stressed that health should be recognized as a central pillar of climate resilience and should be fully integrated into climate policies, investment frameworks, and adaptation programs. She reaffirmed the World Health Organization's commitment to supporting Thailand through technical assistance, policy

guidance, and partnership-building to strengthen climate-resilient and low-carbon health systems. The welcome remarks concluded with a call for sustained collaboration, shared responsibility, and collective action among all stakeholders to protect population health, reduce inequities, and ensure that climate adaptation efforts leave no one behind.

Part III

Technical and Policy Presentations

The technical and policy presentations established a comprehensive foundation for reviewing the implementation of the Health National Adaptation Plan (HNAP). The sessions situated climate change and health within global, national, and sector-specific policy frameworks and provided key inputs on strategic direction, implementation mechanisms, monitoring progress, and institutional coordination.

1) Climate Change and Health: Policy Direction and Frameworks

Speaker: **Dr. Jittima Rodsawad**, Director, Division of Health Impact Assessment, Department of Health, Ministry of Public Health

This session provided an in-depth overview of the current and projected health impacts of climate change, supported by empirical data and national evidence. Climate change was presented as a critical driver of health risks through multiple pathways, including extreme heat exposure, climate-sensitive diseases, environmental pollution, food insecurity, and pressure on health service delivery systems.

Health Impacts and Vulnerable Populations

Key health risks associated with climate change were highlighted, particularly among vulnerable population groups such as children, older persons, persons with chronic illnesses, persons with disabilities, and communities residing in high-risk areas. National and global evidence presented during the session demonstrated that increasing temperatures, extreme weather events, and environmental degradation significantly exacerbate existing health inequalities.

Evidence from Thailand: Climate-Related Health Impacts

The presentation summarized national data illustrating the magnitude of climate-related health risks in Thailand, including:

- Heat-related health risks, with projections indicating that mortality among older persons due to extreme heat is expected to double by 2050 compared to baseline levels.

- Vector-borne diseases, particularly dengue fever, are projected to increase by approximately 14,000 cases by 2080 compared to historical baselines.
- Damage to health facilities caused by climate-related disasters, with:
    - 268 health facilities affected by flooding in 2024, and
    - 45 health facilities damaged by Tropical Storm Wipha in 2025 across eight provinces, resulting in economic losses estimated at THB 292 million.
- Increasing demand for health services, compounded by population density, service accessibility challenges, and sanitation concerns during climate-related emergencies.

These figures underscore the growing burden of climate change on both population health and health system infrastructure.

WHO Policy Framework and Strategic Direction

The session emphasized the World Health Organization (WHO) framework for climate-resilient and environmentally sustainable health systems, which identifies three strategic priorities:

1) Integrating health considerations into climate change policies and agendas;
2) Strengthening evidence generation, data systems, and health vulnerability assessments; and
3) Building health systems and facilities that are resilient, low-carbon, and sustainable.

This framework was presented as a critical foundation for aligning national actions with global climate and health commitments while enabling access to climate adaptation financing.

Why Do We Need the Health National Adaptation Plan (HNAP)

The session underscored the critical need for the Health National Adaptation Plan (HNAP) as a strategic mechanism to systematically address health risks associated with climate change. Key rationales highlighted during the presentation include the following:

- **Linking the health sector to national and international climate change agendas**: HNAP provides a clear framework for integrating health considerations into climate change policies and adaptation efforts at both national and international levels, ensuring that health is recognized as a core component of climate resilience.

- **Enhancing health sector access to climate change financing**: By establishing a coherent and evidence-based adaptation framework, HNAP increases opportunities for the health sector to access climate change and adaptation funding, including domestic and international financial mechanisms.
- **Prioritizing actions to reduce health impacts of climate change**: HNAP supports the systematic prioritization of interventions aimed at reducing climate-related health impacts across all levels of planning—from national policy to subnational and community implementation.
- **Promoting coordinated and inclusive climate change and health planning** : The plan facilitates coordinated, participatory, and cross-sectoral planning processes, encouraging meaningful engagement among health stakeholders and relevant sectors to strengthen collective action and implementation coherence.

Together, these elements position HNAP as a critical policy instrument for strengthening the resilience of Thailand's health system and ensuring that climate change adaptation efforts effectively protect population health.

2) National Adaptation Plan (NAP): National Policy Context

Speaker: ***Mr. Teeraphat Khamnuanthip****, Senior Environmental Technical Officer,*

Department of Climate Change and Environment, Ministry of Natural Resources and Environment

Thailand's National Adaptation Plan (NAP) serves as the country's overarching framework for addressing climate change impacts across all sectors and levels of governance. The NAP articulates a long-term vision of sustainable development through a low-carbon economy and enhanced climate resilience, supported by inclusive public participation.

The NAP is integrated within Thailand's national development framework and aligned with key policy instruments, including the 20-Year National Strategy (2018–2037), the 13th National Economic and Social Development Plan (2023–2027), the draft Climate Change Act, and international commitments under the UNFCCC, including the Global Goal on Adaptation (GGA) and outcomes of COP28. The adaptation framework follows an adaptation cycle encompassing risk and vulnerability assessment, implementation, and monitoring and evaluation to ensure systematic and evidence-based action.

Climate change adaptation under the NAP is addressed across 6 priority sectors: water resources management; agriculture and food security; tourism; public health; natural resources and biodiversity; and human settlements and human security. In relation to the Global Goal on Adaptation (GGA), health-related adaptation indicators are organized into three groups: Health Impacts, Health Services and Infrastructure, and Preparedness and Capacity. This structure provides a coherent framework for monitoring progress in reducing climate-related health risks, strengthening health system resilience, and enhancing adaptive capacity in line with global climate resilience objectives.

While the NAP provides a national umbrella for climate adaptation, sectoral plans such as the Health National Adaptation Plan (HNAP) play a critical role in translating policy commitments into concrete action. Strengthening alignment between the NAP and sector-specific adaptation plans is essential to achieving climate-resilient and sustainable development outcomes in Thailand.

3) Health National Adaptation Plan (HNAP): Strategies and Governance

Speaker: ***Ms. Kornwipa Punnasiri****, Senior Professional Public Health Technical Officer, Division of Health Impact Assessment, Department of Health, Ministry of Public Health*

The overarching goal of the HNAP is to ensure that Thailand's health system can effectively manage climate-related health risks and reduce adverse health impacts across all population groups. HNAP is aligned with national and international frameworks, including the Paris Agreement, the Sustainable Development Goals (SDGs), WHO and World Health Assembly action plans, ASEAN cooperation frameworks, and Thailand's national development strategies. The plan provides a mechanism for translating national adaptation priorities into concrete health actions at sectoral and subnational levels.

Strategic Focus of the HNAP

HNAP is structured around **four core strategies**:

1) **Health Literacy:** Strengthening community resilience and public capacity for self-management of climate-related health risks.
2) **Networking for Capacity Building:** Enhancing cross-sectoral and multi-stakeholder collaboration in climate and health action.
3) **Advocacy for Commitment:** Strengthening national preparedness of the health sector to support economic, social, and national security objectives under climate change.
4) **Public Health Preparedness:** Developing a resilient and climate-responsive health system that meets international standards.

Governance and Implementation Mechanisms

Implementation of the HNAP is supported by national coordination mechanisms, involving both health and non-health agencies, and follows a continuous policy cycle that includes vulnerability assessment, implementation, monitoring, and evaluation, with regular reporting and review.

A Strategic Instrument for Climate-Resilient Health

HNAP serves as a key instrument for operationalizing climate change adaptation within the health sector by linking national policy commitments with coordinated sectoral action. Through its integrated strategies and governance mechanisms, HNAP provides a clear framework for strengthening health system resilience and protecting population health from climate-related risks.

4) Progress on HNAP Implementation (2025)

Speaker: **Ms.Nattawee Loonsamrong**, Senior Professional Public Health Technical Officer, Division of Health Impact Assessment, Department of Health, Ministry of Public Health

Implementation of the Health National Adaptation Plan (HNAP) in 2025 (B.E. 2568) shows moderate progress across the four strategic areas, alongside several operational challenges that require further attention. As of 8 September 2025, a total of 150 projects were registered under the HNAP, of which 80 projects (53.3%) submitted implementation reports.

Across the four HNAP strategies, implementation progress varied. Stronger performance was observed in activities related to community capacity-building, health literacy, and cross-sectoral policy coordination, while progress under strategies requiring structural transformation and large-scale system strengthening showed comparatively lower reporting rates. Reported activities covered a wide range of interventions, including community-based health risk management, public awareness and risk communication, inter-agency policy collaboration, early warning and surveillance systems, and development of standards for climate-resilient health services.

Overall results indicate tangible progress toward mid-term targets, particularly in:

- increasing public and community capacity to manage climate-related health risks;
- expanding networks for climate and health coordination at national and subnational levels; and
- advancing initiatives aligned with climate-resilient health facilities and preparedness frameworks.

However, implementation monitoring also identified key challenges, including inconsistent reporting across agencies, discontinuity of projects due to changes in responsible units, and misalignment between

some reported activities and HNAP strategic objectives. Data gaps and variations in indicator interpretation further limited the ability to comprehensively assess outcomes and impacts at this stage.

The 2025 implementation review highlights that while HNAP implementation has generated meaningful progress, particularly in community-level action and policy coordination, strengthened reporting mechanisms, clearer alignment between projects and strategic indicators, and enhanced cross-sectoral continuity are essential. Addressing these issues is critical to ensuring that HNAP implementation progresses from activity-based delivery toward measurable and sustained health adaptation outcomes in the remaining implementation period.

5) Monitoring, Evaluation, and Implementation Mechanisms

Speaker: **Dr. Piyanit Onoparatvibool** ,

Director, Office of National Development Monitoring and Evaluation, National Economic and Social Development Council (NESDC)

Effective policy and plan evaluation requires a clear understanding of the policy and planning cycle, from policy formulation to implementation and performance assessment. The policy cycle comprises four interrelated stages: (1) Policy or Plan Formulation, (2) Policy or Plan Implementation, (3) Monitoring and Evaluation, and (4) Feedback to inform policy improvement.

From Planning to Implementation

Translating plans into action is often more complex and challenging than the planning process itself. Even well-designed plans may fail during implementation, while plans with limitations may still yield positive outcomes if implementation is effective. The objective of policy and plan implementation is therefore to achieve success, rather than merely to complete activities. Effective implementation requires coordinated action among multiple actors, comparable to assembling a complex puzzle. Key enabling factors include: a shared understanding of overall objectives across all levels; clarity of roles and responsibilities between lead and supporting agencies, including identification of missing stakeholders; clear milestones with regular follow-up; and strong coordination and collaboration mechanisms.

Stakeholder Analysis and Evaluation Approaches

Stakeholder analysis was emphasized as a critical tool for understanding implementation dynamics, guided by the questions who, why, and how. Monitoring and evaluation focus on assessing outcomes and impacts, typically conducted after outputs have been generated or following project completion to track progress and close implementation gaps. Evaluation approaches can be broadly classified into three types: formative evaluation, conducted prior to implementation to assess feasibility and inform planning; summative evaluation, conducted after project completion to assess overall performance and results; and ex-ante evaluation, undertaken before implementation to assess the validity and coherence of the plan. The lack of systematic ex-ante evaluation was noted as a common weakness, often leading to inadequate indicator design, data collection, and feedback mechanisms.

Analytical Tools for Evaluation Design

A range of analytical tools can be applied depending on context and purpose. Theory of Change (ToC) establishes causal pathways linking inputs and activities to outcomes and impacts. The CIPP Model—context, input, process, and product—is useful for improving project implementation but less effective for demonstrating long-term impact. Results Chain Analysis maps linkages from inputs and activities through short- and medium-term outcomes to final outcomes and impacts, supporting strategic alignment across projects. Continuous improvement frameworks such as the PDCA cycle (Plan–Do–Check–Act) emphasize iterative learning, while Objectives and Key Results (OKRs) help organizations define clear, measurable goals and align efforts toward priority outcomes.

Designing Effective Evaluation

A systematic evaluation design process begins with understanding the full policy context and system. Key steps include defining the core issue, identifying logical models and stakeholders, collecting relevant data, analyzing stakeholder dynamics, identifying critical gaps, and proposing realistic, actionable solutions.

“Monitoring and evaluation are both a technical discipline and an adaptive practice. Effective evaluation depends not on rigid formulas, but on the thoughtful application of appropriate tools to context. Beyond meeting indicator targets, monitoring and evaluation should support learning, identify root causes of challenges, and guide policy improvement toward the ultimate goals of the plan.”

Part IV

Breakout Group Discussions

Introduction

The breakout group discussions constituted a core component of the workshop, providing a platform for in-depth reflection on the implementation of the Health National Adaptation Plan (HNAP) from both policy and operational perspectives. Building on the technical and policy presentations in Part III, the discussions enabled participants to collectively examine progress, challenges, and opportunities for strengthening HNAP implementation during the remaining period of Phase 1 (2021–2030).

Participants were divided into four breakout groups, each corresponding to one of the four core strategies of the HNAP. The group discussions focused on:

- Reviewing the alignment of ongoing projects and activities with HNAP strategies and indicators;
- Assessing implementation performance at policy and operational levels;
- Identifying gaps, constraints, and enabling factors affecting implementation; and
- Formulating practical recommendations to enhance effectiveness and coherence of future actions.

The discussions adopted a structured and participatory approach, allowing contributions from representatives of implementing agencies, technical experts, and stakeholders from both health and non-health sectors. Group findings were subsequently shared in plenary sessions to support synthesis and collective learning.

The outcomes of the breakout group discussions provide critical insights into how HNAP strategies are being operationalized in practice, highlighting both good practices and systemic challenges. These findings form the basis for the analysis and recommendations presented in the following sections, organized by HNAP strategy.

4.1 Strategy 1: Health Literacy and Community Resilience

Strategy 1 focuses on strengthening **health literacy and community resilience** to enable individuals and communities, particularly vulnerable groups, to manage and adapt to climate-related health risks effectively.

Progress and Key Achievements

Implementation under Strategy 1 demonstrated **notable progress in community-based capacity-building and public awareness**. As of 2025, **69.8% of populations in at-risk areas** were reported to have adequate skills for managing climate-related health impacts, approaching the mid-term target of 75%. In addition, **1,304 community health management networks** were established or strengthened, representing substantial progress toward the mid-term target of 2,000 networks. Programs addressing health literacy related to climate-sensitive and emerging diseases reported coverage of approximately **52% of the target population**, with further analysis ongoing.

Key activities contributing to these results included community and school-based health literacy programs, capacity-building for family care teams and community networks, integration of climate-health content into education and training curricula, targeted interventions for vulnerable groups such as older persons, children, outdoor workers, and informal workers, as well as risk communication initiatives addressing heat stress, air pollution, vector-borne diseases, and climate-related disasters. Collectively, these activities reflect broad engagement across sectors and levels in operationalizing health literacy as a foundation for climate change adaptation.

Challenges and Constraints

Despite measurable progress, breakout group discussions highlighted **structural and implementation challenges**. Participants noted limitations in the availability and integration of **community-level and sub-district health data**, constraining evidence-based planning and outcome assessment. Inconsistent understanding of health risk causation among the public, often attributing impacts to a single source, pointed to gaps in risk communication and systems thinking.

Additional challenges included limited capacity of local health services, discontinuity caused by turnover of responsible personnel, and constrained budgets that prioritize short-term disease control over

long-term adaptive capacity. Behaviour change—particularly when linked to economic incentives—was described as difficult to sustain without ongoing engagement and supportive local policy environments. Uneven participation of local health actors further contributed to variation in implementation across areas.

Key Recommendations

Participants emphasized the need to strengthen community-level data systems and monitoring, enhance continuity through clearer institutional roles and sustained budget support, and further integrate health literacy initiatives with broader local development agendas, such as healthy city and sustainable city frameworks. Strengthening risk communication through accessible and locally appropriate media, expanding targeted interventions for vulnerable groups, and reinforcing cross-sectoral collaboration were identified as critical for translating outputs into sustained improvements in community health resilience.

4.2 Strategy 2: Networking for Capacity Building and Cross-sectoral Integration

Strategy 2 focuses on strengthening **cross-sectoral collaboration and institutional capacity** to advance coordinated public health action on climate change, with an emphasis on policy coherence, partnership-based implementation, and integration across national, regional, and local levels.

Progress and Key Achievements

Implementation under Strategy 2 demonstrated **solid progress at the policy and coordination levels**. As of 2025, integrated management of climate change and health policies had reached **Level 3**, indicating established coordination mechanisms at the national level. In addition, **three international and ASEAN-level policy collaborations** related to climate change and health were operational, alongside **formal inter-agency partnerships** supporting alignment with WHO policy directions.

At the subnational level, all **13 health districts nationwide** were reported to be engaged in cross-sectoral coordination for climate-related health action. Progress was also observed in the identification and development of **integrated pilot areas and sub-district initiatives**, aimed at translating national policy frameworks into localized action through district-level and area-based mechanisms.

Key activities contributing to these achievements included regional and international policy engagement, inter-ministerial collaboration, integration of climate and health considerations into sectoral and local development agendas, promotion of environmentally friendly health facilities (such as Green and Clean Hospital initiatives), and policy dialogues connecting health, environment, industry, energy, and local governance actors. Collectively, these activities reflect growing institutional recognition of climate change as a cross-cutting public health issue.

Challenges and Constraints

Breakout group discussions highlighted that, despite policy-level progress, **implementation at the local level remained uneven**. Participants noted gaps between national policy commitments and operational capacity in sub-districts, driven by differences in resources, technical capacity, and continuity of stakeholder engagement. Fragmentation between policy initiatives and project-level implementation was identified as a recurring challenge.

Additional constraints included inconsistencies in reporting and interpretation of indicators across agencies, making it difficult to assess collective progress. Participants also observed that some projects reported under Strategy 2 did not fully reflect the intended scope of cross-sectoral integration, pointing to the need for clearer alignment between strategic objectives, key indicators, and project design.

Key Recommendations

Participants emphasized the importance of strengthening institutional coordination mechanisms to ensure clearer roles between lead and supporting agencies and to connect policy-level collaboration more directly with local implementation platforms. Enhancing capacity at the subnational level—particularly through district and sub-district coordination mechanisms—was identified as a priority.

Further recommendations included improving alignment between indicators and flagship projects, strengthening knowledge-sharing and learning across sectors, and reinforcing partnerships that link health, environment, energy, and local development priorities. Sustained cross-sectoral governance and clearer pathways from policy formulation to operational delivery were highlighted as essential to achieving effective and coherent climate and health adaptation outcomes.

4.3 Strategy 3: Advocacy for Commitment and National Preparedness

Strategy 3 focuses on strengthening **national preparedness of the health sector** to cope with climate change impacts while supporting broader economic development, social stability, and national security. The strategy emphasizes system readiness in economic zones, tourism areas, border regions, and other areas of strategic importance.

Progress and Key Achievements

Breakout group discussions indicated that, as of 2025, progress under Strategy 3 remained at an **early and foundational stage**, with implementation focused primarily on **system development and institutional groundwork** rather than demonstrable outcomes. Only a limited number of projects were reported during the review period, reflecting the preparatory nature of this strategy.

Reported activities largely emphasized the establishment of **conceptual frameworks, coordination mechanisms, and baseline system strengthening**, particularly in relation to health preparedness in economic and development-oriented contexts. Participation from non-health sectors was still limited, with engagement observed mainly from agencies linked to industrial and economic development, while broader involvement from other relevant sectors remained modest.

Despite the limited number of reported projects, group discussions highlighted that clearer **strategic direction and operational focus** were emerging in the planned implementation for **2026–2027**. The forward-looking implementation plan includes a more defined portfolio of planned initiatives, with

approximately **seven projects** proposed, placing stronger emphasis on **sustainable development pathways**, integration of health considerations into economic and tourism development, and the strengthening of **water, sanitation, and hygiene (WASH)** management in tourism-related and development areas. These planned actions signal a transition from system design toward more applied and area-based implementation.

Challenges and Constraints

Breakout group discussions underscored **persistent structural challenges** affecting implementation. Participants highlighted limitations in **local-level data availability and integration**, particularly at the sub-district level, constraining effective planning and risk assessment. In some areas, public understanding of health risks remained fragmented, leading to misperceptions about causes of illness and environmental exposure.

Operational constraints included **limited local health service capacity**, lack of continuity due to turnover of responsible personnel, and insufficient prioritization of long-term preparedness within existing budgeting frameworks. Participants noted that climate-related health preparedness initiatives often compete with more immediate disease control needs, reducing their visibility and sustainability. Achieving behavioural and institutional change, especially where economic interests are involved, was described as particularly challenging without strong and sustained policy signals.

Key Recommendations

Breakout group participants emphasized the need to **accelerate implementation beyond the preparatory phase** by strengthening commitment and participation from non-health sectors, particularly those responsible for economic development, tourism, industry, and local administration. Clearer institutional leadership and long-term budget support were identified as essential to operationalizing preparedness objectives.

Further recommendations included reinforcing collaboration between health authorities and agencies responsible for economic development, tourism, industry, and border management; strengthening public communication to improve understanding of climate-related health risks; and

embedding health preparedness more explicitly within national and subnational development frameworks. Such measures were seen as essential to ensuring that health system readiness contributes effectively to climate-resilient and secure development outcomes.

4.4 Strategy 4: Strengthening Public Health Systems and Standards

Strategy 4 focuses on strengthening the **public health system and national standards** to ensure that health services are resilient, responsive, and aligned with international norms in addressing climate-related health risks. The strategy emphasizes surveillance and early warning systems, health service standards, financing mechanisms, workforce capacity, and innovation.

Progress and Key Achievements

Implementation under Strategy 4 demonstrated **substantive progress in system strengthening and standardization**. By 2025, expansion of initiatives aligned with **international health standards**, including environmentally sustainable and climate-resilient health facilities, contributed to improved institutional readiness. A growing proportion of health facilities met recognized standards for environmental health management and emergency preparedness, reflecting progress toward mid-term targets.

Key achievements were observed in the development and enhancement of **health surveillance, forecasting, and early warning systems** for climate-sensitive health risks, including heat stress, air pollution, vector-borne diseases, and extreme weather events. Integration of meteorological, environmental, and health data supported more informed risk monitoring and preparedness planning.

Additional progress was achieved in **capacity-building of the health workforce**, emergency preparedness and response mechanisms, and the promotion of **health-related innovations**, including digital platforms, risk communication tools, and applied technologies supporting surveillance, service delivery, and community protection. These initiatives underscore the role of system-level investments in enabling effective and sustainable climate and health adaptation.

Challenges and Constraints

Breakout group discussions highlighted **persistent systemic challenges**. Participants identified gaps in **data integration and interoperability**, particularly across agencies and sectors, which constrained comprehensive risk forecasting and decision-making. Differences in data standards, reporting frequency, and access—along with regulatory constraints on data sharing—were noted as key obstacles.

Further challenges included inconsistent reporting across implementing agencies, limited continuity resulting from personnel turnover, and difficulties in linking system-level indicators with

measurable health outcomes and impacts. Participants also noted that while innovation efforts were expanding, mechanisms to scale up and institutionalize successful innovations remained limited. Financing for long-term system strengthening was described as insufficient and often fragmented across programs.

Key Recommendations

Participants emphasized the need to **strengthen national data governance frameworks**, promote interoperability of health, climate, and environmental information systems, and clarify institutional roles in managing shared data platforms. Reinforcing surveillance and early warning systems through sustained investment and technical harmonization was identified as a priority.

Additional recommendations included strengthening financing mechanisms to support long-term system resilience, expanding capacity-building for the health workforce, and establishing clearer pathways to scale up proven innovations. Embedding climate resilience standards more systematically across all levels of the health system was highlighted as essential to ensuring consistent, high-quality protection of population health under changing climate conditions.

Part V

Key Messages and Way Forward

Key Messages

The workshop highlighted that **climate change poses multi-dimensional risks to population health**, requiring responses that extend beyond the health sector alone. Thailand's experience demonstrates the importance of aligning national adaptation frameworks, such as the **National Adaptation Plan (NAP)** and the **Health National Adaptation Plan (HNAP)**, with sectoral implementation and localized action.

Several key messages emerged:

1. **Health adaptation is both a social and systemic endeavour.**

   Strengthening health literacy, community resilience, and risk communication (Strategy 1) provides a critical foundation, but must be complemented by robust governance, coordination, and system-level preparedness.

2. **Cross-sectoral integration is essential for effective implementation.**

   Progress under Strategy 2 showed growing institutional recognition of climate change as a cross-cutting public health issue. However, translating policy-level coordination into consistent local action remains a central challenge.

3. **National preparedness depends on area-based and system-level readiness.**

   Findings from Strategy 3 underscored the importance of strengthening preparedness in economic, tourism, and security-sensitive areas, where climate-related health risks intersect with broader development and stability objectives.

4. **Resilient health systems require sustained investment in standards, data, and innovation.**

   Strategy 4 highlighted gains in surveillance, standards, and innovation, while also revealing gaps in data integration, financing, and scalability that must be addressed to ensure long-term resilience.

5. **Monitoring and evaluation must support learning, not only reporting.**

   Effective use of the policy cycle—from planning to feedback—was identified as critical to improving implementation quality and ensuring that adaptation efforts lead to measurable and meaningful health outcomes.

Way Forward

Building on these insights, the following priorities were identified to guide future action:

1. **Strengthen coherence between national frameworks and sectoral implementation.**

   Continued alignment between NAP, HNAP, and international frameworks such as the **Global Goal on Adaptation (GGA)** is essential to ensure consistency in objectives, indicators, and reporting.

2. **Enhance subnational capacity and continuity.**

   Sustained investment in district- and sub-district-level capacity, clearer institutional roles, and mechanisms to reduce disruption from personnel turnover will be critical for effective implementation.

3. **Improve data integration and evidence use.**

   Strengthening interoperability between health, climate, and environmental data systems will enhance risk assessment, early warning, and policy decision-making, while supporting more meaningful monitoring and evaluation.

4. **Prioritize long-term system resilience alongside immediate health needs.**

   Balancing short-term disease control with long-term adaptation planning, including financing mechanisms for system strengthening, will be essential to address escalating climate-related health risks.

5. **Promote learning, innovation, and scaling of good practices.**

   Mechanisms to document, evaluate, and scale successful pilots and innovations should be strengthened, ensuring that effective approaches are institutionalized rather than remaining isolated initiatives.

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Appendix

Appendix I

Workshop Agenda

Workshop on the "Review of Implementation Results and Improvement of the Health Sector Climate Change Adaptation Action Plan, Phase 1 (2021–2030)"

Date: 13 – 14 November 2025

At TK Palace Hotel & Convention, Bangkok, Thailand

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13 November 2025

08:30 – 09:00	**Registration**
09:00 – 09:30	**Opening Session**
	Welcome Remarks
	By Dr. Ailan Li
	WHO Representative to Thailand
	Report
	By Dr. Naretrit Khadthasrima, MD., M.P.H., FETP
	Deputy Director-General, Department of Health, Ministry of Public Health
	Opening Remarks
	By Dr. Amporn Benjaponpitak, M.D., MRC Psych
	Director-General, Department of Health, Ministry of Public Health
09:30 – 10:00	**Special Lecture: "WHO global strategy on health, environment, and health sector adaptation to climate change"**
	By Representative from the WHO Country Office for Thailand
10:00 – 11:00	**Plenary Discussion: "Thailand's climate change adaptation strategies"**
	Plenary 1: "Driving and monitoring the implementation of the National Adaptation Plan (NAP)"
	By Representative from the Department of Climate Change and Environment, Ministry of Natural Resources and Environment representative
	Plenary 2: "Driving and monitoring the implementation of the Health National Adaptation Plan, Phase 1 (2021–2030) (HNAP)"
	By The Director of the Division of Health Impact Assessment,
	Department of Health, Ministry of Public Health

11:00 – 12:00 **Presentation on "The Implementation and monitoring results of the Health National Adaptation Plan (2025 performance results)"**

By

- The secretariat of the Subcommittee on Plan Implementation and Monitoring
- Representative of the Division of Health Impact Assessment, Department of Health
- Representative of the Division of Occupational and Environmental Diseases, Department of Disease Control

12:00 – 13:00 **Lunch break**

13:00 – 14:00 **Breakout Group Discussion: "Project and activity analysis—assessing alignment with the plan and strategic issues"**

- Group 1: Strategy 1
- Group 2: Strategy 2
- Group 3: Strategy 3
- Group 4: Strategy 4

14:00 – 15:30 **Summary of the "Implementation Results and Improvement of the Health National Adaptation Plan, Phase 1 (2021–2030)"**

- Group 1: Strategy 1
- Group 2: Strategy 2
- Group 3: Strategy 3
- Group 4: Strategy 4

15:30 – 16:30 **Open Forum for Discussion and Exchange of Opinions**

Facilitated by officials from the Division of Health Impact Assessment, Department of Health, Ministry of Public Health

<u>14 November 2025</u>

09:00 – 11:00 **Special Lecture: "Cross-Issue Linkages of the Action Plan: Driving mechanisms, monitoring and evaluation, and trend analysis of the action plan implementation"**

By Representative from the Office of the National Economic and Social Development Council (NESDC)

11:00 – 12:00 **Presentation on "Project and activity analysis—assessing alignment with the plan and strategic issues" and opinion-sharing forum**

- Group 1: Strategy 1 representative

12:00 – 13:00 **Lunch break**

13:00 – 15:00 (Continued) **Presentation on "Project and activity analysis—assessing alignment with the plan and strategic issues" and an open forum for discussion and exchange of opinions**

- Group 2: Strategy 2 representative
- Group 3: Strategy 3 representative
- Group 4: Strategy 4 representativ

15:00 – 15:30 **Closing Summary and Remarks**

By The Director of the Division of Health Impact Assessment,
Department of Health, Ministry of Public Health

Note: Refreshments will be served at 10:30 hrs. and 14:30 hrs.

Appendix II

Evaluation Summary of the Workshop

The evaluation was based on responses from 32 participants. The demographic profile shows a predominantly female participation rate (75.0%), with the largest age group being 31–40 years (46.9%). Organizationally, the workshop was strongly represented by units under the Ministry of Public Health (MoPH), while external agencies played a vital role in ensuring inter-agency alignment.

Table 1: Gender and Age Distribution

Demographic Category	Frequency (n)	Percentage (%)
1. Gender		
1. Female	24	75.0
2. Male	8	25.0
Total	**32**	**100.0**
2. Age		
1. 21–30 years	9	28.1
2. 31–40 years	15	46.9
3. 41–50 years	5	15.6
4. 51–60 years	3	9.4
Total	**32**	**100.0**

Table 2: Organizational Affiliation

Organization Type	Frequency (n)	Percentage (%)
1. Internal Ministry of Public Health (MoPH) Units	24	75.0
2. External Agencies	8	25.0
Total	**32**	**100.0**

3. Workshop Satisfaction Analysis

The overall assessment indicates a high level of participant satisfaction, yielding a grand mean of 4.64, (92.77%). The highest-rated items included the suitability of the venue (4.75) and the quality of hotel staff service (4.72). While still achieving a high score, the quality of catering (4.53) was the lowest-rated category, suggesting minor room for improvement in catering services and facilities.

Table 3: Satisfaction Scores by Category

Satisfaction Item	Mean Score	Percentage (%)	Standard Deviation (SD)
1. Suitability of the venue	4.75	95.00	0.43
2. Appropriateness of the duration	4.56	91.25	0.61
3. Readiness of audio-visual (AV) equipment	4.65	93.13	0.54
4. Quality of catering (snacks and lunch)	4.53	90.63	0.61
5. Quality of hotel staff service	4.72	94.48	0.51
6. Effectiveness of organizer coordination	4.59	91.88	0.65
7. Overall satisfaction with the workshop	4.66	93.13	0.47
Grand Mean / Overall Average	**4.64**	**92.77**	**0.55**

4. Qualitative Feedback and Suggestions

Qualitative data provides further insight into the administrative and technical success of the event:

- **Logistics and Timing:** The venue was praised for its convenient location and accessibility. Participants noted that the 2-day duration was optimal, allowing for a necessary period of foundational knowledge-building before transitioning into technical group activities.
- **Technical Content:** Feedback regarding speaker expertise was overwhelmingly positive. The request from several participants for extended lecture times indicates a significant appetite for advanced technical knowledge and deeper theoretical grounding in climate-health policy.
- **Administrative Coordination:** The organizing staff received commendations for their responsiveness and efficiency in managing inquiries throughout the event.

The disparity between the high satisfaction for venue/staff (4.75/4.72) and the slightly lower catering score (4.53) suggests that while high-level logistics were excellent, there is a minor opportunity to enhance catering services and facilities in future iterations.

กรมอนามัย
Department of Health

WORKSHOP PROCEEDING REPORT