

Policy brief – Mahidol Migration Center

## Addressing climate-related human mobility in Thailand: evidence, risks, and policy considerations

### A critical policy gap in Thailand’s climate action framework

Thailand faces escalating climate risks that are already reshaping patterns of human mobility. Yet, human mobility is not explicitly addressed in Thailand’s climate action and adaptation frameworks, including the National Adaptation Plan (NAP) (UNFCCC, 2023). This omission constitutes a critical policy gap. While climate impacts increasingly influence displacement, migration, planned relocation, and immobility across the country, these dynamics remain largely outside formal adaptation planning, risk assessments, and implementation mechanisms.

#### Textbox 1: Conceptualization of human mobility

IOM conceptualizes human mobility in the context of climate change as the full spectrum of movements influenced—directly or indirectly—by climate variability, environmental degradation, and disaster impacts. According to IOM’s institutional strategies on Migration, Environment and Climate Change (MECC) (IOM, 2021) and its Climate Mobility Road Map, human mobility includes four distinct but interrelated mobility outcomes:

- Migration refers to predominantly voluntary or adaptive movements, internal or cross border, taken to reduce risk, diversify livelihoods, or respond to environmental stressors, which can enhance resilience when supported by safe pathways.
- Displacement describes situations in which people are forced to move, temporarily or permanently, due to the acute or severe impacts of sudden onset hazards (such as floods, storms) or slow onset processes (such as drought or sea level rise).
- Planned relocation denotes the institutionally led and pre-emptive or reactive movement of individuals or communities when areas become unsafe or unsustainable, requiring collective decision making, rights based safeguards, and long term support.
- Finally, immobility captures the condition of people who cannot move—because of economic, social, legal, or physical constraints—or who choose to stay despite escalating climate risks; these populations require targeted protection, risk informed planning, and adaptation measures to ensure safety, dignity, and choice. This comprehensive framing underscores IOM’s core principle of “solutions for people to move, people on the move, and people to stay,” positioning human mobility as both a challenge and an opportunity for climate resilient development.



Globally, this gap is increasingly recognised. As of December 2025, 72 NAPs had been submitted to the United Nations Framework Convention on Climate Change (UNFCCC). According to the most recent available analysis, among the 53 NAPs submitted as of February 2024, 85 per cent referenced at least one form of human mobility and 66 per cent included concrete provisions or commitments related to migration, displacement, or planned relocation (IOM, 2024a; SLYCAN Trust, 2024). Thailand’s climate policy framework stands in contrast to this trend, despite the country’s high exposure to climate hazards and growing evidence that climate stressors are influencing population movements.

The absence of explicit mobility considerations has practical consequences. It limits Thailand’s ability to anticipate displacement, manage climate-related internal migration, plan relocation in high-risk areas, and protect populations who are unable or unwilling to move. As a result, responses to climate impacts remain largely reactive, focused on short-term disaster response rather than forward-looking, risk-informed adaptation.

#### Textbox 2:

IOM addresses climate-related displacement at global, regional, and national levels through evidence generation, capacity building, policy guidance, and advocacy. At the global level, the 2021 MECC Institutional Strategy (IOM, 2021) sets priorities and frameworks for engagement, while the UNFCCC Technical Guide (UNFCCC, 2024) provides guidance on integrating human mobility into national climate planning. At regional and national levels, resources such as the Thailand Country Factsheet on MECC (IOM, 2024) provide context-specific evidence. Tools like the Risk Index for Climate Displacement (RICD), developed by IOM’s Climate Mobility Innovation Lab (CMIL) in collaboration with academic and government partners, quantify displacement risks and support anticipatory action, planning, and investment in climate-related displacement.

## Climate hazard exposure and systemic vulnerability

Thailand is one of Southeast Asia’s most climate-vulnerable countries, facing multiple and overlapping hazards, including coastal floods, prolonged droughts, tropical storms, heatwaves and sea-level rise. The country is ranked as the 9th most affected country in the period of 2000–2019 by the Global Climate Risk Index Report (CRI) 2021 (Eckstein et al., 2021).

Climate change is likely to increase the incidence of flooding across the country. The number of people affected by extreme river floods is anticipated to grow to over 2 million by the 2035–2044 period and coastal flooding could affect a further 2.4 million people by 2070–2100, with many densely populated urban centres situated along the coastline (World Bank and ADB, 2021).

Climate risks are spatially differentiated. Coastal provinces such as Chonburi and Rayong are increasingly exposed to flooding and storm surges (see *Textbox 3*). Inland regions, especially in the Northeast (Isan), experience recurrent droughts that undermine agricultural production, water security, and rural livelihoods.

### Textbox 3:

In 2024, IOM produced three short video clips from Rayong–Chonburi, Ubon Ratchathani, and Bangkok, capturing perspectives from Thai nationals on how climate hazards affect daily life. Across coastal, rural, and urban settings, interviewees describe how changing weather patterns, heat, flooding, and environmental degradation influence livelihoods, living conditions, and exposure to risk. Together, the videos highlight that climate impacts are experienced across diverse contexts in Thailand, shaping economic security and day-to-day coping strategies in different ways. The videos can be accessed below:

[Rayong & Chonburi](#) [Ubon Ratchathani](#) [Bangkok](#)

These hazards generate systematic vulnerability rather than isolated shocks. Recurrent climate events erode household assets, weaken livelihoods, and strain public infrastructure and services. Projected climate impacts are expected to disproportionately affect poorer and marginalised groups, reflecting differentiated vulnerability shaped by structural inequalities and uneven power structures (Plan International, 2018). Lower income populations are more likely to be concentrated in physically demanding and low-paid occupations that are highly exposed to heat stress. They also face greater constraints in adapting, as poorer households, businesses, and communities are less able to invest in cooling, water storage, irrigation, or other adaptive infrastructure.

Where adaptive capacity is low, due to socioeconomic, institutional or informational constraints, the scope for anticipatory and preventive action is correspondingly reduced, increasing exposure to climate impacts and the likelihood of repeated losses over time, consistent with the IPCC’s assessment of vulnerability and limits to adaptation (IPCC, 2022).



Fishing pier and market, Mueang Rayong, Rayong province. © IOM 2024

## Climate change as a driver of human mobility

From an analytical perspective, climate change shapes human mobility through interacting social, economic, environmental, and institutional mechanisms that influence household decision-making over time. Climate hazards alter the relative viability of livelihoods, the costs and benefits of moving versus staying, and the capacity of households and communities to absorb repeated shocks. Mobility outcomes therefore emerge along a continuum, shaped as much by social and policy contexts as by the hazards themselves.

Sudden-onset events often trigger displacement, which may be temporary or evolve into longer-term, protracted displacement depending on the scale of damage, access to recovery assistance, and the speed of livelihood restoration. Where housing, land, or productive assets are repeatedly damaged, displacement can become cyclical, gradually eroding the feasibility of return. In contrast, slow-onset processes tend to influence mobility through cumulative livelihood stress, progressively adversely affecting the economic and environmental conditions required to remain in place. In such contexts, relocation may become unavoidable, but often occurs as a last resort, after adaptive capacity has already been significantly depleted.

Climate pressures also shape longer-term migration decisions, especially internal migration from rural and peri-urban areas to urban centres. This form of mobility is rarely driven by climate factors alone; rather, climate stress interacts with labour market conditions, access to services, and existing migration networks. Migration emerges not only as a consequence of climate impacts but as a proactive, adaptive response when well-managed. For example, a coastal worker may seek seasonal employment elsewhere as fisheries decline, or a rural family may send a member to the city after repeated crop losses. However, when undertaken under distress or without adequate institutional support, it can also expose migrants to precarious employment, informal housing, and limited access to social protection.

Crucially, exposure to climate risk does not automatically translate into mobility. Immobility is a central, yet often overlooked, outcome of climate change. Financial constraints, lack of information, insecure legal status, social obligations, health conditions, and limited access to transport or networks can all restrict the ability to move. These trapped populations are frequently located in high-risk areas and face the dual burden of elevated exposure and low adaptive capacity.

Rubber plantation, Songkhla Province. © IOM 2024/Somruedee KARNPHAKDEE

## Evidence gaps and blind spots and governance implications in Thailand

While Thailand has extensive data on climate hazards and disaster impacts, the evidence base linking climate change to human mobility remains fragmented and unsystematic. As a result, climate-related human mobility is poorly quantified and weakly integrated into forward-looking risk assessments, adaptation planning, and public policy.

For disaster-related displacement, the Department of Disaster Prevention and Mitigation (DDPM) under the Ministry of Interior records the number of evacuees during emergency responses, but there is no systematic tracking of displacement trajectories, including duration, secondary movements, or return. In 2024, around 41,000 disaster-related internal displacements were recorded, a figure that likely underestimates actual displacement due to the absence of longitudinal monitoring (IDMC, n.d.a.). Progress is being made, and there is scope to strengthen displacement tracking through closer coordination with DDPM.

Related advances are emerging in climate risk assessment. The Department of Climate Change and Environment (DCCE) has developed provincial-level risk maps based on hazards (floods, droughts, storms), climate scenarios (RCP 4.5 and RCP 8.5), and timeframes (RU-CORE, n.d.b.). The planned integration of population data represents an important opportunity to improve understanding of exposure and potential displacement risk.

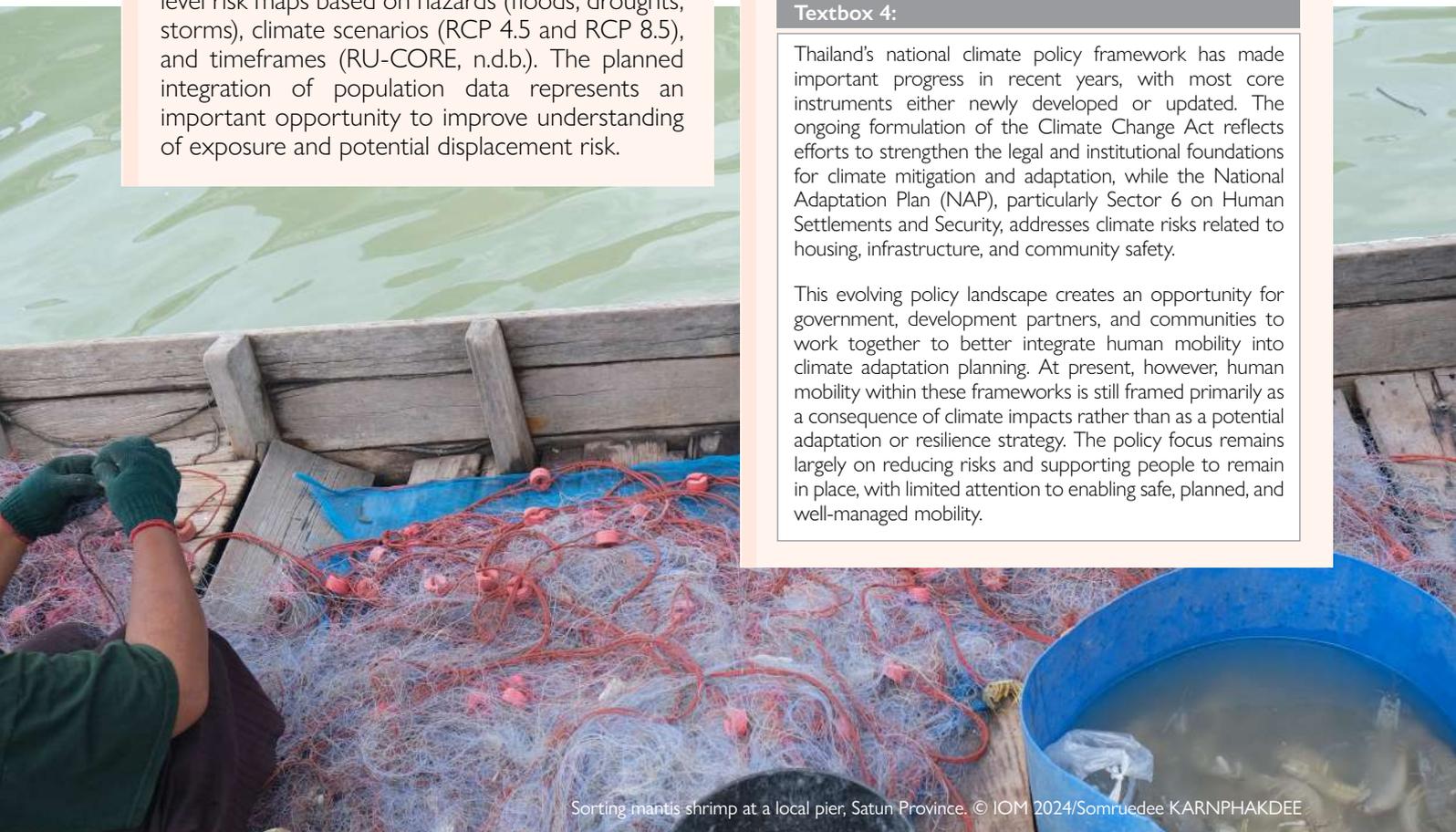
For internal migration, the National Statistical Office's Labour Force Survey, including the Migration Module, remains the main data source. While reasons for movement are recorded, it remains difficult to isolate the role of climate change, which often influences migration indirectly through livelihoods, income stability, and local economic conditions. Data on immobility and trapped populations are largely absent, leaving a critical blind spot for adaptation and social protection planning.

These evidence gaps have direct governance implications (Textbox 4). Human mobility falls between multiple institutional mandates, resulting in a structural blind spot rather than a single policy failure. Climate adaptation frameworks focus primarily on physical risk reduction and sectoral resilience, with limited attention to population dynamics. Disaster risk management systems prioritize emergency response and recovery, with little capacity to address longer-term mobility pathways. Urban planning and social protection systems respond to population pressures after they materialize, while labour and migration governance operate largely independently from climate risk assessments.

### Textbox 4:

Thailand's national climate policy framework has made important progress in recent years, with most core instruments either newly developed or updated. The ongoing formulation of the Climate Change Act reflects efforts to strengthen the legal and institutional foundations for climate mitigation and adaptation, while the National Adaptation Plan (NAP), particularly Sector 6 on Human Settlements and Security, addresses climate risks related to housing, infrastructure, and community safety.

This evolving policy landscape creates an opportunity for government, development partners, and communities to work together to better integrate human mobility into climate adaptation planning. At present, however, human mobility within these frameworks is still framed primarily as a consequence of climate impacts rather than as a potential adaptation or resilience strategy. The policy focus remains largely on reducing risks and supporting people to remain in place, with limited attention to enabling safe, planned, and well-managed mobility.



Sorting mantis shrimp at a local pier, Satun Province. © IOM 2024/Somruedee KARNPHAKDEE

## Closing the evidence-policy gap: functions, actors and entry points

Integrating human mobility into climate action in Thailand requires targeted improvements in national governance arrangements for climate mobility, particularly in how climate risk analysis and population dynamics are connected within planning and decision-making processes. The absence of systematic mechanisms to translate climate hazards, exposure, and vulnerability into mobility-relevant risk assessments limits the ability of institutions to plan for and respond to climate-related mobility. In this context, the areas outlined below highlight non-exhaustive priorities for strengthening national climate mobility governance, with a focus on improving institutional coordination, data integration, and policy uptake.

» **Strengthening integrated climate–mobility evidence:** Priority should be given to improving interoperability across existing climate, disaster, population, and socio-economic data systems. Introducing mobility-relevant variables into current datasets, aligning spatial and temporal units, and enabling joint analysis of climate exposure and population dynamics would support more robust, forward-looking risk assessments without creating parallel data infrastructures.

» **Enhancing monitoring of displacement and mobility pathways:** Building on existing disaster management systems, post-event data collection can be extended beyond evacuation figures to capture displacement duration, secondary movements, return, and relocation outcomes. Clear differentiation between displacement, migration, planned relocation, and immobility would improve analytical precision and enable more targeted adaptation and social protection responses.

» **Expanding forward-looking, scenario-based analysis:** Translating climate projections into population exposure and mobility (displacement) risk scenarios enables identification of locations where displacement or planned relocation may become unavoidable (hotspots), and where in situ adaptation remains viable. This evidence supports anticipatory decision-making in national adaptation planning and provincial development strategies.

» **Enabling coordinated action through complementary roles:** Academic institutions contribute climate mobility models, scenarios, and independent analytical evidence. Government institutions play a central role in anchoring this evidence within national and subnational planning, policy formulation, and implementation processes. IOM acts as a technical matchmaker and enabler, supporting evidence generation and translation, strengthening institutional capacity, facilitating policy dialogue and advocacy, and promoting the integration of human mobility considerations into climate adaptation, disaster risk reduction, and development frameworks, in collaboration with a wide range of national and international partners.

## Reference list

Eckstein, D., V., Künzel, L., Schäfer and M., Wings (2021). Global Climate Risk Index 2021. Germanwatch.

Internal Displacement Monitoring Center (IDMC) (n.d.a). Country Profile: Thailand. <https://www.internal-displacement.org/countries/thailand/>.

Intergovernmental Panel on Climate Change (IPCC) (2022). Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. <https://doi.org/10.1017/9781009325844>.

United Nations Framework Convention on Climate Change (UNFCCC) (2024). Technical Guide on Integrating Human Mobility and Climate Change Linkages into Relevant National Climate Change Planning Processes. UNFCCC. [https://unfccc.int/sites/default/files/resource/WIM\\_ExCom\\_human-mobility\\_TFD\\_2024.pdf](https://unfccc.int/sites/default/files/resource/WIM_ExCom_human-mobility_TFD_2024.pdf)

United Nations Framework Convention on Climate Change (UNFCCC) (2023). Thailand's National Adaptation Plan. [https://unfccc.int/sites/default/files/resource/NAP\\_THAILAND\\_2024.pdf](https://unfccc.int/sites/default/files/resource/NAP_THAILAND_2024.pdf)

IOM (2024a). Policy and Data Insights in the Lower Mekong Subregion. Acting on Human Mobility in a Changing Climate. <https://roasiapacific.iom.int/sites/g/files/tmzbdl671/files/documents/2024-06/mecc-assessment-report.pdf>

IOM (2024b). Country Factsheet: Thailand Migration, Environment and Climate Change (MECC). Key Risks, Policies and Data Sources. <https://thailand.iom.int/resources/country-factsheet-thailand-migration-environment-and-climate-change-mecc-key-risks-policies-and-data-sources>.

IOM (2021). IOM Strategy on Migration, Environment, and Climate Change 2021-2030. <https://environmentalmigration.iom.int/iom-strategy-migration-environment-and-climate-change-2021-2030>.

Plan International. (2018). Climate Change, Young Women and Girls: Vulnerability, Impacts and Adaptations in Northern Thailand. <https://plan-international.org/publication/climate-change-girls-thailand>.

Ramkhamhaeng University Center of Regional Climate Change and Renewable Energy (n.d.b.) Risk map database under climate change. <https://rucore.ru.ac.th/SARCCIS/Riskmaps>.

SLYCAN Trust (2024). Briefing Note: Human Mobility in National Adaptation Plans (updated version). Human mobility in the context of climate change #07. Colombo, Sri Lanka: SLYCAN Trust. [https://disasterdisplacement.org/wp-content/uploads/2024/04/UPDATED-Briefing-Note-Human-Mobility-in-NAPs-1\\_compressed.pdf](https://disasterdisplacement.org/wp-content/uploads/2024/04/UPDATED-Briefing-Note-Human-Mobility-in-NAPs-1_compressed.pdf)

World Bank Group and Asian Development Bank (2021). Climate Risk Country Profile.

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