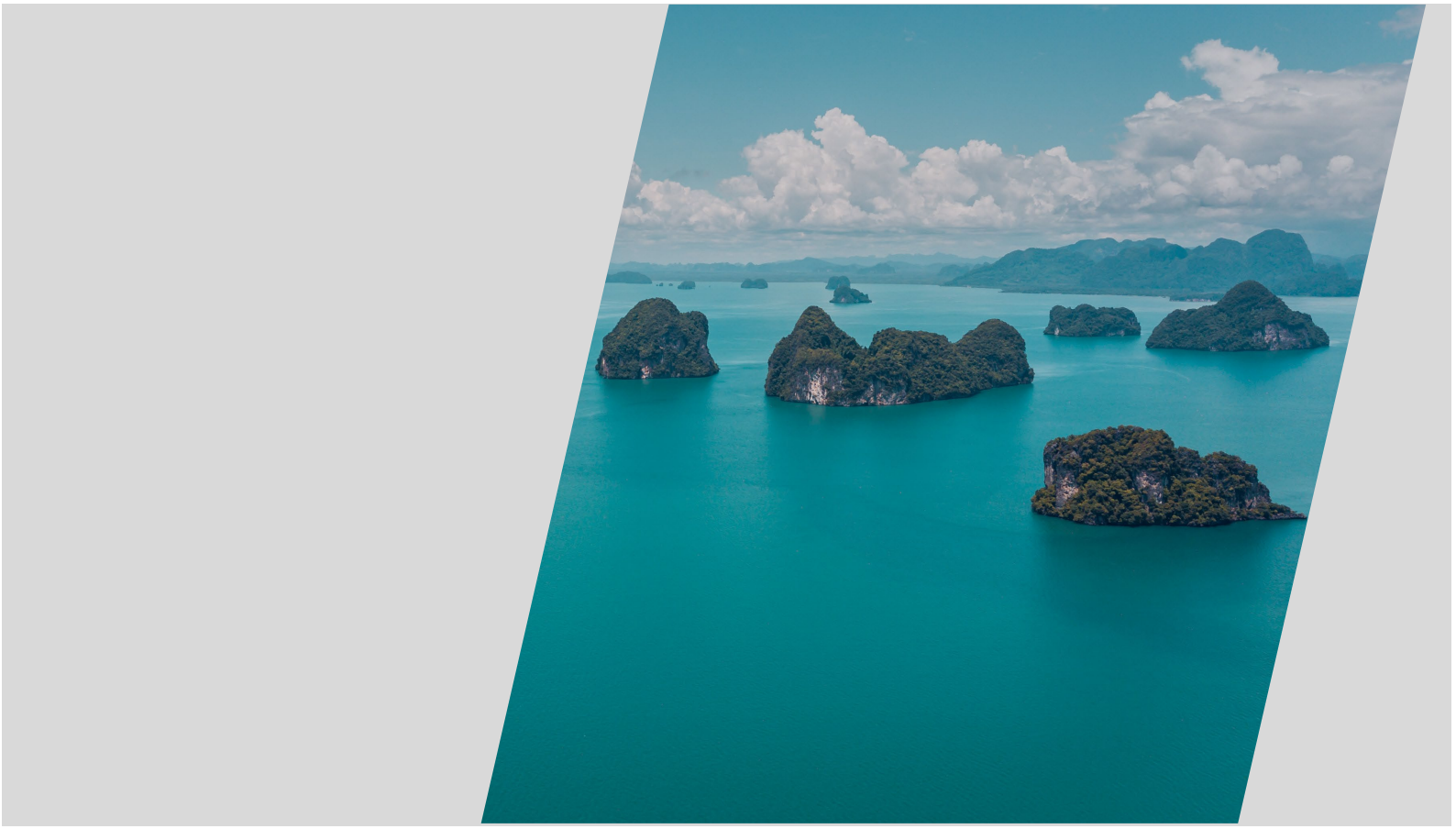

Mainstreaming Climate Change Adaptation into Tourism Policy in Thailand

Research Report

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Bangkok, 2019

About this report:

This report forms part of the wider collaboration between the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Office of Natural Resources and Environmental Policy and Planning (ONEP) who currently implement the project "Risk based National Adaptation Plan" (Risk-NAP). The 2018 draft NAP defined the tourism sector as one of six priority sectors for climate change adaptation in Thailand. The report presents one output under the project 'Mainstreaming Climate Change Adaptation into the Tourism Sector in Thailand', which is financed by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment Nature Conservation and Nuclear Safety (BMU). One of the objectives was to identify entry points for adaptation considerations or climate risk assessment tools into existing policy and planning processes in the Thai tourism sector.

Executive Summary

The Climate Change Risk Assessment presented in a project report preceding this policy report concluded that Thailand tourism is at risk to multiple climate hazards, in particular changes to precipitation patterns (both flooding and drought), hotter temperatures, and coastal erosion and other marine environmental changes. A number of factors driving exposure and vulnerability had been identified, including Thailand's dependence on international leisure travel, concentration in a relatively small number of tourist 'hot spots', and demographic trends (e.g. new and aging markets). Opportunities arise from increasing domestic travel activities, digitalisation of tourism and investment into dispersal of tourism.

The analysis of public sector institutions and existing policies revealed a number of entry points for policy integration and climate action. MOTS as the leading entity for strategy is at the forefront of developing long-term plans for tourism in Thailand. As shown here, the current National Tourism Development Plan can be interpreted (or explicitly amended) to consider climate risk. In particular, new product development, dispersal (seasonal and spatial), and measures around visitor safety lend themselves to be systematically linked to climate risks and adaptation measures. Sustainability is already a key strategy, and climate-specific measures such as reducing water consumption can be added as tangible actions. DASTA's community-based tourism standard already contains links to climate action, and these will be substantiated and implemented over time. Inclusion in training programs and certification processes can support this process. Avoiding internal policy conflict is important, in particular in relation to growth strategies and increased climate risk.

The dispersal strategies by TAT are important measures to reduce climate risk – should dispersal occur towards less exposed and vulnerable regions. It is essential that second tier destinations are supported in developing adequate infrastructure and capacity in dealing with increased number of visitors in conjunction with potential changes in climatic parameters and the resource base (e.g. loss of beach, increased water scarcity). The investment into tourist safety could be linked to destination preparedness and resilience more broadly. Aligning marketing investments with the underpinning tourism strategy – including aspects of sustainability and risk – is of critical importance.

The public sector has a structure in place for addressing climate change. This includes multi-tier governance arrangements, a draft Climate Act and several climate-specific strategies. Tourism is considered in several of these. In particular, ONEP is working on a tourism sector specific work plan, and this is involving collaboration with DoT and other tourism entities in the Thai Government. There is an opportunity to establish a tourism working group to maximise the positive effects of cross-fertilisation between the two tourism domains. In terms of finance, the Government's policy integration budget could provide an avenue for additional funding.

Importantly, tourism is embedded in the wider policy making landscape and is affected by policies made in many other domains. Herein lies an opportunity in that issues of concern are addressed by responsible agencies (e.g. health), and tourism is a beneficiary of Government investment into adaptation. Positive outcomes can be maximised by tourism stakeholders being active contributors to those policy decisions to ensure that the needs of tourism are considered. There is also a risk in that

policies might accidentally omit tourism and there could be unwanted side effects. Again, to avoid this it is important that tourism be part of the ongoing discussions. Of particular interest are the areas of National Park policy making (tourism is already represented on the relevant committee), health and safety, infrastructure development, agriculture, land use planning. The latter provides an opportunity given the effort to decentralise some of the decision making. This is of relevance to tourist destinations and stakeholder's role in influencing local impacts and adaptation measures.

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1 Background

1.1 Objective of this project

This analysis of policy entry points follows a national-level Climate Change Risk Assessment (CCRA) that identified climate change risks for the Thai tourism sector. The results from both pieces of work feed in to Thailand's climate change response strategies and support the implementation of the country's wider National Adaptation Plan (NAP). Tourism is one of six priority sectors that have been identified in Thailand's NAP, based on a nation-wide vulnerability analysis to plan and implement climate change adaptation efforts.

To strengthen Thailand's capacity to adapt to climate change risks, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH together with the Office of Natural Resources and Environmental Policy and Planning (ONEP) is currently implementing the project "Risk based National Adaptation Plan" (Risk-NAP). Of particular importance is the integration of climate risks into sectoral plans and policy instruments, ideally by identifying opportunities for mainstreaming climate change into existing or new policies and regulatory frameworks. Identifying suitable entry points will help to integrate climate change considerations into tourism policy, as well as enable decision-makers to adequately consider climate risks in policy-making processes.

The objective of this report is to analyse the policy framework in the Thai tourism sector to assess a suitable inclusion of Climate Change Adaptation (CCA) and climate risk considerations into policy making. More specifically, the task is to identify appropriate entry points for CCA into the policy framework, including institutional setup, existing policies and regulations, and commonly used tools or standards, in the Thai tourism sector. Attention will also be paid to budgeting and financing mechanisms.

1.2 Policy integration

Climate change poses multiple challenges to policy makers. Some impacts exacerbate existing risks, whereas others present new challenges that require different solutions. In some cases, transformative changes are required. Due to the complexity of climate change and the actions it demands, policymaking is becoming increasingly cross-sectoral and multi-level. Responses often require horizontal and vertical integration between agencies, and this puts new demands on policy development and governance structures (Mickwitz et al., 2009). Climate Policy Integration (CPI) refers to the "integration of multiple policy objectives, governance arrangements and policy processes related to climate change mitigation, adaptation and other policy domains" (Di Gregorio et al., 2017, p. 36).

For tourism policy to consider climate change is a major extension or shift. Traditionally, the objectives pursued by Tourism Ministries and Visitor Bureaus are to grow tourism, increase revenue and maximize economic benefits from the industry (Becken & Hay, 2012). Deeply anchored in the neoliberal growth paradigm, tourism agencies at national and international levels prioritise growth and fail to develop policies that effectively address climate change. Traditionally, policies that address

environmental problems have been developed and implemented by Ministries/Department of Environment or related organisations. However, this is changing, and countries are now beginning to address climate change across all levels and sectors.

Figure 1 provides a schematic illustration of policy integration for CCA. It shows some of the barriers and opportunities to integration across sectors as well as across scales. Efforts towards integration need to consider how different policies overlap and interact, and how they might be in conflict with each other (Serrao-Neumann et al., 2014). There could be synergies or trade-offs, and these need to be identified. Improved coordination between sectors and their policymaking is also likely to reduce the risk of maladaptation, that is adaptation that leads to negative (unwanted) consequences. For example, increased use of air conditioning leads to higher electricity use and carbon emissions, hence resulting in maladaptation.

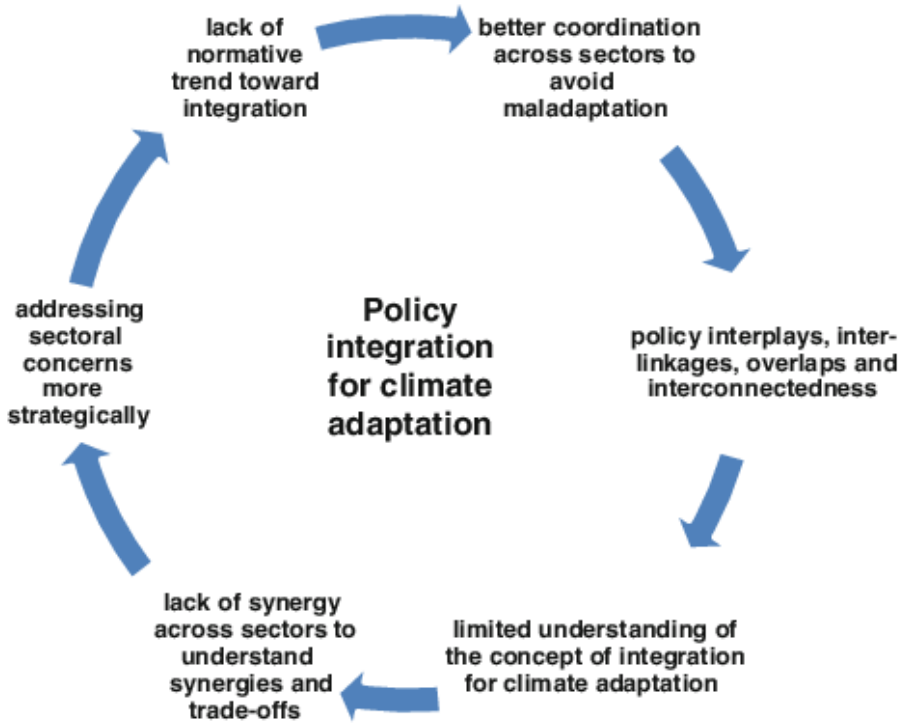

Figure 1 Challenges to policy integration (Source: Serrao-Neumann et al., 2014).

If climate change policy increasingly needs to bring together different sectors, stakeholders and scales (Mickwitz et al., 2009) and be more coordinated (Schmidt & Fleig, 2019), the question presents itself as to how tourism can become an active contributor in this process. Whilst tourism policymakers are, no doubt, increasingly aware of climate change and the risks and opportunities it might bring (Gössling & Scott, 2018), there is limited understanding of how this translates into policymaking. Whether tourism organisations need to develop their own climate policies or focus on responding to policies developed elsewhere is relatively new territory. To date, there is very little integration between climate and tourism policies (see Santos-Lacueva & González, 2019; Tam, 2019). This project provides an opportunity to advance this process for Thailand, but also serve as a case study for other countries that are interested in further developing climate policy integration.

1.3 Approach

This document has been prepared subsequently to the national-level CCRA presented in Becken et al. (2019). The examination of the tourism system and past or future climate impacts has already brought to the forefront the role that different institutions might play in developing future adaptation policy for tourism in Thailand. Also, existing policies have been identified that could be amended to give stronger consideration to climate change and tourism.

In addition to the research involved in preparing the risk assessment, the compilation of this report involved specific examination of relevant policy documents, both from the tourism domain and other relevant areas. Consultation with key stakeholders from the Thai Government helped identify most relevant documents. The various stakeholder meetings and workshops also informed this process. More specifically, a focus group on tourist dispersal, carrying capacity, and climate risk (4 June, 2019) and a meeting with representatives from the Ministry of Tourism and Sport, Department of Tourism and Designated Areas of Sustainable Tourism Administration (6 June, 2019) provided material for this report.

A draft of the report had been circulated amongst stakeholders to gather feedback and additional input.

2 Summary of the Climate Change Risk Assessment

The following chapter provides a summary of the CCRA findings and recommendations. Figure 2 presents the six steps that were followed to develop a national-level risk assessment (see earlier report, Becken et al., 2019), whereby Step 6 constitutes the core of this present report.

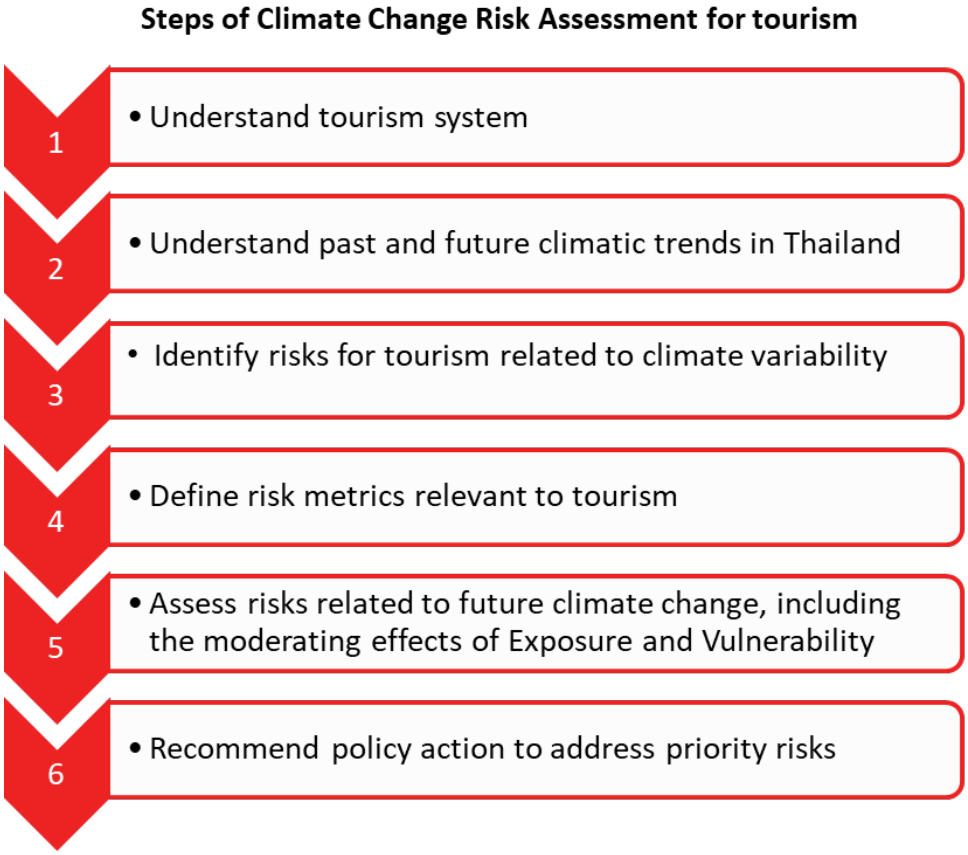

Figure 2 Six-step framework to develop a CCRA for Thai tourism (Source: Becken et al., 2019).

2.1 Thai Tourism System

The CCRA established that climate risks to Thailand's tourism system are driven by socio-economic, climatic, and geographic factors. Tourism is of critical importance to Thailand. In 2017, the sector provided 15.5% (5,834,000 jobs) of total employment in Thailand and contributed 21.2% (or USD 95.0bn) of the country's GDP (World Travel and Tourism Council, 2018). Figure 3 provides an overview of tourism in Thailand.

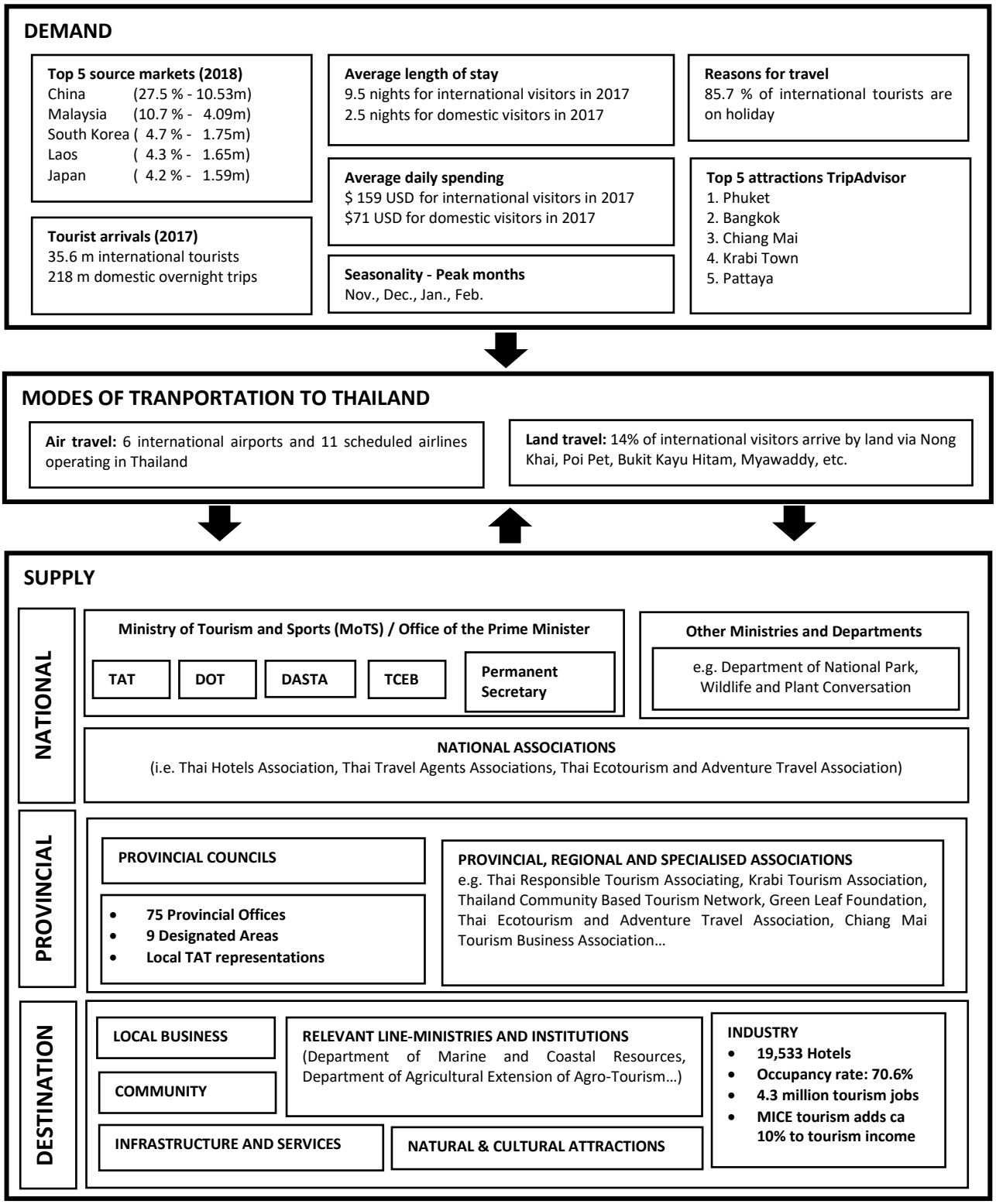

Figure 3 The Thai Tourism System.

An assessment of the tourism system in Thailand has brought to the forefront a number of drivers and challenges:

Growth and concentration: Tourism has seen a 485% increase between 1997 and 2017, reaching over 35 million visitors in 2017. Growth in arrivals is expected to reach 40 million in 2018. Tourism is highly

concentrated, namely in Thailand's South, Bangkok and Chiang Mai. The Government is now trying to disperse tourism to secondary destinations/ cities.

Development pressure in exposed coastal areas: The current development patterns in many shoreline destinations are likely to increase exposure to climate change hazards. Particularly islands face higher risks from climate change, as hazards are amplified through the siting of the increasing amounts of tourism infrastructure. In some destinations zoning plans have been developed to avoid construction of new tourism infrastructure in high risk areas, however, the implementation of such plans has often been undermined by tourism growth patterns. A coping strategy for enterprises located on the shoreline includes insurance coverage. Currently, there is no publicly available data base allowing a comprehensive analysis of number of insured hotels.

High dependence on international holiday market: Inbound tourism to Thailand has increased, particularly due to growing arrivals from East Asia and the Pacific. Visitor flows in Thailand are unevenly distributed, with a predominant preference of tourists for the 'beach and sun' tourism segment, offered by Thailand's island and coastlines in the south of the country. The share of package travellers is about 26% (experiencing a trend of slow decline). In 2015, 77% of total tourist arrivals visited the southern region, while only 1.4 million (5%) visited the northern region (Ministry of Tourism and Sports, 2017). There are attempts towards diversification of offered services and to attract higher spending guests, e.g. through a focus on medical and MICE tourism, as well as shifts towards higher class gastronomy and accommodations.

Increasing domestic tourism: As in most countries, domestic tourism far outweighs international tourism in terms of volume. In 2017, a total of 218 million visitors were recorded, which included 35.6m (around 16%) international arrivals, and domestic 182.4m arrivals, out of which 125.6m (57.6% of all visitors) were domestic overnight visitors. However, domestic travellers stay on average only around 2.5 days, whereas international tourists stay around 9.5 days. Similarly, the US$ spend per day of domestic travellers (US$71) was less than half of international travellers (US$159) in 2017. This explained the continued focus by Thailand's tourism authorities on international tourists. Regardless, when the volume is considered as well, domestic tourism becomes a defining force for most regions in Thailand. Thus, domestic marketing campaigns should be considered to influence domestic visitor flows, as well as to sensitise them about climate change induced risks.

Thailand 4.0: Thailand's is striving to become more technology and innovation driven as a nation in their development trajectory. In order to facilitate such a process, the current government introduced the concept of 'Thailand 4.0' as a paradigm towards boosting the quality of life. Thailand 4.0 targets, through different support programs, 10 key economic sectors and provides US$1 billion for research for 12,290 new PhD positions. The realisation of the aspirations outlined in the concept of Thailand 4.0 appears to be challenging but can enable a development pathway towards more digitalisation.

2.2 Climate risk profile of Thailand's tourism sector

The CCRA asked the question of risk 'of what' and 'to what'. Building on documented approaches in the literature, the values at risk for Thai tourism were identified as:

1. Economic benefits (i.e. development and employment)
2. Visitor comfort and safety
3. Destination competitiveness
4. Community well-being
5. Protection of physical and cultural assets, and infrastructure
6. Protection of natural assets and ecosystem services

As can be seen in Figure 4, these values are at risk from multiple climate hazards. These have caused substantial impacts in the past, resulting in economic damage, injuries and fatalities, as well as reputational impacts (see media coverage).

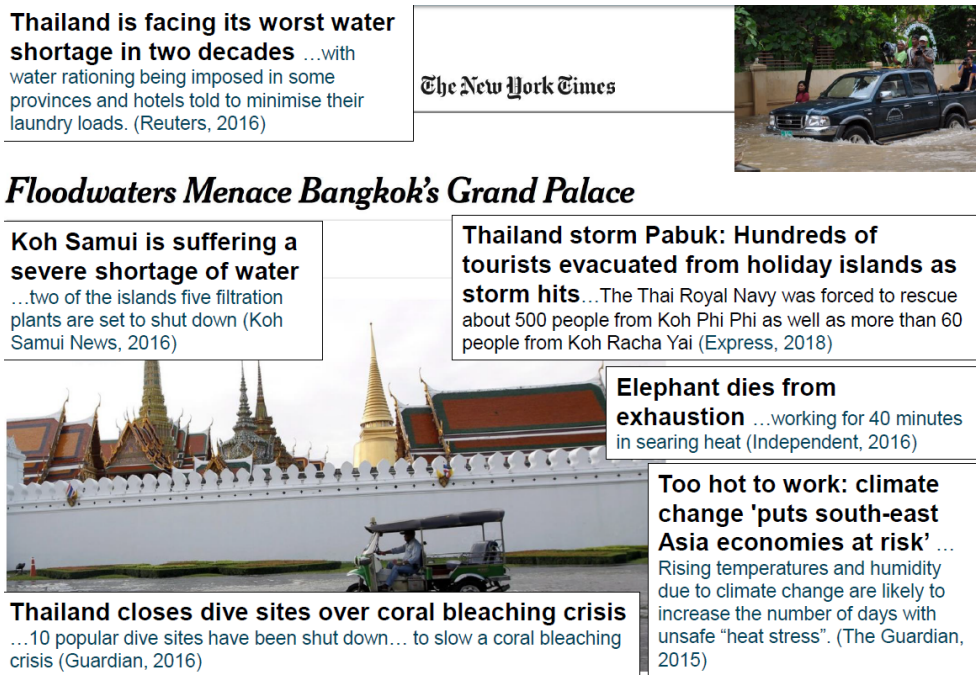

Figure 4 Exemplar media stories covering past climate impacts on Thai tourism.

The CCRA assessed observed and projected changes of key climatic variables. It also collected valuable information from tourism stakeholders and the literature. The wide range of risks and impacts can be condensed into five risk priorities, and these are geographically unevenly distributed (Figure 5). The main risks are:

1. Increased likelihood of **extreme precipitation events will lead to more flooding**, especially in the North, Northeast, and Central regions of Thailand;
2. **Hotter temperatures will reduce visitor comfort**, and potentially health, and may reduce destination competitiveness (esp. in combination with air pollution);
3. **Warmer water temperatures and acidification make coral bleaching events increasingly**

likely and impactful. This has major implications for those destinations that depend on marine tourism;

4. **Increased risk of drought will put pressure on tourism businesses** to become more water efficient; and
5. **Sea level rise and beach erosion** will affect destination competitiveness.
6. Whilst more detailed regional risk assessments should follow the national-level assessment, the CCRA made an attempt to summarise risks by region. Figure 5 provides an overview of key hazards and some elements of exposure and vulnerability.

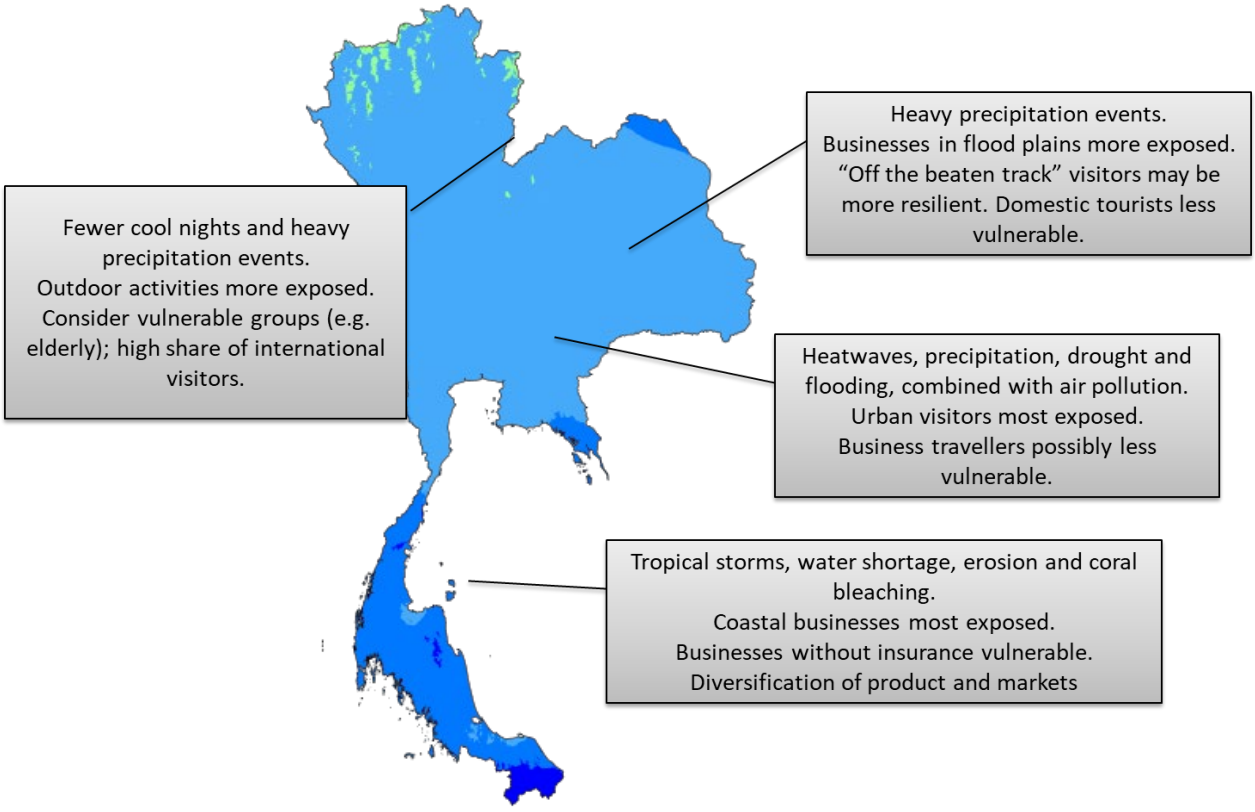

Figure 5 Regional overview of risks from climate change to tourism in Thailand (overplayed on a map of climate zones in Thailand).

2.3 Recommendations

The CCRA made three recommendations to address the most important data and knowledge gaps. These were:

1. Understanding key temporal and spatial dimensions of the tourism system: this involves, amongst others, a survey of visitors to Thailand (ideally domestic tourists included) designed to collect information on itineraries and activities;
2. Subnational level climate change risk assessments: this should be conducted for tourism

hotspots at a regional or destination level. Potential scope of such assessments could cover Bangkok, Phang Nga Bay, Mu Ko Chumphon Archipelago, Mu Ko Chang National Park, Andaman Coast, or Gulf of Thailand. Regional or destination level assessments are able to provide more detail on hazards, as well as on factors shaping context-specific vulnerabilities and exposures. Several tools are available for such assessments and these have been shared with stakeholders; and

3. Targeting one pilot destination as a case study site: Undertaking a comprehensive assessment of one pilot destination (e.g. one of the 55 secondary destinations promoted to diversify visitor flows) will help to not only understand local risks, but also map existing policy and governance arrangements. This would be important to identify suitable adaptation options.

Finally, the CCRA concluded with ten recommendations. These were:

- Rapidly improve the sustainability of tourism generally to reduce pressure on social and environmental systems. This will increase adaptive capacity to future climate risks;
- Work with other Government agencies to identify unsustainable practices that increase the exposure and vulnerability of tourism, and advocate for changes in policy and practice;
- Identify partnerships (across government, with private sector, and other organisations) to carve out win-win opportunities for climate risk management and adaptation;
- Explore finance mechanisms for climate change adaptation and address data gaps on the business case of particular adaptation measures. Long time frames should be considered;
- Invest in robust tourism statistics on regional visitation patterns by both international and domestic visitors;
- A survey of tourists with regards to their perceptions of safety and comfort (e.g. air pollution, heatwave) will help determine critical thresholds;
- Ensure that tourism strategies (e.g. diversification, dispersal) take into account changes in climate risk and product/destination competitiveness;
- Develop a destination-based risk assessment to illustrate how tourism planning and policy need to incorporate projected changes in climate risk at a local level;
- Building on this CCRA, invest into further work on identifying, assessing and costing a portfolio of adaptation pathways and measures; and
- When communicating to tourism stakeholders, frame climate adaptation as being part of ‘good practice’, long-term planning and business competitiveness, rather than it being an additional and separate task.

3 International case studies

This section provides examples of policy making in the tourism sector relevant to addressing climate change. The interface of climate change and tourism policy is a relatively new area. Earlier research found that evidence is limited, maybe because of tourism's fragmented nature, limited capacity and awareness to address climate change (Santos-Lacueva & González, 2019), and complications related to scope and mandates (Becken & Clapcott, 2011; Wong et al., 2013). An earlier analysis of the extent of climate change coverage in tourism policy in OECD countries showed limited inclusion (OECD & UNEP, 2011). The report suggests that decarbonising tourism is largely the responsibility of Governments, because national-level instruments are likely to be most effective (e.g. taxes). The OECD and UNEP report also investigated consideration of climate change adaptation in tourism policies but found that most countries had not developed specific policies to this effect.

Comparing climate change and tourism policies in Sri Lanka, Tam (2019) noted that, whilst climate change policies gave a relatively high priority to tourism, the Tourism Strategic Plan essentially ignored climate risks. She concluded that "*the issue of climate change appears to be distant to the tourism sector due to uncertainty and lack of awareness and sector specific information about climate change impacts, lack of coordination and collaboration within tourism institutions, and the short-term focus of businesses in their planning cycle*" (p. 70). Possibly, integrating tourism and climate policy is not always in the interest of tourism policymakers, especially when there are conflicts with established goals such as increases in arrivals and foreign investment (especially in exposed coastal areas).

Nevertheless, an earlier assessment of tourism policies and strategies in Australia established that the existence of robust national government policy frameworks for climate change was more likely to lead to bespoke activity in the tourism sector (Zeppel & Beaumont, 2011). More recent work by Moyle et al. (2018) considered policymaking between 2000 and 2014 and confirmed that wider political environments influence the level to which tourism organisations engage in climate change. Out of 477 tourism policy and planning documents developed by various Australian government agencies, only 21% included climate change. The Australian example shows that climate policy integration in the tourism domain is still in its infancy and vulnerable to political changes.

Policy is about a set of priorities, discourses, and actions taken by governments in conjunction with other actors to achieve certain outcomes. Policies in the broader sense include strategies, frameworks, and action plans – and these in turn are supported by a range of policy instruments that are used to implement the policy. Figure 6 below presents an overview of policy instruments used in tourism (UNEP, 2019).

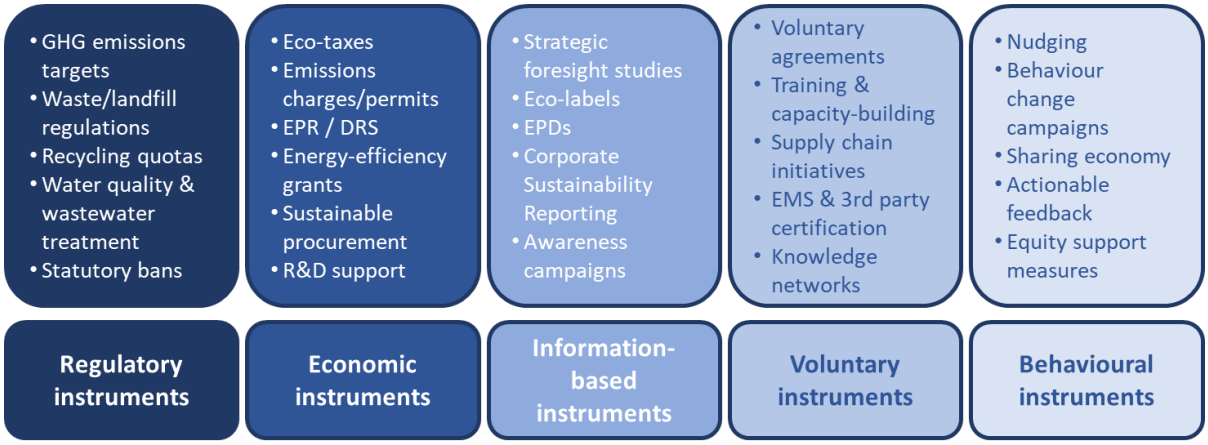

Figure 6 Overview of potential instruments to implement climate policy in tourism (Source: UNEP, 2019).

3.1 Dominican Republic: resource efficiency in the value chain

The "*Roadmap for Low Carbon and Resource Efficient Accommodation in the Dominican Republic*" is an excellent example of a cross-sectoral approach to improve environmental performance in tourism (WRAP et al., 2019). Characterised by a high share of coastal tourism, the Dominican Republic recognises the climate risks tourism represents to tourism. Its government has committed to support the UNFCCC in their fight against climate change. This particular roadmap focuses on climate change mitigation and brings together a range of stakeholders, namely the Ministry of Environment and Natural Resources, the Ministry of Tourism, the Hotel Association of Playa Dorada, the National Council on Climate Change and the Ministry of Industry and Commerce.

The roadmap is a guide that provides the strategic vision for a tourism sector that acts more responsibly, and drives sustainable development, including through reducing greenhouse gas emissions and increasing resilience. It clearly specifies the role and mandate of organisations involved in the process, and articulates how new initiatives link to existing policies (Figure 7). The document specifies:

> *"The purpose of this roadmap is to provide a strategic plan to reduce GHG emissions and improve resource efficiency in the Dominican Republic, focusing on the accommodation sector and its value chains. It translates 'a vision' into actionable goals and activities over an agreed timeframe."*

Furthermore, a monitoring framework is provided whereby key areas of action (e.g. greenhouse gases or food waste) are mapped against targets and indicators, but also – importantly – who is responsible for data collection and reporting. For example, hotels are responsible to measure their energy use and emissions and then validate these against national accounts.

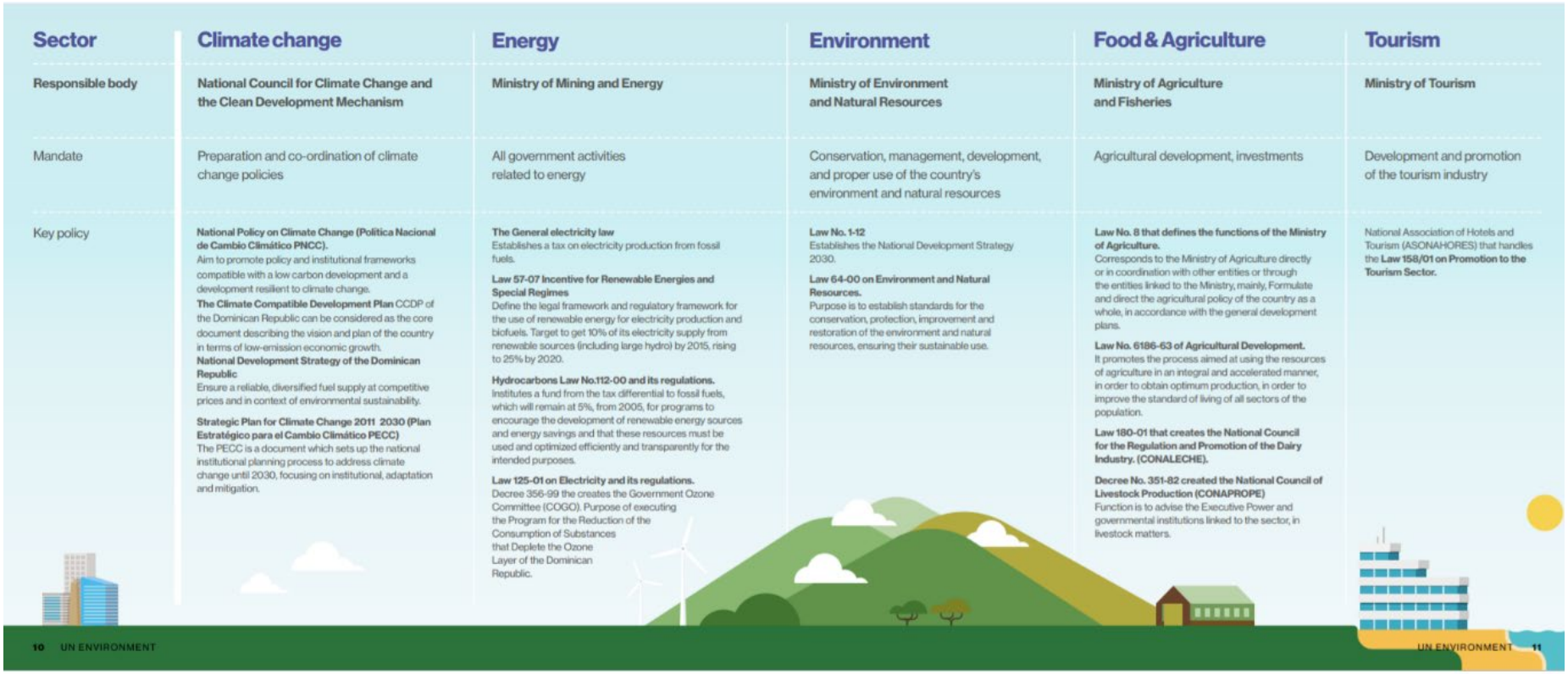

Figure 7 Institutional mapping for the Dominican Republic and its roadmap to decarbonise tourism and increase resilience (Source: WRAP et al., 2019).

3.2 Whistler: Vulnerability assessment and adaptation plan

The Resort Municipality of Whistler has developed a "*Community Energy and Climate Action Plan*" (2016) that details the community's strategy and action on climate change. It covers both mitigation and adaptation. The second part of the plan presents a vulnerability and risk assessment of potential impacts related to the most important forecasted climate changes (3 types of hazards). Following a risk prioritisation process with stakeholders, a detailed plan with policies and actions was developed. Importantly, resources, timeframes and leadership were clearly identified to ensure effective implementation (Figure 8).

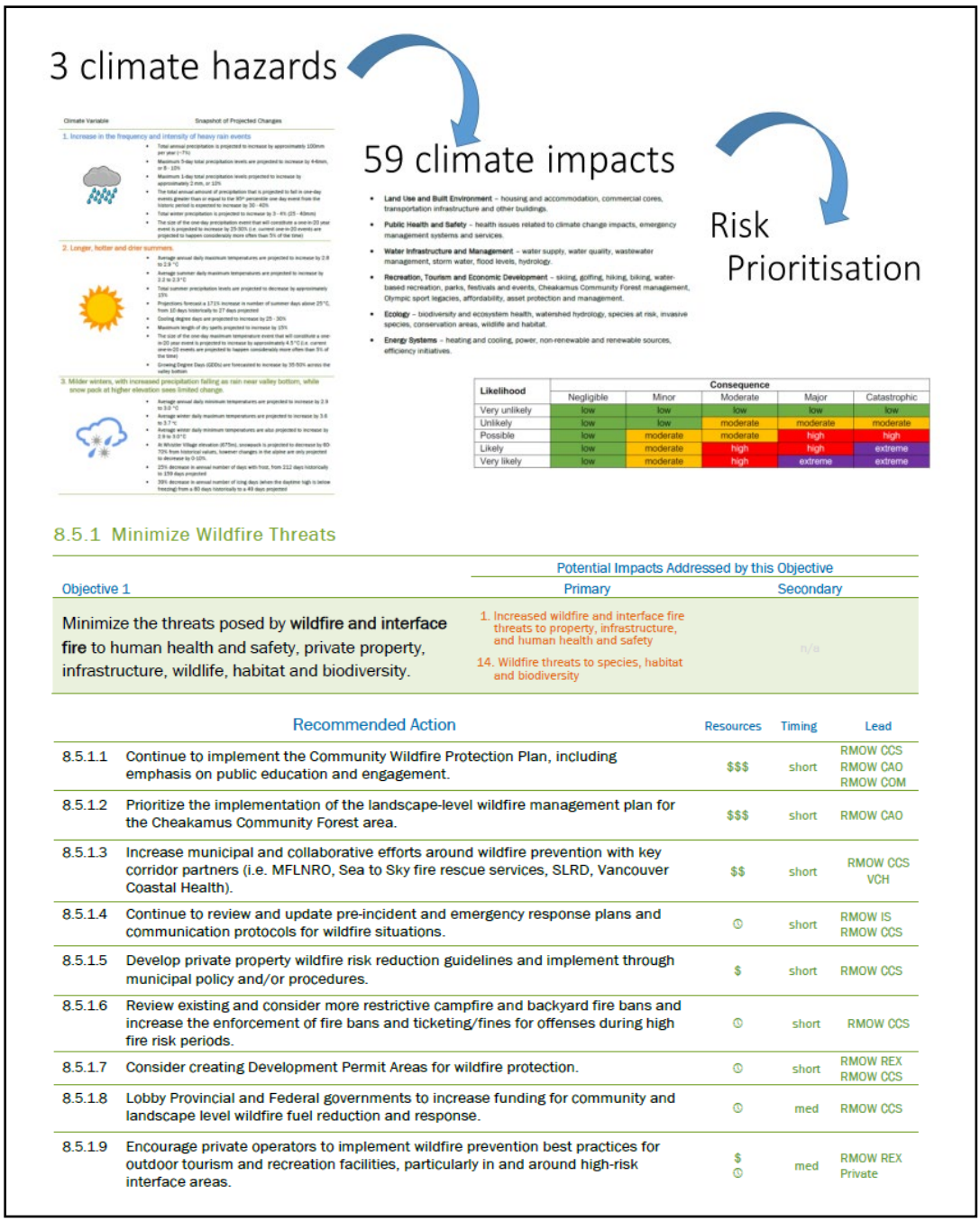

Figure 8 Whistler, Canada: a risk assessment led to a detailed strategy and action plan.

3.3 Queensland, Australia: Climate Change Response Plan

The State of Queensland has developed a policy framework that required the development of several detailed "Sector Adaptation Plans". One of these priority sectors is tourism, and the "*Building a resilient tourism industry: Queensland Tourism Climate Change Response Plan*" has been developed as a public-private partnership to ensure industry buy-in and government support. The plan provides a roadmap for the tourism industry to respond proactively to climate change. It also acknowledged that tourism considers itself to be a steward for the environment (e.g. to protect the Great Barrier Reef) and a key contributor to community wellbeing (e.g. to create jobs in communities).

The vision was built of six building blocks, and these were derived in a collaborative and participatory approach. This involves several steps, including a situation analysis, risk assessment, risk prioritisation and gap analysis. Finally, a detailed action plan was developed with stakeholder support.

The plan acknowledged that not all tourism sub-sectors and destinations are equally impacted by climate change. The highest priority risks related to extreme weather events (cyclones and flooding) and the impacts they have on both natural assets (e.g. beaches, coral reefs, trees) and built infrastructure. Heatwaves and sea-level rise were also recognised as major risks. Biodiversity loss and ocean acidification were of major concern to tourism stakeholders, especially those depending on Reef-based tourism in the Great Barrier Reef region.

The plan provided an assessment of existing policy and tools available to tourism. In particular, it became clear that the wider policy changes in the Queensland Government are supporting tourism resilience and decarbonisation. To benefit from these policies, the tourism sector needs to connect proactively to other policy domains and sectors. Figure 9 shows how 'Tourism' is surrounded by other government policies.

Several gaps and barriers to developing tourism sector climate responses were identified in the process of developing the plan. These relate to a lack of specific, limited resources and capacity in the tourism industry, and the need for additional (tourism specific) tools and support systems. Some stakeholders specifically mentioned the need to better communicate knowledge or develop and share a joint industry position on particular climate risks and opportunities. Better communicating tourism's role as a critical economic sector and 'community builder' was seen as important, particularly in relation to securing government support for small businesses. The plan states that Insufficient resources and limited investment options to consider, develop and implement climate change responses are major barriers. Existing schemes and funds may not support climate resilience, and green bonds or specific climate bonds are only suited for large-scale projects over a longer timeframe. Thus, existing finance options are often not suitable for smaller tourism businesses.

Figure 9 Tourism is part of a wider 'policy system' and can benefit from investments and initiatives driven by other parts of Government (Source: Becken et al., 2018).

The plan will be delivered under the leadership of the Queensland Tourism Industry Council, with high levels of cooperation and shared responsibility with other agencies. Actions cover the six priority building blocks, including for example community wellbeing and environmental sustainability. Implementation is governed by a permanent steering committee and an evaluation and monitoring framework will be developed and aligned with Queensland-wide targets.

3.4 Samoa: National Tourism Climate Change Strategy Samoa

The *National Tourism Climate Change Strategy Samoa (2012-2017)* is a leading example of a national plan that was specifically developed to address the climate risks for tourism. Several core principles underpin the strategy (Figure 10).

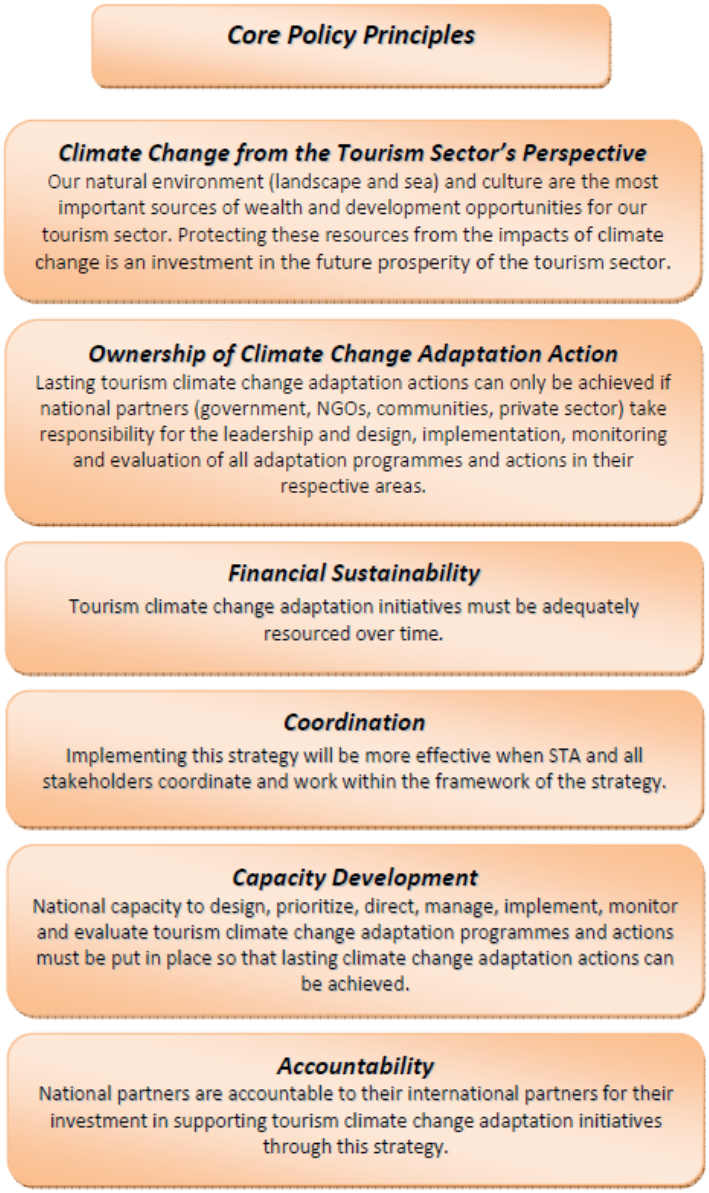

Figure 10 Core principles underpinning Samoa's strategy for climate change developed for the tourism sector (Source: Samoa Tourism Authority, 2012).

Funded through an Australian Aid grant and executed through the Ministry of Natural Resources and Environment and the Samoa Tourism Authority, the strategy articulates six objectives:

1. Increase the resilience of the tourism sector to climate change impacts through the implementation of immediate adaptation measures.
2. Enhance the resilience of tourist facilities and infrastructure including key resource supply (food, water, electricity) to the impacts of Climate Change.
3. Increase the resilience of the tourism sector to the impacts of climate change through mainstreaming climate risks into tourism related policy instruments.
4. Strengthen human capacity to identify, analyse, implement, monitor and evaluate cost-effective mitigation and adaptation measures.
5. Raise awareness at the national, sector and community levels about the need to promote and

support climate change adaptation measures.

6. Develop sustainable financing mechanisms in support of tourism climate change adaptation actions nation-wide

The strategy provides detailed information on indicators for monitoring and evaluation, including for example, number of tourist operations damaged annually by climate related disasters (as % of total number of operations) and the economic losses due to climate related disasters as percentage of GDP. The strategy links to community resilience and sets a target for "*climate sensitive investment initiatives using state-of- the-art climate risk information and risk management approaches"*.

3.5 Maldives: Master Plans and Green Tax

Like most destinations, the Maldives is planning for considerable growth in tourism. The strategic goal is to spread tourism across multiple hubs, beyond the main tourist area around Male and neighbouring atolls. Figure 11 shows the 1984 development concept proposed from the country's first Tourism Master Plan, its evolution to the 2012 spread of tourism and the vision for 2020 under a high growth scenario (Ministry of Tourism Arts & Culture, 2013).

At the same time, the *4th Masterplan* (Strategy 2.5.) recognises the need to implement a climate change adaptation programme for the tourism industry. More specifically, the document states:

> *"The Maldives is considered one of the most vulnerable countries to predicted global climate change and its long-term survival has been questioned. In the medium term, impacts could include: seas may frequently inundate low lying islands; sea surface temperatures combined with sea level rise may affect the growth of corals and their natural adaptation abilities; and increasing severe weather may affect the ideal climatic conditions in Maldives. The tourism sector has been identified as being particularly vulnerable since resort islands are generally small, geomorphologically unstable, depend on healthy coral reefs and much of their infrastructure is located within 100 m of the shoreline. Climate change adaptation has been identified as a national priority and the time is right to initiate a long term programme for adaptation in the tourism sector."*

Tourism is recognised in the *Maldives' Intended Nationally Determined Contribution (2015)* and the *Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation 2010- 2020*, indicating some level of policy integration between tourism and climate change.

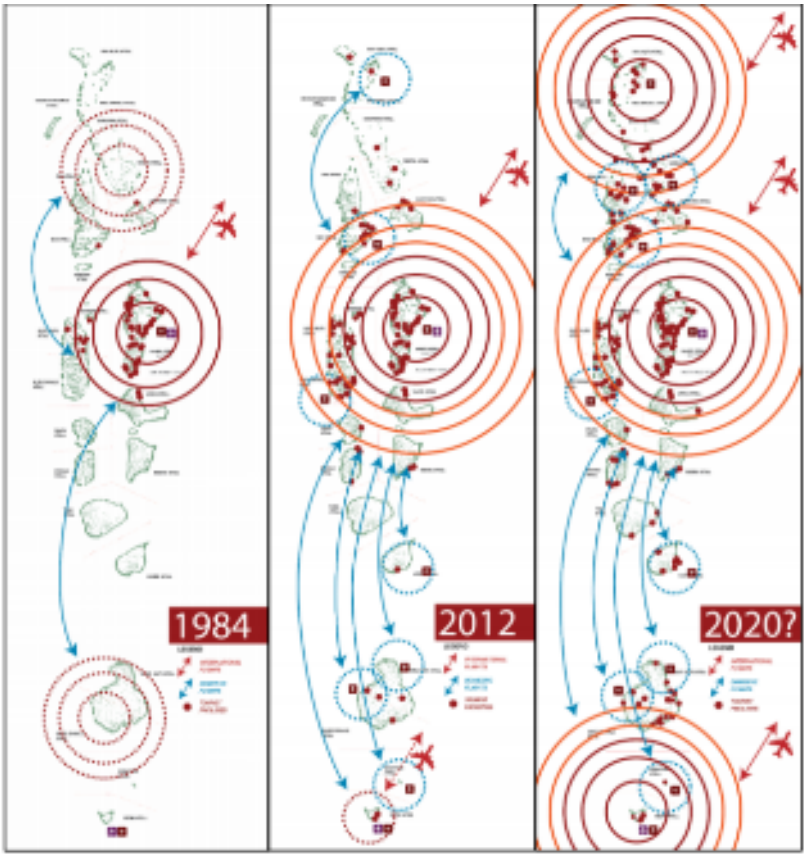

Figure 11 Dispersal of tourism in the Maldives between 1984 and 2020 (projected) (Source: Maldives Ministry of Tourism Arts & Culture, 2013).

Financing sustainable tourism and climate adaptation is a critical component of implementation. In 2015 the Government of the Maldives enacted a 'Green Tax', which generated revenues can support to finance climate change adaptation (Maldives Inland Revenue Authority, 2018). All tourist hotels, resorts, and vessels must charge a green tax from tourists at a rate of US$6 per day. Parts of the funding can be utilised to fund a green growth agenda of the government and help the island nation to cope with ever-increased climate change induced risks, for example posed through sea level rise and coral bleaching, threatening their tourism industry.

4 Institutional arrangements in Thailand

This chapter provides an overview of the institutional framework of relevance to Thailand's tourism sector, as well as key public entities mandated to develop Thailand's climate change response strategies. The chapters indicate which roles and mandates the different public and private actors have and in which they might be relevant to act upon climate change.

4.1 Tourism organisations

Several government organisations are tasked with managing elements of tourism. Figure 12 provides a broad overview of the key players in the Thai tourism system. The organisations are explained in more detail below and a summary of functions and potential levers for mainstreaming climate change is presented in Table 1 further below. Note that a recent re-structuring has moved DASTA under the Ministry of Tourism and Sports, but this is work in progress and the final arrangements, including budget, are still being finalised. Overall, such a move could improve linkages between the various tourism bodies within Government, but it could also increase administrative processes for DASTA, which was previously a stand-alone entity with relatively slim structures. Extending the 9 destinations to cover all 9 clusters provides positive potential.

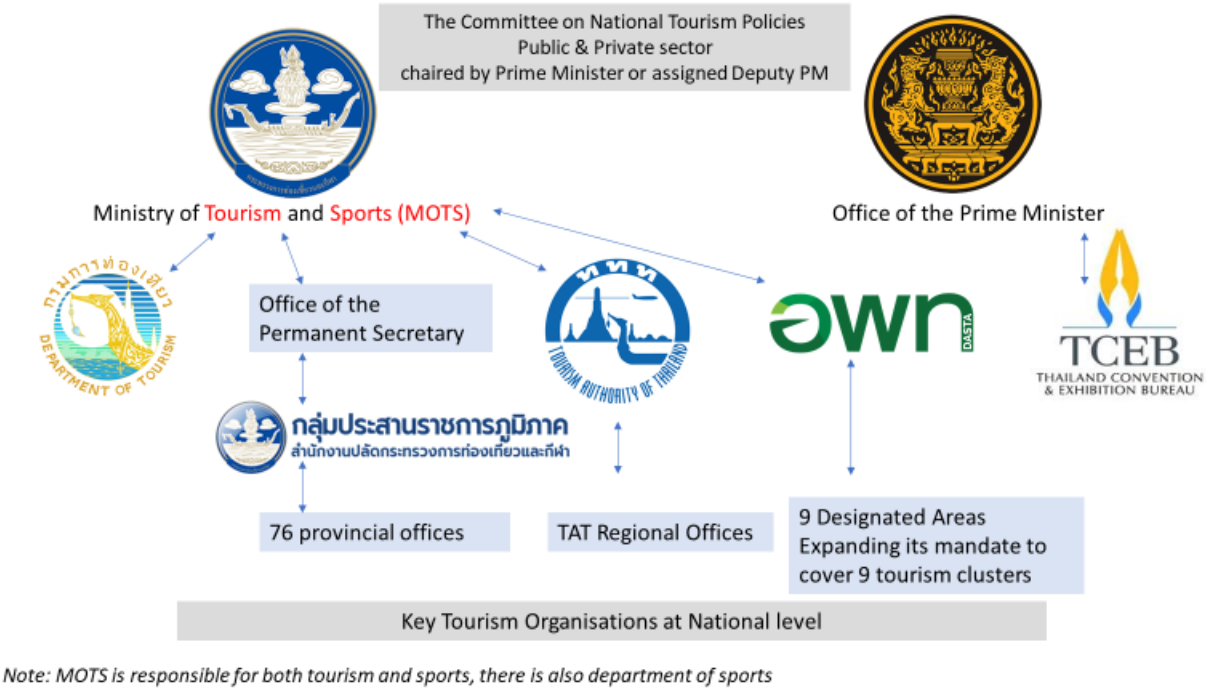

Figure 12 Overview of public sector tourism organisations.

Office of Permanent Secretary, Ministry of Tourism and Sports (MOTS): MOTS is responsible to promote and develop tourism, sports, education, and recreation. Their mandate includes to set policy and strategic plans for development that is in line with national development (i.e. *Thailand's Strategic Plan 20 years*) and helps to promote, support, develop, and encourage implementation of tourism, sports, and recreation policy. International Cooperation on frameworks/plans, including ASEAN,

IMTGT, GMS, and UNWTO, forms part of this. Addressing climate change as a strategic risk falls directly into the mandate of MOTS and their long-term planning.

MOTS also set a guideline for resource allocation to support all sections, including for infrastructure development and capacity development, human resources and the development of information/ management systems, including the Tourism Intelligence Centre (tourism statistics and research). Tourism statistics will be of central importance to addressing climate risk. The Office of Tourism and Sports has representation in 77 provinces; and this is not only relevant for implementation but also for collection information and data, and for training tourism officials in the region.

Department of Tourism (DoT): DoT are managing the tourism supply side and are responsible for the development of tourism services and attractions, tourism standards and they run the Licensing Centre for travel agencies and tour guides. Also, DoT promote Thailand as a location for filming, and they build capacity of tourism workforce. DoT has no representation at sub-national level. Tourism standards could/should consider sustainability and climate risk.

Designated Areas for Sustainable Tourism Administration (DASTA): DASTA was created to enhance coordination for integrated administration of and to manage key tourism clusters in a sustainable manner. Each of these designated areas has been a tourism lab where sustainable management model and approach are implemented as a learning site. Three key components of DASTA strategies are: i) community-based approach, ii) creative tourism, and iii) low carbon destination management.

DASTA formulate policies and administrative plans for designated areas for sustainable tourism, coordinating with other parts of government. DASTA has a representation in Bangkok as well as at destination level so to maximise cooperation towards the development of tourist destinations in designated areas in a sustainable manner. Existing programs include capacity building activities, DASTA Academy, pilot projects, and working closely with Global Sustainable Tourism Council on sustainability standards. Recently, DASTA expanded from 13 communities to over 100 communities, amongst others to share the community-based tourism (CBT) development model.

Tourism Authority Thailand (TAT): TAT is the national tourism board of Thailand responsible for marketing the country as a tourist destination. This also involves some aspects of tourism product development. TAT's role is to promote the tourism industry to be an important instrument in addressing the country's economic problems, creating jobs for people as well as increasing income for the country and improving quality of life in all regions of Thailand. The focus of marketing strategies is to attract high quality tourists to Thailand, as well as to encourage domestic tourism. Both of these mandates are linked to managing climate responses, both in terms of mitigation and adaptation.

TAT promotes cooperation at all levels, both domestically and internationally, and seeks to enhance organizational capacity and help build human resources and capacity in the sector. Another mandate is to accelerate the development of a digitally based tourism technological system. E-tourism, electronic commerce and information technology in marketing need to be employed with the appropriate mechanisms of protection in place. There is opportunity to use Thailand 4.0 as a vehicle for climate responses. TAT has its head office in Bangkok and regional offices across the country.

Table 1 Overview of tourism organisations in Government

Organi-sation	Purpose	Perspective on climate change	Leverage for mainstreaming climate change
MOTS	Strategic planning, policy, international collaboration, tourism intelligence	Not core	Reference to sustainable development and resilience in National Strategy
DOT	Management of supply side	Not core	Standards for businesses to include climate risk and climate proofing
TAT	Promoting Thailand as a destination	Not core	Promoting regional tourism in less risky areas; promoting businesses that have climate proofed; supporting visitor safety (e.g. climate services)
DASTA	Policies and administrative plans for designated areas for sustainable tourism	Low-carbon tourism is one pillar	DASTA regions as pilot for adaptation; CBT standard already contains climate risks – implementation will enhance adaptive capacity

4.2 Related institutions

Department of National Parks, Wildlife and Plant Conservation (DNP): This Department sits under the Ministry of Natural Resources and Environment (MONRE) and contains Office of National Park (NPD). NPD are responsible for managing 82 national parks, both terrestrial and marine. The NPD consists of eleven sub-divisions: expert burea; administration; planning; resource conservation; resource management; tourism management and recreation; development; research and innovation development; marine national park management; rescue; and vigilance centre[1]. A National Park Committee comprises of representatives from other government agencies, including the Department of Tourism – indicating opportunity for policy integration. More specifically, according to Section 10 of the National Park Act B.E. 2562, the Committee comprises of:

- MoNRE Minister (chair)
- MoNRE Perm. Sec (vice chair)
- Ministry of Agriculture and Cooperatives (MoAC) Perm. Sec
- Department of Provincial Administration (DOPA) Director General
- **Department of Tourism (DOT) DG**
- Department of Royal Forest DG
- Department of Marine and Coastal Resources (DMCR) DG
- Department of Lands DG
- ONEP Secretary General
- And other qualified experts not more than 7 people

[1] Source: http://portal.dnp.go.th/Content/nationalpark?contentId=11634

Climate change will significantly impact natural assets (e.g. coral reefs) and managing these effectively is of great importance to the ongoing success of tourism. One of the tasks of DNP is to manage the impacts of climate change on natural resources and to ensure resilience of ecosystems.

Fine Arts Department: Situated within the Ministry of Culture, the Department of Fine Arts takes care of historical sites and parks. The focus is on cultural heritage conservation. Events over the last years, including flooding amongst others, have made it clear that cultural heritage is exposed to various climate hazards. Climate change is therefore a concern for the Fine Arts Department.

Department of Marine and Costal Resources: The DMCR is in charge of resource management of marine and coastal flora and fauna. This includes a range of ecosystems that are relevant for tourism, including mangrove forests, coral reefs, seagrass beds. The DMCR is therefore responsible for most beaches and island and is centrally important to tourism planning but also climate risk management. The key mandate of this Department is conservation and rehabilitation initiatives.

4.3 Central versus local governance

4.3.1 Overview of institutions

In addition to the subnational level offices of MOTS, DASTA, TAT, and DNP, there are several levels of government and organisations at the Provincial Level of importance to tourism governance (Figure 13). The PAO, for example, performs many functions on behalf of the national government (under the Ministry of Interior) to support local administrations by constructing and maintaining local roads, providing water and other services to residents. Understanding the structure of local governments provides an opportunity for an improved bottom-up approach to climate change.

At the provincial level, a governor, who is a permanent civil servant under the Ministry of Interior, is appointed to facilitate and coordinate public programmes amongst various central and local government agencies. Under this administrative structure, Thailand evolved into a centralised administration with a strong national government. Until today, these structures of the centralised administration have remained a dominant feature of Thai governance culture that is difficult to change. In such a situation, a top-down approach for a policy entry point will be more effective particularly in the first phase of mainstreaming climate change initiatives.

The development of local governance has been slow. In 1955 and 1956, the Provincial Council and the Sub-district (or Tambon) Council were created at the provincial and tambon levels respectively. One of the main reasons for this procedure was to promote and prepare local communities for a self-governing system. Since then, an attempt to decentralise power to provincial and tambon levels has been enduring, with a history of several uprisings and growing opposition to centralisation and bureaucratic rules.

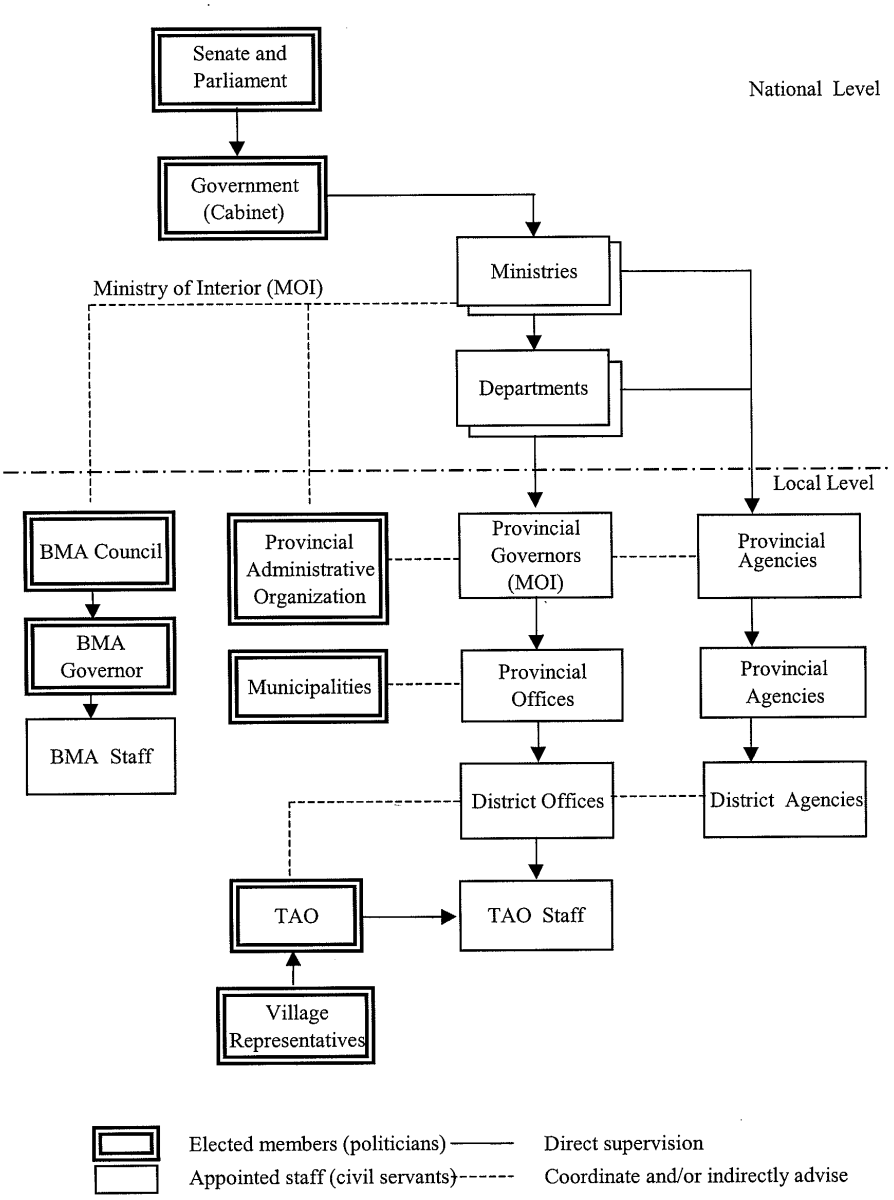

Figure 13 Overview of regional political space.

The formalisation of the *Tambon Council and Tambon Administration Act 1994* and a national Constitution of 1997 and the most recent one of 2017 have been enacted. As a result, governance and administration particularly at local levels have been modified. The current government structure is shown in Figure 13 above. Generally, there has been no significant change made to the structure of government at the national level. Presently, the cabinet is responsible for the administration of all ministries, as well as the Office of the Prime Minister.

Each ministry is headed by a minister with one or more deputy ministers, all of whom sit in the cabinet. A number of cabinet committees have been set up consisting of relevant ministers, such as the Cabinet Economic Committee and the Cabinet Social Committee, to coordinate major policies initiatives. This development enables the government to ensure that policy is compatible across portfolios.

The 1997 constitution was aimed specifically at providing a decentralised policy framework. Thus, an

important objective of the decentralisation is to reform local government. Currently there are four types of local government in Thailand;

- Provincial Administrative Organisations (PAOs);
- Municipalities;
- Tambon Administrative Organisations (TAOs); and
- Two special forms of city governance, namely the Bangkok Metropolitan Administration (BMA) and the Pattaya Administration.

Municipalities occupy urbanized areas. They perform many functions to provide essential services to residents, such as development of public infrastructure and local economies, provide public services, manage natural resources and the environment in their jurisdictions. They also promote education, sport, cultures, and local knowledge.

To date, there remains widespread argument and confusion about the scope and areas of responsibility for the local government bodies, especially with regard to Tambon Administrative Organisations (TAOs) as well as to the traditional structure of the central system. These created local authorities such as the PAOS and TAOs still control very limited resources and their policies and plans are not free from central political controls.

4.3.2 Implications for Tourism and Climate Change Adaptation

Several enactments of laws and regulations created a new framework for restructuring national and local governance and for the reform of electoral and political processes. The long enduring process of reforms described above specifically required decentralisation and public participation, which have provided a new set of implications for tourism management at local levels. In principle, these can be summarised in three areas, as follows:

1. Organisation and Administration. Local authorities have the freedom to manage tourism development and provide public services according to the needs of their constituents in the local community. This means local authorities could create a tourism organisation within their administrative system, which oversees directly the formulation and implementation of tourism development plans, personnel policy, as well as tourism budget and financial policy for their communities. In practice, local government receives very limited budget which is insufficient for their expanded lines of responsibilities. Most of their budget allocations are spent on basic infrastructure and services to the residents (e.g. road, water, power, education, recreation services).

2. Duties and Responsibilities. The local authorities are responsible for tourism development and the conservation of tourism natural resources and environments in their local community. A Provincial and local plan is formulated every 5 years (2017-2021). This plan stipulates long-term strategies; and both tourism development and environmental management are included. If implemented effectively, such a plan will have a significant impact on the inclusion of climate change risks and adaptation, conserving and managing tourism resources in a more integrated and sustainable manner.

3. Public Participation. The Constitution indicates that people in local communities can monitor, control and oversee the results and performance of the local administration. It is the central and local

governments' duty to promote public participation in community development. For an approval of any proposed tourism project within the community, the project manager should be able to demonstrate that public participation hasoccurred. Based on this approach, much more consultation with community must be encouraged than has ever been the case previously. If public officials or organisations fail to perform their authorised duties, they may be sued by the local people as allowed by the Constitution. Furthermore, a total of 75 percent of the people who voted can impeach any local officials, and 50 percent of registered voters can propose a new community regulation.

The *Twelfth National Economic and Social Development Plan (2017-2021)* focuses on better distribution of wealth, emphasising regional planning and a cluster or area-based development approach. This new focus is in transition and presents a significant shift in the policy making, and potential policy entry points for climate change adaption at regional and local levels. There are eight tourism clusters plus one additional cluster – a group of islands in the South (under process of receiving approval). The clusters are shown in Figure 14. Working with Provincial Administration Organisations (PAOs) and Municipalities to integrating climate change adaptation into this area-based planning presents an important opportunity for integrating climate change into policy making. Tourism-specific planning needs to integrate with broader land use planning. With regards to climate change and resilience, the Department of Public Works and Town and Country Planning (DPT) is taking the lead. Recently a new Town and Country Planning Act B.E. 2562 was approved, which might provide new opportunities to integrate climate change into planning. The spatial planning system of Thailand is summarised in Figure 15.

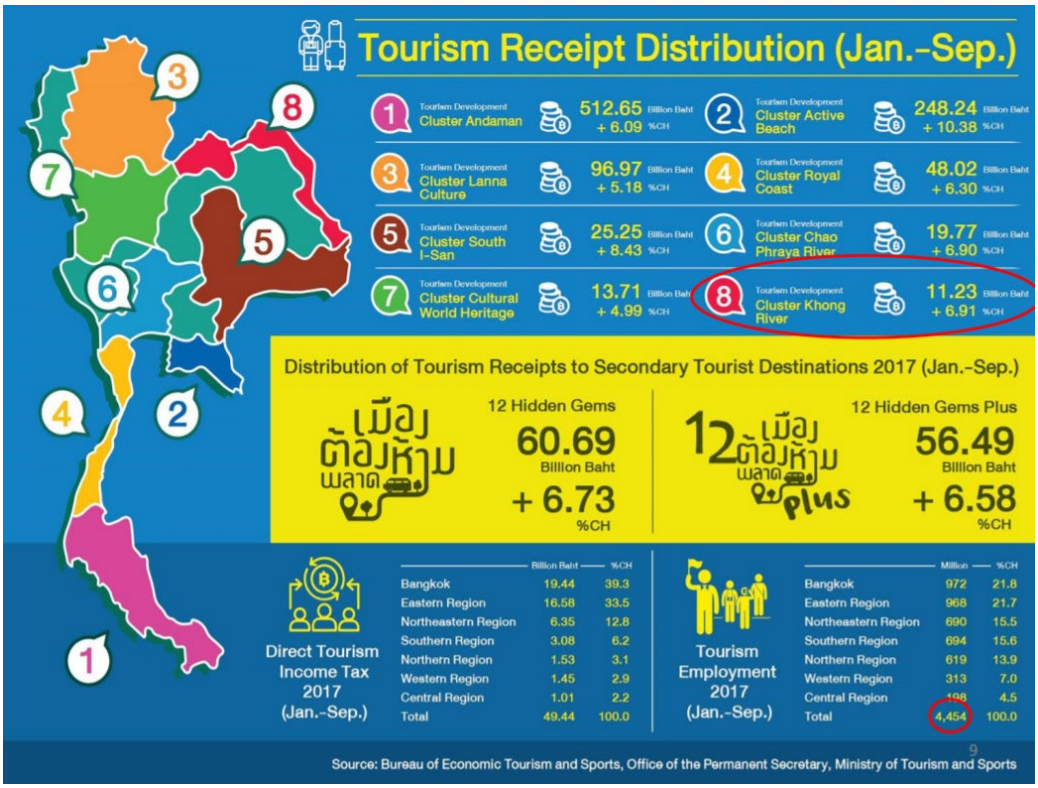

Figure 14 Tourism clusters (secondary cities 1st phase) (Source: MOTS, 2018).

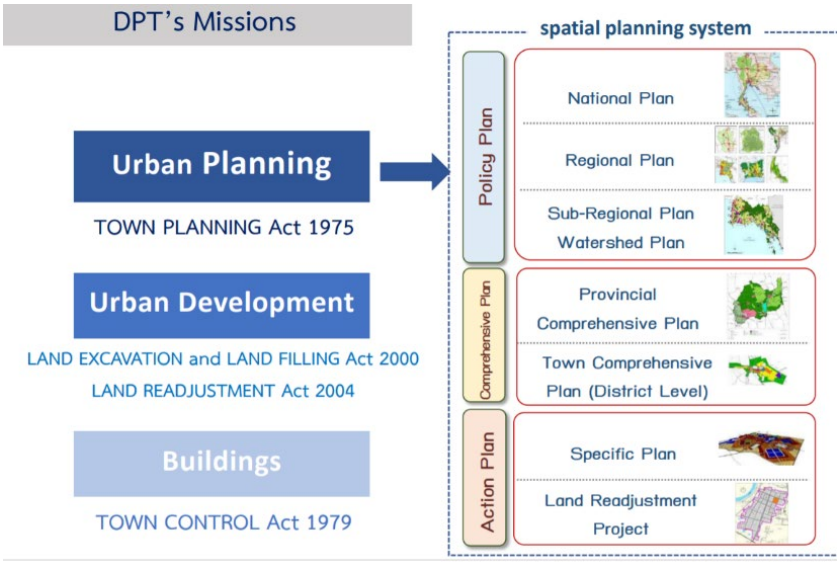

Figure 15 Thailand's spatial planning system (Source: DPT, 2019).

4.4 Climate change related organisations

Several government organisations are mandated with developing climate change response strategies. Figure 16 provides an overview of public sector climate change governance structure. The organisations are explained in more detail below and a summary of functions and potential levers for mainstreaming climate change is presented in Table 2.

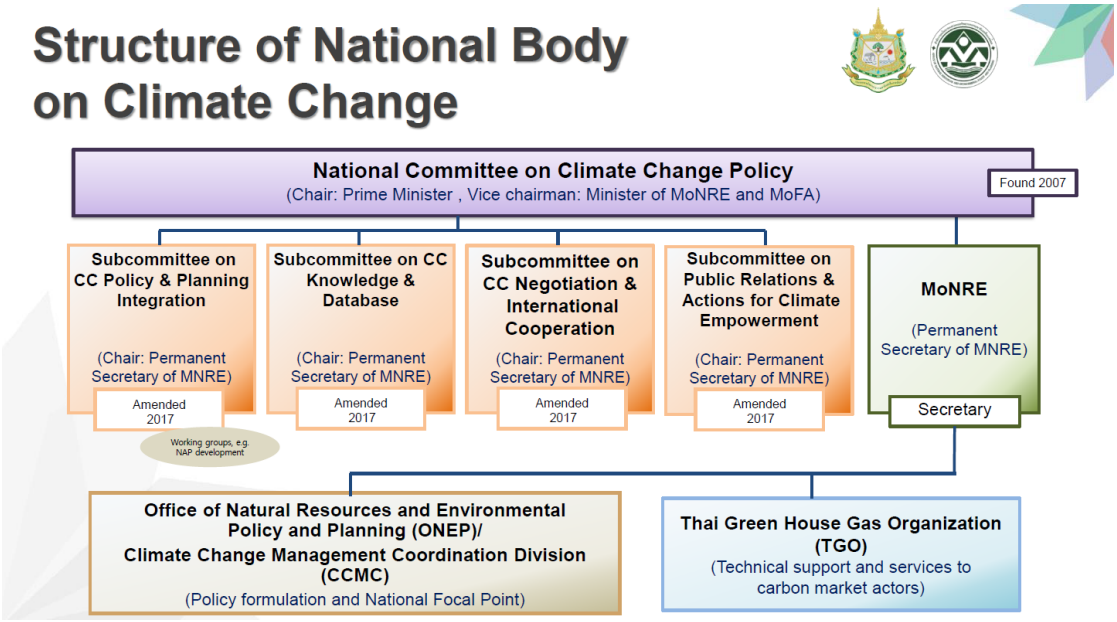

Figure 16 Overview of public sector climate change governance structure.

National Committee on Climate Change Policy (NCCC): The NCCC is chaired by the Prime Minister and acts as a high-level committee for policy and framework guidance on climate change and in international negotiations. Under the NCCC there are four sub-committees, namely, the Sub-

Committee on Climate Change Negotiation and International Cooperation, the Sub-Committee on Action for Climate Empowerment and Public Relations, and the Sub-Committee on Climate Change Policy and Planning Integration, the Sub-Committee on Climate Change Knowledge and Database.

Office of Natural Resources and Environmental Policy and Planning (ONEP): ONEP is a public entity under the Ministry of Natural Resources and Environment (MONRE). Alongside other mandates, the office is the core agency responsible for developing Thailand's climate change response strategies (including the development of national-level strategy, planning, policy, strategy, and activities) and is handling international donor support (both financial and technical) related to climate change action. ONEP also represents Thailand in international climate change negotiations (UNFCCC) and other related forums through its **Climate Change Management Coordination Division (CCMC)**. The division is mandated with the development of climate change policy and planning (including NAP and NDC development), as well as the development and integration of tools, measures, and other mechanisms for Climate Change Mitigation (CCM) and Climate Change Adaptation (CCA).

Thai Meteorological Department (TMD): The Thai Meteorological Department is responsible for weather forecasting and monitoring. It is an agency under the Ministry of Digital Economy and Society. TMD is mandated: (i) to supply weather forecasts for the entire country and publicize disaster warnings to fulfill the requirement from administration and management in natural disaster mitigation; (ii) to build the people's awareness toward natural disasters; enable them to perform correct surviving practices; and reduce effects from natural disasters by using modern technologies together with IT services; (iii) to become the meteorological IT data and service center at the national level for users in any ventures; (iv) to improve and develop the Departments research works; and (v) to strengthen the Department's roles in international cooperation concerning meteorology and environment with the purpose of profound comprehension on changing world situation. The TMD plan (2561-2564 or 2018-2011) aims for weather data prediction, morning and warning (see https://www.tmd.go.th/aboutus/Tmd_plan-2561-2564.pdf). TMD operates and maintains a network of weather stations throughout Thailand.

Department of Disaster Prevention and Mitigation (DDPM): DDPM was established as an agency under Ministry of Interior (MOI) to handle disaster management responsibilities. It is mandated to: formulate policy, guidelines and measures on disaster prevention and mitigation; study, analyse, research and develop systems on disaster prevention, disaster warning and disaster mitigation; develop information technology on disaster prevention and mitigation; promote people participation on disaster management activities; build disaster risk awareness; provide training to build capacity and improve skills on disaster management and disaster relief; promote, support and implement programs for assisting disaster victims and disaster recovery; direct and coordinate operation to assist disaster victims in large-scale disasters; and coordinate with domestic and international agencies/ organisations. DDPM does acknowledge climate change as a major threat.

Department of Public Works and Town & Country Planning (DPT): DPTwas established to be the leading agency in urban planning, urban development, and building control at all political levels (see also Figure 15 earlier). DTP is mandated to: (i) support, formulate, supervise, and develop services on urban planning and public works in order to meet technical standards that are responsive to social,

economic, and environmental needs for sustainable development; (ii) enable public-private participation in planning for urban, local, and community development; and (iii) develop , improve, and promote good governance and efficiency of enforcement of laws concerning land use, urban planning and public works for the benefits and happiness of the people.

Climate risks are recognized within different departments through their aim to reduce of losses from disasters through appropriate planning. DPT together with Urban Development Training Institute (UDTI), ONEP, and GIZ, are currently in the process of developing climate responsive draft conceptual spatial plans (GIZ, 2019).

Table 2 Overview of key government departments/organisations related to climate change

Organi-sation	**Purpose**	**Perspective on climate change**	**Entry points to link to tourism**
NCCC	Strategic planning	Highest-level decision-making body on CC	Promote importance of addressing climate change in tourism sector
ONEP	CC strategies and policies, international collaboration	UNFCCC focal point; CC finance focal point; CC plans and strategy development	Provide guidance to develop CCA strategies for tourism sector and align them with national strategies
TMD	Monitor, process, and provide climate and weather data	Support research on CC impacts through provision of CC data	Provision of tourism sector specific climate information
DDPM	DRR strategy development and execution (including first response coordination)	Acknowledges CC is major threat	Support streamlining disaster risk reduction and adaptation strategies and approaches, considering tourism specific vulnerabilities
DPT	Urban and development planning	Are in the early stages to recognise CC risks and integrate them into planning processes	Provide climate risk-informed building regulations and zoning plans for tourism destination development

4.5 Tourism in the policy making landscape

It is well known that tourism as an activity touches many spheres of the economy and government. Thus, whilst Thailand has a dedicated Ministry and Department for Tourism, there are many other relevant Government entities that make decisions relevant to tourism. A prime example is the Ministry of Transport that deals, amongst others, with aviation agreements and land-based transport infrastructure. Note that the current *National Transport Master Plan (2011- 2020)* does not address climate change, but future plans might consider the climate risks to transportation infrastructure and mobility more broadly. Arguably transport policy and investment decisions sit at the core of facilitating tourism mobility. Likewise, the Department of Public Works and Town and Country Planning (DPT,

located within the Ministry of Interior), as the lead agency for anything related to urban planning, urban development, and building control, is highly relevant for tourism planning and investment (including into new hotel infrastructure).

Other sectors' climate policy may also be relevant to tourism. For example, the Ministry of Public Health has finalised a *National Strategy on Adaptation in the Health Sector (HNAP)*. The Department of Public Works and Town and Country Planning addressed climate change adaptation through urban resilience and flood management projects, amongst others. Figure 17 visualises key tourism policies alongside other policies and the wider policy environment. These will be discussed in more detail in the following sections.

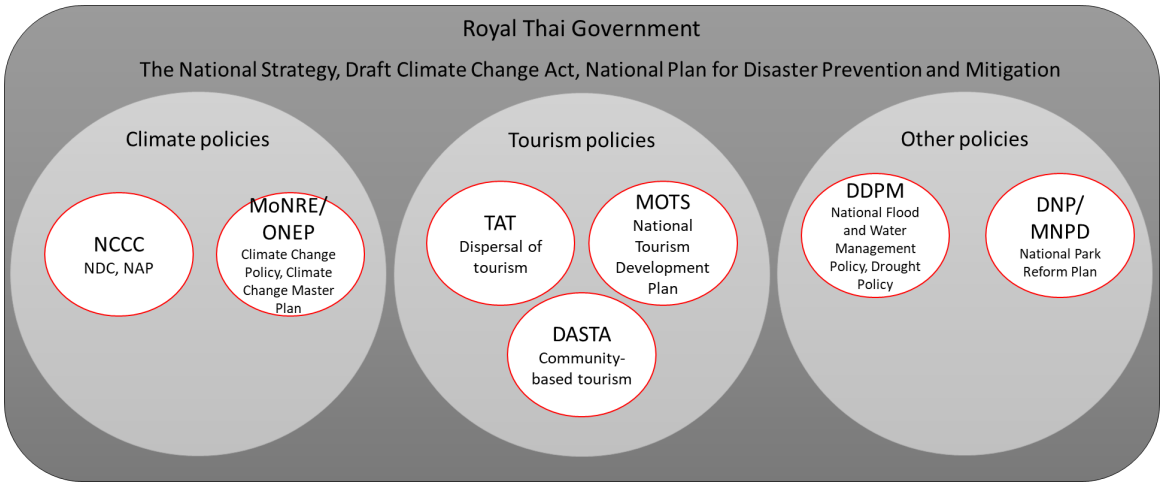

Figure 17 Tourism (policy) embedded in the wider environment of Thailand's policy making.

5 Relevant tourism policies and frameworks

This section identifies the most relevant policies and strategies that provide relevant context or direct entry points for mainstreaming climate change adaptation into tourism policy.

5.1 The National Strategy (2018-2037)

The *National Strategy* is the cornerstone of all policy making. It provides a framework for all subsequent plans and strategies. It represents Thailand's first constitutional national long-term strategy. The strategy's vision is:

> *"a developed country with security, prosperity and sustainability in accordance with the Sufficiency Economy Philosophy with the ultimate goal being all Thai people's happiness and well-being" (p. 4).*

The *National Strategy* specifically recognises the following rapid changes: i) aging society, ii) disruptive technology, iii) changes in international relations in terms of security and the national economy, iv) more complex connectivity due to regional integration and liberalization in different sectors, v) climate change, and vi) ecological degradation.

The six core strategies, and associated indicators identified as suitable to measure success, are all highly relevant to climate change and tourism. These are:

1. National security;
2. National competitiveness enhancement;
3. Human capital development and strengthening;
4. Social cohesion and just society;
5. Eco-friendly development and growth; and
6. Public sector rebalancing and development.

Tourism is specifically mentioned as part of Strategy 2 on competitiveness. 'Creating diverse tourism' is proposed to help preserve the country's world-class tourism sector, whereby a focus is on i) creative and cultural tourism, ii) business tourism, iii) health, beauty and traditional medicine tourism, iv) maritime tourism (e.g. cruise ships), v) regional cross-border tourism (e.g. Mekong).

Climate change is referred to in Strategy 5, whereby green growth is promoted alongside the need to create a sustainable and 'climate friendly' society. Natural disasters are mentioned as a key challenge and the need to invest into climate-proofed infrastructure. Preparedness for infectious diseases is also highlighted.

In addition to the *National Strategy*, tourism policy making also sits within the context of the frameworks of the region. Specifically, the *ASEAN Tourism Strategic Plan 2016-2025* addresses climate change as a strategic area of interest. Strategic goal 2.3 reads: "*Increase Responsiveness to Environmental Protection and Climate Change*", and this is followed by more detail under 2.3.1: "*Work with official bodies and organizations to address environmental, and enhance climate change responsiveness*" and 2.3.2: "*Prepare a manual of guidelines for incorporating environment and climate change mitigation, adaptation, and resilience*."

5.2 Existing policies with entry points

Several policies and programs could be identified that provide suitable entry points for including climate change risks and adaptation. These are discussed in the following.

5.2.1 National Tourism Policy Act

The recently adopted *National Tourism Policy Act* contains clauses that entitle the Ministry of Tourism and Sports to outline strategic tourism development plans and set out tourism standards and measures to ensure safety. The impacts of extreme climate events pose a risk to tourist health and safety, and as such the Act is highly relevant to mainstreaming climate change.

At present, MOTS is in discussion with Naresuan University and the Office of Insurance Commission for further study of the tourism tax and levy. This feasibility study will include the environmental impact of excessive visitors on popular tourism destinations and whether a limit in the number of visitors and level of carrying capacity at some destinations can be defined, in order to promote sustainable tourism in the long run. It has been noted that the priority of the levy is to rehabilitate tourism sites across the country. As discussed with stakeholders in the development of this report, the problem of over-utilisation of tourist destinations and climate risk is closely interlinked.

5.2.2 National Tourism Development Plan (2017-2021)

The lead agency for the National Tourism Development Plan is MOTS. The purpose is to prepare "*Thailand for ever-changing global tourism market and further reembrace sustainable developments*." Figure 18 presents the 5-year KPIs of the Plan, several of which can directly relate to climate change adaptation, for example the number of certified businesses, the ratio of arrivals in the low season, domestic tourism, and sustainability metrics. If climate change is to be included more explicitly in the next iteration of the Master Plan, then this would allow to request more activity, including at the local level.

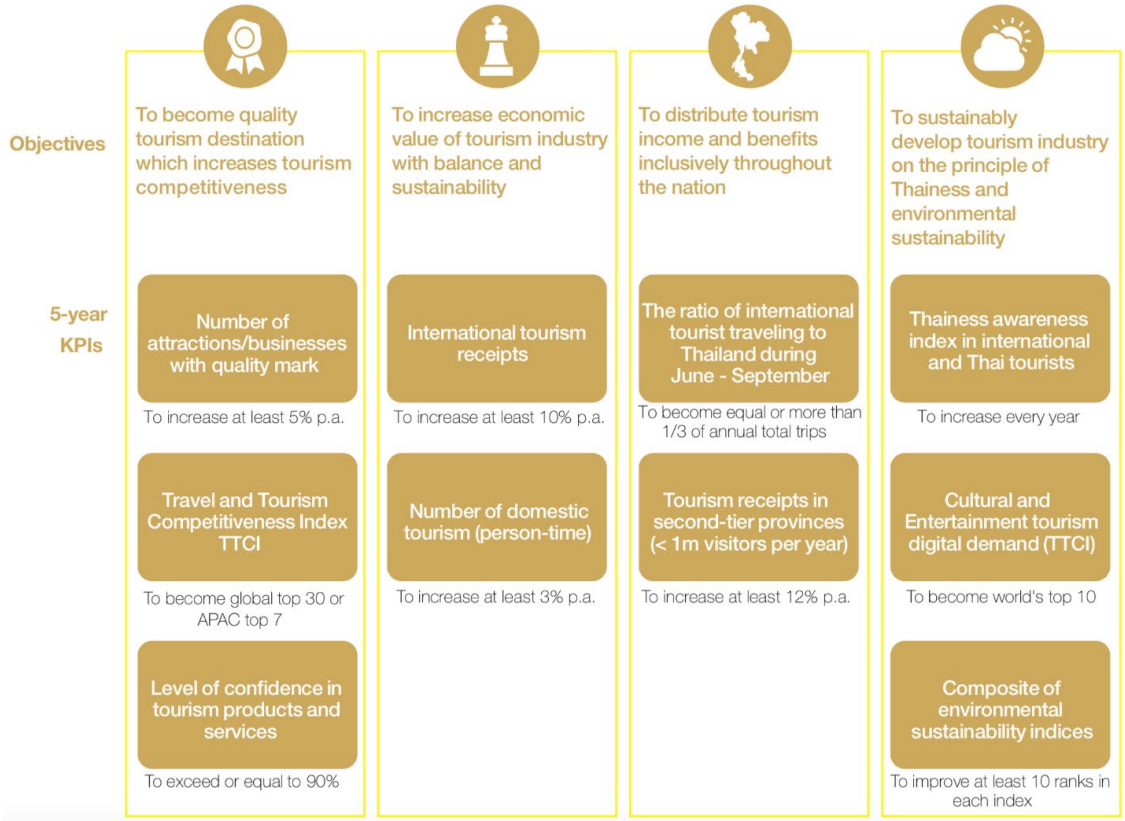

Figure 18 Objectives and indicators of the National Tourism Development Plan (Source: MOTS, 2019).

Five key strategies support the Plan, and all of them provide an opportunity to integrate climate risk and adaptation. Table 3 presents some suggestions for climate change entry points. In summary entry points relate to:

- Tourism product development that is aligned with cultural values and design and sustainability principles.
- Regional and seasonal dispersal of tourism, and the promotion of domestic tourism.
- Improvement of the quality of service delivery, including aspects of safety and hygiene.
- Capacity building in the industry and amongst tourism decision makers.
- The competitiveness of Thailand as a tourist destination, considering its uniqueness, safety, and governance.

Table 3 Entry points for the National Tourism Development Plan

Strategy	Current objectives/ actions	Projects/Campaign /Lead Stakeholders	Entry points for Climate Change
Strategy 1: Development of tourism attractions, products and services	1.1 Improve qualities of tourism offerings for all tourist segments	Tourism for all and Universal Design, led by Permanent Secretary office, Ministry of Tourism and Sports	'Sea Sun Sand' tourism to consider climate risks in coastal zones: "*It is the most urgent to protect and restore the fragile beaches and environmental attractions using both strict limitation on the number of tourist allowed and the education of preservative behavior to tourist.*"
	1.2 Develop tourism offerings that adhere to cultural and environmental sustainability		Suggested ecotourism development can link into initiatives such as tree planting (carbon offsetting and adaptation). Reference to river tourism – needs to consider risk of flooding. Reference to unique Thai heritage and architecture could be used to revitalise traditional building design that is suitable for hot temperatures.
	1.3 Create balanced development in tourism offerings in both regions and time dimension	Tourism dispersal to emerging cities: tourist density and time dispersal to lessen dependency on tourism seasonality	Reference to technology for measurement could link to smart metering of water or other climate-relevant factors. Could also link to citizen science projects (e.g. climate impact monitoring). Consider climate projections in developing new destinations and seasonal tourism (e.g. festivals).
Strategy 2: Development and improve-ment of supporting infrastructure and amenities	2.2 Facilitate domestic travel through improvement in logistics 2.3 Develop and improve amenities, safety and hygiene for Thai tourism	Regional connectivity from main tourism cities to emerging cities (Ministry of Transportation)	Consider climate projections in development of new destinations and transport connectivity (e.g. new infrastructure developments in strategy). Early warning systems for tourists. The application ('Tourism Gateway') referenced would be a perfect entry point to offer Climate Services. The 'Tourist Centres' mentioned in the strategy offer an entry point for communicating preparedness, but also can offer support in the case of an acute climate disaster.

Strategy 3: Development of human capital	3.1 Enhance capabilities of those employed in the tourism industry to gain competitiveness and adhere to international standards	ASEAN Mutual Recognition Accreditation (MRA) of all hotels and tourism occupational standards led by DoT	Include some basics on environment and climate change, and crisis management, in workforce training.
	3.3 Equip local communities with capabilities to support, participate and benefit from tourism	Community based Tourism led by DASTA, supported by DoT and TAT	Reference to awareness raising amongst community could be extended to include some key climate risks and response options, including for local businesses.
Strategy 4: Creation of balance between tourist target groups	4.1 Reinforce Thailand as quality and safe destination		Safety is a suitable entry point to include climate risk management.
	4.3 Promote and emphasize uniqueness of Thailand and individual destination	Amazing Thailand: Go Local Campaign led by TAT	Regional branding should take into consideration climate risks and adaptation options (e.g. also related to traditional building design or ecosystem-based adaptation measures, e.g. mangroves)
	4.4 Encourage domestic tourism to create location and time balance	Creative Tourism led by DASTA, and Amazing Smart Thai	More domestic tourism reduces vulnerability as local travellers are more familiar with the environment(s).
Strategy 5: Organization of collabo-ration and integration among public-sectors, private sectors and general public	5.1 Promote good management and governance to support effective tourism development	Partnerships/Tourism associations Several different tourism committees and associations.	Entry point for climate policy integration, e.g. working with ONEP and other sectors. Appoint cross-agency climate change committee. Best practice sharing of information and data. Reference to CBT, agricultural tourism and other land-based niche markets – need to consider climate risks and work with small scale operators and local level networks.

5.2.3 Community-based tourism standard

DASTA has formulated the first community-based tourism standard in 2010 and tested the standard with 13 pilot projects in six designated areas. The standard has been reviewed and revised based on a periodic reflection from these on-site practicalities. There are five key criteria addressing the sustainable development. Table 4 presents the criteria alongside potential entry points for climate change adaptation measures.

Table 4 Entry points for community-based tourism development in Thailand (Source: http://tis.dasta.or.th/dastaknowledge/2018/08/21/standardfortourism/ available in Thai)

Criteria	Current objectives/ actions	Entry points for climate change
Community based tourism administration	Establishing and empowering capable and inclusive working team	Capacity building programme could include basic understanding about climate change and climate adaptation.
	Formulating vision and long-term plan	Climate awareness programmes could be included in partnership selection and communication guideline.
		Reference to climate risk assessment, basic capacity building programme is needed.
Economic, social and quality of life management	Managing tourism revenue and distribution of benefits	Tourism product and service design could include how the tour/service offered is adapted to suit the climate risks.
	Establishing community funding programmes for sustainable community development	Entry point for managing fund to include climate adaptation and climate resilient programme.
		Tourist engagement programme in climate risks and mitigation programme leading to better understanding about climate adaptation.
Conservation and promotion of community cultural heritage and assets	Collecting an inventory of community cultural heritages, such as built heritage and historical records, way of life, wisdom, local culture and tradition	Creating a historic tour story about climate adaptation cases in the heritage site, for example Sukhothai (the world heritage site) has been named as world heritage based on the irrigation system and how to deal with flooding.
		Thai traditional house/ design is a case example of climate adaptation for wind flow and circulation.
Systematic and sustainable resources and environmental management	Specific indicators addressing the issue of climate change adaptation strategies	Main entry point for capacity building programme and pilot project implementation.
		(1) The community-based tourism promotion group has a system to identify risks and opportunities and plan for

		climate change adaptation strategies. Explanation: The community-based tourism promotion group participates in risks and opportunities analysis to be able to plan for appropriate use of resources and to put in place climate change adaptation strategies. Please check the existing item; ✓ The group participates in meetings and establishes a system with various partners to identify risks and opportunities associated with climate change. ✓ The system encourages climate change adaptation strategies for development, siting, design, and management of facilities that contribute to the sustainability and resilience of the destination ✓ The group designs appropriate zone planning and management of facilities in the area in respond to the identified risks and opportunities. ✓ The group creates an awareness about potential risks for both residents and tourists. ✓ The system contributes to public education on climate for both residents and tourists. ✓ The group publicizes zoning and how to participate in tourism program responsibly. ✓ The group draws tour routes in harmony with zoning for tourism such as travel route plan.
Quality Services and Safety management	Monitoring tourist satisfaction and service improvement Safety management	Responding plan to emergency cases could make references to systematic and more medium to long-term climate risk management and adaptation.

The standard is now adopted by the National Tourism Policy Committee as a community based sustainable tourism development guideline. The standard has also been benchmarked with GSTC sustainable criteria, achieved the 'GSTC-Recognised Standard' status.

5.2.4 Issue of Dispersal and Carrying Capacity

Tourism in Thailand is relatively concentrated in a few 'hot spots' (e.g. Pattaya, Krabi, Bangkok). The peak season is from November to March when temperatures are a little cooler. The Government is trying spread tourism to secondary destinations, and also extend the shoulder season or encourage travel during the low season. The Tourism Authority of Thailand seeks to distribute tourism. This is

potentially a double-edged sword, because second tier destinations may not be prepared for tourism and lack the resilience to cope with growing visitor numbers and increasing climate impacts. Whilst not a forma policy at this point (and demanding further work on conceptualising and measuring carrying capacity), potential entry points are summarised in Table 5.

Table 5 Initiatives related to tourism dispersal

Lead organisation	Objectives	Targets	Entry points
Tourism Authority of Thailand	Disperse the tourist concentration in main touristic destination from ratio of 80:20 to 70:30 Main touristic destinations have tourist arrivals of 4 million or higher.	55 emerging cities in 5 regions (tourist arrivals of less than 4 million) Establishing better tourist mobility and overflow from main cities. Creating better tourism infrastructure connectivity (Road, Rail, Air and Sea).	Data on tourism seasonality combined with climate suitability (present and future) to identify 'comfortable' destinations for tourists. Integrate this information into marketing campaigns. Consider climate risks in new infrastructure projects.

5.2.5 MICE industry & Sustainability

The Thailand Convention & Exhibition Bureau (TCEB) has been championing sustainability for the MICE industry in Thailand for nearly 10 years. MICE Capabilities has rolled out various awareness raising activities including a series of communication campaigns, seminars and fora, and community engagement projects such as 'Farm to Functions'. Increasingly, the TCEB is seeking to raise awareness regarding environmental issues. Reaching out to MICE operators and academic partners in different parts of Thailand, the Bureau aims to illustrate how MICE events can be sustainable and how events can affect the environment, the society, and the economy (see http://www.micecapabilities.com).

There is an opportunity to include climate change risks and climate change adaptation into venue management and all related event management. TCEB is currently completing an inventory of "alternative non-traditional sites" for creative venues to hold events; these include open space in local communities, nice tranquillity in temples, and historical old houses. This initiative could provide a suitable starting point to consider climate risk and adaptation.

Other programmes include the following initiatives:

Subsidising for more Sustainability: For MICE operators who wish to improve sustainability while saving costs and resources, reducing wastes and carbon emission, and enhancing corporate image, TCEB provides supports to help make this happen.

Sustainability Knowledge Sharing Via Guidebooks: MICE Capabilities has created several guidebooks

which could be used as a reference to climate change initiative, for example “Thailand Sustainable Events Guide” and “How to Organize Carbon Neutral Events”, both in Thai and English. These guidebooks are available for all MICE operators to download at no cost. This opens up opportunities for empowerment and education programmes.

5.2.6 National Park Management:

The Department of National Park, Wildlife and Plant Conservation is an agency of the Ministry of Natural Resources and Environment (2017). The National Park Service has a *20-year National Park Reform Plan* between 2018 and 2037 to be in line with the 20-year national strategic plan to drive the country. Currently, there are 5 main strategies:

1. Protection of natural resources, ecosystems and biodiversity.
2. Preservation and maintenance of tourism resources in a sustainable manner. There will be a standardization of ecotourism, waste management and wastewater management in the parks, and tourist safety systems.
3. Research and development for national park management: developing information systems, natural resources and biodiversity, establishing an ecological compensation fund, creating more value for park resources, upgrading the park quality.
4. Enhancing the efficiency of integrated management: There will be an integrated park management prototype project for all agencies in the area, development of information technology and communication in park management.
5. Promoting public-private-people management according to the civil state guidelines: setting up a park conservation volunteer network, establishment of the National Park Guard, encouraging the private sector to play a role in providing services.

Tourism is explicitly recognised in the plan, but the link to climate change is not explored yet. This presents an opportunity for further refinement of the plan.

6 Relevant climate change policies

Climate change adaptation is recognised as a priority in several key plans and strategies, including those that cut across all Ministries (e.g. *National Master Plan on Climate Change*) or sectoral strategies (e.g. *Draft Strategic Plan on Climate Change in the Agricultural Sector*). There is no dedicated tourism climate policy at this point, although some sectoral policies are directly or indirectly related to tourism (e.g. *Draft Green Growth Strategy*). Importantly, the 12th National Economic and Social Development Plan (2017-2021), in particular the aim of improving the capacity for climate mitigation (i.e. reducing greenhouse gas emissions) and climate adaptation, is notable. Clear links between reducing climate change impacts and improving response to natural disaster are notable[2].

Relevant policies/regulation and strategies/plans are introduced in more detail below.

6.1 Policies and regulations

6.1.1 Draft Climate Change Act

Thailand's *Climate Change Act* is currently under development and is supposed to become a milestone in the country's climate change response strategy. It will provide a broad framework for all agencies that are mandated to address climate change adaptation or mitigation.

6.1.2 The Disaster Prevention and Mitigation Act of 2007

Thailand' *Disaster Prevention and Mitigation Act of 2007* provides the legislation for the management and organisation for mitigation of, preparedness for, response to and recovery from disasters in Thailand. It regulates the organization, functioning, powers and responsibilities of the National Disaster Prevention and Mitigation Committee and the Department of Disaster Prevention and Mitigation as well as the institutional framework for disaster prevention and management.

6.1.3 Climate Change Policy

Thailand's *Climate Change Policy* was approved, alongside Thailand's *Climate Change Master Plan* (initial draft), by the Cabinet in January 2008. It incorporates components addressing mitigation and adaptation action through capacity building, research and development, awareness and public participation, and international cooperation. Thailand's National Board of Climate Change Policy is chaired by the Prime Minister, the Ministry of Natural Resources and Environment (MoNRE), and the Ministry of Financial Affairs (MoFA). MoNRE acts as the Permanent Secretary and mandated with policy formation and acting as the National Focal Point through the Office of Natural Resources and Environmental Policy and Planning (ONEP), and the Climate Change Management Coordination Division (CCMC). Underneath the National Board of Climate Change Policy sits the Sub-National Board on Technical Support (Chaired by ONEP), the Sub-National Board on Policy Integration (Chaired by MoNRE, established in 2015, the Sub-National Board on Negotiation (Chaired by MoNRE), and the Climate Change Coordinators (CCC). The CCC was established in 2010 and is comprised of 30 Agencies, including 19 Ministries, and 11 Agencies under the Prime Ministers' Office).

[2] Source: https://www.nesdb.go.th/nesdb_en/ewt_w3c/ewt_dl_link.php?nid=4345

6.2 Climate change plans and strategies

6.2.1 Climate Change Master Plan 2015-2050

The long-term strategy outlined in Thailand's Climate Change Master Plan 2015-2050 follows the Vision that by 2050 "Thailand becomes a climate change resilient and low-carbon development society following sustainable development pathways".

The National Climate Change Master Plan (2015 -2050) is designed to help Thailand achieve sustainable low carbon growth and climate change resilience by 2050, by following the below missions: (i) "Building climate resilience into national development policy by integrating directions and measures in all sectors at both national and sub-national levels to ensure country's adaptability to climate change; (ii) Creating mechanisms to reduce GHG emissions, and leading to sustainable low carbon growth; (iii) Building readiness of master plan implementation by enhancing potential and awareness of all development partners; and (iv) Developing database, knowledge, and technology to support climate change adaptation and sustainable low carbon growth" (Missions).

To achieve the objectives, the National Climate Change Master Plan (2015 -2050) specifies a set of mitigation, adaptation and capacity building targets. Short-Term (2016) targets include:

1. Develop medium- and long-term GHG emission reduction targets and prepare roadmaps for implementation by sector (including vulnerability maps, Nationally Appropriate Mitigation Actions roadmap, and Measurement, Reporting, and Verification mechanism);
2. Establish domestic incentive mechanism, using both legal and economic measures to encourage low carbon development.

Medium-Term (2020) targets include:

1. Reduce GHG emissions from energy and transport sectors by 7-20% by 2021 compared to 2005 (subject to level of international support);
2. By 2021, supply at least 25% of energy consumed from renewable energy sources;
3. Increase ratio of municipalities with more than 10 m2 of green space per capita.

Long-Term (2020-2050) targets include:

1. By 2030 reduce energy intensity by at least 25% compared to a business as usual scenario;
2. Increase proportion of trips made by public transportation;
3. Reduce proportion of GHG emissions from land transport;
4. Increase proportion of investment in low carbon and environmentally friendly industries;
5. Reduce open waste dumping area;
6. Reduce proportion of open burning in agriculture areas;
7. Reduce carbon intensity of the economy.

6.2.2 Thailand's National Adaptation Plan (NAP)

Thailand's NAP is the major national strategy for adaptation action of the country. It was endorsed by Thailand's Cabinet in the end of 2018, and the NAP Work Programme aims for implementation 2018 and 2037. The NAP outlines the country's development and climate change context and identified key vulnerability and risk factors. The aim is to inform national and local agencies to effectively use adaptation planning processes (and the developed information) for mainstreaming climate risks and adaptation strategies into planning and budgeting. The NAP emphasises issues facing different sectors and spatial areas, identified six thematic priority areas / key sectors, namely: (i) water management; (ii) agriculture and food security; (iii) tourism; (iv) public health; (v) natural resource management; and (vi) human settlement and security.

The work plan of the tourism sector promotes ecological, cultural, and sustainable tourism; development of tourist modalities with regard to changing climate-relevant infrastructures and facilities; environmentally-friendly management and activities; enhancement of capacities for local administrations, tourist business stakeholders, and communities on ecotourism and sustainability as well as its marketing. ONEP is working on determining suitable indicators to measure and evaluate progress on managing climate risk for tourism.

6.2.3 Thailand's Nationally Determined Contribution (NDC) to UNFCCC

Thailand submitted their INDCs to the UNFCCC in 2015, which were adopted in 2016 as their NDC without any further modification of the document's content. The NDC defines climate change adaptation as a "*top priority in Thailand's national response to climate change*" (ONEP, 2016). The NDC lists a range priority adaptation goals (Table 6).

The NDC makes a brief reference to tourism by referring to implement flood management schemes for eco-tourist attractions, where appropriate. It furthermore links to the following policies (none specific to tourism):

- National Economic and Social Development Plans,
- Climate Change Master Plan B.E. 2558–2593 (2015-2050),
- Power Development Plan B.E. 2558–2579 (2015-2036),
- Thailand Smart Grid Development Master Plan B.E. 2558-2579 (2015-2036),
- Energy Efficiency Plan B.E. 2558–2579 (2015-2036),
- Alternative Energy Development Plan B.E. 2558–2579 (2015- 2036),
- Environmentally Sustainable Transport System Plan B.E. 2556–2573 (2013-2030),
- National Industrial Development Master Plan B.E. 2555–2574 (2012-2031),
- Waste Management Roadmap,
- the National Strategic Plan on Climate Change B.E. 2551-2555 (2008- 2012).

Table 6 Adaptation priorities for Thailand as articulated in the NDC (Source: ONEP, 2016)

Adaptation priorities	Entry Points for Tourism
i. Promote and strengthen Integrated Water Resources Management (IWRM) practices to achieve water security, effective water resource management to mitigate flood and drought;	Promote water efficiency in tourism businesses, for example through CBT standard or certification systems.
ii. Safeguard food security through the guidance of Sufficiency Economic Philosophy e.g. an application of the New Theory in agriculture and land management to promote appropriate resource allocation and economic diversification at the household level and sustainable management of community forests to promote food security at the community level, for instance;	Link to gastronomy tourism and homestays; encourage purchase of agriculture products from local farmers.
iii. Promote sustainable agriculture and Good Agricultural Practice (GAP);	Create linkage between farmers applying sustainable agriculture production approaches to supply accommodation suppliers.
iv. Increase capacity to manage climate-related health impacts – including through development of health surveillance and early warning systems, systematic climate risk assessment and effective disease prevention and response measures to climate change related health consequences;	Warning systems should consider the target group of tourists in addition to residents.
v. Increase national forest cover to 40% through local community participation, including in particular headwater and mangrove forests to enhance adaptive capacities of related ecosystem;	Promote ecotourism development in mangrove forests (e.g. create walkways); link to carbon offsetting.
vi. Safeguard biodiversity and restore ecological integrity in protected areas and important landscapes from the adverse impacts of climate change, with the emphasis on vulnerable ecosystems and red list species;	Enforce visitor guidance in national parks to avoid tourists create additional pressure for vulnerable ecosystems and red list species.
vii. Develop participatory, integrated marine conservation and coastal rehabilitation plan to protect marine ecosystem and enhance climate proofing infrastructure to strengthen coastal protection against erosion;	Engage tourism sector representatives in planning processes and create coastal building regulations.
viii. Promote nature-based and sustainable tourism while enhancing better understanding on risk and vulnerability of the tourism sector, especially in hotspot areas;	Engage tourism sector stakeholders at different levels; establish certification system.
ix. Strengthen disaster risk reduction and reduce population's vulnerability to climate risk and extreme weather events through enhanced awareness, coordination and adaptive capacity of local communities, especially in the disaster risk-prone areas;	Tourism training in disaster risk and response strategies; enhance literacy of reading climate/weather data.

x. Strengthen climate modelling capacity while promoting collaboration among relevant agencies;	Enhance use of climate projections in tourism development planning.
xi. Establish effective early warning system and enhance the adaptive capacity of national agencies through multi-hazard risk assessment, systematic observations, integrative research and development of database, model, and technology;	Engage tourism sector representatives into early warning systems to warn sector of risks.
xii. Build regional climate resilience by serving as a knowledge hub to foster regional cooperation and exchange experiences on adaptation.	Lobby for climate change response strategies through ASEAN working groups on tourism and PATA.

6.2.4 National Plan for Disaster Prevention and Mitigation 2015

The plan provides a comprehensive approach that brings together aspects of disaster risk management, prevention, and preparedness, all of which are based on the Royal Philosophy of the 'Sufficiency Economy'. It outlines a series of strategies to enhance the quality of emergency management systems and enable a rapid disaster recovery. The Plan provides guidance to government agencies on how to integrate disaster risk reduction into their operations, with a specific emphasis on response strategies to drought, flood, landslides, tsunamis and earthquakes, storms, haze, fires/ forest fires, contagious diseases, and transportation hazards.

All of these hazards are relevant to the tourism industry, as successful implementation of these strategies can reduce the vulnerability of the sector to natural hazards, and enhance resilience against climate change impacts. However, to achieve integration it is important that tourism interests are represented in disaster risk reduction committees and decision making. The established "Tourism Assistance Centre" already provides advice to visitors on a range of safety issues, and this could be extended to include warnings and behavioural recommendations (e.g. how to deal with extreme heat). A partnership approach or strategic link with the health sector and its adaptation planning would be beneficial.

Whilst there is no specific crisis management plan for tourism, TAT's crisis management centre is responsible for the three phases: pre-crisis, during crisis and post crisis. Pre-crisis or readiness stage involves the following tasks: training on risk management, impact monitoring and evaluation, joint meeting and network of related organisations, understanding crisis management manual, business continuity. During a crisis or the responsive stage, TAT has outlined key tasks to include impact monitoring and evaluation, joint meeting with related organisations, dissemination and communication, conclusion of the incidents. Post crisis or recovery stage focuses on bringing the tourists back to "business as usual" and identifying lessons from the incidents. Integrating climate risk into the preparedness stage would be an excellent entry point.

The approaches outlined in the plan reflect and are in line with international agreements and frameworks, including the *Sendai Framework for Disaster Risk Reduction 2015 – 2030*, the *2014*

Bangkok Declaration on Disaster Risk Reduction in Asia and the Pacific, the *ASEAN Agreement of Disaster Management and Emergency Response,* and the *United Nations Framework Convention on Climate Change*.

6.3 Climate change adaptation projects

The Royal Thai Government receives support from a range of sources to help develop their adaptation planning frameworks. Table 7 provides an overview of existing/ potential (in the pipeline) projects in support of Thailand's National Adaptation Planning process. The projects assist in the implementation of Thailand's NAP at different levels and in different sectors, including tourism. They further lay the foundation for a continued adaptation planning process and inform the update and revision of the current NAP (tentatively by 2026).

Table 7 **Overview of existing/ potential projects to support Thailand's National Adaptation Planning**

Project	Lead	Government Partner	Outcome/ Ouput	2019	2020	2021	2022	2023	2026
Risk-based National Adaptation Plan (Risk-NAP)	GIZ	ONEP, under MoNRE	OUTCOMES: (i) Integrated Climate Risk into sectoral plans in 3 pilot sectors (Health, Human settlement & security, tourism); and (ii) Integrated Climate Risk into development plan/ physical planning in 4 pilot areas (including: Chiang Rai Province: focus on tourism; Andaman Coast: focus on spatial planning.	August →		(Phase II Risk NAP) →			NAP UPDATE (tentative)
Thailand Climate Change Adaptation Information Platform (T-PLAT)	MOEJ (Japan)	Department of Environmental Quality Promotion (DEQP) and ONEP	OUTPUTS: (i) Adaptation information platform (covering six NAP priority sectors); and (ii) Website T-PLAT.	→	March				
Strengthening Thailand's institutional and technical capacities to comply with the Enhanced Transparency Framework of the Paris Agreement (Component 4 of CBIT Programme)	UNEP	ONEP	OUTPUTS: (i) Adjustment for subnational and local use of existing metrics, indicators and methodologies for tracking the adaptation goals outlined in the NDC; (ii) Development of the template for a national information gateway on climate risk, vulnerability and adaptation; (iii) Capacity on integrating information on V&A into policy formulation, and on monitoring and evaluation of adaptation activities strengthened.			→	→	→	
Study effects of climate change on the tourism industry (project proposal stage)	DOT (RTG)	Department of Tourism (DOT)	OUTPUTS: (i) Risk map for Tourism sector; (ii) List of Adaptation options/measures/innovation for Tourism sector.		→				
Thai-German Climate Programm	GIZ	DWR/ ONWR	Work on CCA in the water sector with particular focus on mainstreaming Ecosystem-based Adaptation (EbA) approaches.	→	→	→			
ADAP-T	JICA		Research focused on: (i) Development of knowledge base for CC information; (ii) Assessment of adaptation measure to CC and development of co-design method; and (iii) Knowledge sharing for planning comprehensive strategy to CC.	→	→	March			
Increasing resilience to climate change impacts in marine and coastal areas along the Gulf of Thailand	UNDP	ONEP and Department of Marine and Coastal Resources (DMCR)	OUTCOMES: (i) Enhancing capacity and knowledge to enable climate risk-informed marine and coastal area development planning; (ii) Strengthening existing NAP implementation and mainstreaming adaptation in planning and budgeting in marine and coastal areas; and (iii) Financing strategies for climate change adaptation in marine and coastal areas identified and developed.		→	→	→	→	

7 Financing and budgeting mechanisms

In order to mainstream adaptation action into the tourism sector it is inevitable to identify and mobilise financial resources. Thus, it is important to map what type and amount of finance is available and which stakeholders could potentially have an interest in funding adaptation planning and action (for an extensive review of climate finance and funding in Australia, see Banhalmi-Zakar et al., 2016). The following chapter outlines selected public financing and budgeting mechanisms in Thailand of relevance for adaptation finance for the tourism sector. In addition, the topic of private sector adaptation finance will be discussed briefly. Figure 19 provides an overview of potential funding sources for climate change adaptation in Thailand's tourism sector.

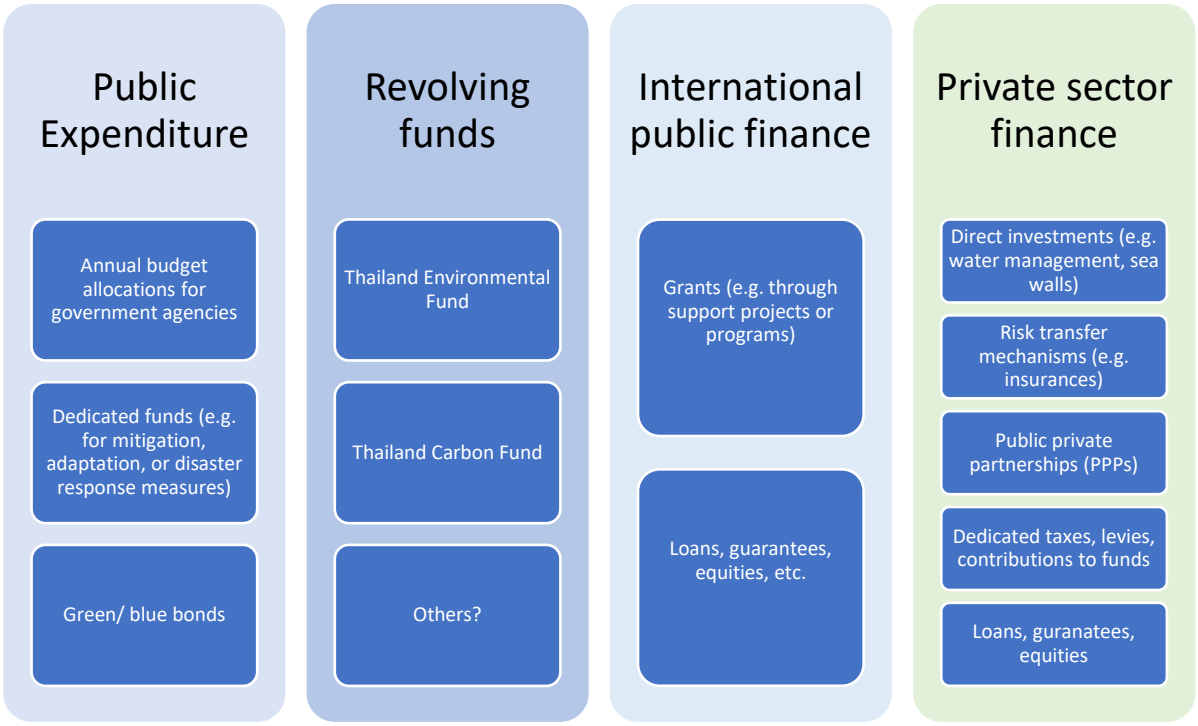

Figure 19 Overview about potential funding sources for climate change adaptation of Thailand's tourism sector (excluding tourists, national/ international CSOs/NGOs, and philanthropists)

7.1 Public Expenditure

The majority of government expenditure (over 80% between 2009 to 2012) are dedicated through the Annual Budget Expenditure Act and channelled through the Prime Minister's Office, Central Fund, and Ministries (UNDP & Royal Thai Government, 2012). The remaining government budget is composed of funds of state-owned enterprises, revolving funds, and other independent regulatory agencies (ibid.). There are three groups of budget; namely resources allocated to ministries (based on functions and proposes strategies), budget for policy integration based on the Government's agenda, and third, budget allocated to area-based integration, for example groups of cities or regional plans. The budget for policy integration is of particular interest to mainstreaming climate change into tourism policy, as it allows the environmental (MoNRE/ ONEP) parts of

government to work closely with MOTS and other tourism entities.

Tourism related public finance: TAT receives the highest annual allocations with approximately 7,059 million THB, followed by DOT with about 1,500 million THB, and the Office of Permanent Secretary (MOTS) with about 900 million THB (this includes budget allocation for strategic and planning division of about 200 million THB). DASTA as a public organisation under the prime minister office receives approximately 220-250 million THB annually.

Within the public tourism sector entities there are no dedicated climate change funds being 'earmarked' apart from the development of carbon neutral destinations. One staff in DOT is dedicated to addressing climate change. However, and as shown in the previous sections of this report, there are a considerable number of entry points to consider climate change in existing or future policies, and whilst this might involve some minor adjustments to resourcing, the inclusion of climate change itself is not a 'new' or 'additional' item. Instead, climate change should form an integral part of existing strategies, workplans and budget allocations.

C**limate change related public finance**: UNDP and the Royal Thai Government undertook a comprehensive Climate Public Expenditure and Institutional Review (CPEIR) in 2012 to identify which public finance can theoretically be 'earmarked' as being climate change related (UNDP & Royal Thai Government, 2012). The assessment concluded that Thailand's climate budget represented around 2.7% of the total public budget, between 2009 to 2011. The majority of these climate change related funds were received by the Ministry of Agriculture and Cooperatives (MoAC) (with 55%), and MoNRE (29%). Of the total identified national climate budget, around 68% were adaptation related investments.

7.2 Revolving Funds/ (Bonds)

A range of revolving funds complement the Annual Budget Expenditure Allocations to the different government agencies. The most important revolving funds are the Environmental Fund and the Thailand Carbon Fund.

The Environmental Fund was established through the *Enhancement and Conservation of National Environmental Quality Act in 1992*. The fund had an initial sourcing of THB 5 billion (US$ 150 million) and was envisioned to provide an alternative source of finance for local projects by government agencies, state enterprises, local administration, or the private sector with insufficient annual public budget allocations for such endeavors (UNDP, 2017). The resources of the Fund are mainly supposed to address environmental problems, especially through enhanced waste disposal systems, waste-water treatment systems, and measures against air pollution. The specific objectives of the Fund as outlined in the Act (Section 23) include:

- To provide grants to government agencies or local administrations for investment in and operation of such treatment systems;
- To provide loans to local administrations or state enterprises for making available treatment systems;
- To provide loans to the private sector where there is a legal duty to make available a treatment system; and
- To provide aid or grants to support any activity concerning the enhancement and conservation of

environmental quality as the Fund Committee sees fit and with the approval of the National Environment Board.

The Thailand Carbon Fund: This Fund is currently under preparation and aims to assist the many small CDM projects whose credits are not large enough to attract investors. The fund will play an active role in collecting credits, allowing industries in developed countries to access the carbon market in Thailand more easily. It is planned that the fund would be open to institutional investors under two models. The first model will be a carbon credit fund in support of domestic companies that operate a business involved in greenhouse gas emission reductions. The second model will allocate units to the public who will obtain returns in cash. The fund would drive investments in small-scale projects with the ability of generating fewer than 25,000 carbon credits per year. The anticipated investors would be from industrialized nations seeking to buy certified emission reductions (CERs) to comply with existing emission regulations.

Green / Blue Bonds are financial instruments that are increasingly being utilised globally to mobilise resources from the capital markets for green growth/ sustainable marine resource management purposes. According to the Climate Bonds Initiative (CBI) the volume of available funds and associated mobilised finance grew significantly during the recent decade. In 2018 the issued bonds valued US$ 168.5 billion, and CBI expects it to rise to US$ 250 billion in 2019 (Climate Bonds Initiative, 2019a). The total of 1,543 green bonds (issued in 2018) were provided by 320 issuers from both the public (by 44 countries) and private sector (Climate Bonds Initiative, 2019b).

In Thailand the first green (climate) bond has been issued by B Grimm and underwritten by the Asian Development Bank (ADB) and B Grimm – one of Thailand's leading private power suppliers. B Grimm's issued green debentures, worth THB5 billion with five- and seven-year maturity to fund existing, and the development of new, renewable energy projects to increase the company's share of renewable-energy generation (The Nation, 2018). This precedence bond may foster the development of the green-bond market in Thailand.

In addition to green bonds, there is a trend towards an increasing number of blue bonds being issued. Blue bonds were pioneered by the Seychelles, which launched the first sovereign blue bond globally, in 2018, to raise finance to support sustainable marine and fisheries projects (World Bank, 2018).

Banhalmi-Zakar et al. (2016) argued that private sector actors are familiar with the notion of bonds, making this a suitable instrument. However, a drawback for tourism is that often bonds are targeted at larger projects projects, and this poses a constraint on smaller initiatives (e.g. under $25 million). Clusters of related tourism projects might offer a solution.

7.3 International Public Finance

In many countries the impetus for climate change response strategies is often incubated through international support initiatives that are raising awareness about climate change risks and provide technical assistance to initiate adaptation planning processes. This international financial and technical support is oftentimes being provided by industrialised nations to developing countries (whereas there is an increasing trend towards more 'south-south' knowledge transfer). Thailand also receives international support related to the National Adaptation Planning process. Table 9 provides an overview of selected projects with a thematic focus of relevance to tourism sector adaptation.

Table 8 Exemplative past and ongoing projects and efforts in the field of climate change adaptation, green growth, and sustainable tourism development in Thailand

Title	Lead	(Local) partner	Focus	Time	Locations	Key Focus
Advancing Co-Design of Integrated Strategies with Adaptation to Climate Change in Thailand.	JICA	Kasetsart University, University of Tokyo,	CCA	2016-2021	National level	Goals: (i) establish a knowledge base for climate change; (ii) identify appropriate adaptation measures for coastal, forestry, water, urban, rural, and sediment sectors; (iii) co-design adaptation options for the Thai government.
Capacity Development on Mitigation / Adaptation in SE Asia	JICA	Thailand GHG Management Organisation	CCA, CCM	2013-2016	Bangkok	Establishment of Climate Change International Training Center as an ASEAN training center /networking platform of climate change.
Building coastal resilience in Thailand and Indonesia	Care International	Raks Thai Foundation	CCA, some tourism	2013-2016	Coastal area of Thailand	Capacity building of coastal authorities and civil society organizations.
Bangkok Master Plan on Climate Change 2013-2023	JICA	Bangkok Metropolitan Administration (BMA)	CCA	2013-2015	Bangkok Metropolitan Area	Goals: (i) Bangkok Master Plan on Climate Change is implemented by BMA in a sustainable manner; (ii) BMA's responsible departments manage, monitor and evaluate progress of the Plan.
Thai-German Climate Change Programme: Climate Protection Policy in nature-oriented tourism	GIZ	Designated Areas for Sustainable Tourism Authority	CCA, tourism	2008-2012	N/A	Sustainable and climate resilient tourism development.
Program for Energy Efficiency in Kho Khao (PEEK)	UNWTO, Adelphi,	International Institute for Energy Conservation	CCM, tourism	2008-2010	Kho Khao Island	To reduce GHGs from the hotel industry in Kho Khao and Kho Lak by means of innovative and replicable solutions for energy efficiency and renewable energy.

7.4 Private Sector Finance

Increasing international attention is given to private sector adaptation, to better understand incentive structures and perceptions pf private actors, monitor investments, and to foster private sector engagement in coping with increasing costs from climate change. It can be anticipated that the private sector will likely have to adapt or is already adapting to climate change impacts (reactively or proactively). The main drivers for adaptation investments can include exploiting new business opportunities, managing climate-related risks, or utilizing adaptation for marketing purposes (Surminski, 2013). A range of investigations explored tourism industry adaptation finance. One study concluded that "varying incentive structures, the sector's price sensitivity, and the differing abilities of tourism industry stakeholders to adapt are factors" influencing the willingness of private actors to invest in adaptation, and, consequently, should be considered by public actors to develop regulatory and incentive structures to ensure substantive and effective action (Hess & Kelman, 2017, p.33). A wide range of financial and regulatory mechanisms exist for funding adaptation through the tourism industry. These include:

- Direct investments (e.g. for water management, sea walls, flood protection, staff educational programs),
- Risk transfer mechanisms (e.g. insurance cover),
- public private partnerships (e.g. for larger infrastructure projects like board walks),
- dedicated adaptation/ green taxes, levies, or contributions to adaptation funds,
- loans, guarantees, equities dedicated for investments / new services considering climate change risks and/or opportunities.

It is apparent that some of these investments are more likely to be undertaken by private sector actors autonomously (e.g. to install water and energy efficiency measures which reduce their operation costs), whereas other funds might require a public regulatory framework demanding financial contributions from the tourism industry (e.g. through adaptation taxes, green levies, or building standards). This goes in-line with the principle of 'polluter pays' to hold those entities (including tourists in some cases – see earlier case study on a green tax in the Maldives) responsible that benefit from public goods (such as an intact coral reef and nature that form the attraction of a destination).

For successfully planning adaptation strategies, as well as engaging the tourism industry in adaptation finance, it is important to understand the perceptions, nature, and potential incentives of the different stakeholders involved. Scott and Jones (2006) identified that different tourism stakeholders have varying levels of anticipated adaptive capacities. Adaptive capacity can be defined as being the "ability […] to adjust to potential damage, to take advantage of opportunities, or to respond to consequences" (IPCC, 2014). The ability is determined through the flexibility of the stakeholders to relocate (or choose a different holiday destination for tourists) or adjust their operations to changing environment conditions. Local stakeholders, such as governments and attraction site managers have consequently, a lower adaptive capacity, when compared to multinational tourism corporations that simply change their operations to another destination. Hess, et al. (2015) build upon this earlier research and proposed to add the anticipated interest to financially contribute to adaptation of the differing stakeholders, which is widely contrary to their level of adaptive capacity (see Figure 20).

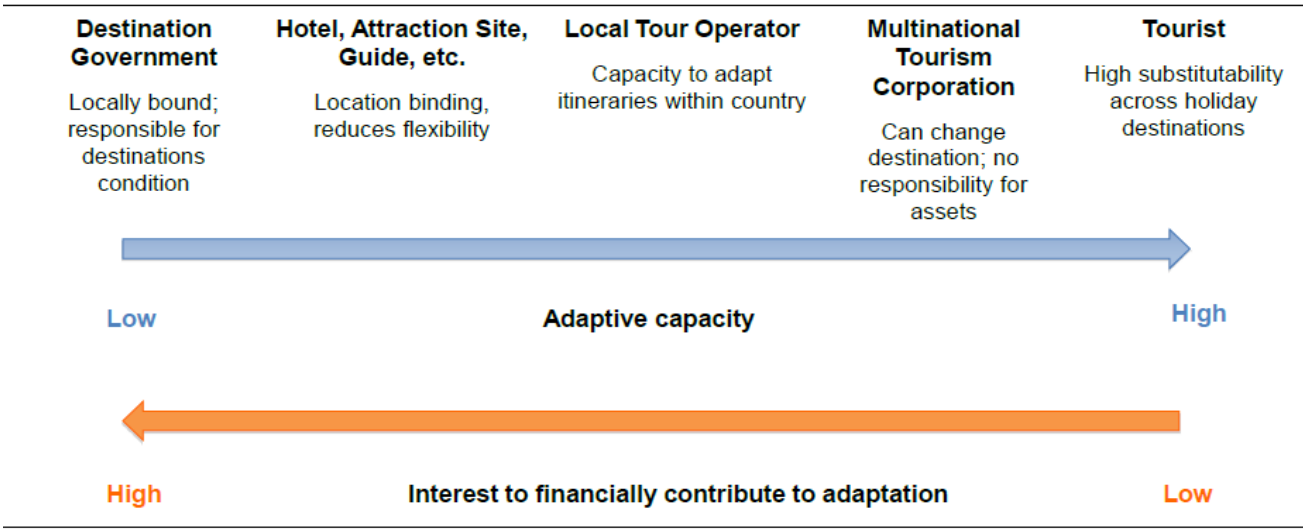

Figure 20 Adaptive capacities of tourism stakeholders (Hess et al., 2015 based on Scott and Jones, 2006)

7.4.1 Adaptation as part of successful policy integration

Against this background it is inevitable to consider adaptive capacities and incentive structures of different tourism sector stakeholder groups to foster adaptation action. When considering flexibility of many private sector actors (particularly multinational tourism corporations) it can be concluded that the government has a perceived responsibility to 'push' (e.g. through regulatory and policy frameworks) and 'pull' (e.g. through awareness raising, enhanced access to adaptation technologies, climate information, and economic instruments) tourism sector actors. The outputs from the CCRA and this policy analysis should help the Thai Government and tourism sector to develop an adaptation strategy. This includes changes in policy, decisions on future investments, enhanced training, and implementation of specific projects and initiatives. The identification of appropriate adaptation measures is highly context specific, and this is where local assessments are likely to be superior to a national level CCRA. Adaptation itself is defined as:

> *"[t]he process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects."* (IPCC, 2014, p. 118)

The relevant literature presents a wide range of potential adaptation measures for the tourism industry (Table 9). Many of these measures are already implemented, potentially without actors' awareness about them being 'labelled' as climate change adaptation. Thus, when communicating to private sectors actors it should be kept in mind that incorporating climate change response strategies into operations, strategic planning decisions, or development processes does not mean to 'reinvent the wheel', but to build on existing risk reduction and business planning strategies.

Table 9 Portfolio of exemplative climate adaptations utilized by tourism stakeholders (Source: adapted from Scott et al., 2012; Scott et al., 2008)

Type of adaptation	Tourism operators / businesses	Tourism industry associations	Governments and communities	Financial sectors
Technical	• Shore-protection structures, beach nourishment • Rainwater-collection and water-recycling • Cyclone-proof building design	• Pilot-test structural adaptations • Develop websites with practical adaptation information on	• Reservoirs and desalinisation plants • Shore-protection structures, beach nourishment • Weather forecasting and warning systems	• Develop/test advanced building design or material standards for insurance • Provide information to customers
Managerial	• Water conservation plans • Low-season closures • Diversification strategies • Redirect clients away from impacted destinations	• Use seasonal forecasts for planning • Training programmes on climate change adaptation • Encourage environmental management (e.g. certification)	• Demand-side management programmes • Convention / event interruption insurance • Business subsidies (e.g. insurance or energy costs)	• Adjust insurance premiums or close insurance policies • Restrict lending to high-risk business operations • Include social cost of carbon in financing and credit risk assessments
Policy	• Hurricane interruption guarantees • Comply with or exceed regulations	• Coordinated political lobbying for climate responses • Seek funding for adaptation	• Fee structures for water • Coastal manage-ment plans and setback • Standards and enforcement	• Consideration of climate change in financing and credit risk assessments
Research and education	• Physical risk analysis for properties • Change of practices, new business models • Resource conservation education	• Assess awareness and acknowledge gaps • Behavioural change • Campaigns and lobbying	• Monitoring programmes (e.g. bleaching, beach water quality) • Public education campaign (e.g. 'Every drop counts')	• Extreme event risk exposure modelling

8 Recommendations

It is increasingly understood that the complexity of addressing climate change requires cross-sectoral and multi-level action and coordination. In particular, policy responses – to be effective – need to be integrated horizontally and vertically, and this is influencing institutional arrangements, mandates and governance structures. Climate Policy Integration (CPI) in relation to the tourism sector is no exception. This, however, is a substantial shift for how public sector tourism organisations have been set up and what their traditional mandate is. The notions of tourism development, marketing and management now need to include consideration of the risks and opportunities that climate change presents. This concerns both climate impacts and adaptation needs and transitions towards a low-carbon economy and society.

The fact that tourism is recognised as a priority sector in the NAP process provides an important foundation for policy integration. However, this in itself is not sufficient, but further coordination and alignment is required between environment and tourism agencies of the Thai Government. Therefore, one key recommendation is to establish a working (or steering) group that meets regularly and ensures that policies, strategies and plans considering tourism and climate change, respectively, are mutually supportive and not in conflict. Such a group could specifically focus on monitoring and evaluation, and close cooperation with provincial offices (the operational level) would be useful. Such a committed could also draw on experts on a needs basis, to ensure that latest insights, data, and approaches are considered. Whilst there are some experts in Thailand with knowledge about climate change and tourism, broader capacity building is necessary. This refers to a minimum base knowledge for all staff working in the public sector, and an improved system of drawing on experts who can help continue to increase knowledge amongst dedicated personnel (e.g. in line with sustainability, tourism planning and/or disaster risk reduction).

The priority risks for Thailand tourism have been identified as being of a hydrological nature, manifesting in flooding and droughts, and temperature related. Moreover, coastal risks are likely to present increasing challenges to key tourist destinations. Policy making might therefore focus on these risks, for example by considering partnerships or exchange of information with key agencies related to these risks. For flooding and drought, for example, tourism agencies might need to work with agencies such as Department of Disaster Prevention and Mitigation and Department of Public Works and Town & Country Planning. Regional and local-level organisations of government related to planning are also likely to be relevant. For extreme heat events it will be important to work with the Ministry of Public Health, and also with the Thailand Meteorological Department. Coastal risks, including coral bleaching, are likely to require collaboration with Department of National Parks, Wildlife and Plant Conservation. Further thought should go into what kinds of partnerships are needed, who initiates them and who is involved in delivering outcomes.

A cross-sectoral approach to addressing climate change recognises that interacts with many other policy domains. This represents an opportunity when risks are addressed by other responsible entities, and tourism is a beneficiary of Government investment into adaptation elsewhere. Recognising this positive spin offs will be useful, and positive outcomes can be further enhanced if tourism stakeholders are active contributors to those policy decisions and ensure that the particular needs of the sector are understood. There is also a risk in that policies might accidentally omit tourism and there could be unwanted side effects. Again, to avoid this it is important that tourism be part of the ongoing discussions.

There is further potential to improve climate change preparedness within tourism agencies, and internal policy harmonisation is important. In particular, it is important to avoid policy conflict, for example by developing policies that effectively exacerbate climate risk. Increasing and unmanaged growth of tourism in exposed areas, for example, could outweigh other efforts in reducing risk. In this context, the concept of 'carrying capacity' plays an important role. It is recommended that further work is being undertaken on defining carrying capacity in the Thai tourism context, identifying ways of measuring it (e.g. critical thresholds), and implementing monitoring mechanisms so that exceedance of capacity can be avoided. The famous example of Maya Bay highlights how action on reducing visitation can help accelerate ecosystem recovery. The more proactive capacity is understood and managed, the lower the risk that such measures are 'too late' to allow full recovery. Capacity threshold need to consider future changes in climatic and environmental conditions. At the same time, they could include provision for increased adaptive capacity, for example in the area of water efficiency and conservation.

The analysis of public sector institutions and existing policies revealed a number of entry points for climate action. The MOTS as the leading entity for strategy is at the forefront of developing long-term plans for tourism in Thailand. As shown here, the current National Tourism Development Plan can be quite easily interpreted (or explicitly amended) to consider climate risk. In particular, new product development, dispersal (seasonal and spatial), and measures around visitor safety lend themselves to be systematically linked to climate risks and adaptation measures. Sustainability is already a key strategy, and climate-specific measures such as reducing water consumption can be added as tangible actions. DASTA's community-based tourism standard already contains links to climate action, and these can be elaborated on over time. Inclusion in training programs and certification processes is key. The recommendation is to use these existing documents to explicitly add climate change strategies and actions points, as well as measures for monitoring change.

The dispersal strategies by TAT are important measures to reduce climate risk – should dispersal occur towards less exposed and vulnerable regions. Also, it is essential that second tier destinations are supported in developing adequate infrastructure and capacity in dealing with increased number of visitors in conjunction with potential changes in climatic parameters and the resource base (e.g. loss of beach, increased water scarcity). The current investment by MOTS into tourist safety could be linked to destination preparedness and resilience more broadly.

This report also provided an overview of climate finance mechanisms. One option that was mentioned was the Government's policy integration budget which could provide an avenue for funding for ONEP and DOT/MOTS to work together on climate-tourism plans. Finance for climate response is a complex issue, and relatively unexplored in tourism, but an increasing number of destinations are collecting funds directly from visitors, for example in the form of an eco-tax. In addition, there is room for developing public-private partnerships, for example around product and destination development. Opportunities also exist around carbon offsetting or other projects related to companies' Corporate Social Responsibility agendas. Existing standards or certification schemes could be extended to ensure that climate risk is adequately addressed. The Green Leaf Foundation, for example, is run by the Tourism Authority of Thailand, Thai Hotels Association, UNEP, Demand Side Management Office of Electricity Generating Authority of Thailand, Association for the Development of Environmental Quality, and Metropolitan Water works Authority. Currently, there are 203

hotels and resorts that are certified with the Green Leaf, and this number could be increased with a mix of incentives and regulation. The Green Leaf scheme could be complemented by other schemes, for example EarthCheck or TravelLife. EarthCheck also offers a Risk standard and tool for destinations, which could be of great interest to hazard exposed areas in Thailand. Future legislation might consider more specific regulation around how to manage climate risk.

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