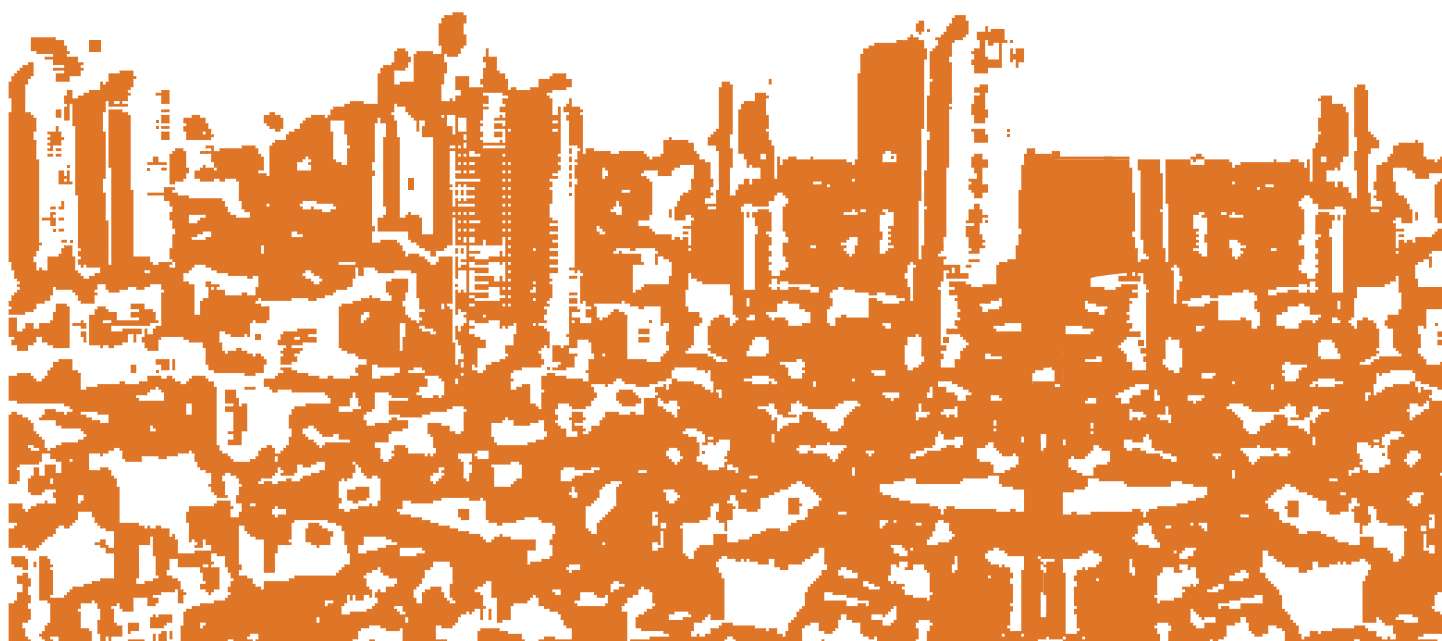

Asian Cities Climate Resilience

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Local planning for climate adaptation: Vietnam's experience

NGUYEN PHUONG NAM, TRAN THI THU TRANG, STEPHEN TYLER,
NGUYEN QUYNH ANH, BACH TAN SINH, NGUYEN NGOC HUY, PHAM KHANH,
DANG THI HUONG



About the authors

Nguyen Phuong Nam and Tran Thi Thu Trang, Center for Technology Responding to Climate Change (CliTech), Ministry of Natural Resources and Environment (MONRE), Vietnam.

Stephen Tyler, Nguyen Ngoc Huy and Pham Khanh, Institute for Social and Environmental Transition (ISET), Vietnam.

Nguyen Quynh Anh, Bach Tan Sinh and Dang Thi Huong, National Institute for Science and Technology Policy and Strategy Studies (NISTPASS), Ministry of Science and Technology (MOST), Vietnam.

Contact author: Bach Tan Sinh on sinhbt@yahoo.com

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Acronyms and abbreviations

ACCCRN	Asian Cities Climate Change Resilience Network
CAPs	Climate action plans
CliTech	Center for Technology Responding to Climate Change
Danida	Danish International Development Agency
DMHCC	Department of Meteorology, Hydrology and Climate Change
DONRE	Department of Natural Resources and Environment
<i>ICLEI</i>	<i>Local Governments for Sustainability network</i>
ISSET	Institute for Social and Environmental Transition
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology
NCCS	National Strategy on Climate Change
NTP-RCC	National Target Programme to Respond to Climate Change
NISTPASS	National Institute for Science and Technology Policy and Strategy Studies
PPC	Provincial People's Committee
SEDP	Social and economic development planning
SP-RCC	Support Programme to Respond to Climate Change
UNFCCC	United Nations Framework Convention on Climate Change

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Abstract

The Vietnamese government is aware of the country's vulnerability to climate change impacts. In their attempt to build resilience, climate action plans (CAPs) were introduced as long-term plans for sectors and provinces. Sixty three provinces in Vietnam completed their CAPs between 2010 and 2013.

The objective of this study was to compare the local government experience with CAPs in this initial phase, to provide suggestions to the government for how these can be improved when they are updated in 2014–2016. The team identified international good practices, which were generalised from a review of manuals and local government adaptation plans in other countries. Twenty-one criteria were developed to compare these good practices with those used in Vietnam's case. In addition, a list of 24 good practices was developed and evidence was sought from surveys and interviews to confirm whether or not each was used.

The results show that climate projections and climate impacts were handled reasonably well in most cases, and that recommendations were usually clearly assigned to responsible technical agencies. The greatest weakness of the first round of CAPs was that their recommendations could not be implemented, due to a lack of coordination with regular planning and budgeting mechanisms in the responsible technical agencies, and a lack of special funding outside of regular public expenditure planning. Other weaknesses included weak treatment of climate variability and uncertainties in some cases, limited engagement of vulnerable groups, and limited application of risk assessment. It should be noted that evidence could be found for most of the international good practices in one or more Vietnamese provinces, so while good practices were used in some cases, consistency was low. The findings help to draw practical recommendations for government to improve the next updating round of CAPs in 2015–2020.

1 Local planning for climate adaptation

This paper reviews the practice of local government adaptation planning as it has been implemented in Vietnam. Climate action plans (CAPs) were introduced in Vietnam as part of the National Target Programme to Respond to Climate Change (NTP-RCC).¹ All national ministries and provincial-level governments are required under the NTP-RCC to prepare CAPs indicating their proposed response to climate change. During the initial phase of CAPs (2011–2014), the recommended emphasis was to be on adaptation to climate change.

1.1 International experience with planning for climate adaptation

With increasing recognition that climate change will bring impacts that affect economic and social well-being, there has been growing attention in recent years to planning for adaptive responses that minimise negative impacts and support socio-economic development. Local government authorities in many different countries have become concerned that climate change could prevent them from achieving their development goals and objectives. Climate adaptation planning in this international experience has been motivated not primarily by climate change per se, but by a primary concern with protecting local planning and development objectives in the face of these new potential threats.

Strategic planning efforts have been undertaken at multiple levels, including international coordination by the European Commission, for example, and the United Nations Framework Convention on Climate Change (UNFCCC) National Adaptation Programmes of Action (NAPAs) for least developed countries. However, while national plans are valuable for creating policy incentives, public information and funding programmes, implementation of climate adaptation is necessarily context-specific and almost inevitably involves local actions by governments and other stakeholders (Mimura *et al.*, 2014). Adaptation actions often overlap with local government responsibilities, for example in the field of infrastructure, land-use planning and disaster risk reduction. Local action is more important for adaptation than for mitigation, which is strongly influenced by national policies for energy supply, pricing and technological systems over which local governments have limited control (Füssel, 2007). For these reasons, local government planning for climate adaptation is increasingly important.

However, this is an area of limited experience. Most policy and analytical attention to climate change planning has been devoted to mitigation issues, even at the local level. For example, reviews of local CAPs in the US undertaken before 2008 show that a large majority of these plans dealt exclusively with mitigation, and that even when adaptation was mentioned, it was addressed in a limited manner (Bassett and Shandas, 2011). Most of this early generation of CAPs in the US focused on measures to reduce emissions by increasing land-use density, improving public transport and providing more support for non-motorised transport. While in many cases these plans had a high level of public engagement and awareness

¹ Decision No. 3815/BTNMT-KTTVBĐKH, 13 October 2009.

raising, the process tended to be dominated by scientific and technical discussions of climate impacts. This early emphasis on technical issues alone was seen as a weakness, because it meant the plans had little connection to implementation measures or consistency with other local planning processes in various sectors (Bassett and Shandas, 2011).

Similar recent work in the UK also suggests that while cities of all sizes recognise that they are vulnerable to climate change and need to take action, the plans they have undertaken emphasise mitigation more than adaptation, and are highly variable in terms of their consistency and comprehensiveness (Heidrich *et al.*, 2013). A global survey of cities that are members of the Local Governments for Sustainability (ICLEI) network shows that while many cities were concerned about vulnerability to climate change, relatively few were at the stage of having completed vulnerability assessments, adaptation plans and implementation measures (Carmin *et al.*, 2012). Another assessment focusing only on adaptation plans, including Australian, UK and US experiences over the same period (2000–2010) reached similar conclusions: few of the 57 local climate adaptation plans assessed actually presented adaptation measures, despite the fact that they were from developed, high-capacity countries (Preston *et al.*, 2011).

Such gaps and limitations to local adaptation planning practice should be expected due to the relatively recent introduction of climate adaptation as a practical concern in local decision making. The evolution of climate change assessment over the past 20 years has shifted from an early focus exclusively on the impacts of climate, to increasing analysis of vulnerability to climate impacts, and then finally to design of options to reduce vulnerability (Füssel and Klein, 2006). It is this latter subject that we are now chiefly concerned with when we refer to adaptation planning. However, international experience with systematic local planning for climate adaptation has been relatively limited and recent.

1.2 Good practices in adaptation planning

While there is limited international experience as a basis on which to establish standards for planning practice, there have been many guidebooks and manuals prepared by national and international organisations promoting adaptation planning and aimed at local governments (Climate Impacts Group, 2007; Prasad *et al.*, 2008; UNISDR, 2012; World Bank, 2012; United Nations Human Settlements Programme, 2014). In addition, a handful of leading metropolitan areas worldwide undertook early comprehensive climate adaptation strategies that have been widely reviewed by scientific and professional bodies. Among the most prominent are studies done by New York City (ICLEI, 2010; New York City Special Initiative for Rebuilding and Resilience, 2013), London (City of London, 2010; Wilson and Piper, 2010), Copenhagen (City of Copenhagen, 2011), Vancouver (City of Vancouver, 2012), and Durban (Hounscome and Iyer, 2006; Roberts, 2010), although there are a growing number of other local initiatives in various countries.

A review of these manuals and early experiences with local adaptation planning suggests the emergence of a general consensus around what could be described as ‘good practices’ for local adaptation planning. We use the term ‘good practices’, and not ‘best practices’ because there is limited experience with local climate adaptation planning, and practices are still evolving. Even in high-income, high-capacity industrialised countries, most experience has been experimental and driven by local interest and initiative rather than by national policy. It was important for our study in Vietnam to define a set of good practices that were grounded in processes and methods that had not only been recommended in theoretical guidebooks, but had actually been tested through implementation by local governments in their own adaptation planning efforts. Here, we summarise these good practices in climate adaptation planning derived from the experience of these pioneering cities and from the recommendations of leading international guidebooks and manuals (Tyler and Pham, 2013).

1.2.1 Use best available climate data effectively and understand uncertainties

Local governments generally do not have the technical resources in-house to undertake scientific analysis of climate data, so they need to find these data in order to make better planning decisions. The results of recent scientific advances in climate modelling are not necessarily presented clearly to, or understood by, local adaptation planners (Opitz-Stapleton, 2011). This means that improved communication and understanding of climate science, potential impacts and uncertainties is a prerequisite for effective planning. However, unlike early planning efforts, it is important not to stop at climate impacts.

1.2.2 Assess vulnerabilities and identify vulnerable groups

Effective adaptation planning should identify vulnerable groups, sectors and sites. Incorporating vulnerability assessments helps ensure that adaptation plans address the needs of those who are most vulnerable, while also supporting broader socio-economic goals, such as poverty reduction, housing, better infrastructure services, and ecosystem conservation where these would be jeopardised by climate impacts. Vulnerability is generally defined as a function of **exposure, sensitivity and adaptive capacity**. Vulnerability is affected by location, wealth, income, gender, land ownership or legal registration status, and sometimes other factors as well (age, health and/or ethnicity). These factors affect **access** by different social groups to infrastructure, land and ecosystems that will help buffer them from climate impacts.

1.2.3 Engage multiple stakeholders

The participation of a broad range of stakeholders in developing an adaptation plan provides valuable information about impacts, risks and potential responses that will help planners to devise better strategies. In addition, stakeholder engagement enables shared learning, builds commitment of implementing organisations, and makes implementation of the chosen strategies more likely. Note also that some of the information needed for vulnerability assessments can best come from vulnerable groups themselves. Note that while specialised scientific knowledge is needed to interpret climate data, future projections and impact estimates, scientists are not qualified to assess vulnerabilities or proposed adaptation measures. This kind of assessment requires diverse expertise including local knowledge (for example, where elderly people live or behaviour of local streams under flood conditions). Government plans need to also take account of autonomous adaptation measures undertaken by local residents and private sector businesses, which can best be understood through their engagement in the planning process.

1.2.4 Undertake risk assessments to prioritise adaptation measures

Identifying priorities for adaptation planning should include some form of qualitative or quantitative risk assessment to compare the magnitude and distribution of potential climate impacts. Risk assessments must include estimates of both the likelihood of a future event and the losses such an event would cause in future. Risk assessments should also include considerations of vulnerability: in particular the capacities of those affected to recover and the distributional effects of varying impacts. Often this information is not readily available and may rely on inputs from those who would be most affected.

1.2.5 Identify practical actions and priorities for implementation

An effective adaptation plan must identify actions that can be implemented. This means that adaptation actions should be prioritised so that decision makers can focus on the most important measures; that implementing agencies must be involved in developing the plan so that they understand and are committed to implementation; that analysis should focus on sectors over which the local government has direct control; that low cost or ‘no regrets’ options may be recommended as starting points for easy implementation; and that financing is available for priority recommendations. Even recommendations for further study of complex or high-cost measures should provide clear direction on how to proceed with such studies.

1.2.6 Local government staff lead and coordinate planning, monitoring and implementation

While technical consultants can be hired to provide input to the analysis, local government staff who have a long-term mandate should lead the planning, priority setting and implementation management. This will build their capacity to understand and manage adaptation issues, but also their commitment to implementing proposed adaptation measures. Many key decisions in adaptation planning are not technical decisions but policy decisions: which risks are so high that they require risk reduction measures? Which groups should be the targets for vulnerability reduction measures? How should adaptation measures be financed? In all of the most effective international examples, adaptation planning also had strong political support from the most senior levels of the local government. Ongoing monitoring is an important staff task to ensure that plans achieve their intended objectives.

These characteristics of good practices were synthesised from the experiences of leading local government adaptation-planning practitioners and from international guidance manuals. They were then used to develop 21 criteria for assessment and comparison of the CAPs and practices of local planners in our Vietnam case study, as described in greater detail in the next section.

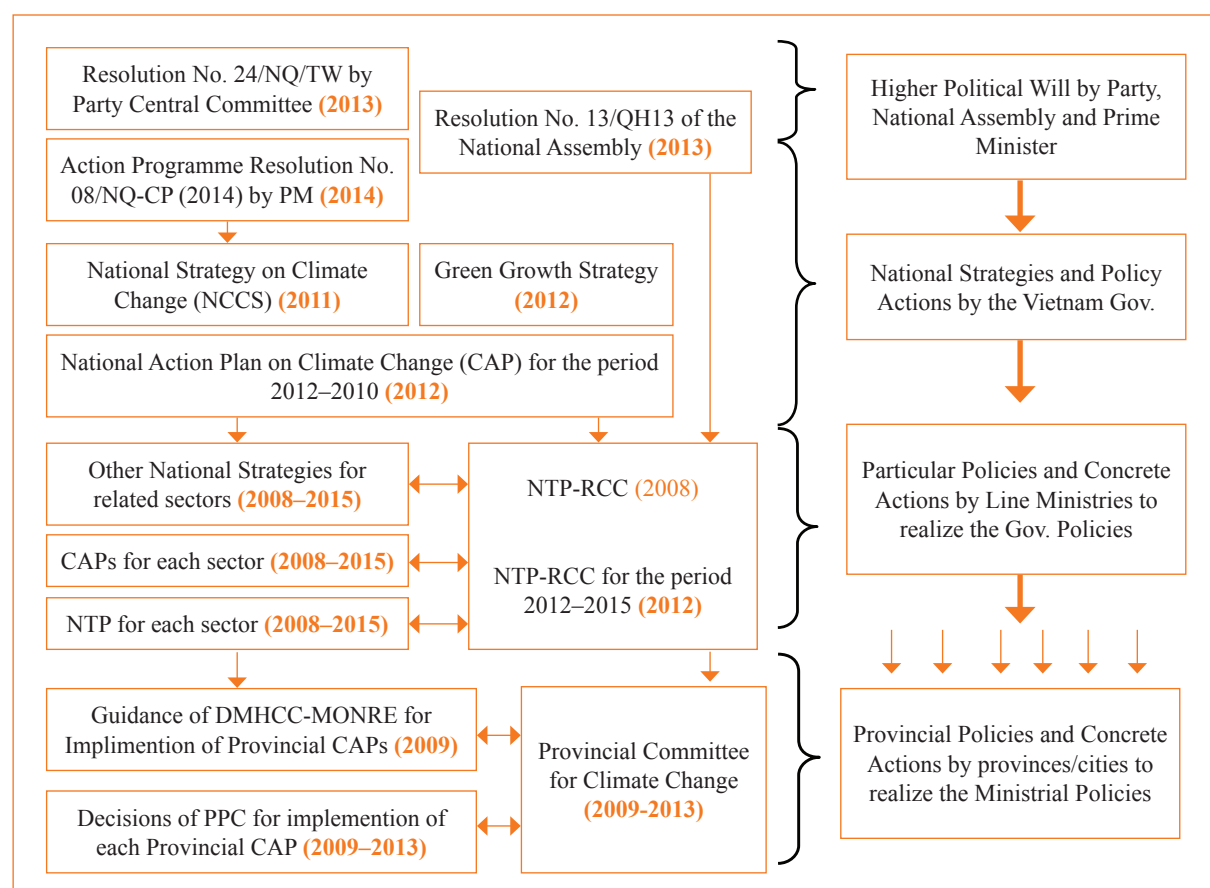
2 Vietnam's situation

2.1 Government climate policy

Vietnam ratified the UNFCCC in 1994, and the Kyoto Protocol in 2002. Since then, the government of Vietnam has instituted several national policy measures on climate change.

The National Target Programme Responding to Climate Change (NTP-RCC) was approved in 2008, followed by a more comprehensive strategy, the National Strategy on Climate Change (NCCS; Decision No. 2139) issued in 2011. The Party Central Committee's Resolution No. 24/NQ-TW on climate change in 2013 is the latest and the highest legal document that expresses Vietnam's strong political will to address climate change issues, and aims to proactively respond to climate change through a series of measures to be implemented towards 2050 targets (Figure 1).

Figure 1. The Vietnam climate change policy order



Climate change strategies and climate action plans for national ministries and provincial-level governments are shown in Figure 1. In addition to this national government policy direction, many local governments also receive support from other international organisations for climate change planning and implementation investments. Official Development Assistance (ODA) funding for climate change is coordinated in Vietnam through the Support Programme to Respond to Climate Change (SP-RCC).² In addition, various international organisations such as Oxfam, CARE International, Hanns Seidel Foundation, Rockefeller Foundation and others also contribute to local project activities in this field, with their own research and planning methodologies.

This paper reports on results of a study intended to provide information to the NTP-RCC standing office for their consideration in providing guidance on the next round of CAPs undertaken by provincial governments, in response to the following legislative requirements:

- Resolution No.24/NQ/TW by Party Central Committee dated 3 June 2013, mentioning the positive activities of Vietnam related to climate change response, natural resources management and environment protection with a focus on natural risk management and sea-level rise.
- Environmental Protection Law No.55/2014/QH13 of the National Assembly dated 23rd June 2014 to list in chapter IV completed actions of all powers in Vietnam to Respond to Climate Change, activated on 01st January 2015
- Action Programme Resolution No. 08/NQ-CP by the prime minister dated 23 January 2014 to implement the Resolution No. 24/NQ/TW with a to-do list of tasks and urgent activities of Vietnam government.
- Resolution No.13/2011/QH13 of the National Assembly dated 9 November 2011 to list 16 National Target Programmes of Vietnam in the period of 2011–2015 which includes the National Target Programme to Respond to Climate Change.
- National Climate Change Strategy (NCCS) priority programme for 2011–2015 includes the programme to respond to climate change in megacities (Article V.2.e; Decision No. 2139/QĐ-TTg dated 5 December 2011 as approved by the prime minister).
- NTP-RCC for the period 2012–2015 obliges local governments to update CAPs for each locality (Decision No. 1183/QĐ-TTg dated 30 August 2012: list of projects and tasks, development and implementation action plans to respond to climate change).
- MONRE Decision No. 3761/BTNMT-KTTVBĐKH dated 5 October 2012, responding to report results for the period 2010–2012 and proposing plans for period 2013–2015. Under this decision, the NTP-RCC office collects and synthesises reports to update CAPs across the country. This decision specifies two priority tasks for each locality: (i) Develop plans to organise communication programmes, raise awareness on climate change for local steering committees and communities during 2013–2015; (ii) Update the CAPs during 2014–2015.
- MONRE Decision No. 3815/BTNMT-KTTVBĐKH dated 13 October 2009, providing guidance to provinces to prepare their initial CAPs.
- MONRE Decision No. 990/CV/BTNMT-KTTVBĐKH dated 24 March 2014 by MONRE minister.

2.2 Climate action plans and guidelines

Vietnam has been assessed as one of the countries that is likely to be most affected by climate change including sea level rise (Dasgupta et al., 2009). The Vietnamese government annually undertakes many activities to acknowledge and/or mitigate the disastrous consequence of natural disasters, and understands deeply the role of central government in the

² This includes support from the Japan International Cooperation Agency (JICA), Danish International Development Agency (Danida), Australian Agency for International Development (AusAID), German International Cooperation (GIZ), French Development Agency (AFD) and Eximbank Korea, and coordinated with project loans and technical assistance from German Development Bank (KfW), Asian Development Bank (ADB) and World Bank.

planning of socio-economic development. Thus, they are pushing heavily for action on adaptation planning. Climate action plans (CAPs) were introduced in Vietnam as part of the NTP-RCC. All national ministries and all provincial-level governments were required under the NTP-RCC to prepare CAPs indicating their proposed response to climate change. The NTP-RCC guidelines cover most of six generalised international good practices except for risk assessments. As one local authority interviewee explained,

It [the guidelines] requires practices that CAP should have: for example it asks for climate impact assessment, however without explicitly saying how it should be done. This is for locals to decide.

During the initial phase of CAPs (2011–2025), the recommended emphasis was to be on adaptation to climate change. Each province and national-level city (the same level of government as a province) received support from the national government of approximately one billion VND (roughly \$US50,000 at the time) to prepare their CAP. The Ministry of Natural Resources and Environment (MONRE) provided local governments with a list of consulting organisations that were technically qualified to undertake this work.

2.3 Government structure (provinces)

CAPs at the provincial level were introduced in 2009 as part of the NTP-RCC, among many other provisions of that programme. The NTP-RCC is administered through a programme secretariat located within MONRE, and reports to a national committee for climate change chaired by the prime minister. The secretariat seconds technical staff from MONRE as required; it has no permanent staff of its own.

Similarly, the legal documents supporting the NTP-RCC and its implementation come from MONRE, and are approved by senior ministry officials and the minister. All 63 provincial-level governments in Vietnam were provided with guidelines developed by MONRE and financing from the national budget to undertake CAPs in 2010–2013. Because climate change was a new concept in Vietnam at that time, and there was a lack of knowledge and skills at provincial level, most provinces chose to have their CAPs prepared by technical consultants who were qualified and knowledgeable about climate change. As there were relatively few of these in Vietnam at the time, frequently these were institutes under MONRE or national-level university institutes with expertise in meteorology, hydrology and environment. There was no requirement for draft CAPs to be submitted to NTP-RCC (i.e. to MONRE staff assigned to NTP-RCC) for review, although some provinces did seek MONRE technical review and opinion before submitting their plans for local approval. At the same time as being reviewed by NTP-RCC (if they were), the draft documents were reviewed at the provincial level by other technical departments. NTP-RCC sent any comments they had to the provincial Department of Natural Resources and Environment (DONRE), as did other technical departments. Each provincial CAP was approved by the Provincial People's Committee (PPC) on the recommendation of DONRE.

2.4 Completion of initial round of CAPs

The initial round of CAPs were prepared in 2010–2013 by all provinces and cities in Vietnam, and focused primarily on adaptation to future climate conditions. Of 63 provinces and cities, 62 had approved CAPs as of December 2014 (the draft CAP of Dak Lak Province had not yet been approved by the PPC). As part of its revised NCCS the national government required an update and revision to CAPs in 2014–2016 following the guidance of the Department of Meteorology, Hydrology and Climate Change (DMHCC-MONRE) for updating the CAPs.³

³ Decision No. 990/CV/BTNMT-KTTVBKD dated 24 March 2014 by MONRE minister.

3 Research approach

This study reviewed the early experiences of CAPs in Vietnam and used comparative analysis to assess both the plan documents and the processes used to generate them. The Vietnamese CAPs were compared with each other and with international good practices, as identified in Section 1. We used various descriptive characteristics to help explain differences between the CAPs of different provinces in Vietnam, and to explain gaps and weaknesses of the CAPs in relation to international good practices.

In addition to the comparative analysis, the research was extended to understand differences between CAPs that were undertaken with international technical support and those that were developed without. This section explains the criteria used for comparison and sample selection, and describes data collection procedures.

3.1 Methodology

3.1.1 Criteria for comparison

The six international good practice descriptions in Section 1 were used to frame 21 specific criteria for a review framework that was applied to the written CAP documents (all documents are available in Vietnamese only). These 21 criteria are shown in Table 2. For the comparative criteria, the plan documents and processes applied by each province were ranked on an ordinal scale based on the degree to which the actual practices employed in preparation of the Vietnamese local CAPs matched the criteria.

In addition, a list of 24 specific practices was developed (Table 1). For the list of good practices (which are focused more on effective planning processes, the organisation and management of adaptation planning, the analytical foundations of the process, and the types of information and direction included in the plan) a simpler qualitative analysis was used to indicate whether or not there was any evidence that the practice had been applied in each case.

Table 1. List of 24 good practices assessed for each province studied

Good practice	Description
Coordination by local staff with external technical inputs	The CAP process is coordinated by local government staff with technical support from external experts as required
Departments involved in implementation	Key technical departments involved in implementing plans are also part of the planning team
Interaction/collaboration between technical specialists, departments, services	Formal collaboration and consultation mechanisms exist to ensure that different technical departments, specialists and government service units can review and comment on the draft plan
Consultation with vulnerable community groups	Social groups who are most vulnerable to climate impacts are specifically involved in consultations to assess vulnerability, risk and alternative adaptation measures
Responsibility for implementation assigned	Clear responsibility for implementation of plan recommendations is assigned to specific agencies
Iterative process (shared learning, exploratory)	The CAP process is iterative: some parts of the process have been repeated as information improves, lessons are widely shared and documented and feedback is provided to contributors
Local commitment	Local political commitment to the CAP process is high, as demonstrated by executive-level support
Driven by local interest	CAP procedures and priorities are driven by local context and respond to locally determined policies and priorities more than national guidelines
Experience driven by international donor	The planning process responds to advice from international donors and their technical experts and to priorities they have identified
Request for additional information	Local planners request additional information from external expert consultants, national government or other local departments to respond to emerging issues as the plan develops
Prioritisation of adaptation measures	The CAP establishes a limited number of priority measures for implementation
Recommendations focus on key vulnerabilities	The priority recommendations respond clearly to vulnerabilities identified in the plan
Implementation of recommendations	Priority recommendations in the original CAP have since been implemented by local government
Recommendations supported by implementing agency	The CAP recommendations have been reviewed and approved by the technical departments responsible for their implementation
Financing of implementation measures	Financial resources for implementation are identified in the CAP
Barriers/incentives to implementation	The CAP explicitly identifies any notable barriers or incentives that could prevent or support implementation of recommendations
Monitoring	The CAP includes mechanisms for monitoring implementation and updating the plan

continues

Table 1 (cont.)

Good practice	Description
Use of best available science	Climate change adaptation planning uses the most recent available climate projections, including estimates of uncertainty
Availability of climate information	Climate information has been made available to the public as part of the planning and consultation process
Assessment of climate impacts	Climate projections have been used to assess likely impacts from climate change
Application of hydrological models	Hydrological modelling has been applied to assess risks of flooding from rivers or sea-level rise
Vulnerability assessment	A formal vulnerability assessment has been undertaken to demonstrate which groups and sites are most vulnerable to climate impacts
Risk assessment	A formal risk assessment has been undertaken, either quantitative or qualitative, explicitly assessing the probability and magnitude of damage from climate impacts
Risk assessment used in prioritisation	Conclusions from risk assessment have been explicitly used in determining priorities for adaptation recommendations

3.1.2 Data collection tools: CAPs content review framework

The review framework for the provincial CAP documents allowed for descriptive analysis and scoring the content of the plans in terms of climate science, impacts, vulnerability and risk assessment, and the prioritisation of recommendations, in accordance with good practice. For each criterion, a four-point ordinal scale from 0 to 3 has been used to evaluate the quality of the CAPs' content (see Table 2). A score of 0 means 'did not attempt to or meet this criterion at all' while a score of 3 is awarded to 'exemplary application of this criterion'. During the review, team members noted questions or lack of clarity in relation to specific criteria in the CAP document to follow up during interviews with relevant stakeholders.

Table 2. List of 21 reviewing criteria for CAP documents

Criteria for documented CAP content	Score (0–3)
Summary of conclusions from prior studies/projects	
Application of best available climate science	
Projections of climate parameters	
Estimates of changes in extreme conditions (frequency/severity)	
Sea-level rise estimates	
Range of uncertainty	
Identification of climate variability	
Estimates of climate impacts	
Hydrological modelling	
Projected impacts of sea-level rise or digital elevation models	
Inundation shown in map overlays	
Regional collaboration with neighbouring province	
Identification of vulnerable groups/sectors	
Identification of factors contributing to vulnerability (sensitivity/capacity)	
Consideration of future conditions/future development	
Estimated probability of extreme events/impacts	
Estimated losses	
Priorities assigned using risk assessment	
Recommendations address key vulnerabilities	
Responsibility for implementing recommendations identified	
Sources of finance for implementation identified	

3.1.3 Data collection tools: questionnaire

Interview questionnaires for key relevant local officials provided more detailed background information and obtained subjective opinions about the experience of producing the CAPs. The questionnaire was designed based on a list of 24 good practices concerning the implementation process, for example the coordination between stakeholders, local support and sharing mechanisms, and included four components, each directed at a different type of interviewee (see Annex 1 for questionnaire):

- Part A is the main set of interview questions/topics for representatives of the lead agency responsible for CAP development (questions 1–3, 5). This interview typically involved senior officials of DONRE, and was often conducted with at least two officials at the same time to confirm details and improve recall. The questions gather information on prior knowledge and experience in relation to adaptation; CAP process such as collaboration and interaction of key stakeholders; involvement of vulnerable groups/sectors; and support from provincial authorities as well as the participants' perception of the CAP experience.
- Part B is a separate interview with implementation agencies, to crosscheck the collaboration and coordination between involved agencies and to obtain more insights into challenges and barriers in implementing adaptation measures.

- Part C is an interview with policymakers, typically executive members of local government, to help gain an understanding of their support in developing and implementing CAPs.
- Part D is an interview with affected community members, focusing on how they were consulted and whether their proposed measures were taken into account in the CAP.

For some questions, a four-point ordinal scale (as above) was used to score responses, while others were qualitative responses only. The questionnaire was tested before finalising for actual interviews.

3.1.4 Sampling criteria

Provinces were sampled purposively for maximum variation. Nine provinces were selected from a total of 63. All were required to have good documentation of the planning process (in Vietnamese). The sample was selected to include at least one province from each of the country's seven climate zones, with a mix of urban and rural provinces but an orientation to urban selection due to the rapidly growing urban population in Vietnam. In addition, the sample intentionally selected both provinces that had received international support for the preparation of CAPs and those which had not. There were two sample sizes for two different analyses. The selected provinces for the comparison with international good practices are listed in Table 3.

Table 3. Case-study provinces selected for comparison with international good practices

No	Climate region	Province/ city
1	Northwest	(1) Son La
2	Northeast	(2) Lao Cai
3	North Delta	(3) Hanoi
4	Northern central region	(4) Hue
5	Southern central region	(5) Quang Nam/ (6) Binh Dinh
6	Central highlands	(7) Kon Tum
7	South	(8) Can Tho/ (9) Ben Tre

Table 4. Case-study provinces with and without international technical support

Without international technical support	With international technical support	Donor
Binh Dinh	Can Tho	Rockefeller
Hue	Ben Tre	Danida
Son La	Quang Nam	Danida
Kon Tum		
Lao Cai		
Hanoi		

Among nine selected provinces there are six provinces receiving only national technical support and three also receiving international technical support (Table 4). In each selected province the key local officers whose responsibility was to develop the CAPs were interviewed to obtain more insights into the CAP development process. Then snowball sampling⁴ was used, based on suggestions of these officials, to identify other technical departments responsible for implementing CAP recommendations, policy makers, and vulnerable groups affected by climate impacts for the three further interviews.

3.1.5 Description of sampled provinces

The nine selected provinces are scattered throughout the country in 7 different climate zones (Figure 2). Each province is described briefly below:

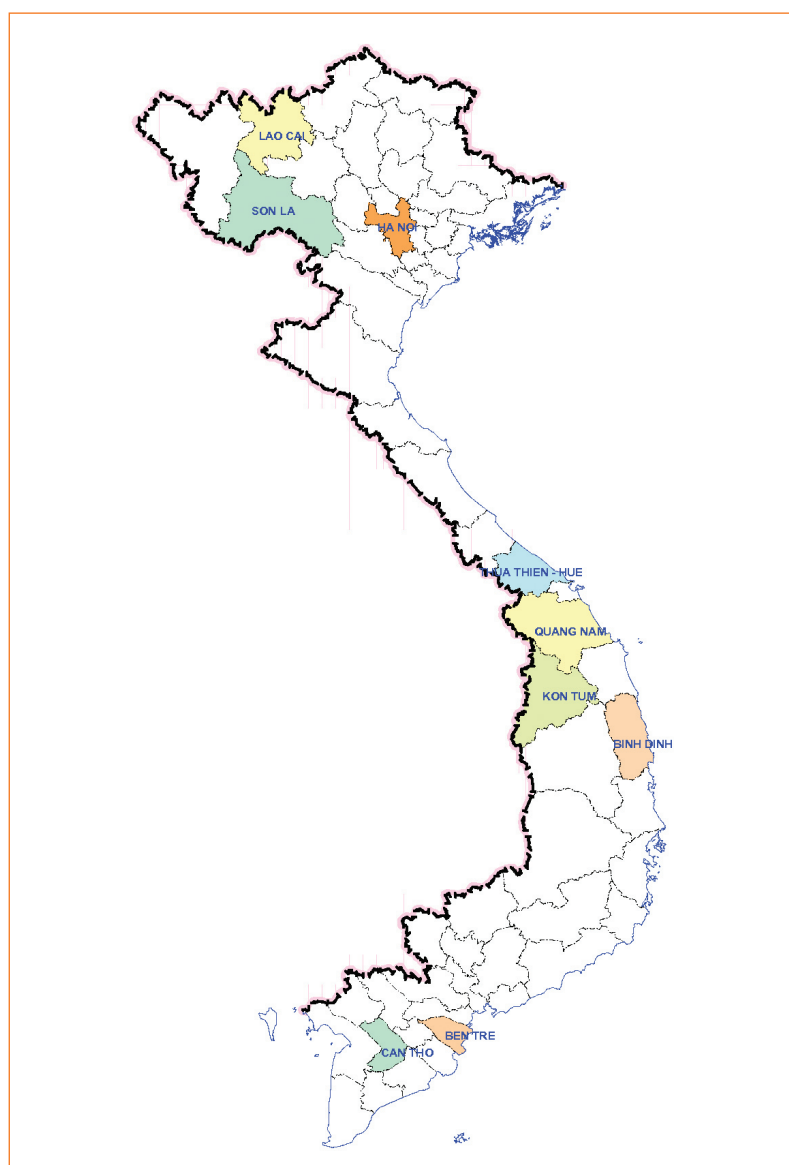
- **Lao Cai province:** Lao Cai is a mountainous province, located in northern Vietnam. It lies along the main trading route between Vietnam and the southwest region of China. The immediate climate impacts in Lao Cai are frequency and intensity of extreme cold, and flash floods. The vulnerable areas are the mountainous and remote ones. The ethnic minority and poor groups are the most vulnerable people. Agriculture will be the most affected sector in Lao Cai.
- **Son La province:** Son La is a mountainous province located in the central northwest region, sharing a 250km border with Lao. Main climate-related risks are flooding (flash floods), landslides, drought and extreme cold. Every year those impacts cause death and loss. The most vulnerable people are poor, ethnic minority groups who have limited capacity to recover. Agriculture and infrastructure are most vulnerable. The Number 16 Highway is constantly at risk of erosion and is the only road leading to province.
- **Hanoi city:** Hanoi is the capital and the socio-economic-cultural centre of Vietnam and the northern region and has the second-highest ranking population density. City typography varies from lowland to hilly areas. With changing climate conditions, lowland areas are more frequently flooded, while hilly areas are facing more drought. Water resources (surface and ground) are decreasing both in quality and quantity. Together with rapid urbanisation the impacts are worsened and have a greater impact on people's lives and infrastructure due to capacity overload.
- **Thua Thien Hue province:** typography is diverse including mountains, delta and coastal areas. Storms, storm surges, floods, tropical low pressure and prolonged drought are becoming more frequent and intensive. Hue city includes many historical places of interest and is a UNESCO World Heritage site. Tourism, agriculture and infrastructure are vulnerable to climate risks which have already caused VND 365 billion of damage per year over a period of 20 years.⁵. The most vulnerable groups are lowland residents, the poor and women.
- **Quang Nam province:** Quang Nam is located in middle of the central region of Vietnam, the country's main economic area. There are two World Heritage sites in this province which are tourist attractions. Sea-level rise, storm surges, floods and erosion, saline intrusion and prolonged drought are the main climate impacts. From 1997 to 2013 there were 60 floods which caused 570 deaths and 2,000 injuries. The delta near the coastal zone is the most affected. Agriculture and fishery are two sectors facing many challenges due to climate variations.
- **Kon Tum province:** Kon Tum is located in the highland region with mountains, hills and lowlands. Floods, flash floods, landslides, and prolonged heat and drought are the climate variations which threaten people's lives and livelihoods. Farmers, the poor and women are the most affected groups. The banks of the Dakbla River and the Se San River basin are the most vulnerable areas. Agriculture is affected, causing the ratio of agriculture in the economy to decline.
- **Binh Dinh province:** Binh Dinh is located in southern central region. Climate-related impacts in Binh Dinh are storms, floods, sea-level rise and drought. Mountainous areas and small and narrow river deltas are affected by floods and storm surges which threaten the food security of the province. The transportation sector and residents in lowland urban areas are also most affected.

⁴ Snowball sampling is a technique used when informants are hard to locate or identify, whereby core informants provide researchers access to other informants.

⁵ According to Thua Thien Hue's CAP, 2011

- **Ben Tre province:** Ben Tre is in the Mekong Delta and is also a coastal province, with flat topography. The main climate change impacts are frequent drought and storms, and severe saline intrusion due to sea-level rise. Coastal areas and agriculture – especially aquaculture – are most affected. The most vulnerable groups are women, children, the poor and minority ethnic groups, with less capacity to adapt to changing climate.
- **Can Tho city:** Can Tho is the socio-economic-cultural centre of Vietnam’s Mekong Delta. Climate change impacts include decreased water-resource storage, floods which affect agriculture, aquaculture and fisheries, and public health. Areas including riversides, coastal areas and water-shortage areas are most vulnerable. The poor, women and migrants are those who are most affected.

Figure 2. Locations of the eleven case-study provinces in Vietnam



4 Results

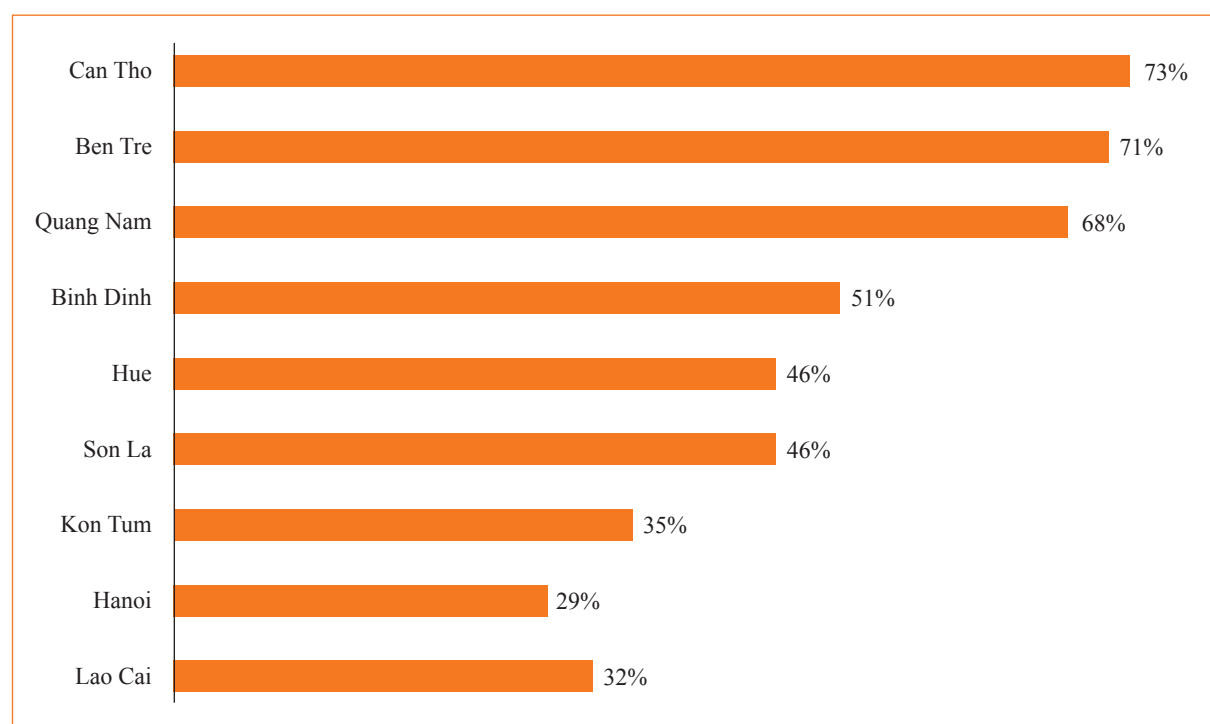
We first describe the comparative results from our assessment of CAP content based on the 21 criteria (Table 2) and relevant interview results related to CAP development. Following this we present the results of comparisons between Vietnamese experiences and international good practices overall. This is followed by the analysis of differences between provinces with international technical support and those without.

4.1 CAP review: scoring and comparison

The scores from the review of CAP documents for the nine provinces led to clustering the sample into three categorised groups with three provinces in each: high, medium and low scores. The data ranking is not precise enough to differentiate within each group, but it does point to significant differences between the three groups.

The results are summarised in Figure 3 and characteristics of each group are explained further based on the review results and from interviews.

Figure 3. Contents of CAPs compared to good practices



4.1.1 Group I: high score

There are three provinces in this group: Can Tho, Ben Tre and Quang Nam. They all scored around 70 per cent of the total possible score and all received international funding. Among these three, Can Tho achieved the highest number of maximum scores (11 out of the 21 criteria received a score of 3) whereas Ben Tre and Quang Nam have maximum scores for 7 and 6 criteria respectively. However, all did a good job in identifying vulnerable groups/sectors and taking into account future development when conducting vulnerability assessments. In Can Tho, which received the highest score, local government had received some financial support but limited technical advisory support from international sources. They hired local consultants (from Can Tho University and the Southern Institute of Water Resources Research (SIWRR)) to deliver the technical analysis, including hydrological modelling and sea-level rise scenarios, but the CAP was written by staff of the Center for Natural Resource and Environment Monitoring. (*CENREM*) within DoNRE. This was unusual for our sample, where most of the CAPs were prepared almost entirely by consultants. Ben Tre and Quang Nam each used the same Vietnamese consulting firm to lead their CAP, and both were supported by Danida, including access to foreign technical advisors in preparation of the CAP.

Both Can Tho and Ben Tre had started on local climate impact assessment and planning work prior to preparing their first CAP, in part as a result of significant donor interest in support to climate adaptation in the Mekong Delta, which is already beginning to face climate change impacts. In Can Tho's case, their high score is especially remarkable given that they were one of the earliest (third of 63) to submit a CAP. The Can Tho CAP was approved by the PPC almost a full year ahead of any of the others in this sample. The fact that it was the only CAP in this group to be drafted entirely by local government staff demonstrates a high level of capacity and local expertise in this initial round of climate planning. Ben Tre took the longest time of any in this sample to prepare their CAP – a full two years. Quang Nam had some similarities with Can Tho and Ben Tre (foreign technical assistance and advisors, financial support to implement plan recommendations). These high-scoring CAPs were alike in many ways: that is, they scored well across most of the same CAP characteristics.

4.1.2 Group II: medium score

Binh Dinh, Hue and Son La all scored around 50 per cent, although Binh Dinh's score was higher than the others (51 per cent of total possible score). However, in term of maximum score both Binh Dinh and Son La gained the maximum score of three for three of the 21 indicators, whereas Hue only achieved this for two indicators.

Group II tended to have lower scores in several key areas, although there were variations between the provinces in this group. Climate science inputs typically were less comprehensive, for example failing to consider uncertainty. All three provinces received one point for that criteria. They also got the minimum score for the criteria of preparing CAP in collaboration with neighbouring provinces. Individually, Hue especially seems not to have paid attention on climate parameter projections, estimation of frequency and sea-level rise which is surprising as Hue is a vulnerable coastal zone – and thus received minimum scores for these three criteria. However, Hue gained a maximum score for the identification of vulnerable groups and estimation of climate impacts. Son La received minimum scores for hydrological modelling and inundation map overlays criteria but top scores for the identification of climate variability, recommendations to address key vulnerabilities, and identifying responsibility for implementing recommendations.

All three provinces started their CAP process under NTP-RCC. All of them hired consultants to prepare their CAP but they also formed a working group from different departments within the province to support the consultants during the process. Their CAP was also written by consultants.

4.1.3 Group III: low score

Provinces in this group were Kon Tum, Lao Cai and Hanoi which all scored around 30 per cent of the total possible score (35 per cent, 32 per cent and 29 per cent respectively). Among the low-scoring group there was even more variability. So while the high-scoring CAPs were similar in the characteristics of their CAPs, this group was quite diverse. Their strongest features were identifying responsibility for implementing recommendations, but otherwise none scored highly on any of the criteria.

All three provinces have less prior experience with climate projects than the other provinces as they did not have explicit projects on climate change before starting their CAPs. Although Kon Tum has highest score in the group it did gain not a top score for any criteria, though it received the least minimum scores compared to Lao Cai and Hanoi. These three provinces had limited climate-science interpretation (e.g. none gave estimates of climate losses). Kon Tum had attempted to conduct a vulnerability assessment regarding the identification of vulnerable groups/sectors (two points) whereas Lao Cao only scored one point. However, none of the provinces in this group identified factors contributing to sensitivity/capacity or carried out any consultations with vulnerable groups. All of them also have no risk assessment, which is unsurprising as they had unclear priorities among their recommendations and unclear connections between recommendations and vulnerabilities. Kon Tum and Lao Cai received only one point for those criteria. Hanoi received the minimum score. Similar to Group II, CAPs of this group were prepared under NTP-RCC and written by consultants.

4.1.4 Comparison and explanation of CAP review findings

A comparison of the scores for the 21 criteria on the CAP reports is shown in Annex 2. The scores vary widely between the provinces, and within each province between the different criteria. Across all provinces, the greatest consistency in terms of high scores was for the estimation of climate impacts, the identification of vulnerable groups or sectors, and the assignment of recommended actions to specific implementing agencies. Almost all provinces presented the available climate information similarly and identified potential impacts of future climate. These aspects were central to the NTP-RCC guidelines for CAP preparation and the standard technical consulting studies. In addition, most provinces also considered future development trends and their implications for future climate vulnerabilities.

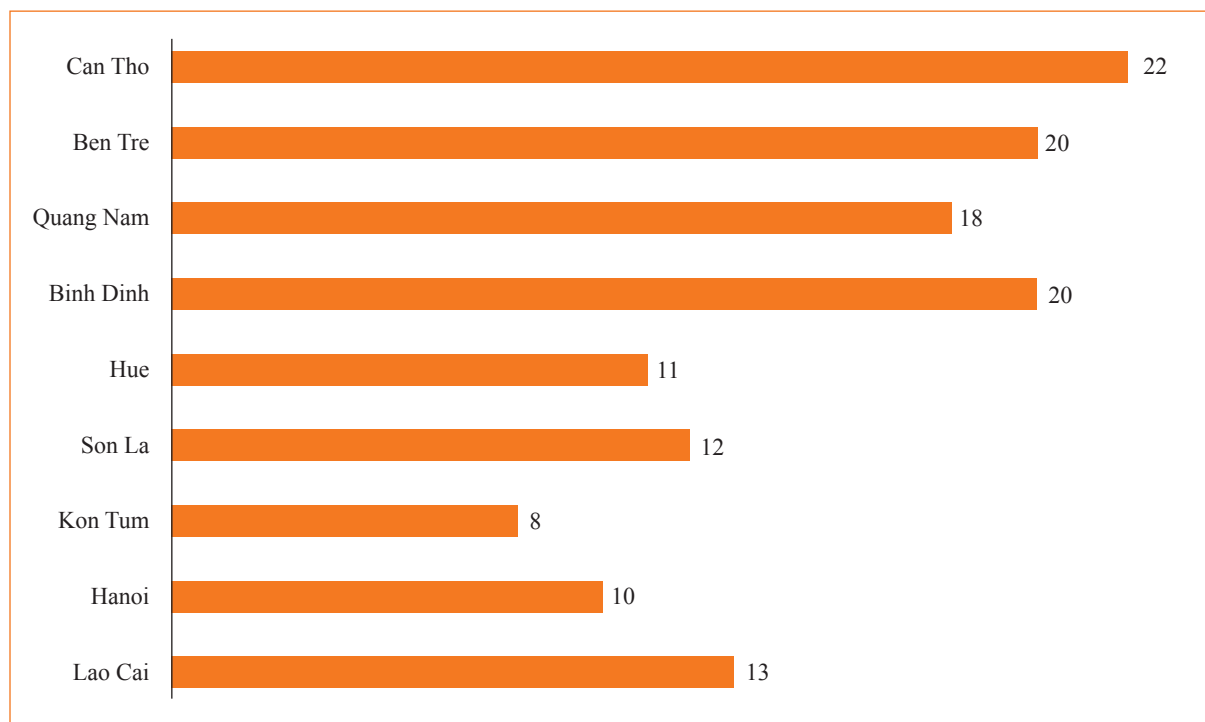
Many of the consultants preparing these CAPs assigned priorities for implementation projects based on the criteria used by SP-RCC to allocate funds at the national level to climate adaptation activities.⁶ Across all the provinces sampled, only in Can Tho and Ben Tre did the CAPs make reference to the plans of neighbouring provinces. Across all the CAPs studied, there was generally weak discussion of the uncertainties involved in future climate conditions and potential impacts, including uncertainties derived from non-climate factors such as changing urban development or land-use patterns. There was also very limited use of formal risk assessments. The greatest variation across all the CAPs was the analytical approach to vulnerability assessments, including the identification of vulnerable groups and sectors, and determination of the sensitivity and capacity of these groups. The high-scoring CAPs had a careful analysis of these factors, while the low-scoring ones had almost no attention paid to these issues.

4.2 Vietnam's experience versus international good practices

The list of 24 'good practices' based on the review described in Section 1 is shown in Table 1. Based on the responses to interview questions and review of the CAP documents, credit was given to the provinces for good practices whenever evidence that they were applied was found. None of the nine cases demonstrated evidence of the use of all these practices; however, Can Tho applied 22 of them, Ben Tre and Binh Dinh 20 each, and Quang Nam 18. The other provinces used substantially fewer good practices (see Figure 4).

⁶ Decision No. 1719/QĐ-TTg dated 4 October 2011.

Figure 4. Good practices demonstrated in CAPs for each province (of 24 possible)



The data shows that only one third of the provinces in the study undertook a risk assessment as a basis for prioritising recommended interventions. In only one case was climate information shared widely with other departments and agencies. In fewer than half of the cases was planning responsive to information requests from other departments, and able to define strong local interests to drive the process. Finally, in fewer than half of the cases was the plan tied to financing to implement recommended interventions.

In the case of Binh Dinh, the provincial DONRE had earlier experience with foreign technical support through the Asian Cities Climate Change Resilience Network (ACCCRN) climate planning for the city of Quy Nhon, but whereas Can Tho could translate their ACCCRN city-level planning background directly into their provincial CAP, because the city is at the same administrative level as a province, in the case of Binh Dinh the provincial-level plan was a separate process from the ACCCRN city plan, and much broader than the ACCCRN plan conducted for Quy Nhon only. Still, it appears that their experience with ACCCRN was beneficial in terms of their familiarity with good practices in climate planning. The findings reveals that three examples of good practice were the most applied in all nine provinces:

- Interaction/collaboration between technical specialists, departments, services
- Focusing recommendations on key vulnerabilities
- Assessment of climate impacts

The following three practices were applied in eight provinces:

- Assigning responsibility for implementation
- Use of best available science
- Use of hydrological models

No province addressed barriers or incentives to implementation practice.

5 Discussion of findings

Overall, considering that this was the first experience with local adaptation planning in Vietnam, and one of the first systematic efforts to undertake such planning at a national scale anywhere in the world, the results demonstrated a relatively good, if inconsistent, alignment with emerging good practice in this new field. In comparing examples of good practice, almost all of the provincial consultants used the standard climate science projections made available by MONRE and the Institute of Meteorology, Hydrology and Environment (IMHEN). These scenario projections constituted, effectively, the best climate science information available to local government at the time. The standard projections were also often supplemented with additional information on uncertainty and variability, but seldom with information about likelihood or magnitude of extreme events.

All of the provincial CAPs included an assessment of climate impacts based on the available climate projections, and most also applied standard hydrological modelling information as relevant from national reference sources. The climate data and hydrological modelling results are not publicly available. Any organisation that wants to use this data must purchase it from the suppliers. As a result, a small number of consulting agencies generally purchase the data and use it in multiple studies. In addition to the common approach to climate data, almost all the initial CAPs demonstrated that local government authorities had a strong commitment to the process, despite the fact that it was new and unfamiliar. So, in summary, there was strong local interest in the CAPs, but they were dominated by climate science and impact assessments rather than orientation to vulnerabilities, or to strategies for risk reduction.

Most of the provinces demonstrated good practice by engaging the departments responsible for implementing CAP recommendations actively in the planning process. Most also engaged in consultations with vulnerable communities, undertook a recognisable vulnerability assessment that considered climate impacts (although not always adaptive capacity and sensitivity). They prioritised recommended actions, often using the SP-RCC criteria discussed above, and clearly assigned responsibility for implementing recommendations. About half had started to implement some of the recommendations, often with external funding, and most proposed monitoring mechanisms for future vulnerabilities and for implementation measures.

In general, the plans gave insufficient consideration to the difficulties of implementing recommended actions. While they identified responsibilities for action, and ensured the support of the technical agencies directly named as responsible for implementation, most CAPs failed to link the recommendations to specific financial resources, or to explore potential barriers or incentives for practical implementation. As a result, implementation of recommended measures has been limited mostly to those cases where external project funding was already available.

It is difficult to generalise about strengths and weaknesses of these initial CAPs, because of the large variations between them. Across all nine provinces studied, the strongest elements were the presentation of climate data and climate impacts, the identification of vulnerable groups, and the assignment of recommended actions to specific implementing agencies. There was typically consultation with other technical departments, at least as a matter of routine referral. Many of the provinces engaged representatives of vulnerable communities in consultations about climate impacts and the plan, and some set manageable priorities for recommended actions. Common weaknesses across most of the CAPs included insufficient attention to uncertainty and variability in the climate projections and related development variables that would affect the plan. Another weakness was risk assessment, which was seldom included in the analysis. But the biggest weakness in the CAP process was insufficient consideration of how to implement recommendations, as the CAPs did not

connect to other socio-economic and sectoral planning processes that would support financing and implementation of recommended actions.

Our comparison showed clear differences between CAPs that were undertaken with some international support and those that were not. The donor-supported CAPs typically included more careful vulnerability assessments, identification of vulnerable groups, more engagement of stakeholders including technical departments and community groups, better risk assessments, and better prioritisation of recommendations, together with implementation of high-priority recommendations.

Those CAPs produced under NTP-RCC without international support (the large majority of provinces in Vietnam) were more diverse. Most followed only basic procedures and devoted limited effort to vulnerability assessments, risk assessments or prioritisation of recommended measures. They were dominated by climate science and impact assessments rather than by analysis of vulnerabilities or strategies for risk reduction. However, it should be noted that there is no mention of risk assessment in the NTP-RCC guidelines. Furthermore, the CAPs often did not consider many factors influencing future uncertainties, including changing patterns of urban development or land use. However, they may have scored well in some criteria, such as clear assignment of responsibility for implementation, good prioritisation of recommendations, or unusual attention to details of climate variability. But in general, their weaknesses meant that they have had limited effectiveness.

6 Conclusions

From the results shared above, we can conclude that the initial experience with local climate adaptation planning by provincial governments in Vietnam has led to highly inconsistent processes and results in different provinces. Somewhat surprisingly, despite the lack of experience in Vietnam with climate change analysis or planning, some of the provincial plans employed a large number of good practices, and compared favourably with international standards.

At their best, the provincial CAPs were of high quality. This demonstrates that there are already experienced and knowledgeable practitioners of local adaptation planning in the country, although in this initial round the best CAPs were supported in part by international advisors and donor funding. However, it is also clear that there is not widespread recognition of what constitutes good practice, nor are there yet mechanisms in place to assure greater consistency in the quality of local adaptation planning. The next round of CAP updates, required by the national government in 2015–2016, can be improved by capitalising on the knowledge and experience that already exists among some provincial government agencies and consultants to apply good practices and improve the consistency of adaptation planning work. In pursuing this objective of higher quality and greater consistency in provincial-level CAPs, technical climate-planning consultants are a key target audience for capacity building, because provincial DONREs have limited staff for climate planning and most CAPs have been prepared by technical consultants.

The most consistent weakness across all the first-round CAPs among Vietnamese provinces was their lack of implementation mechanisms. Unless the recommendations of CAPs are integrated with other local planning and budgeting processes, implementation is unlikely. In other sectors, plans are prepared and implemented by the same agency. But for climate adaptation, implementation actions typically involve many different technical departments at the provincial level. This points to a key institutional gap that needs to be filled to ensure the effectiveness of provincial-level CAPs.

Local planning processes which should integrate CAP results include urban development and land-use planning, but also transport, energy, resource management (forestry, wetlands) and public health. Most importantly, relevant CAP recommendations across multiple sectors should be integrated into Vietnamese processes for social and economic development planning, which is the coordination mechanism for investment and public expenditure management. Such integration will be difficult because it will require climate change knowledge and expertise, to manage risks across sectors and make reasonable trade-offs. However, there remains limited understanding of climate change risks in most local government departments. Even in DONRE, most provinces rely on consultants to do their planning – and DONRE planners have no leverage over the planning and investment decisions of other agencies.

These conclusions argue for a consistent, long-term climate change advisory service, planning and coordination role at the local level to support the integration of CAPs with sectoral planning and with social and economic development planning. Without a systematic coordinating mechanism that can apply climate knowledge to local decision making, even high quality CAPs are unlikely to be effectively implemented.

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Annex 1. Questionnaire and interview schedule

CAP-VN project: Assessment indicators for local climate change adaptation planning in Vietnam

Province/city	
Local government name	
Focal point contact details	
Name	
Function	
Department	
Address	
Email	
Telephone	
Fax	
Other participants in group interview (if relevant)	
Name	Department

Outline

This section outlines the general structure of the questionnaire. Detailed questions are listed below in relevant sections. Data collection in each province will require several interviews. The main interview is covered in Part A (5 sections). Other interviews are shorter and may be done by telephone, with appropriate introduction and description. Part B is a separate interview with implementation agencies. Part C is an interview with policymakers. Part D is an interview with affected community members.

In all cases, the interviewer will need to introduce themselves, explain the purpose of the interview (to review the experience with CAP to improve effectiveness for updates), explain how long the interview is expected to take (some will be very short) and then invite questions from the interviewee.

A. Interview with CAP lead agency (normally DONRE) – with other WG members as appropriate?

1. Background description

- 1.1. Previous knowledge of climate change
- 1.2. Previous projects related to climate change
- 1.3. Interest in CAP

2. CAP process: description

- 2.1. Timing
- 2.2. Budget
- 2.3. Human resources
- 2.4. Structure and participants

3. CAP process: ratings

- 3.1. Collaboration and interaction of key participants
- 3.2. Support from PPC
- 3.3. Consultation with vulnerable sectors and groups
- 3.4. Shared learning and iteration
- 3.5. Transparency and reporting
- 3.6. Role of local government staff (see also HR above)
- 3.7. Recommendations: were these reviewed, modified and supported by the responsible implementing agencies?
- 3.8. Implementation
- 3.9. Monitoring

4. Prepare in advance from CAP document and follow up in interview if any questions

- 4.1. Climate science
- 4.2. Climate impacts
- 4.3. Vulnerability assessment
- 4.4. Risk assessment
- 4.5. Priorities
- 4.6. Recommendations

5. Summary of CAP lessons

BEST DONE IN SHORT PRIVATE INTERVIEWS, but if this is not possible, written responses might be OK (the problem is answers might not be clear).

The list of questions/topics should not be circulated to interviewees in advance, but they can be circulated to individuals once the interview has taken place. Any additional responses can then be added to the interview notes.

A note about rating scale: for questions in Section A3 where responses are scaled against ‘good practices’ we suggest a scale of 0–3 as follows:

- 0 – Did not meet this criterion at all (no effort or minimum accomplishment)
- 1 – Some attempt to accomplish or meet this criterion but limited success
- 2 – Good effort made/reasonable success in meeting this criterion
- 3 – Excellent effort made/highly successful – a model for others to follow

Part A. Detailed survey questions (sections 1–3 may be shared in advance)

1. Background description

(Note: these questions are ‘self assessment’. This means we do not assume the answers are correct. For our purposes, it does not matter whether the team had detailed knowledge of climate change or not. What matters is whether they BELIEVE they have a detailed knowledge of climate change or whether they CLAIM they have experience with climate projects. We should not confuse these assessments with facts: they are the opinions of the team. We will use the responses to these questions to explore explanations for differences in other scores).

- 1.1. Before starting the first provincial level CAP, my/our team’s knowledge of climate change was:
 - Nothing at all (0)
 - Just what we see in the newspapers/media (1)
 - Some technical background from professional reading (2)
 - High level of studies and technical background (3)
 - Expert (4)
- 1.2. Before starting the first provincial-level CAP, our province had already undertaken projects related to climate change with national or international support.
 - Number of projects:
- 1.3. Climate action planning began in our province/city because of:
 - Requirement from MoNRE part of NTP-RCC (M – this is a category data, not numerical)
 - Started earlier due to local government interest (I)

2. CAP process: description

- 2.1. Timing
 - 2.1.1. When did you start work on the CAP (month/year)?
 - When was the CAP submitted to the provincial government for approval (month/year)?
 - Record the duration in months:
 - When was it approved by provincial government or submitted to MoNRE (month/year)?

2.2. Budget

- 2.2.1. What was the provincial (local) budget for preparing the CAP? (Total in VND)
- 2.2.2. Did you have financial support from the national government for preparing the CAP? (If yes, total in VND)
- 2.2.3. Did you have financial support from international donors (Y/N)? If yes, do you know the amount contributed?

2.3. Human resources

- 2.3.1. Were the CAP and related studies prepared entirely by provincial government staff (Y/N)?
- 2.3.2. If no, how many external consultants were engaged? (number)
- 2.3.3. Were there any international experts involved in supporting the CAP? (Y/N)
- 2.3.4. If yes, number of international experts (number)

2.4. Structure and participants

- 2.4.1. Who was responsible for leading the CAP process? (name, position)
- 2.4.2. How was the CAP organised and managed (e.g. steering committee, working group, individual oversight?)
- 2.4.3. Who were the members of the working group involved in preparing the CAP? (list of names, departments)
- 2.4.4. What were the main roles of different members of the team? (general description, standing chair, technical review, drafting report, etc.)
- 2.4.5. Did the steering committee/WG have strong support from the vice chair of PPC? Provide an example of how the PPC supported the CAP (budget, staff resources, direction to technical agencies to cooperate, etc.)

3. CAP process: ratings

Note: this section to be scored according to criteria indicated. Only one score should be assigned for each question. Choose the highest valid score. The first time you ask the question, do not prompt the respondents. If their response is vague or unclear or cannot be scored, then prompt them according to the scoring criteria.

3.1. Collaboration and interaction of key participants

- 3.1.1. How often did the working group meet to prepare the CAP?
(0 – no WG or met twice or less; 1 – met 3–6 times; 2 – met 7–10 times; 3 – met more than 10 times)
- 3.1.2. How many departments or agencies were involved in most of the WG meetings?
(see also question 2.4.3) (0 – only 1 dept; 1 – 2 or 3 depts; 2 – 4 or 5 depts; 3 – more than 5 depts)
- 3.1.3. What was the role of departments outside DONRE?
(0 – no role; 1 – reviewed documents provided to them; 2 – participated in meetings and provided comments; 3 – led research and writing for some parts of the plan)
- 3.1.4. How many times did the WG report to the provincial NTP steering committee?
(0 – no SC existed; 1 – only once; 2 – 2 or 3 times; 3 – more than 3 times)

3.2. Support from PPC

- 3.2.1. How many steering committee meetings did the vice chair of the PPC actively participate in to discuss progress of CAP?
(0 – no SC; 1 – only once; 2 – 2 or 3 times; 3 – more than 3 times)

3.3. Consultation with vulnerable sectors and groups

- 3.3.1. Was climate data explained and discussed with vulnerable communities or sectors to assess potential impacts? Please describe the type of consultations held **on climate impacts**, and how many people were involved
(0 – no consultation; 1 – commune/ward officials invited to comment; 2 – variety of local-level officials and sector groups consulted; 3 – more than 20 local officials, community members and sector representatives participated in workshops or meetings about climate impacts)

- 3.3.2. Were vulnerable groups consulted about historical experience, sensitivity to climate and capacity to respond?
What type of consultation was done and how was the information used?
(0 – no consultation; 1 – vulnerable groups consulted about historical disasters; 2 – vulnerable individuals and groups consulted about sensitivity and capacity to respond to future climate; 3 – community groups provided advice on impact sensitivity and capacity that was used in the plan – give example from plan)
- 3.4. Shared learning and iteration
- 3.4.1. How was information shared among different stakeholders involved in the CAP?
(0 – little or no information shared; 1 – documents were circulated when complete; 2 – draft reports were discussed in workshops; 3 – departments and vulnerable groups invited to review information and contribute to draft documents through repeated workshops or shared learning dialogues)
- 3.5. Transparency and reporting
- 3.5.1. How were stakeholders (departments, vulnerable groups, mass organisations, steering committee) kept informed of progress in developing the plan?
(0 – no progress reports; 1 – interim results shared with government stakeholders; 2 – interim results and progress reports shared with government stakeholders; 3 – interim results and progress reports shared with government **and** non-government stakeholders).
- 3.6. Role of local government staff (see also HR above)
- 3.6.1. Who drafted the final CAP report (compare response to 2.3.1 for consistency)?
(0 – external consultant; 1 – consultant drafted report except for recommendations; 2 – working group drafted most of the report except for technical details; 3 – working group reviewed the technical reports and then prepared the entire CAP document)
- 3.7. Recommendations
- 3.7.1. Were recommendations reviewed, modified and supported by the responsible implementing agencies?
(0 – recommendations not reviewed by implementing agencies; 1 – implementing agencies invited to comment on final report; 2 – recommendations reviewed individually with responsible agencies; 3 – recommendations reviewed individually and endorsed by each agency before going in the CAP document)
- 3.8. Implementation
- Note: the question is how many projects have been implemented **since the CAP was approved** to implement CAP recommendations. Projects must be directly related to CAP recommendations. Completion of the project means this recommendation has been accomplished.
- 3.8.1. Projects supported by local government (number of projects: score 0–3 if 3 or more projects. If you do not trust the response on this question, ask for a copy of the project approval document in each case)
- 3.8.2. Projects supported by national government (x)
- 3.8.3. Projects supported by international donors (x)
- 3.8.4. Private investment projects (x)
- 3.9. Monitoring
- 3.9.1. Is the implementation of the plan being monitored and reported to the steering committee?
(0 – no monitoring; 1 – project activity reported if recommendations implemented; 2 – regular reporting of priority recommendations; 3 – regular reporting of status of recommended activities and barriers to implementation)
- 3.9.2. Who is responsible for monitoring implementation and reporting results?
(0 – nobody; 1 – implementing agency; 2 – DONRE; 3 – the same working group that prepared the CAP)

4. Prepare in advance from CAP document and follow up in interview if any questions (all these questions to be rated on 0–3 scale)

- 0 – Did not meet this criterion to at all (no effort or minimum accomplishment)
 - 1 – Some attempt to accomplish or meet this criterion but limited success
 - 2 – Good effort made/reasonable success in meeting this criterion
 - 3 – Excellent effort made/highly successful – a model for others to follow
- 4.1. Previous projects: does the CAP summarise the conclusions of previous climate studies and projects in this province, and explain the implications for the climate action plan?
 - 4.2. Climate science: does the CAP demonstrate use of best available climate science at the time it was completed? Does it apply the following practices (rate degree of application 0–3)?
 - 4.2.1. Projections of climate parameters in multiple future periods and changes from historical baseline
 - 4.2.2. Estimates of changes in frequency or severity of extreme events in multiple future time periods (e.g. at least two of: hot days/intense rainfall/severe storms)
 - 4.2.3. Sea-level rise estimates including high tides, waves or storm surge
 - 4.2.4. Range of uncertainty for future projections (plan considers worst-case scenario, not mean)
 - 4.2.5. Increasing variability of climate conditions (start of monsoons, drought etc.) – (this means that the CAP identifies potential increases in climate variability e.g. long droughts one year followed by flooding during the dry season the following year. This problem creates special challenges for planning)
 - 4.3. Climate impacts
 - 4.3.1. Estimates of climate impacts from different hazards in various sectors and locations
 - 4.3.2. Hydrological modelling: projected impacts are based on modelling of future flood conditions
 - 4.3.3. Projected impacts of sea-level rise are mapped against digital elevation data
 - 4.3.4. Coastal (storm surge) and floodplain inundation for extreme events are shown on map overlays
 - 4.3.5. Action plan is prepared in collaboration with neighbouring provinces, to share consistent assumptions, data, modeling or impacts analysis
 - 4.4. Vulnerability assessment (VA)
 - 4.4.1. Vulnerability of whom to what? Vulnerable groups or sectors are identified according to hazard type
 - 4.4.2. Vulnerable groups or sectors are identified based on sensitivity to impact and capacity to respond
 - 4.4.3. Vulnerability assessment considers future climate conditions **and** future development conditions (e.g. master plan, general trend of development)
 - 4.5. Risk assessment
 - 4.5.1. CAP describes estimate of likelihood of extreme events and climate impacts
 - 4.5.2. CAP describes estimated losses (quantitative or qualitative e.g. low/medium/high) from extreme events and climate impacts
 - 4.6. Priorities
 - 4.6.1. CAP uses risk assessment to assign priorities for action measures
 - 4.6.2. CAP priority recommendations address the key vulnerabilities identified in the VA
 - 4.7. Recommendations
 - 4.7.1. Responsibility for implementing recommendations is identified in the CAP
 - 4.7.2. Source of financing for implementation is identified in the CAP

5. Summary

5.1. (Individual responses)

Note: read the statement given in each question (twice). Ask the respondent if the statement is clear. If clear, ask the respondent to answer 1, 2, 3, 4 or 5, where 1 means they ‘strongly DISAGREE’ with the statement, and 5 means they ‘strongly AGREE’ with the statement; 3 means they neither agree nor disagree.

- 5.1.1. The provincial CAP provided **new information** that will be helpful to local government in adapting to climate change
- 5.1.2. The process of developing the CAP was **effective in building shared understanding of climate adaptation** needs across multiple technical departments
- 5.1.3. The provincial CAP provided **clear direction** for local government investment in adaptation projects
- 5.1.4. It will be ‘easy’ (straightforward, not complicated) for the provincial government to implement the top 5 priority measures for climate adaptation
- 5.2. What would you say is the single most important result from the CAP process? (Open ended – write response. Ask for **one** result only. If they offer more than one, request them to pick only one. Tell them you can only record one – the reason for this is to force them to think about what is **most important**. We know there are many results, we just want their **opinion** about which one is most important. The respondent can think about this for some time)
- 5.3. Overall lessons: what **one** improvement would you make when you next update the CAP, based on your experience?
- 5.4. Would you request additional information or support to update the CAP next time? (Y/N). If yes, what information or support would you request? From whom? (can have as many suggestions as they like)
- 5.5. Do you see any major barriers or challenges that will prevent implementation of CAP recommendations? (Y/N). If yes, what are they? (as many as they think are relevant)

Part B. Interview questions for implementation agencies

This interview is for those government agencies responsible for implementing the recommendations of the CAP. If responsible agencies were designated in the CAP document, one or two may be interviewed. Selection of agencies to interview can be based on recommendation by DONRE/CAP leader.

(Explain purpose of interview)

1. Are you familiar with the approved provincial climate action plan? (specify here the date it was approved from question 2.1.1)
2. Were you involved in the preparation of this plan? What was your role?
3. How was information about the CAP shared with you? (0 – little or no information shared; 1 – documents were circulated when complete; 2 – draft reports were discussed in workshops; 3 – I was invited to review information and contribute to content of draft documents through repeated workshops or shared learning dialogues) [similar to 3.4.1. in Part A]
4. Did you review, modify and support the recommendations of the CAP? (0 – did not review; 1 – invited to comment on final report; 2 – recommendations reviewed individually with my agency; 3 – recommendations reviewed individually and endorsed by my agency before going in the CAP document) [same as 3.7.1. in Part A]
5. Is your agency implementing any projects that support the CAP recommendations? If so, how many?
6. Do you see any major barriers or challenges that will prevent implementation of CAP recommendations? (Y/N). If yes, what are they? (as many as they think are relevant)

Part C. Interview questions for decision makers

These interview questions are for provincial/city government policymakers, as suggested by the CAP leader or DONRE. Try to interview at least one person by phone or in person. Could be the chair or standing vice chair of NTP steering committee, or vice chair of PPC.

(Explain purpose of interview)

1. Are you familiar with the climate action plan submitted by the province to MONRE ? (provide date of submission to MONRE)
2. Did you participate in (NTP-RCC steering committee or other committee meetings) to discuss the draft plan?
3. Do you support the main recommendations of the CAP?
4. Can you provide an example of a recommendation that has been implemented or of action taken by the PPC? (please provide a specific example or project)
5. Will the provincial/city government commit funding to support the implementation of the CAP recommendations from the local budget?
6. Do you see any major barriers or challenges that will prevent implementation of CAP recommendations? (Y/N). If yes, what are they? (as many as they think are relevant)

Part D. Interview questions for representatives of vulnerable groups

1. Were you consulted by DONRE (or other agency leading CAP) about climate impacts, historical disasters, or community capacity to respond to natural disasters? (If yes, proceed to next questions. If no, ask the respondent: does your community have any knowledge or experience that would be useful to the local government in planning for disaster management or climate adaptation in future? Then skip the rest of these questions)
2. Did you receive any feedback or information from DONRE about how they used the information you provided them with?
3. Did you have an opportunity to participate in a public meeting or workshop discussion to contribute suggestions to the draft CAP document before it was completed?
4. If you think about the suggestions and the concerns that you raised in these previous meetings and consultations, do you think that there are any projects that are planned or started, to respond to these concerns?

Annex 2. CAP document review scores

	Can Tho	Ben Tre	Quang Nam	Binh Dinh	Hue	Son La	Kon Tum	Lao Cai	Hanoi
4.1 Summary of conclusions prior studies/projects	2	3	3	1	1	0	–	0	0
4.2 Best available climate science	3	3	2	1	2	2	0	1	1
4.2.1 Projections climate parameters	1	2	2	2	0	2	2	2	2
4.2.2 Estimates of changes (frequency/severity)	0	2	3	1	0	2	1	0	1
4.2.3 Sea-level rise estimates	3	1	2	1	0	–	–	–	2
4.2.4 Range of uncertainty	2	1	0	1	1	1	1	1	1
4.2.5 Identification climate variability	2	3	1	2	2	3	1	2	2
4.3.1 Estimates of climate impacts	3	2	3	1	3	1	2	2	1
4.3.2 Hydrological modelling	1	1	2	2	1	0	2	2	0
4.3.3 Projected impacts sea-level rise/digital elevation	3	2	2	2	1	–	–	–	2
4.3.4 Inundation shown on map overlays	3	2	2	3	2	0	2	1	0
4.3.5 Prepared in collaboration with neighbouring provinces	1	2	0	0	0	0	0	0	0
4.4.1 Identification vulnerable groups/sectors	3	3	3	2	3	1	2	1	0
4.4.2 Identification of vulnerability (sensitivity/capacity)	3	2	3	2	2	2	0	0	0
4.4.3 Future conditions/future development	3	3	3	1	1	2	2	1	0
4.5.1 CAP estimates extreme events/impacts	1	2	2	0	2	2	1	0	0
4.5.2 CAP estimates losses	1	1	2	0	1	0	0	0	0
4.6.1 Assign priorities RA	2	2	2	2	2	1	1	1	0
4.6.2 Recommendations address key vulnerabilities	3	3	2	2	2	3	1	1	0
4.7.1 Responsibility recommendations identified	3	3	2	3	2	3	2	2	3
4.7.2 Source of financing for implementation identified	3	2	2	3	1	1	0	1	3
Question 4: sum	46	45	43	32	29	26	20	18	18
Score (% of total for eligible questions)	73	71	68	51	46	46	35	32	29

Local planning for climate adaptation: Vietnam's experience

Asian Cities Climate Resilience Working Paper Series

This working paper series aims to present research outputs around the common theme of urban climate resilience in Asia. It serves as a forum for dialogue and to encourage strong intellectual debate over concepts relating to urban resilience, results from the ground, and future directions. The series is also intended to encourage the development of local research capacity and to ensure local ownership of outputs.

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80-86 Gray's Inn Road, London WC1X 8NH, UK

Tel: +44 (0)20 3463 7399

Fax: +44 (0)20 3514 9055

email: humans@iied.org

www.iied.org

