Climate Adaptation Planning in Vietnam
A review of local government experience

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Nguyen Phuong Nam, CLITECH
Tran Thi Thu Trang, CLITECH
Stephen Tyler, ISET
Nguyen Quynh Anh, NISTPASS
Bach Tan Sinh, NISTPASS
Nguyen Ngoc Huy, ISET
Khanh Pham, ISET

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On behalf of the research team

Project Director

Nguyen Toan Thang

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Executive Summary

Purpose of Study
Climate Action Plans were introduced at the provincial government level in 2009 as part of the Government of Vietnam's National Target Program to Respond to Climate Change (NTP-RCC). This study reviews the initial experiences of provincial governments in Vietnam with Climate Action Plans (CAPs), which were produced over the period 2010 – 2013. The objective of this study is to compare the local government experience with CAPs in this initial period, in order to provide suggestions to the NTP-RCC secretariat and other related agencies under the Ministry of Natural Resources and Environment (MONRE) for how these can be improved when they are updated over the coming period (2014-2015).

Methodology
The methodology for the study consisted of four steps. In order to compare Vietnamese experience, the study team first examined the international experience with local government climate adaptation plans. We focused on adaptation because the initial CAPs were mainly targeted at adaptation needs in Vietnam. From the international experience, we described a list of six generalized Good Practices (GPs) that are now widely accepted in local climate adaptation planning in other countries. We selected nine provinces in Vietnam (from a total of 63) to review their initial CAP experiences in detail, choosing at least one province from each of the country's seven climate zones, and ensured a mix of urban and rural provinces, plus a mix of provinces that had received international financial and technical support, along with those who had not. We then reviewed the approved CAP documents, and scored them against a list of 21 criteria derived from the international Good Practices. In addition, we used the good practice list to develop interview questions and then arranged to meet with local government officials who had been involved in the preparation of the first CAPs to discuss their experience and collect detailed information. The three organizations involved in this study each contributed to questionnaire design and to fieldwork, sharing their results and aligning scoring to ensure common interpretation of the data. The results were analyzed and we then discussed the conclusions and possible recommendations for NTP-RCC. The draft report was prepared simultaneously in English and Vietnamese language.

Results of international review
The international experience with local climate adaptation planning is limited. Vietnam is one of the few countries in which the national government has established legal requirements for local climate action planning. As a result, it is also one of the few countries that have prepared official guidelines for CAPs. There are however numerous examples of local governments, especially in high-income countries, who have undertaken local climate action plans on their own initiative. The process of undertaking climate action plans is becoming increasingly common, but in the absence of compulsory requirements, the approaches taken have been quite diverse. At the time that Vietnam created the NTP-RCC there were relatively few widely accepted guidelines for local climate action planning.

This has changed in the past few years. Through case studies and reviews of guidebooks and manuals we identify six generalized international good practices for climate action plans. Each of these "good practices" includes several component practices, as summarized below.

1. Using climate science effectively: climate scientists and planners need to understand each other better. Typical descriptive information provided by climate scientists about future climate is not very helpful for planning purposes. Both groups need to discuss and present the best possible information about extremes, variability and uncertainty, and what this means for climate impacts. Modeling of climate and hydrology is useful, but costly, so modeling results should be shared and used as a common platform for different projects. Climate information should be readily available to local governments in accessible formats, and updated as better scientific results become available.
2. Interaction between different stakeholders and knowledge holders: Planning for climate adaptation requires a high degree of interaction between different scientific and technical disciplines; managers and service providers responsible for urban construction, infrastructure and services; vulnerable and impacted groups at the community level; other stakeholders (e.g. mass organizations) and decision makers in local government. No single group has the knowledge and experience required to assess future climate risks, compare adaptation measures, and propose practical actions that can be financed and implemented effectively. This makes the planning process more complex, collaborative and iterative than other kinds of planning.
3. Vulnerability Assessment (VA): Climate impacts are not the same as vulnerability. Vulnerability also includes sensitivity and capacity. Some locations, infrastructure and social groups may be more sensitive to impacts than others. Different organizations and groups have varying capacity to prepare or respond to these impacts. Vulnerability is a more important issue for climate adaptation planning than impact.
4. Risk Assessment (RA): Risk assessment allows for setting priorities for climate adaptation measures according to the relative risk associated with different vulnerabilities. These depend on likelihood, magnitude and cost associated. Risk may be estimated qualitatively or quantitatively, based on historical experience and on future climate projections.
5. Implementation of Recommendations: Plans should produce practical, prioritized, fundable recommendations that can be easily implemented. Responsibilities for implementation and follow up should be clear. Financing should be in place.
6. Organization and governance of planning: Local government staff should lead and coordinate the plan, with technical inputs from external and local experts. Planning processes should be transparent so that all the affected stakeholders can understand the information that is provided and the decisions that are made. Political support from the highest levels of local government is helpful to ensure consistent and serious treatment by different departments and agencies. Monitoring, scientific updates, and review of the plan should be undertaken regularly.

Results of comparative study of Vietnam CAPs

In general, the first round of provincial CAPs over all Vietnam seems to have employed a number of good practices already. This is a credit to the guidelines prepared by Ministry of Natural

Resources and Environment (MoNRE) and NTP-RCC at the time, especially considering the lack of experience anywhere with this kind of planning. Analysis of CAP reports and interviews with local officials allowed the study team to assign scores for the incorporation of good practices in CAPs. In addition, in each province we identified how many of the good practices above were applied in each case. The nine sample provincial CAPs fell into three different groups, with three provinces represented in each:

1. Group I (high score). This group of CAPs was supported by different international donors but generally scored much the same across most of the desirable characteristics based on international good practices. They all scored around 70% of the possible maximum;
2. Group II (medium score) scored highly on some practices, but not on others. This group was more diverse, with different strengths and weaknesses in different provinces. Scores for this group were around 50% of the maximum possible;
3. Group III (low score) was even more variable in its characteristics. They tended to be weak in many areas of the CAP in comparison with good practices. The scores of this group clustered around 30%.

Most of the CAPs were prepared by technical consulting agencies, following the NTP-RCC guidelines (MoNRE Decision No. 3815/TNMT-KTTVBDKH dated 15th October 2009), so the scores reflect several factors: the knowledge and experience of local government officials; the experience of technical consultants; the technical support offered by international advisors; and the contents of the original guidelines.

The results show that climate projections and climate impacts were handled reasonably well in most cases, and that there were provisions for consultation with other technical departments in a referral system. In most cases, recommendations were clearly assigned to responsible technical agencies. The greatest weakness of the first round CAPs was that their recommendations (except for the two pilot provinces of Ben Tre and Quang Nam) 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 most of the good practices identified in our international review were applied in one or more Vietnamese provinces, so there appears to be local experience already with most of these practices in Vietnam, even if that experience is not yet widely shared.

Conclusions and Recommendations

These results suggest that there is already experience in Vietnam with most of the international good practices identified, but that despite the original NTP-RCC guidelines, the quality of the CAPs remained quite diverse. We recommend several measures to strengthen the next round of CAP updates based on the results of our comparative study:

1. MoNRE should ensure that local governments are aware of their responsibilities to implement CAP recommendations, with reference to recent policy decisions No. 1485/KHDT dated 17th October 2013 by Ministry of Planning and Invest (MPI) and decision No. 2623/BXD by Ministry of Construction (MoC). These policies recommend that climate

change be integrated into regular local planning decisions for socio-economic development plans (SEDPs) and for construction and urban planning. The CAP can provide useful input for these other local plans, if local governments are aware of their responsibilities and if CAP guidelines are amended to improve the quality of plans.

2. MoNRE should support consolidation of climate information from various sources and encourage its provision to the public in user-friendly formats that simplify planning and analysis. Special attention should be paid to the presentation of the best available information on extreme events, variability and uncertainty.
3. MoNRE should support the development of indicators of climate change resilience for use by local governments in monitoring their performance in climate action planning. Updates to climate action plans should be undertaken regularly as development conditions change.
4. Good practices already in use by local governments in Vietnam should be shared and discussed between different professional groups engaged in Climate Action Plans to improve their knowledge and understanding of both technical content and procedures.
5. Revised guidelines for the content of CAPs should be based on the application of relevant international good practices including:
    a. Greater clarity on treatment of uncertainty, variability and extreme events in climate projections;
    b. Suggestions for how to conduct vulnerability assessment;
    c. Suggestions for how to conduct risk assessment and to use the results in framing priority investments;
    d. Clarify how practical and implementable recommendations should be linked to SEDPs and urban plans;
    e. Clarify monitoring responsibilities and procedures.
6. In addition to content, revised guidelines should provide direction for the **process** of undertaking CAPs including:
    a. Guidelines on selection of technical consulting agencies;
    b. Processes for engaging multiple stakeholders early in the planning process;
    c. Guidelines on coordination of planning and implementation of CAP recommendations;
    d. Guidelines on coordination between adjacent provinces on CAP planning.
7. Guidelines for provincial government leaders should clarify the role of Provincial People's Committee (PPC) in coordinating and establishing priorities, supporting the Steering Committee on RCC, and assigning a high priority to CAP planning work.
8. Training and capacity building should be supported for Department of Natural Resources and Environment (DoNRE) staff, technical consulting agencies, and local government leaders. This training could be based on shared experience from good practices already used in some provinces.

1. Introduction

Vietnam is expected to be one of the countries most affected by climate change over the coming decades, based on projections of climate impacts including sea level rise, according to the Government of Vietnam's National Climate Change Strategy (NCCS) (Decision 2139/QĐ-TTg, 2011). For this reason, the question of adaptation to climate change has been a high priority issue at the local and national levels for some time. In 2009, the Government of Vietnam approved the National Target Program to Respond to Climate Change (NTP-RCC), which included requirements and guidelines for provincial governments to prepare a Climate Change Action Plan (CAP) (Decision 3815/BTNMT-KTTVBDKH dated 13th October 2009). The initial round of CAPs were prepared over the period 2010-2013 by all provinces and cities in Vietnam, and focused primarily on adaptation to future climate conditions. Of 63 provinces and cities, 62 have approved CAPs as of March 2014. As part of its revised NCCS the government will require an update and revision to CAPs over the period 2014-2016.

At the time that Decision 3815/BTNMT-KTTVBDKH was approved in 2009, there was very little international experience on which to base recommendations for undertaking climate change adaptation planning at the local level. This lack of international practice meant that general guidelines for CAPs in Vietnam could not easily be validated in relation to the experience of local governments in other parts of the world at that time. In the past four years there has been more activity in terms of adaptation planning at the local level in many parts of the world, although there are still few countries or states that require local governments to undertake climate planning, as Vietnam does.

The purpose of this study is first, to review international experience and identify good practices (GPs) emerging from local government adaptation plans in other countries, and then second, to use these good practices as a basis for a detailed review of the experience of selected local governments in Vietnam in conducting their first CAPs. Results from this study will contribute to the preparation of new guidelines and supporting requirements by MoNRE for updating local government CAPs over the period 2014-2015.

This study has been led by the Center for Technology Responding to Climate Change (CliTech), an organized association under the jurisdiction of the Department of Meteorology, Hydrology and Climate Change (DMHCC) within MoNRE. Technical and research support has been provided by the Institute for Social and Environmental Transition (ISET), an international non-profit research and technical support organization, and by the National Institute for Science and Technology Policy and Strategy Studies (NISTPASS), part of the Ministry of Science and Technology (MoST), with support from the International Institute for Environment and Development. Funding has been provided by the Rockefeller Foundation (RF) through the Asian Cities Climate Change Resilience Network (ACCCRN).

The CAPs include both mitigation of climate change (measures to reduce greenhouse gas emissions) as well as adaptation. While global emissions reductions are an urgent task to minimize

the inevitable consequences of climate change, Vietnam's emissions are low by global standards and the initial focus of local government planning efforts has been on adaptation to climate change. There are interactions between planning for adaptation and mitigation, but in general they are quite different tasks, with mitigation focusing primarily on green growth strategies and technologies for the energy, transportation, industrial and building sectors. Adaptation planning focuses instead on vulnerability to future climate impacts. Because of the differences between these planning tasks, and because the initial policy priority in Vietnam at the local level has been adaptation, this study focuses only on planning for the adaptation component of CAPs.

The report is presented in several sections following this initial introduction. The second section will review the Vietnam national policy background and legislative context for this study. The third section will describe the methodology of the study and explain how the team obtained data for its analysis. In the fourth section we review recent international experience in climate adaptation planning and present emerging good practices. These insights were important in the development of survey and interview questions with provincial governments. Results from the data collection and analysis are described in section five, which is the main part of this report. Section six summarizes our conclusions and recommendations from the study.

2. Policy Background and Context

Climate Change Action Plans (CAPs) were introduced in Vietnam as part of the National Target Program to Respond to Climate Change (NTP-RCC) (Decision 3815/BTNMT-KTTVBDKH dated 13th October 2009). All national ministries and all provincial-level governments were required under the NTP-RCC to prepare CAPs indicating their proposed response to climate change. During the initial phase of CAPs (2011-2025), the emphasis was recommended to be on adaptation to climate change. Each province and national-level city (same level of government as a province) had a national agreement for financing support to receive up to one billion VND (approx. $USD 50,000) from the national government for CAP implementation by province. There were relatively few consulting firms in Vietnam who were technically qualified to undertake this work, including institutes based at universities and in government ministries. MoNRE assisted local governments in identifying suitable consultants if requested.

In addition to this national government support, many local governments also received support from other international organizations for climate change planning and implementation investments. Official Development Assistance (ODA) for climate change is coordinated in Vietnam through the Support Program to Respond to Climate Change (SP-RCC), funded by JICA, DANIDA, AusAID, GIZ, UNDP, AFD and UNEP, and coordinated with project funding from German Development Bank (KfW), Asian Development Bank (ADB) and World Bank (WB). In addition, various international organizations such as 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.

2.1 Legislative Basis

This study is 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 dated June 3, 2013 by the Party's Executive Board on actively responding to climate change and enhancing natural resource management and environmental protection;
- National Climate Change Strategy (NCCS) priority program for 2011 – 2015 includes the program to respond to Climate Change in megacities (Article V.2.e; Decision No. 2139/QĐ-TTg dated 05 December 2011 as approved by Prime Minister);
- National Target Program to Respond to Climate Change (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 05 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 synthesizes reports to update CAPs across the country. This decision specifies two priority tasks for each locality: (1) Develop plans to

organize communication programs, raise awareness on Climate Change for local Steering Committees and communities over the period 2013-2015; (2) Update the CAPs over the period 2014-2015;

- MoNRE Decision No. 3815/BTNMT-KTTVBDKH dated 13th October 2009 providing guidance to provinces to prepare their initial CAPs.

CAPs at the provincial level were introduced in 2009 as part of the NTP-RCC, among many other provisions of that program. The NTP-RCC is administered through a program secretariat located within MoNRE, and reports to a National Committee for Climate Change (NCCC) 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. Provincial governments were provided with the MoNRE guidelines and financing from the National Budget to undertake CAPs over the period 2010-2013. 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 DoNRE, as did other technical departments. Each provincial CAP was approved by the Provincial People's Committee (PPC) on the recommendation of DoNRE.

3. Methodology

The main purpose of this study is to compare the first round CAPs among a sample of provinces in Vietnam. In order to compare Vietnamese experience, the study team first examined the international experience with local government climate adaptation plans. We focused on adaptation because the initial CAPs were mainly targeted at adaptation needs in Vietnam. From the international experience, we described a list of six good practices that are widely accepted in local climate adaptation planning in other countries. These good practices form the basis of developing comparative assessment for the Vietnamese cases.

We selected nine provinces in Vietnam (from a total of 63) to review their initial CAP experiences in detail, choosing at least one province from each of the country's seven climate zones. Among the sample we ensured a mix of urban and rural provinces, with an orientation to urban selections due to the rapidly growing urban population in Vietnam. In addition, we selected the sample to compare provinces that had received international support with those that had not. Other criteria for selection included good documentation of the planning process (in Vietnamese). We then reviewed the written CAP documents, and scored them against a list of 21 criteria derived from the international good practices. In addition, we used the good practice list to develop interview questions and then arranged to meet with local government officials who had been involved in the preparation of the first CAPs to discuss their experience and collect detailed information. The three organizations involved in this study each contributed to questionnaire design and to fieldwork, sharing their results and aligning scoring to ensure common interpretation of the data.

Those questions are divided into different sections, including: participants, process, contents of plan, other results to enable adaptation action and assessment of experience by local participants. Chosen case studies are detailed in Table 1 below.

Table 1: Provinces selected for case studies

No	Climate region	Province/ city
1	North-West	(1) Son La
2	North-East	(2) Lao Cai
3	North Delta	(3) Ha Noi
4	North of Central Region	(4) Hue
5	South of Central Region	(5) Quang Nam/ (6) Binh Dinh
6	Central Highlands	(7) Kon Tum
7	South	(8) Can Tho/ (9) Ben Tre

The research team reviewed CAP documents filed with MoNRE in order to compare the contents of the CAP to those recommended in good international good practices. Based on the good practices identified, and on the required background information for comparison, the research team prepared a survey questionnaire for interviewing local officials and stakeholders. The interviews allowed the team to gather information about the implementation process, the

coordination between stakeholders, local support, sharing mechanisms, etc. Some responses were scored on a four-point ordinal scale (0-3) while others were qualitative responses only. The questionnaire was tested and adjusted for application by all 3 teams.

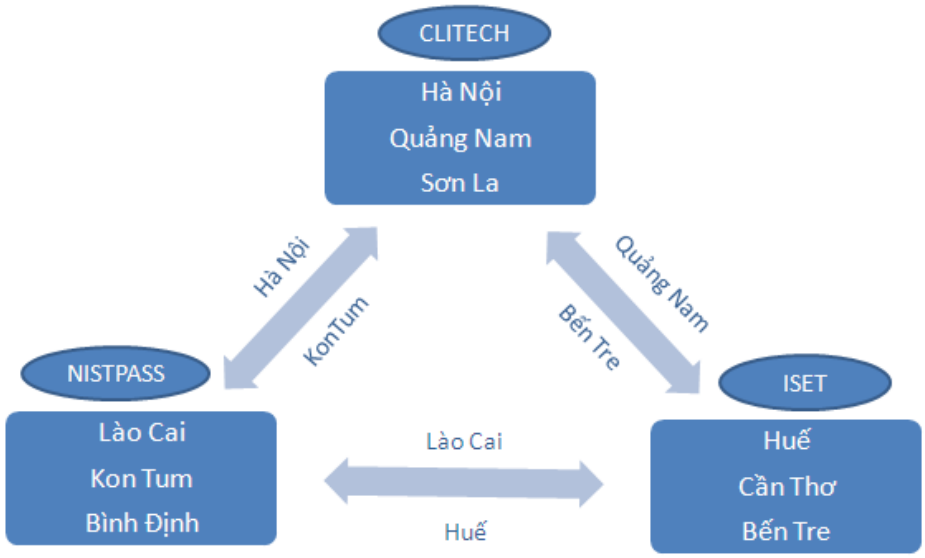
Box 1: questionnaire contents and interviews

A. Contents of Interview with CAP lead agency (normally DoNRE) – and with other WG members as appropriate. **Background description** Previous knowledge of climate change Previous projects related to climate change Interest in CAP **CAP process - description** Timing Budget Human Resources Structure and Participants **CAP Process – ratings** Collaboration and interaction of key participants Support from PPC Consultation with vulnerable sectors and groups Shared learning and iteration Transparency and reporting Role of local government staff (see also HR above) Recommendations: were these reviewed, modified and supported by the responsible implementing agencies? Implementation Monitoring **Prepare in Advance from CAP document and follow up in interview if any questions** Climate science Climate impacts Vulnerability Assessment (VA) Risk Assessment (RA) Priorities Recommendations **Summary of CAP Lessons**
B. Interview for Implementation Agencies
C. Interview for Decision Makers
D. Interview for representative of vulnerable groups

The full questionnaire is attached as Appendix 1.

Each of the partner organizations was responsible for leading interviews and data collection in three of the nine cases. To improve consistency of procedures and data collection, each organization collaborated on one of the cases led by the other organizations. As a result, each organization was involved in five cases, with overlapping involvement in six of the nine cases (see Fig 1).

Figure 1: Assignment of cases for field research and collaboration



4. International Good Practices

This section of the report summarizes the experiences of local governments from around the world in developing climate adaptation plans (sometimes also called "local adaptation strategies"). We focus on urban areas because of the large populations concentrated in these areas, their rapid growth in Vietnam, and the increase in risk posed by urban development in climate sensitive low-lying sites throughout the country. Based on a literature review of climate change adaptation planning documents from the U.S., South Africa, the U.K., and the Philippines, we identify six general "international good practices" which can help guide Vietnamese experts and practitioners to improve the adaptation component of Climate Action Plans. The emphasis of this review is on adaptation *planning practices,* not on the contents of the action plans themselves, which will be unique to each individual city or province.

In this section we review the characteristics of effective planning processes; the organization and management of adaptation planning; the analytical foundations of the process; and the types of information and direction that should be included in the plan. This information will be helpful to compare the Vietnamese experience with CAPs.

We use the term "good practices", and not best practices throughout this document because there is limited experience with local climate adaptation planning and practices are still evolving. Even in high-income, high-capacity industrialized countries, most experience has been experimental and driven by local interest and initiative rather than by national policy. But from these experiences, and from the numerous guidebooks and manuals that have been prepared by regional, national and international agencies to support local adaptation (see, for example, Snover et al., 2007; ICLEI Oceania, 2008; NOAA et al., 2009; USAID, 2009; Ecoplan International 2011), there is broad consensus about emerging good practices in climate adaptation planning.

In the absence of specific legislative requirements or policy mandates from senior governments in most countries, why is there growing experience with local adaptation planning? Even in Vietnam, planning for climate adaptation had started in some provinces *before* the requirements of the Decision 3815/BTNMT-KTTVBDKH. The main reason is that local government authorities have become concerned that climate change could prevent them from achieving their development goals and objectives. *In other words, local governments do not plan in order to adapt to climate change, rather they must adapt to climate change in order to implement their other development plans effectively.*

Reviews of local climate action plans in the US undertaken before 2010 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 & Shandas, 2010). These plans were very diverse. They had few models or guidelines, there was very little standardization in approaches, and the recommendations were not particularly new. While in many cases, these plans had a high level of public engagement and awareness raising, the process tended to be dominated by scientific and technical discussion 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 (Bassett & Shandas 2010).

A similar study in the UK also suggested that while cities of all sizes recognize that they are vulnerable to climate change and need to take adaptation measures, their plans emphasize mitigation more than adaptation, and are highly variable in terms of their consistency and comprehensiveness (Heidrich et. al., 2013). A recent global survey of cities who are members of ICLEI (Local Governments for Sustainability) shows that while many cities are concerned about vulnerability to climate change, relatively few are at the stage of having completed vulnerability assessments, adaptation plans and implementation measures (Carmin et. al., 2012). Cities reported many challenges to their efforts, including the difficulty of finding resources and staff time to devote to adaptation planning and implementation of adaptation measures, as well as the difficulty of building political support and commitment to the issue in the face of other priorities. The situation in Vietnam, where local governments are already mandated and funded to develop climate action plans, is unusual by international standards.

Another assessment focusing only on adaptation plans, including Australian and UK experience as well as examples from the U.S. over the same period (2000-2010), reached similar conclusions: few of the 57 local climate adaptation plans actually presented adaptation measures, despite the fact that they were from developed, high capacity countries (Preston, et.al., 2011). Most adaptation plans focused mainly on the projected climate changes and impacts, and the communication of these to stakeholders. While many of the plans included recommendations for capacity building and awareness raising, there was little prior assessment of adaptive capacity or vulnerability. Other gaps identified in these early adaptation plans were their limited attention to uncertainty in both climate projections and in non-climate drivers of vulnerability, clarification of assumptions and constraints to the analysis, and limited discussion of feasibility or financing for adaptation measures.

These gaps and limitations to international practice should be expected due to the relatively recent introduction of climate adaptation as a practical concern in local decision-making. Füssel & Klein (2006) characterize the evolution of climate change assessment over the past 20 years as moving 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. It is this latter subject that we are now chiefly concerned with when we refer to adaptation planning.

In low-income countries, donors and national governments, as well as non-state local actors such as local and international NGOs, have often played a leadership role in prompting local climate action planning (United Nations Human Settlements Programme, 2011). In all cases, however, the city's planning needs are not driven primarily by climate change, but by other factors, which may include economic transformation, rural-urban migration, demographic change, and rapid urban growth (Sattherthwaite et.al., 2009). For cities in low-income countries, local government resources are often scarce and urban infrastructure may be a patchwork of mixed quality services. Water, sanitation, housing and public transportation services are often of low quality. These factors, which are specific to each locality, interact with climate conditions to generate

vulnerabilities to flooding, heat, infectious disease, and severe storms. Local communities and households are motivated to reduce their vulnerability if they can.

There are many examples of guidebooks or planning manuals aimed at local governments to help them plan for climate adaptation. Some of these have been produced for use in particular jurisdictions (e.g. the UK, or Canada, or particular states in the US or Australia). Others are aimed especially at cities or local governments in developing countries. These guidebooks provide broad direction and offer examples of climate planning practices for local application. But a key question is whether these guidelines can be applied in practice, under the typical constraints of local government conditions. The evidence for good practices therefore relies largely on examples of what local governments have actually been able to accomplish, rather than just the recommendations of expert panels and guidebook authors.

The good practices described below are synthesized from reviews of planning documents and research articles from various jurisdictions, as well as from the guidebooks referred above. All of these good practices are inter-related, and support each other. The good practices are described in some detail in this report for several reasons:

1. We use these good practices as the basis for comparison of Vietnamese experience in this study, so the reader can refer to this section for an explanation of the practices for which we provide scoring and comparison below.
2. This section also serves as a reference for understanding the conclusions and recommendations at the end of the report. The recommended practices and guidelines for updating provincial CAPs in Vietnam will need to incorporate some of these details.
3. Finally, this section provides details of the good practices so that Vietnamese experts can assess and modify them to suit unique conditions in Vietnam.

4.1 Good practice 1 – Use climate science effectively and identify uncertainties

An important common lesson is to **use climate science effectively and address the inherent uncertainties in climate data**. An understanding of current climate and future climate projections is a fundamental requirement for adaptation planning. The results of recent scientific advances in climate modeling are not necessarily presented clearly to, or understood by, local adaptation planners (Opitz-Stapleton, 2011). There is a need for more effective bridges between climate scientists and planners, so that scientists understand better the information requirements of planners, and for their part planners recognize the limitations of the information that scientists can provide. In order to be useful to planners, climate science should be made actionable (Lowe et. al., 2009).

Planners need information about extreme events and uncertainties, rather than projected mean climate values. This kind of information is often more difficult and unreliable, but it is much more valuable for risk assessment and planning (*see examples in section 4.4 below*). One implication is that planners should not adopt a single value of future climate parameters for decision-making, but instead recognize a range of potential values for key parameters, depending on the nature of

uncertainties in the projections. Increasing climate variability is another concern for planners, and is also not captured by climate data that only provides long-term mean values.

Local governments 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. There are many international examples of organizations that make it easier for decision makers to readily access climate science and analysis at no cost. An early and influential model was the United Kingdom Climate Information Program (UKCIP), which developed a wide range of regional climate scenarios and downscaled modeling data, as well as many local climate planning tools and guidelines for their application, and then made all of these publicly available through websites and downloadable tools. Other examples in North America include the Pacific Climate Impacts Consortium (PCIC), which supported adaptation planning in Vancouver and other cities in British Columbia; and the University of Washington's Climate Impacts Group, which has supported adaptation planning in Seattle. All have informative websites that provide climate information to planners and the general public.

While technical expertise is essential in preparing and interpreting climate data, this does not mean that climate adaptation planning is primarily a technical exercise. Good climate science informs risk assessment and planning decisions, but those decisions are not technical. They always have to do with making choices, trade-offs and setting priorities. Planning decisions depend on goals and preferences, which are always political in nature.

4.2 Good practice 2 – Assess vulnerabilities and identify vulnerable groups

Secondly, international experience shows that effective adaptation planning **should identify vulnerable groups, sectors, and geographical areas**. Not all groups will be impacted in the same way or to the same degree, so it is important to understand the particular vulnerabilities of different groups to develop responses that build resilience to particular climate-related impacts of those who are most vulnerable. Incorporating vulnerability assessments can ensure that climate action plans address the needs of those who are most vulnerable, while also supporting broader socio-economic goals, such as poverty reduction, improved urban housing, more effective infrastructure services, and ecosystem conservation.

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. In both high-income and low-income countries, climate vulnerability and health impacts are correlated with low socio-economic status (Clean Air Partnerships, 2011; Moser & Sattherthwaite, 2010).

As an example, San Francisco's Coastal Training Program details three components of any VA:

1. Socio-economic analysis of vulnerable communities

2. Description of historic exposure and response to past hazards
3. Understanding of community needs, resources, and opportunities for cross-jurisdictional cooperation (Nutters, 2012)

Note that some of this data is best obtained from the communities themselves, through awareness building, participatory engagement and feedback to the planning process (*see also Good Practice #3*). Some of this data can be obtained from surveys of infrastructure and ecosystem quality, and assessment of organizational capacity to plan and respond. Because all these factors influence vulnerability, good planning practices recognize that some of these other drivers of vulnerability may also be changing, leading to results that may moderate or intensify the effects of climate impacts.

In Sorsogon City, the Philippines, a vulnerability assessment found that socio-economic conditions such as poverty and poor housing quality in unregistered settlements were key factors that increased climate vulnerability (Button, et. al. 2013). Therefore, planners sought to address these socio-economic factors as a part of their climate adaptation plan. Similarly, in Esmeralda, Ecuador, the city's climate adaptation plan focused on the problems of land tenure and informal housing as the most vulnerable areas of the city were those characterized by unregistered and poor quality houses (Luque et al., 2013).

By integrating vulnerability assessments and prioritizing vulnerable communities in adaptation strategies, good adaptation planning practice ensures that climate action plans address the needs of those who are most vulnerable, and at the same time supports broader socio-economic goals such as poverty reduction, improved urban housing, more effective infrastructure services and ecosystem conservation.

4.3 Good practice 3 – Engage multiple stakeholders

Climate change adaptation strategies touch almost every sector, with different costs and benefits for different groups. 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 organizations, and makes implementation of the chosen strategies more likely.

Specialized climate science expertise is needed to interpret uncertain climate projections and changing probabilities of extreme events. However, climate scientists are not qualified to identify vulnerabilities or to propose adaptation measures. These require diverse expertise in different fields of practice, as well as local knowledge related to flooding and storm impacts in specific locations, and the feasibility of particular response measures. Therefore, in order to assess the diverse information needed to interpret scientific data and determine vulnerabilities, good planning practices demonstrate engagement with a broad range of knowledge holders and practitioners. And in order to develop sensible interventions, climate planners not only need to

integrate with new projects and development plans across other sectors, but they also have to integrate between urban and surrounding rural areas.

For example, adapting to urban floods requires an integrated water management approach that engages both upstream water managers, hydroelectric dam operators, as well as downstream urban planners, construction and public works departments, and other government agencies. Water users from different sectors also need to be involved in assessing options. International experience shows that planning decisions cannot be made independently by a single agency. Management measures depend on dynamic contexts, like water flow, storms, development standards and changes in water quality, and the entire system is complex. Centrally planned responses cannot catch up to changing local conditions. Effective management measures must involve shared understanding of policies, priorities and objectives, flexible guidelines, as well as extensive communication and information sharing.

In addition, preferences also vary between different interest groups. Participation by the public has been shown to improve the planning process by incorporating local knowledge, generating new strategies and options for planning. For example, in Quy Nhon, a community-based research project on the causes of the 2009 flood interviewed local residents and found that recent urbanization and infrastructure construction made the flood more destructive (DiGregorio & Huynh, 2012). Adaptation measures that will benefit some groups (such as filling wetlands and floodplains to raise the ground level for new construction) may have negative impacts on other groups (such as existing residents in nearby low-lying areas). Many adaptive measures are taken independently by local people and not recognized by government officials, but should be considered in planning decisions. The best way to do this is to learn from the experiences and practices of the local people themselves. At the same time, local communities can learn from new scientific evidence about the changing climate risks they face. For all these reasons, good practice in climate adaptation planning engages multiple stakeholders both to obtain better information and to make fair decisions.

4.4. Good practice 4 – Undertake risk assessments to help prioritize adaptation measures

Planning decisions about what adaptation actions to take depend on the relative risks from different climate impacts. Some form of qualitative or quantitative **risk assessment** is essential to compare these impacts and to be able to prioritize proposed adaptation interventions. Risk assessment provides an idea of the magnitude and distribution of potential climate impacts. This information is valuable for local governments to establish priorities for adaptation interventions.

The definition of risk includes both the probability of an event of a given magnitude and the damage that such an event would create. So, for example, small flood events may occur regularly but cause little damage. Their probability may be high (e.g. 0.5, or 50%, in any given year) but the risk is low because damage is limited. On the other hand, a flood or storm event with a probability of only 1% may be high risk if it would cause billions of dollars of damage. Risk is changing due to both climate change, which affects the probability of extreme events such as heavy rains or severe

storms, but also due to changing patterns of urban development, which can see more high-value construction in areas exposed to potential damage. This means that even if the height of a dike is raised as the likelihood of extreme flood events increases, risks may still increase due to increasing value of urban development behind the dike.

Risk assessment must include estimates of these two components: the likelihood of a future event and the losses such an event would cause in future. Likelihoods can be estimated on a nominal scale, in categories of low, medium and high, if climate data is limited. Another simple approach is to use historical probabilities and adjust them for approximate future changes. But if reliable regionally downscaled model projections can be obtained from a suite of global climate models, these results may be used directly to show projected values of some extreme climate criteria.

Examples of extreme climate criteria relevant to planners might be:

- Number of consecutive days with max temperature over 38 degrees C;
- Maximum value of 24 hour (or 3 hour, if available) precipitation that occurs at a 10% probability in any year;
- Future return period of a daily precipitation amount that equals current 99th percentile (i.e. 99% of all daily precipitation values are lower than this amount – extremely heavy rainfall).

As with likelihood, it may be difficult to obtain good quantitative estimates of the consequences of extreme events. Ideally, such estimates should include direct property losses and damage, as well as economic losses due to lost production (for example, even if an industrial plant is undamaged by flooding, it may have to cease production if the transportation network is damaged). Losses should also include government expenses such as infrastructure repair and compensation payments or insurance. Finally there may be indirect costs for households due to health impacts. A crucial consideration in estimating future risks is that urban development will lead to more investment in property and infrastructure over the intervening period, so estimates of future damages from similar events will generally be higher than they would today.

In addition, different groups will face different kinds of losses, not all of them documented officially. Unless a wide range of stakeholders is consulted about climate impacts and their consequences, some of these costs may be neglected in risk assessments.

In addition to likelihood and consequences of extreme events, risk may also be dependent on other qualitative aspects of the climate hazard, particularly in relation to human safety. For example, flood depth, speed of onset, and current flow will all affect the potential safety risks from flooding. In conditions where these values are severe, risk will be higher. Flood risk assessment in the UK considers these factors explicitly in assigning low/medium/high risk ratings to vulnerable sites (Coleman, 2009).

Part of risk assessment, together with vulnerability assessment, is also to determine who is at risk. The cost of extreme climate events may be more easily managed by some groups than by others, so it is important to identify the distribution of risks as well as their magnitude. In Durban (South Africa), for example, the climate vulnerability assessment identified that while floods caused high

property damage, drought was a bigger problem for the poor, who depended on small gardens in peri-urban areas to grow much of their food supply (Carmin et al., 2011).

4.5. Good practice 5 – Identify practical actions and priorities for implementation

Once risks have been identified and compared, **good planning practice devises practical and implementable actions** to address these risks. Any effective adaptation plan must identify actions that can be implemented. This means that adaptation actions should be prioritized 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 all priority recommendations.

Proposed actions should be prioritized, so that it is clear to decision makers what actions should be undertaken first. Priorities should reflect the vulnerability and risk assessments undertaken as part of the planning process. Risk assessment is very useful for identifying priorities, because it enables planners to ensure that the highest risks are addressed first. But other criteria besides relative risk level may also be important in setting priorities. For example, in its adaptation plan the City of Vancouver prioritized nine key activities from a list of more than 60 potential adaptation measures according to criteria that included comparative climate risk, as well as cost and feasibility of implementation.

A good adaptation plan will explain how recommended actions will be implemented. Therefore, adaptation measures should be linked to sectoral responsibilities and any plan should make clear to the responsible agencies what action they need to take (United Nations Human Settlements Programme, 2011). For example, in Portland, Oregon, planners decided to focus on adaptation in three sectors:

- Human Systems (Public Health, emergency, vulnerable populations);
- Natural Systems (streams and rivers, wildlife habitat);
- Infrastructure (pipes, roads, water pumps, etc.).

Although they knew that climate change would affect a range of other critical services, such as energy production and agriculture, they chose to focus on sectors where their local government agencies had direct authority. In this way, they could increase the likelihood that the local agencies responsible for regulating each of the sectors targeted for adaptation measures could be held accountable for undertaking action.

To ensure that adaptation plans are implementable, international experience suggests that planners should engage the implementing agencies themselves in preparing the plans. If the responsible agencies are directly involved in the planning process, they will also understand their risks and responsibilities more clearly, and will be better able to provide input on the selection and design of implementation measures. In New York City's adaptation plan, for example, the key city agencies were each responsible to contribute to relevant sections of the city's overall plan.

To ensure implementation, plans should specify how the priority adaptation measures will be financed. Recommendations without financial support are just “wish lists”, and are unlikely to result in implementation. In Vancouver, all adaptation measures with capital costs were included in the city’s capital budget. In Portland, the city used innovative revenue sources to provide support for adaptation planning and implementation.

But many effective adaptation measures are low cost, or can be financed as part of existing investment projects, if adaptation planning is well coordinated and integrated with other development plans. For example, in London adaptation plans focus on urban greening and green infrastructure options that will be implemented gradually as new developments are built. These measures are consistent with other planning policies to enhance urban green space for reasons of public health and environmental quality anyway.

There also may be good reasons why planning can lead to recommendations to postpone adaptation actions (Füssel, 2007). In some circumstances, adaptation measures may require additional study and better information. Adaptation plans can also include preserving options in the face of irreversible decisions. For example, urbanization and development of low-lying floodplains or wetlands will make it impossible for these areas to be used in future as flood buffers or retention zones. An effective adaptation measure might be to prevent development of some low-lying areas to preserve future options.

4.6. Good Practice 6 – City staff lead and coordinate planning, monitoring, and implementation

International experience with adaptation planning pointed to the importance of local government staff leading the planning process. 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. This is because the decisions for planning, setting local priorities and for effective implementation rely on close coordination between policy makers and different local technical agencies. The 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? These are all policy decisions, not technical ones.

Many international experiences show that successful adaptation planning requires not only good technical analysis, but also good communications and transparency in the process. Private businesses, households and investors all need to know the implications of future climate impacts and proposed adaptation plans so that they can adjust their own investment strategies. This means that local government adaptation planning requires not only coordination, but also transparency, accountability and fairness.

In all the most effective international examples, adaptation planning also had strong political support from the most senior levels of the local government. In New York and London, for example, the mayor's office was highly involved in providing leadership to the adaptation planning work. Executive level support is essential to ensure that all city departments take the issues seriously and commit staff time. Strong political support also makes it easier to introduce potentially unpopular adaptation measures, such as preventing development on floodplains.

Adaptation is a continuing process. An adaptation plan is never finished, because as better information about future climate becomes available, and as urban development takes place, risks change and new adaptation measures become appropriate. There is not a once-and-for-all set of climate adaptation actions. Any plan must be monitored to determine if it has been implemented as agreed, and if the implementation measures had the intended effects. But monitoring should also include regular updates on climate science, modeling and projected impacts for the city every few years. Learning is an essential part of adaptation, and so systematic learning mechanisms that engage both planners and implementing agencies will be central to the local government's ongoing adaptation. Lessons from implementing adaptation measures should inform future actions.

For example, Chicago has established a monitoring strategy and a schedule for updating their adaptation plan regularly. Vancouver has identified indicators to be monitored to ensure progress in plan implementation. Copenhagen will revisit and update their adaptation plan every four years. New York and London have instituted comprehensive reporting frameworks to support public/ private collaboration in the implementation of adaptation measures. Through regular reporting on progress, private and government stakeholders will be kept informed of results in risk reduction, and motivated to contribute to the city's efforts.

4.7. Conclusions on International Good Practices

The practices described above could be categorized in different ways. We list six practices, for example, but one could also break up the various components of these practices in more detail and have a higher number. The important conclusion is not the number of practices, but understanding the contents of each. These good practices are derived from case studies and reference materials that are more fully documented in a separate report to CLITECH, prepared by ISET as a background document for this study.

5. Vietnam Experience with Climate Action Plans – Results of Study

5.1. Data Collection, Scoring and Analysis

In order to compare the CAPs from the nine provinces selected, the team used a multi-method approach. We reviewed the CAP documents (in Vietnamese language), and then interviewed the key local officials responsible for developing the CAP to gain more background information and assess their opinion about the experience of producing the CAPs. In addition, we asked their advice to identify other local informants among three different categories: other technical departments responsible for implementing CAP recommendations, policy decision-makers, and vulnerable groups affected by climate impacts.

In all cases, our review of the plans and our interview questions were structured around an understanding of international good practices for climate adaptation planning, as described above. In reviewing the written documents we described and scored the content of the plans in terms of climate science, impacts, vulnerability and risk assessment, and the prioritization of recommendations. We scored the written CAPs against 21 criteria, each on a scale of 0 (did not attempt or meet this criterion at all) to 3 (exemplary application of this criterion), based on our review and interpretation of the written documentation. This exercise generated a total score for the CAP report out of a maximum of 63 points (Table 2).

In addition, using the CAP scores and interview data from multiple informants for each city, we determined whether that city had used any of 24 good practices identified from the international literature. We compare the CAPs on the basis of their scores and the application of good practices, using other information collected in interviews to explain differences and to supplement this comparison. Details of the survey questions and CAP good practices are presented in Appendix 1 and 2.

Table 2: CAP document review scores

	Can Tho	Ben Tre	Quang Nam	Binh Dinh	Hue	Son La	Kon Tum	Lao Cai	Ha Noi
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 Climate Impacts	3	2	3	1	3	1	2	2	1
4.3.2 Hydrological Modeling	1	1	2	2	1	0	2	2	0
4.3.3 Projected Impacts Sea Level/Digital Elevation	3	2	2	2	1	-	-	-	2
4.3.4 Inundation Shown Map Overlays	3	2	2	3	2	0	2	1	0
4.3.5 Prepared in Collaboration Neighboring Prov.	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 Vulnerable (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 Estimate Extreme Events/Impacts	1	2	2	0	2	2	1	0	0
4.5.2 CAP Estimated 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 Financing 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%**

5.2. Results

5.2.1 CAP Scoring and Comparison

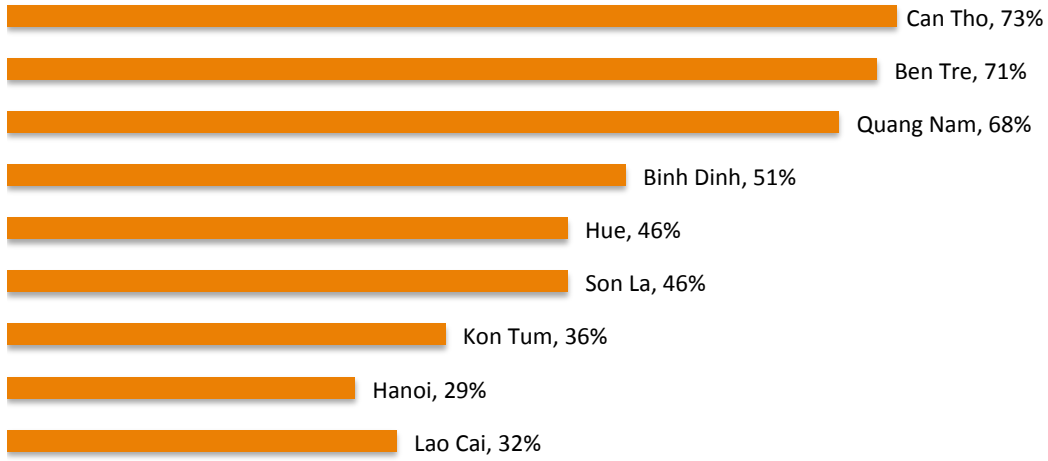
First, we compare the scores from review of the provincial CAP reports (see Table 2). The results showed that the contents and approach of the CAPs varied significantly between the provinces. The CAP documents were NOT reviewed by NTP-RCC, unless requested by the province. Almost all of the CAPs were prepared by national technical consultants, in particular technical units linked to MoNRE such as Institute for Meteorology, Hydrology and Environment (IMHEN) or university research institutes. It was left up to the provincial DoNRE to compare the CAP documents to NTP-RCC guidelines and then to send the document to the Provincial People's Committee (PPC) for final local approvals. Partly as a result of limited experience and limited MoNRE review, substantial differences remained between the provincial CAPs even after approvals.

This lack of consistency in CAP quality is demonstrated by the results of our study. Only 4 of the 9 provinces scored 50% or more of the possible maximum score against our 21 criteria (see Fig 2). The scores from review of CAP reports for the nine provinces in our sample tend to cluster in three categories. The data ranking is not precise enough to differentiate within each group, but it does point to significant differences between the three groups.

1) Group I (High score): Can Tho, Ben Tre, and Quang Nam all scored around 70% of the total possible score;
2) Group II (Medium score): Binh Dinh, Hue and Son La all scored around 50%, although Binh Dinh score was higher than the others;
3) Group III (Low score): Hanoi, Lao Cai and Kon Tum all scored around 30%.

From interviews and other data collection, we can explain some of the differences between these scores. All the provinces in group I had international assistance for their CAP. In the Can Tho case, which received the highest score, local government received some financial support but limited technical advisory support from international sources. They hired consultants (Can Tho University and the Southern Institute of Water Resources Research) to deliver the technical analysis, including hydrological modeling and see level rise scenarios, but the CAP was written by staff of the Center for Environment and Natural Resource Monitoring within DoNRE, which was unusual for our sample. 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.

Figure 2: Contents of CAPs compared to good practices



Note: These scores represent percentages of the total possible score for 21 measures of content of the plan, and are derived from the review of plan documents and interviews with local governments.

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 (3rd 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. Can Tho also spent the least amount of funds on their CAP, although they also had a small amount of funding support from Rockefeller Foundation for preparatory work (about $US 20,000). 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.

Group II tended to be 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;
- Climate impacts were not as clearly identified;
- Vulnerability assessment did not clearly identify vulnerable groups or the nature of their vulnerabilities;
- Funding sources for implementation measures were less likely to be identified.

Among the lower scoring group there was even more variability. So while the high-scoring CAPs were similar, this group was quite diverse. Their strongest features were identifying responsibility

for implementing recommendations, but otherwise none scored highly on any of the criteria. Their weakest aspects included:

- Less prior experience with climate projects than the other provinces;
- Limited climate science interpretation (e.g. no estimates of extreme events);
- Climate information not provided in the CAP or shared with other departments;
- Weak or non-existent vulnerability assessment;
- No consultation with vulnerable groups;
- No risk assessment;
- Unclear priorities among recommendations;
- Unclear connection between recommendations and vulnerabilities;
- No implementation of recommended measures.

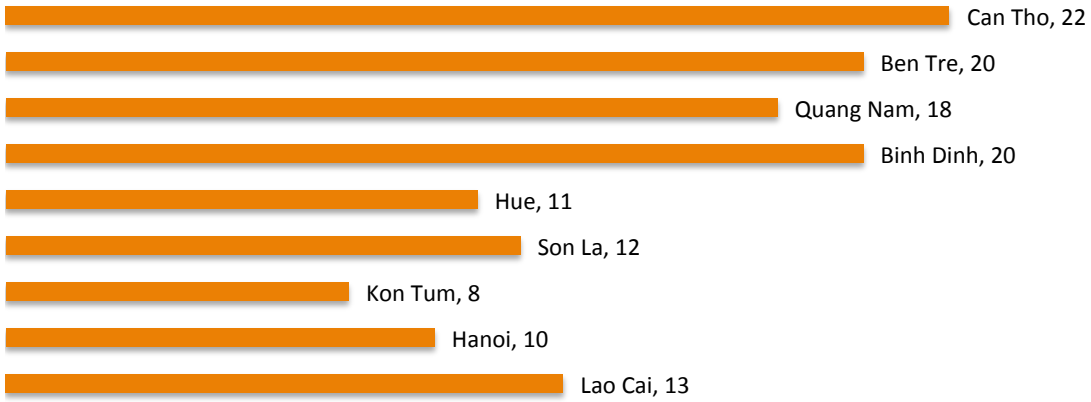
A comparison of the scores for the 21 criteria on the CAP report is shown in Table 2 above. The scores vary widely between the provinces, and within each province between the different criteria. Across all provinces, the greatest consistency in terms of high scores was for the estimation of climate impacts, 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 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 (Decision No. 1719/QĐ-TTg dated 4/10/2011). Across all the provinces sampled, only in Can Tho and Ben Tre did the CAPs make reference to the plans of neighboring 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 assessment. The greatest variation across all the CAPs was on the analytical approach to vulnerability assessment, 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 to these issues.

5.2.2. Good Practices in the CAPs

The study team defined 24 “good practices” based on the practices reviewed in Section 4 above. These good practices are listed in Appendix 2. Based on the responses to interview questions and our review of the CAP documents, we gave credit to the provinces for good practices whenever we could find some evidence that they were applied. None of the nine cases demonstrated evidence of all of 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 3).

Figure 3: Total number of good practices demonstrated in each province



In the case of Binh Dinh, the provincial DoNRE had earlier experience with foreign technical support through 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.

In comparing good practices, we can see that almost all of the provincial consultants used the standard climate science projections made available by MoNRE/ IMHEN. These scenario projections constitute, effectively, the best widely available 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 assessment of climate impacts based on the available climate projections, and most also applied standard hydrological model information as relevant from national reference sources. The climate data and hydrological modeling results are not publicly available. Any organization 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 assessment rather than orientation to vulnerabilities, or to strategies for risk reduction.

We can see this in the fact that only one-third of these cases undertook risk assessment as a basis for prioritizing recommended interventions. In only one case was climate information shared widely with other departments and agencies. In less 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.

Most of the provinces demonstrated good practices in the planning process by engaging the departments responsible for implementing CAP recommendations actively in the planning process. Most also engaged in consultations with the vulnerable communities, undertook a recognizable vulnerability assessment that considered climate impacts (although not always capacity and sensitivity). They prioritized recommended actions (often using the SP-RCC criteria, as 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 generalize about strengths and weaknesses of the first round CAPs, because of the large variation between them. Across all 9 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, as a matter of routine referral. Many of the provinces engaged 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 to how to implement recommendations, as the CAPs did not connect to other socio-economic and sectoral planning processes that would support implementation.

5.2.3. Discussion of initial round of CAPs

The high level of variability in the initial round of CAPs, conducted between 2010 and 2012, is consistent with expectations. This was a completely new activity for all the provinces, and even with NTP-RCC guidelines, they had a wide range of expertise and approaches in order to respond to these new planning requirements. At the time that the requirements were instituted, NTP-RCC

anticipated that many provinces would lack the capacity to undertake these CAPs on their own. Indeed, most provinces have only a couple of staff in the relevant section of DoNRE to provide oversight to the CAP. In our sample, Kon Tum in particular relied almost completely on their consultant for all aspects of plan preparation and consultations.

In light of this lack of familiarity with climate planning, NTP-RCC prepared guidelines for local governments to use in the initial round. At the same time, NTP-RCC ensured a budget of VND one billion (approx. $US 50,000), to be provided to the provinces by the government, to cover the costs of consultancies and data collection during plan preparation. In our sample, each of the provinces undertook their plan using these funds from NTP-RCC, except for Can Tho, which used both international funds and government funds.

At the local level, provincial DoNRE offices were responsible for preparing the plan, but because of their limited staff, almost all of them simply hired consultants to prepare the plan following the NTP-RCC guidelines. DoNRE interpreted these guidelines to specify the content of the report to be delivered, and the consultants undertook the data collection and analysis, and prepared a planning report. In a small number of provinces, the local government received support from international donors to do this planning work (DANIDA/ UNDP; ACCCRN/ RF). In these cases, the donor commitments were often made before the requirement to undertake CAPs, so these provinces typically had already started the process.

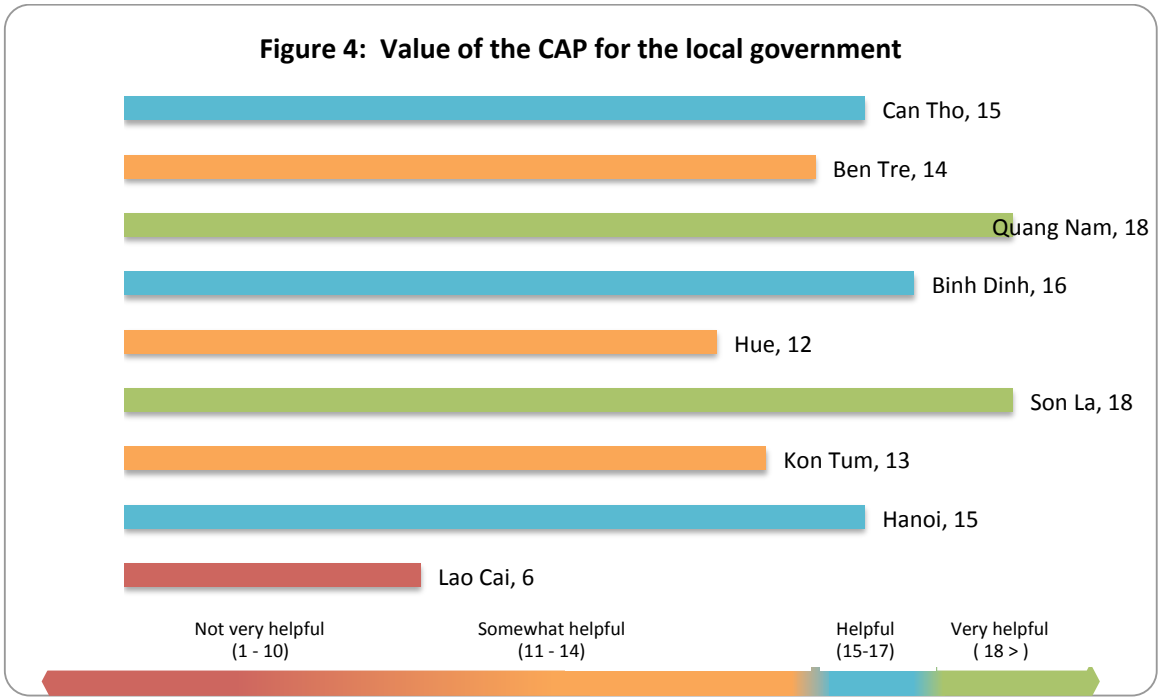
In every case except Can Tho, the CAP content was mostly prepared by technical consultants hired by the province. Can Tho prepared its own CAP. In all cases except Kon Tum, the local government prepared the recommendations section of the report. As explained above, this is understandable given the limited staff in the provincial DoNREs and the lack of experience with this type of planning. However, an important implication is that weaknesses in the CAPs generally should be attributed to the technical consultants doing the work, not only to the provincial government staff providing direction and oversight. Both groups had limited experience with this type of planning work at the time.

It is significant that the analytical weaknesses described above are mainly in the area of vulnerability assessment, risk assessment, collaboration and coordination, while the side of the work more focused on climate science and hydrology was generally stronger. This is typical of initial climate planning undertaken in other countries, where the emphasis tended to be first on the climate science rather than on the planning implications of that science (Füssel and Klein, 2006; Preston et. al. 2011). However, another major weakness is in implementation of plan recommendations, which is the responsibility of local government. We discuss this further below.

When asked about the key results from the CAP, most of the provinces reported significant insight, shared understanding and clearer direction about climate adaptation measures after undertaking the plan. The exceptions were Lao Cai, Kon Tum and Hue, who reported relatively limited benefit from their CAP planning (see Fig 4).

The organization of the CAP process was quite similar in most provinces, with a commitment from the local government, usually based on the requirement instituted by MoNRE in the NTP-RCC, an official letter / decision from PPC, a Steering Committee and working group. Even though they had limited knowledge and no experience with climate planning, the DoNRE officers followed the guidelines as best they could. Provincial leaders in the high- and medium-scoring provinces were often highly engaged and interested in the preparation of the CAP. In these cases multiple departments were engaged through a working group, or through several workshops to prepare / review the draft report. Other departments seemed quite familiar with the CAP and in most cases were asked to review and endorse the recommendations before it was approved. In Kon Tum there was relatively little involvement with any departments except DoNRE, except for circulation of final documents for comment, and this may be more typical of the process in many provinces.

Figure 4: Value of the CAP for the local government



On the other hand, the involvement of vulnerable groups, and the way they were consulted (or not) varied substantially between the different provinces. Binh Dinh undertook several surveys and consultations with vulnerable groups, but apparently did not share the final plan document. A few other provinces also undertook some form of consultation and typically shared the key results of the plan with vulnerable groups. The research team was able to interview representatives of vulnerable groups in four of the cases who could confirm that they were consulted by the planners, that they attended at least one meeting to discuss the plan and provide feedback, and that their feedback had been incorporated in some form.

The provinces feel that they have insufficient funds to implement climate adaptation recommendations. Most of the technical departments interviewed reported that lack of funding was the greatest barrier to the success of the plans. Only Ben Tre and Quang Nam did not face

financial barriers in implementing CAP recommendations, as they received DANIDA funding for dozens of the measures identified in their CAP. The lack of funding was a source of frustration to the other provinces, who reported in most cases that recommended measures had not yet been implemented because of this. It is striking that there seemed to be little or no connection yet between this planning process and other provincial planning procedures tied to public investment planning and urban infrastructure development, which are the responsibility of different departments.

The assumption of the CAPs seems to have been that funding for implementation measures would come from some other source, and indeed in some cases external project funding was forthcoming from donors or from MoNRE. This shows the challenges of coordinating public expenditure planning across different ministries, even at the local level. There seems to be no mechanism yet for the results of the CAP to feed into decisions taken in land use planning, construction planning or socio-economic development planning.

The agencies responsible for leading the initial round of CAPs in these provinces had other recommendations for improvements to the process. In general, they hoped for better guidelines and funding from national budget, particularly for undertaking the vulnerability assessments and consulting with affected groups and communities. They also requested that scientific data provided for the plan by national authorities or technical consultants be more clear, relevant, complete and understandable from the local perspective. There is also concern that better internal mechanisms are needed for coordination of the planning process and to ensure practical follow up so that recommendations can be financed and implemented. After this initial experience, many of the smaller provinces also reported their concern that they lacked sufficient technical staff and capacity to support the planning process effectively.

The initial round of CAPs was very important in introducing the concept of climate action planning to provincial governments. At the time, there were few examples anywhere in the world of a systematic approach to local government climate planning, and the process outlined by NTP-RCC in their CAP guidelines seems to have led to generally positive results. As experience has developed in other countries, it has followed many of the guidelines originally recommended by the NTP-RCC. A comparison of the international good practices with the NTP-RCC's technical guidelines (IMHEN, 2011) suggests that the main differences that have emerged as international experience has grown have been in the approach to vulnerability assessment; the identification of vulnerability as a component of risk instead of vice versa; the roles of different public and private stakeholders, and particularly vulnerable groups, in the process; and the need to emphasize implementation of recommended adaptation measures and how they fit with other planning processes. Most other aspects of good practices were covered in the original 2011 guidelines.

For the provinces, the main benefits they reported are a greater shared understanding of climate issues across sectors and clear direction for adaptation. Most of the provinces reported that they benefited from undertaking the CAP and could now move forward with practical actions to reduce climate risks. The list of recommended projects is a key product that provides them with direction, but for most provinces where technical staff were highly involved in developing or reviewing the

draft plans, staff capacity development was another important positive result. The CAPs were high profile: in most provinces, senior leaders are well aware of the CAP and know about some of the key follow up activities. Some of the provinces recognized in their interview responses that they need better coordination and attention to financing and implementation in order to improve the effectiveness of CAPs. Finally, because most provinces have limited technical staff in DoNRE, technical consultants will always be crucial to the preparation of provincial CAPs. Yet the province may not have sufficient guidance or technical capacity to judge the quality of the work done by the consultants. This poses the question of how best to ensure that technical consultants for CAPs produce work of sufficient quality to meet provincial needs for adaptation planning.

6. Conclusions and Recommendations

These conclusions and recommendations will be presented in several sections:

- General conclusions from the comparison of provincial experience with CAPs;
- Implications for the next round of updating provincial CAPs;
- Sharing good practices to build confidence and understanding at all levels;
- Suggested guidelines for content of CAPs;
- Suggested guidelines for procedure of CAPs;
- Suggested guidelines for provincial People's Committee in coordinating climate plans with other provincial plans;
- Suggested guidelines for training and capacity building to improve effectiveness of action at the local government level.

6.1. General Conclusions from Study

Despite the lack of experience and knowledge about climate change at the local level, almost all provinces have approved CAPs in the initial round after the national government introduced this requirement in 2009. The adoption of guidelines for the content of the plan, and the use of a relatively small number of national technical consulting agencies assured a high degree of consistency in the content of the plans across many different provinces, although the process and quality of analysis varied. Overall, our study suggests that across all regions of the country, there was a significant amount of study and planning undertaken to prepare and review the CAPs in each province. The strengths of the CAP process were in the application of climate science, identification of potential climate impacts, and in having the new plan documents reviewed by various relevant technical departments, especially those responsible for implementing recommended actions. However, there were many differences in the details of CAPs, and in the processes used by provinces to prepare them. In particular, from our sample of nine provinces in different regions of the country, there is a clear distinction into three general categories of performance.

Our comparison showed clear differences between CAPs that were undertaken with some kind of international support and those that did not have any international support. But there was relatively little difference between the CAPs produced with support from different international organizations. The CAPs that had international support typically included more careful vulnerability assessment, identification of vulnerable groups, more engagement of stakeholders including technical departments and community groups, better risk assessment, and better prioritization of recommendations, together with implementation of high priority recommendations. The highly rated CAPs were similar in that they performed well on most of the same criteria.

Those CAPs produced without international support (the large majority of provinces in Vietnam) were more diverse. Most of them followed only basic procedures and devoted limited effort to

vulnerability assessment, risk assessment or prioritization of recommended measures. They were dominated by climate science and impact assessment rather than analysis of vulnerabilities or strategies for risk reduction. They often did not consider many factors influencing future uncertainties, including changing patterns of urban development or land use. They may have scored well in some criteria, such as clear assignment of responsibility for implementation, good prioritization of recommendations, or attention to details of climate variability. But in general, their weaknesses meant that they have had limited effectiveness.

A middle group of provinces in our sample produced CAPs that better addressed some of the good practices that we identified in our international review. But this group was not consistent in terms of which practices they addressed: some of them had good stakeholder engagement but limited vulnerability and risk assessment. Some of them had poor engagement from other technical departments outside DoNRE. Some of them did not identify priorities or responsibilities for implementation.

Many of the good practices identified from international review were widely applied in this first round of CAPs, including appropriate application of climate data to impact and vulnerability assessment; consultation between relevant technical departments; assignment of responsibilities for implementation; and engagement with stakeholders outside government. This is particularly impressive given the very limited experience in Vietnam with this kind of work prior to the initial round of CAPs. However, in general there was limited attention to risk assessment or to how the plan would be implemented or monitored. The CAPs were not very useful in terms of guiding provincial funding decisions or supporting economic development plans.

During this initial round, the DoNRE and provincial PC were mainly concerned with meeting the new requirements imposed by MoNRE through the NTP-RCC. Feedback from the individuals most involved in the initial CAP process suggests that most provinces learned a lot from the process of undertaking the plan, even if they had not implemented many actions to follow up. The general issues of climate change, climate impact and potential adaptation needs are now finding a place in formal local government planning decisions.

6.2. Key Challenges for Updating Provincial Climate Action Plans

A key result from this study is our conclusion that the first round of provincial Climate Action Plans in Vietnam are consistently weak in relationship to implementing recommendations. This is a crucial problem because the purpose of the Climate Action Plan is not to report to MoNRE, it is to clarify and support local government action. The CAP is not an objective in itself; it is merely a tool to support the local government to implement economic and social development effectively in the face of climate uncertainty. But it is apparent from our comparative study that there is currently no significant connection between the CAP and local government development planning. The next round of updating CAPs should try to ensure better links between climate planning and provincial SEDPs, as well as urban master plans. Fortunately, this is also a priority for both the Ministry of Planning and Investment (MPI), with their recent Decision 1485 QĐ-BKHĐT (Oct. 17, 2013) and the

Ministry of Construction (MoC), with their Decision 2623 QĐ-BXD (Dec. 31, 2013). Both of these policy decisions recommend that climate adaptation measures be incorporated into local planning decisions.

Another key lesson from this study is that climate information should be more easily available for planning. The usual practice in Vietnam is that data is closely held by government agencies, and only released in exchange for payment. The result is that local planners must pay for climate projections or hydrological data and modeling results that are produced by other government agencies. Because the data is neither free, nor widely available, it is not used as much as it should be. For example, in our study Hanoi chose not to pay for climate data and as a result the climate impact projections in their plan are weak.

The results also show that there was inconsistent treatment of monitoring issues by local governments in their CAPs. We recommend that MoNRE explore how to define *indicators* for local climate change resilience, as a way to encourage local governments to monitor changes in their readiness for climate change.

The lessons from this comparative study should also be incorporated into updated Guidelines for the next round of CAPs. These results can improve climate action planning at all stages, from the climate science to the vulnerability and risk assessment, approvals, implementation and monitoring. Specific recommendations based on the findings reported in section 5 of this report are presented below. We suggest that these be considered in the revision of the CAP Guidelines that can be issued to all provinces in the near future, to improve the quality and effectiveness of the updates to Climate Action Plans.

6.3. Sharing Good Practices

A recurring tendency in explaining the results of this study of CAP practices is to blame areas of comparatively weak performance on the “low capacity” of either provincial DoNRE staff, or of the technical consultants hired to undertake the work. This explanation suggests that “building capacity” by training technical staff in new methods can solve this problem. To be sure, training would in many cases be beneficial, and we discuss recommendations for training below. But the limitations of human resources are another challenge that limits the capacity of provincial DoNREs. In most cases, the Hydrology, Meteorology and Climate Change division of provincial DoNREs consists of only 2 or 3 staff, so their ability to concentrate on climate adaptation is inevitably limited and their attention distracted by other responsibilities.

However, often the problem is not one of lack of skills, nor even lack of time, but simply unfamiliarity with what is expected and what would be considered good practice. Because climate action plans are new everywhere, we found in our international review that there are many different ways to undertake this task, and that consensus about what constitutes good practice is fairly recent. This is not a field with a long-established track record and with widely-accepted methodologies and tools. Everybody is still learning how to do this kind of work.

This means that performance of all professional staff involved in climate action plans would be improved through broader exchange of information and a shared understanding of what constitutes “good practice”. Because this kind of work is still new, there is a lot of uncertainty about what it should look like, and few shared expectations other than the MoNRE guidelines. We recommend some improvements to these guidelines here, but improving the guidelines will only go part of the way to providing a solution. Not all practices can be directly transferred to other locations, so detailed guidelines are not always effective. Professional staff should understand the reason for their actions and be able to exercise judgment based on experience. But experience can be shared and discussed.

Professional and technical staff involved in climate action plans should have a way to interact with each other and to share the growing Vietnamese knowledge and experience in order to more easily agree on, and disseminate, good practices. This would include not only provincial staff in DoNRE, but also in other technical departments that need to use CAP results, such as Department of Construct ruction (DoC) or Department of Planning and Investment (DPI). It also includes technical consulting agencies, and local government leaders. Each of these actors has a role to play in producing or using the CAP, and by sharing their experiences they can build confidence and understanding at all levels, and jointly identify effective practices for promotion and learning.

This review has shown that some provinces in Vietnam already apply good practices in their CAPs, so there are good experiences and lessons that can be shared by leading organizations. In this study, we found that Can Tho, Ben Tre, Quang Nam and Binh Dinh province all had many good practices they could share and explain to colleagues from other provinces. There are probably other provinces not included in this study who also have good experience with CAPs. To some extent, this sharing happens already through informal exchange, but the peer-to-peer learning process could be strengthened by deliberately designing opportunities for shared learning between professional and technical staff.

The study team therefore recommends not only training, but also support for interaction and sharing lessons among all of these groups. The mechanisms for supporting such interaction may vary, but one approach would be to engage in the recently established Urban Climate Resilience Community of Practice (UCR-CoP), which is organized under the Vietnam Urban Forum (VUF) and partly sponsored by the Ministry of Construction. This group would also provide a basis for releasing and promoting new CAP guidelines widely, and for linking CAPs to local construction planning.

6.4. Recommended Guidelines for the Content of Climate Action Plans

The first guidelines issued by MoNRE as a result of Decision 3815/BTNMT-KHTVBDKH (IMHEN, 2011) were very useful in producing consistent results for the initial round of CAPs. However, our

study and comparison with international good practices suggests that these could be improved by the following clarifications:

1. Climate data: treatment of future climate projections should include explanation of inherent uncertainties in projections, including displaying a range of results from different models or emission pathways. Climate projections should discuss the role of climate variability and anticipated changes in the frequency of extreme events (high intensity precipitation, heat waves, prolonged drought, typhoons). For local planning, the most important climate parameters are the frequency and severity of extreme conditions and changes in variability. These issues were discussed in some, but not all, CAPs in the first round;
2. Vulnerability assessment: guidelines should include direction on how to assess vulnerability, considering exposure, sensitivity and adaptive capacity. Vulnerable groups should be clearly identified;
3. Risk assessment: guidelines should clarify the requirement for quantitative or qualitative assessment of risks. There are a number of ways to estimate risks from available data, but uncertainties in the risk estimates should be explained clearly;
4. Recommendations: recommended measures to respond to climate risks should clearly address the vulnerabilities identified in the vulnerability assessment, should indicate responsibilities for implementation, and should also indicate the source of financing for implementation (in consultation with DPI). They should be prioritized using clear criteria. These may be suggested by the SP-RCC prioritization criteria (Decision 1719/QĐ-TTg, 2011) or modified to suit local conditions. Recommendations should be directly linked to sectoral planning and implementation procedures;
5. Monitoring: the plan should indicate who will be responsible for monitoring the results from plan recommendations, who will be responsible for updating the plan, and how frequently these activities should occur.

6.5. Recommended Guidelines for the Procedure of Climate Action Plans

The quality and effectiveness of CAPs could be improved not only by clarifying the desired content of the CAP, but also by providing some guidelines for the process of undertaking the plan. In our study we found some important procedural aspects could have been more consistent. These include the following processes:

1. Selection of consultants: DoNRE could be provided with suggested Terms of Reference (ToRs) or criteria for hiring consultants to prepare the CAP. For the initial round of CAPs, DoNRE was often not clear on what qualifications were needed to prepare the CAP. International good practices suggest the importance of natural science and social science expertise, as well as strong facilitative skills. If it is difficult to find technical consultants with all the required skills, collaboration mechanisms and processes will need to be developed to allow consortia or teams of consultants to be engaged.
2. Engagement of technical departments: DoNRE should be provided with guidance on when and how to engage other technical departments in the formation of a CAP Working Group early in the process. By the time the draft plan is circulated for review, it may be too late to

get valuable input about issues such as vulnerabilities and risks. Different technical departments have specialized knowledge about key economic infrastructure and can provide advice on its vulnerability to extreme climate events at an early stage in the CAP process, and then provide iterative feedback and guidance as the process continues. Some provinces have already done this, but the process should be encouraged in all.

3. Engagement of vulnerable groups: The engagement of vulnerable groups identified in the VA is an important part of the CAP process because it provides information for planners and it helps to increase public awareness of changing climate risks. But many government officials are not familiar with how to conduct effective consultation processes. Guidelines would be helpful.
4. Process for coordination of planning and implementation: provincial governments will need to better coordinate the results of CAPs with the other key provincial plans, including SEDPs and urban master plans. This will ensure consistency with recent policies in other ministries (MPI Decision 1485 on Adaptation Prioritization Tool; MoC Decision 2623 on integrating adaptation into urban planning). Guidelines for this coordination process should be developed.
5. Coordination with adjacent provinces: Before finalizing the CAP, DoNRE should consult existing CAPs for neighboring provinces to identify any shared or conflicting interests for future collaboration. Hydrological and other models may be shared to reduce costs. Guidelines should be prepared for key issues to consider (e.g. watershed management and land use change; transportation infrastructure; water supply).

6.6. Recommended Guidelines for Provincial Government Leaders

The Provincial People's Committee plays an important role in climate action planning and can improve the process through better understanding of this role. Key roles of the provincial government leaders include:

1. Ensuring that the provincial Steering Committee on RCC is appointed as a permanent organization and charged with responsibility for oversight of the preparation and implementation of the CAP. This will help to ensure coordination between DPI, DoC and DoNRE to better implement national government legal decisions and policies for integrating climate change into local planning decisions. The Steering Committee should also be responsible for monitoring ongoing implementation of the CAP and determining the effort needed for updates as required by MoNRE. Provincial leaders and the Steering Committee may want to consider the need for a standing office or coordinating office that can provide support to the CAP process, coordination with technical departments, and monitoring and follow up (such as the Climate Change Coordination Offices in Can Tho, Binh Dinh and Da Nang).
2. Assigning high importance to the involvement of senior technical staff from the relevant departments to give their attention to CAP preparation and implementation. In particular, all departments should be prepared to show how the CAP will affect their own sectoral plans.

3. Ensuring that DoNRE staff and other key agencies' technical staff receive appropriate technical training to improve their capabilities in climate action planning and coordination.
4. Provide support and attention to the CAP planning process and results, to assure that NTP-RCC guidelines are followed at the local level.
5. Ensure that priorities of the CAP recommendations align with the appropriate criteria and match up with priorities for planning in other sectors and SEDP.

6.7. Recommendations for Training and Capacity Building

In order to improve the quality and effectiveness of CAPs when they are updated in the next round of planning, MoNRE should arrange for training for several important groups, once the CAP guidelines have been revised as suggested above. Training should include practical examples and hands-on applications, not just documentation or lectures. There should be opportunities for discussion about concepts and practices that are unfamiliar. Training content and approach will differ depending on the audience, and should be undertaken by qualified trainers who are skilled in communications and pedagogical techniques. Key audiences include:

1. DoNRE: training subjects include the following
   - Technical aspects of climate change, and particularly how to manage and plan for uncertainty and variability of climate;
   - CAP guidelines for content;
   - CAP guidelines for process, including criteria for selecting consulting agencies and reviewing their work;
   - Coordination mechanisms for undertaking the CAP (working groups, consultation procedures, prioritization criteria for recommendations, etc.).
2. Technical consulting agencies:
   - CAP guidelines for content;
   - CAP guidelines for process, including criteria for selecting consulting agencies and reviewing their work;
3. Local government leaders and senior technical officials:
   - Linkages between climate change and other planning mechanisms (SEDP, urban development, construction and infrastructure);
   - Coordination mechanisms for climate planning, social and economic development, and urban development;
   - Financial and budget provisions for implementing priority projects.

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APPENDIX 1: 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 just 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 policy makers. 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 in order 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

(Individual responses) – these should not be circulated in advance, but they can be circulated at the end of the interview and ask for individual responses. 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).

A note about rating scale: For questions in Section A-3 where responses are scaled against "good practices", we suggest a scale of 0 – 3 as follows.

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 / reasonable success to meet this criterion

3 – excellent effort / highly successful – a model for others to follow

DETAILED SURVEY QUESTIONS

Part A (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. E.g. It doesn't matter for our purposes whether the team had high knowledge of climate change or not. It matters for our purposes whether they BELIEVE they had high knowledge of climate change; or whether they CLAIM they had experience with climate projects already. We should not confuse these assessments with facts. They are not facts, they are the opinion 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 (0-4):

   Nothing at all (0)

   Just what we see in the newspaper and the 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 (x)

   1.3. Climate action planning began in our province/city because of:

   Requirement from MoNRE part of NTP (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 (x)

When approved by provincial government or submit 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 so, amount 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. Was 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 organized and managed (Steering Committee? Working Group? Individual oversight?) (text response)

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 (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 2x or less; 1 – met 3-6 times; 2 – met 7-10 x; 3 – more than 10x)

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 – review documents provided to them; 2 – participate in meetings and provide comments; 3 – lead 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 x)

3.2. Support from PPC

3.2.1. Vice Chairman of the PPC participated actively in how many Steering Committee meetings to discuss progress of CAP? (0 – no SC; 1 – only once; 2 – 2 or 3 times; 3 – more than 3 x)

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 kind of consultation 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 all the stakeholders (departments, vulnerable groups, mass organizations, 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 (")

3.8.3. Projects supported by international donors (")

3.8.4. Private investment projects (")

3.9. Monitoring

3.9.1. Is the implementation of the plan being monitored and reported to 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 / reasonable success to meet this criterion

3 – excellent effort / highly successful – a model for others to follow

4.1. Previous projects: does the CAP summarize the conclusions of previous climate studies and projects in this province, and explain the implications for the climate action plan?

4.2. Climate science: the CAP demonstrates use of best available climate science at the time it was completed. It applies the following practices (rate degree of application 0 – 3):

4.2.1. Projections of climate parameters in multiple future periods and change 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 2 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 (monsoon start, drought, etc.) – (this means that the CAP identifies potential increase in climate variability e.g. long drought one year followed by flooding in dry season next 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 modeling: projected impacts are based on modeling of future flood conditions

4.3.3. Projected impacts of sea level 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 neighboring provinces, to share consistent assumptions, data, modeling or impacts analysis

4.4. Vulnerability Assessment:

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): Read the question (twice). Ask the respondent if the statement is clear. If clear, ask the respondent to answer either 1, 2,3, 4 or 5, where 1 means “strongly DISAGREE” with the statement, and 5 means “strongly AGREE” with the statement. 3 means 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 (response: scale 1 – 5 as follows)

1	2	3	4	5
Strongly disagree		neither agree nor disagree		Strongly agree

5.1.2. The process of developing the CAP was **effective in building shared understanding of climate adaptation** needs across multiple technical departments

1	2	3	4	5
Strongly disagree		neither agree nor disagree		Strongly agree

5.1.3. The provincial CAP provided **clear direction** for local government investment in adaptation projects

1	2	3	4	5
Strongly disagree		neither agree nor disagree		Strongly agree

5.1.4. It will be "easy" (straightforward, not complicated) for the provincial government to implement the top 5 priority measures for climate adaptation.

1	2	3	4	5
Strongly disagree		neither agree nor disagree		Strongly agree

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 like)

Part B: Interview 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 2 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 provincial Climate Action Plan approved in (specify the date here from question 2.1.1)?

2. Were you involved in 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. above]

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]

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 like)

PART C: Interview for Decision Makers

This interview is for provincial / city government policy makers, 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 Steering Committee for NTP; or Vice-Chairman of PPC.

(explain purpose of survey)

1. Are you familiar with the Climate Change Action Plan submitted by the province to MoNRE in (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 one of the recommendations that has been implemented or 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 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 like)

PART D: Interview for representative 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 answer is Yes, proceed to next questions. If answer is No, ask the respondent: 1a. 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 to them?

3. Did you have a chance 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, to you think that there are any projects that are planned or started, to respond to these concerns?

APPENDIX 2: LIST OF GOOD PRACTICES

This table lists the various good practices that were assessed for each of the provinces studied. If researchers could find evidence of the application of this practice in completion of the initial CAP, it was included in a count of the number of good practices applied in each case. The column labeled "report section" provides more background on the nature of the practice and how it has been applied internationally. The frequency column reports on the number of times this practice was seen in application amongst the sample provinces in Vietnam (n=9).

Good practices	Description	Report section	Freq
CAP Organization and Process			
Coordination by local staff with external technical inputs	The CAP process was coordinated by local government staff with technical support as required from external experts.	4.6	7
Departments involved in implementation	Key technical departments involved in implementing plans are also part of the planning team	4.5	6
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	4.3	9
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	4.3	6
Responsibility for implementation assigned	Clear responsibility for implementation of plan recommendations was assigned to specific agencies	4.5	8
Iterative process (shared learning, exploratory)	The CAP process was iterative: some parts of the process were repeated as information improved, lessons were widely shared and documented, feedback was provided to contributors	4.6	5
Local commitment	Local political commitment to the CAP process was high, as demonstrated by executive level support	4.6	7
Driven by local interest	CAP procedures and priorities were driven by local context and responded to locally determined policies and priorities more than national guidelines	4.6	4
Experience driven by international donor	The planning process responded to advice from international donors and their technical experts and to priorities they identified	4.6	4
Request for additional information	Local planners requested additional information from external expert consultants or national government, or from other local departments, to respond to emerging issues as the plan developed	4.3	4
CAP Recommendations and Implementation			
Prioritization of adaptation measures	The CAP established a limited number of priority measures for implementation	4.5	5
Recommendations focus on key vulnerabilities	The priority recommendations responded clearly to the vulnerabilities identified in the plan	4.5	9
Implementation of recommendations	Priority recommendations in the original CAP have since been implemented by local government	4.5	5
Recommendations supported	The CAP recommendations were reviewed and approved	4.5	7

by implementing agency	by the technical departments who would be responsible for their implementation		
Financing of implementation measures	Financial resources for implementation were identified in the CAP	4.5	4
Barriers/incentives to implementation	The CAP explicitly identified any notable barriers or incentives that could prevent or support implementation of recommendations	4.5	0
Monitoring	The CAP included mechanisms for monitoring implementation and updating the plan	4.6	7
Climate Science and Technical Assessments			
Use of best available science	Climate change adaptation planning used the most recent available climate projections, including estimates of uncertainty	4.1	8
Availability of climate information	Climate information was made available to the public as part of the planning and consultation process	4.1	1
Assessment of climate impacts	Climate projections were used to assess likely impacts from climate change	4.1	9
Application of hydrological models	Hydrological modeling was applied to assess risks of flooding from rivers or sea level rise	4.1	8
Vulnerability assessment	A formal vulnerability assessment was undertaken to demonstrate which groups and sites were most vulnerable to climate impacts	4.2	5
Risk assessment	A formal risk assessment was undertaken, either quantitative or qualitative, explicitly assessing the probability and magnitude of damages from climate impacts	4.4	3
Risk assessment used in prioritization	Conclusions from risk assessment were explicitly used in determining priorities for adaptation recommendations	4.4	3