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# Scoping and Designing an Adaptation Project

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### 1.1. Introduction

Using the Adaptation Policy Framework (APF), this Technical Paper (TP) will assist project teams in designing projects to develop and implement adaptation strategies, policies and measures that can ensure human development in the face of climate change, including variability. The APF provides a basis by which countries can evaluate and modify existing planning processes and practices to address climate change impacts. To do so, this TP walks the reader through a series of recommended tasks, preparing them for the hands-on work of project scoping and design.

In the pages that follow, equal importance is placed on designing an adaptation project and on launching an adaptation policy process that will extend beyond the project lifetime. During the process of conducting an adaptation project, public awareness is raised, individual, community, sectoral and national capacities are enhanced, and policy processes are established or modified. At the end of the project, the team will have a better understanding of the resilience and vulnerabilities of priority systems with respect to climate change, including variability.

Stakeholder involvement throughout the project should promote equity in decision-making, a thorough and transparent exchange of information and viewpoints, agreement on key objectives and a general consensus on recommended measures and policies. Ideally, an adaptation community that is capable

of supporting future adaptation activities will be created by the end of the project.

An adaptation project can result in a variety of outputs, including sectoral and integrated policy analysis and implementation. A typical adaptation project will identify adaptation strategies, policies, and measures aimed at different levels of society for different spatial and temporal scales.

The APF can be used to develop and incorporate adaptation concerns into national, sector-specific and local development planning processes. Because adaptation in one sector often has consequences for another, the APF has been designed to facilitate a process of integrated assessment through a consultation process in which links between sectors are identified and assessed. The APF also may be applied to add adaptation Components onto on-going projects. By reviewing the scoping and design process outlined here and in the User’s Guidebook, readers should be equipped to develop an adaptation project that suits their particular needs.

### 1.2. Relationship with the Adaptation Policy Framework as a whole

TP1 provides guidance on the first Component of the APF process: *Scoping and designing an adaptation project* (Figure

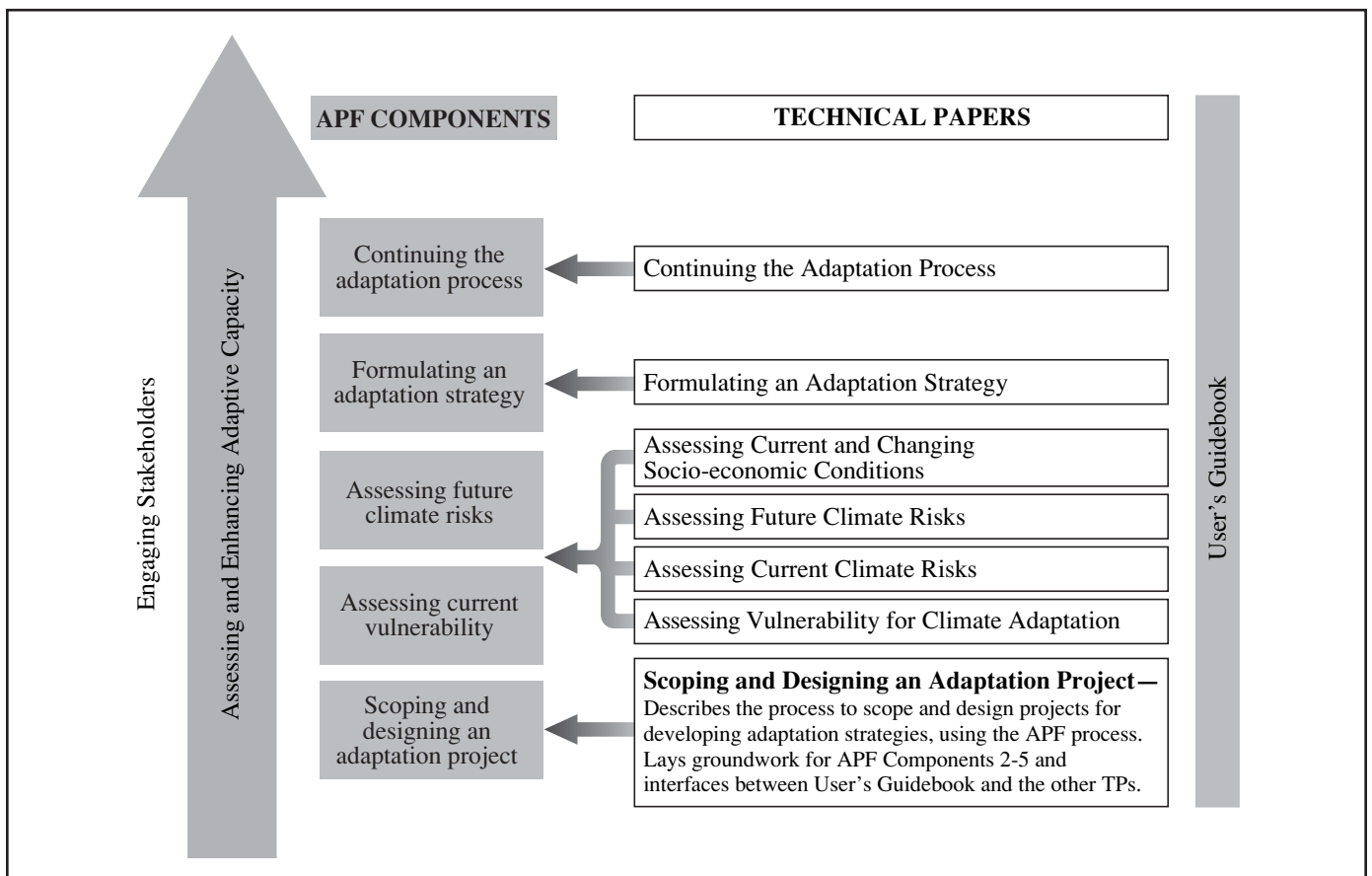


Figure 1-1: Technical Paper 1 supports Component 1 of the Adaptation Policy Framework

1-1), and lays the groundwork for Components 2 through 5. As such, TP1 can be used as initial guidance for launching an adaptation project. Understanding the methods described in TPs 2 (*Engaging Stakeholders in the Adaptation Process*), 7 (*Measuring and Enhancing Adaptive Capacity*), 8 (*Formulating an Adaptation Strategy*), and 9 (*Continuing the Adaptation Process*) will be helpful in designing the adaptation project. Depending on its objectives, an adaptation project can include additional Components, such as assessment of current vulnerability in the priority system (TP3), assessment of current and future climate risks (TPs 4 and 5), and assessment of the relevant socio-economic conditions and prospects (TP6) and of adaptation itself (TP 7-9).

### 1.3. Key concepts

Brief definitions of concepts used throughout the APF are provided in the User's Guidebook and in this paper. Many of these concepts are discussed in greater detail in other TPs (e.g., stakeholders in TP2, vulnerability in TP3, (natural) hazards-based approach and risk in TPs 3-5, methodological approaches and baselines in TPs 3-7, indicators in TP6, systems and adaptive capacity in TP7, strategies, policies and measures in TP8, monitoring, evaluation and mainstreaming adaptation in TP9). For ease of reference, concepts central to this TP are outlined here.

**Adaptation** is a process by which strategies to moderate, cope with and take advantage of the consequences of climate events are enhanced, developed and implemented.

An **adaptation baseline** is a comprehensive description of adaptations that are in place to cope with current climate. The baseline may be both qualitative and quantitative, but should be operationally defined with a limited set of parameters (indicators).

An **adaptation community** is the network of stakeholders that takes shape over the course of an adaptation project and persists following the project's completion; its goals are to implement, support and improve adaptation strategies, policies and measures.

An **adaptation project** for developing and implementing adaptation strategies, policies and measures may be designed and carried out, using some or all of the concepts of the APF.

**Adaptive capacity** is the property of a system to adjust its characteristics or behaviour, in order to expand its coping range under existing climate variability, or future climate conditions.

Different adaptations will have a variety of priorities and needs. A project **approach** is selected to respond to these unique needs. The four major approaches discussed in the APF are outlined here:

1. With the hazards-based approach, a project assesses current climate vulnerability or risk in the priority system

(TP4), and uses climate scenarios to estimate changes in vulnerability or risk over time and space (TP5).

2. With the vulnerability-based approach (TP3), a project focuses on the characterisation of a priority system's vulnerability and assesses how likely critical thresholds of vulnerability are to be exceeded under climate change. Current vulnerability is seen as a reflection of both development conditions and sensitivity to current climate. The vulnerability-based approach can be used to feed into a larger climate risk assessment (TPs 3-5).
3. With the adaptive-capacity approach, a project assesses a system with respect to its current adaptive capacity, and proposes ways in which adaptive capacity can be increased so that the system is better able cope with climate change including variability (TP7).
4. With the policy-based approach, a project tests a new policy being framed to see whether it is robust under climate change, or tests an existing policy to see whether it manages anticipated risk under climate change (TP6).

In the APF, **baselines** have two primary uses:

1. First, there is the **project baseline**. This is a description of where the project is starting from – who is vulnerable to what, and what is currently being done to reduce that vulnerability. Project baselines are generally focused on the priority system, and are thus site-specific and limited to the duration of the project. Depending on the approach used in an adaptation project, a project baseline will be characterised by a set of quantitative or qualitative indicators, and may take the form of, e.g., a vulnerability baseline (TP3), a climate risk baseline (TPs 4 and 5), an adaptive capacity baseline (TP7), or an adaptation baseline (TP6). Project baselines can later be used in the monitoring and evaluation process to measure change (in, e.g., vulnerability, adaptive capacity, climate risk) in the priority system, and the effectiveness of adaptation strategies, policies and measures.
2. Second, depending on their project needs and design, APF users may choose to develop **reference scenarios** that represent future conditions in the priority system in the absence of climate adaptation. Scenarios may also be developed in which various adaptation measures are applied. Both reference scenarios and scenarios may be compared with baselines to evaluate the implications of various adaptation strategies, policies and measures. Scenarios differ from project baselines in that they deal with the longer term and are used for informing policy decisions concerned with various development pathways at the strategic planning level.

An **indicator** is a quantitative or qualitative parameter that provides a simple and reliable basis for assessing change. In the context of the APF, a set of indicators is used to characterise an adaptation phenomenon, to construct a baseline, and to measure and assess changes in the priority system.

**Policies and measures** address the need for climate adaptation in distinct, but sometimes overlapping ways. Policies typically refer to instruments that governments can use to change economic structures and individual behaviours. Measures are usually specific actions, such as planting different crops.

A **priority system** is the focus of an adaptation project. It is a system that is characterised by high vulnerability to different climate hazards, as well as being strategically important at local and/or national levels. Socio-economic and biophysical criteria are often used to select priority systems by a given stakeholder group, and to set system parameters (indicators) for a given project.

**Stakeholders** are those who have interests in a particular decision, either as individuals or as representatives of a group. This includes people who influence a decision, or can influence it, as well as those affected by it. A stakeholder analysis often involves institutional mapping.

A **strategy** is a broad plan of action that is implemented through policies and measures. Strategies can be comprehensive or targeted.

A **system** may be a region, a community, a household, an economic sector, a business, a population group, etc., that is exposed to specific climate hazards.

**1.4. Guidance on scoping and designing an adaptation project**

The process of scoping and designing an adaptation project will involve a number of related activities. In general, these can be grouped into the following four task areas:

- Scope project and define objectives
- Establish a project team

TASKS	ACTIVITIES
<b>Scope project and define objectives</b>	Establish the stakeholder process Prioritise the key systems Review the policy process Define the project objectives and expected outcomes Develop a communication plan
<b>Establish project team</b>	Select members of the project team
<b>Review and synthesise existing information on vulnerability and adaptation</b>	Review and synthesise existing information on vulnerability and climate risk, based on previous studies, expert opinion, and policy context Describe adaptation policies and measures in place that influence the ability to successfully cope with climate variability Develop indicators of vulnerability and adaptive capacity
<b>Design project for adaptation</b>	Select approach and methods Describe process for synthesis of assessments of future vulnerability and adaptation, and for implementing options and recommendations Develop monitoring and evaluation plan Develop terms of reference for project implementation

**Figure 1-2:** Tasks and activities to scope and design an adaptation project

- Review and synthesise existing information on vulnerability and adaptation
- Design adaptation project

In Figure 1-2, these tasks are presented as a linear process, but they will likely be carried out concurrently, and with significant feedback among them. Annex A.1.1 provides questions and tables that may be used by the project team as they work through these tasks.

#### 1.4.1. *Scope project and define objectives*

Effective adaptation projects will have long-lasting benefits for a given country. Building on the principles and “lessons learned” from prior experience from related disciplines will help to make climate change adaptation successful. This longer-term perspective is critical for addressing climate change impacts because of its decadal time horizon.

Specifically, the project should carefully take into account existing development plans in order to identify linkages between adaptation to climate change and other priorities. This approach recognises the importance of understanding the drivers of vulnerability at different levels – whether national, regional, sectoral or local. Strategies, policies, and measures identified should be consistent with national development plans (e.g., to meet Millennium Development Goals) while offering the co-benefits of reducing exposure to a range of future climate hazards and conditions.

The project team needs to identify ongoing and/or planned projects within the country that have relevance to the adaptation project. These projects may be complementary, and possibly synergistic. Together they may increase the strategic value of

the adaptation process, enable more focused assessments, increase the policy impact of the results, and increase the efficiency of the available funding. Given that adaptation is not a stand-alone issue, leveraging is essential.

Key activities in this scoping exercise include:

- Establishing the stakeholder process
- Prioritising the key systems
- Reviewing the policy process
- Defining the project objectives and expected outcomes
- Developing a communication plan

#### *Establish the stakeholder process*

As an initial step, the project team will need to establish a process for generating stakeholder input to the design, implementation, and conduct of an adaptation project. Two stages of stakeholder involvement may be required. At the initial stages of project scoping, the stakeholder group will probably be small, in order to enable the quick development of priorities and objectives, and to identify additional stakeholders. Following initial stakeholder scoping activities, the full project team and a broad, diverse group of stakeholders are engaged for the project duration. In most situations, it is necessary to increase the interest and commitment of government organisations beyond those directly involved in the United Nations Framework Convention on Climate Change (UNFCCC).

A stakeholder process inclusive of a wide range of viewpoints is needed to facilitate a shared understanding of the issues, including the fact that adaptation strategies, policies and measures may result in winners and losers. In addition, the stake-

#### **Box 1-1: Questions to aid description of stakeholders**

- Who is affected by climate change, including variability, in the priority system?
- Who in the priority system are the potential leaders in the government, research communities, and civil society (e.g., non-governmental organisations (NGOs), associations, local communities)? Who is responsible for facilitating and implementing policies and measures for adaptation?
- Who controls the largest financial contributions for sectoral lending, or direct foreign investment?
- Who is actively working in the priority system on relevant issues (e.g., disaster management, poverty alleviation, forest management or community development)?
- Who is concerned with the priority system and the project results? Possibilities include national or local government, scientists, technology suppliers, economists, universities, private companies, NGOs, co-operatives, trade unions, communities and women and youth movements.
- Which stakeholders are responsible for formal and informal dissemination of knowledge? Is there a media presence?
- Which stakeholders are likely to be affected by the implementation of adaptation policies and measures in the priority system?

holder community may offer data, analytic capabilities, insights, and understanding of relevant problems that can contribute directly to the adaptation project. Given the valuable role of stakeholders in the project, a documentation log should be kept of key decisions agreed to by stakeholders in order to retain institutional memory after the project lifetime.

TP2 describes participatory techniques and tools to identify the key stakeholders, define their roles and responsibilities, and engage them in determining the best methods to encourage effective communication. Box 1-1 can be used to identify stakeholders; Figure 1-3 places these stakeholder groups in the local, regional and global context.

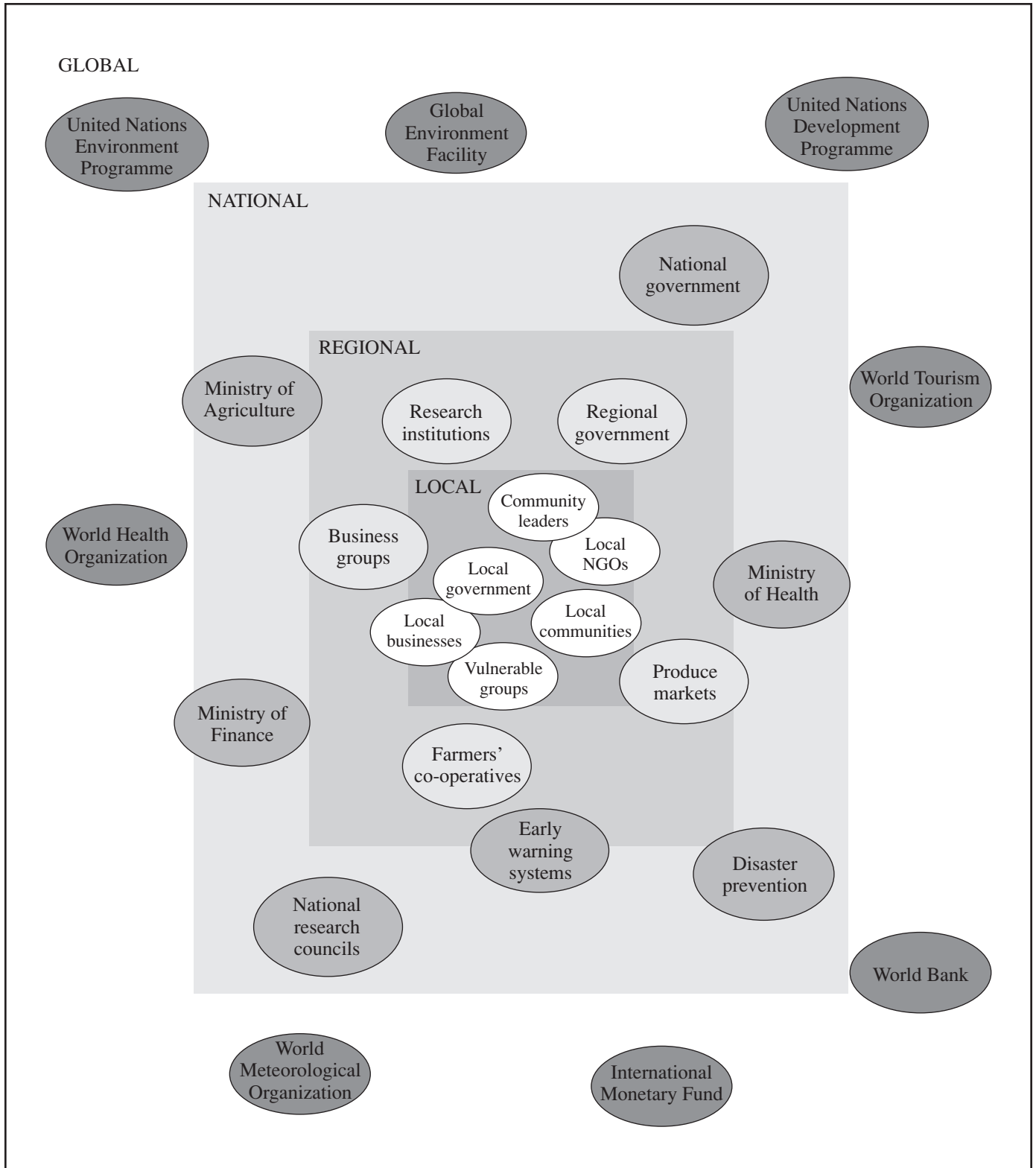


Figure 1-3: Stakeholder groups and institutional mapping



### *Prioritise the key systems*

Countries have multiple vulnerabilities to climate change, including variability, from drought risk to an increased burden of vector-borne diseases. A particular adaptation project will be selected based on prioritisation of who is vulnerable, to what, where, and to what extent within the priority system (TP3, Section 3.4.2). Although the information on priorities will be general at this stage, it should be sufficient to make the necessary comparisons. The questions in Annex A.1 may be helpful in the prioritisation process; these questions can be modified as needed.

Adaptation priorities can be identified from existing vulnerability assessments, from stakeholders likely to be affected, or from the advice and needs of decision-makers and scientific experts. To be genuinely valuable for adaptation, and legitimate in the public eye, the prioritisation process should include extensive stakeholder input. Prioritisation can be determined along various dimensions such as a particular sector, region or climate hazard. Prioritisation should recognise that sectors are often interdependent, e.g., both human health and agriculture are dependent on water resources. Prioritisation should consider relevant factors such as geographical location, time horizon, level of governance, current and future climate vulnerability, current and future socio-economic conditions, integration across systems, etc. In principle, priority should be placed on systems where there is both high vulnerability and a high likelihood of significant potential impacts from climate change, including variability. For example, specific climate hazards, such as major floods or droughts within a specific sector, could be the focus of the project. Finally, there should be consideration of how the climate risk(s) in the priority system could interact with development patterns and plans.

### *Review the policy process*

Understanding national, sectoral and local policy-making processes is essential for determining how to design and implement an adaptation strategy, policy, or measure. In support of their commitments under the UNFCCC, almost all governments have prepared national climate change reports. In such countries, the APF process can build upon the national vulnerability and adaptation assessments that were conducted as part of National Communications and/or National Adaptation Programmes of Action. In many countries, institutional structures were also established through the UNFCCC process, but these externally-funded structures are often weakly integrated into the national policy-making process.

The structure of relevant decision-making processes – whether national and sectoral policy-making processes, or a community’s social choice mechanism – needs to be identified to understand how an adaptation strategy, policy, or measure can be implemented through these processes. The basic questions to be answered include the following:

- Which level of decision-making is most relevant to the adaptation process? E.g., central government, municipal, and/or local community level.
- At each level, how can strategies, policies, and measures recommended by an adaptation project be included in the decision-making agenda?
- If a project is being carried out at the community level, how can the results provide input to the national policy-making process?
- How might the policy processes initiated during the project be sustained beyond the project lifetime?

It is important to identify situations where adaptation recommendations may be difficult to implement or sustain in order to develop approaches to manage these situations. Examples include a particular inertia of the policy process, and vested interests of groups or individuals. (See TP6, Section 6.4.4, for guidance on a more in-depth characterisation of current conditions within the policy process.)

The output for this activity could be a brief report that summarises the relationship of the key policy processes to adaptation to climate change, including variability, the potential for integrating adaptation concerns into these processes and the methods by which adaptation can be incorporated into existing processes.

### *Define the project objectives and expected outcomes*

Framing the project objectives and expected outcomes is critical to developing a project that will be informative and responsive to the needs of stakeholders and policy-makers. The project objective should state what the project is specifically intended to enable in the priority system, both during and after the project lifetime. The objective must be achievable within the project constraints, such as available funding. The process of setting objectives can be accomplished using facilitated stakeholder fora, expert opinion, and direction from policy makers. A number of tools can assist in creating a consensus on the central and sub-objectives of the project (TP2). Tools such as the political science-based “x goal-tree”, for instance, can help the user to map the central goal of a project with the goals and interests of the stakeholders involved.

The basic objectives of an adaptation project might be to:

- Increase the robustness of infrastructure designs and long-term investments
- Increase the flexibility and resilience of managed natural systems
- Enhance the adaptive capacity of vulnerable groups
- Reverse trends that increase vulnerability
- Improve societal awareness and preparedness for future climate change
- Integrate adaptation in national and sectoral planning

Although the above objectives will differ from project to project, all would require information generated by vulnera-



bility and adaptation assessments described in the APF. If the objective is to develop guidelines for including adaptation in national and sectoral planning, then the project will need to inform major project-planning or policy-making processes about the risks and opportunities associated with climate change.

To facilitate future monitoring and evaluation of the project output, consideration should be given to developing evaluation criteria during this task. Clear criteria will help in evaluating whether or not the desired outcome(s) was achieved.

*Develop a communication plan*

The project will only be effective if the results are effectively communicated with key stakeholders, decision-makers and the public. Therefore, it is important to produce a communi-

cation plan that is closely tailored to the needs of the target audiences, rather than the needs of the information generator. Communication should be adjusted and modified as required, based on monitoring of its effectiveness.

Key questions to be considered in the development of a communication strategy include: Who is responsible for the communication process? Which are the key audiences? How will the impact of communication be evaluated?

A national workshop could be held to present the results and to solicit feedback from stakeholders and decision-makers on key areas for further action. In addition to a project report, the team may produce a review of adaptation options, a summary of findings for stakeholders, and a technical report for the scientific community. (See TP9 for ideas on taking the adaptation process forward, which can be reflected in a project’s communication plan.)

**Table 1-1: Identifying adaptation project focus according to scale of implementation**

	<b>Hazards-based approach</b>	<b>Vulnerability-based approach</b>	<b>Adaptive-capacity approach</b>	<b>Policy-based approach</b>
	<b>Increasing resilience to severe flooding and future climate risks</b>	<b>Improving access to new markets and supporting livelihood diversification under future climate</b>	<b>Improving awareness in and the resilience of the business community to climate change, including variability</b>	<b>Reducing vulnerability to storm surges and sea level rise induced by climate change</b>
<b>National</b>	How can national meteorological services be changed to better monitor the evolution of future hazards?	How will recent changes in world markets affect aquaculture in Bangladesh (already at risk of inundation from sea level rise) under future climate?	Which business sectors will be most affected by climate change and why? What awareness raising is needed, and for whom? What fora should be involved?	What incentives or disincentives should be used to discourage the development of coastal zones vulnerable to sea level rise and storm surges induced by climate change?
<b>Regional</b>	How can flood early warning systems be made more effective under future climate for hard-to-reach communities?	How can access to new markets required by livelihood diversification activities be facilitated to moderate future climate?	How can regional businesses most effectively support livelihoods identified as being vulnerable to climate change, including variability?	Realignment or retreat? How to decide which areas are protected and which will become submerged under future climate?
<b>Local</b>	What techniques are most appropriate for effective local-level disaster preparedness planning under future climate?	How can credit schemes best support livelihood diversification in rural areas to reduce climate risks?	Which participatory visioning processes are most appropriate to identify threats and potential opportunities resulting from scenarios of climate change for members of local trade associations and businesses?	What stakeholder-led projects are most appropriate for investigating ways to mitigate flood damages in an urban area under future climate?

Table 1-1 provides examples of how projects for a given sector might change in focus depending on the scale at which they are being implemented for each of the approaches described in the APF.

#### **1.4.2. Establish project team**

The composition of an adaptation project team should be motivated by the project needs and goals. The interdisciplinary team could represent a range of sectors, and will likely include individuals with experience in vulnerability and adaptation assessments, climate science, and socio-economic research, as well as representatives of relevant stakeholders (including NGOs and potentially affected communities). It is essential to include practitioners with management expertise in the key issues of the priority systems. Other project team members may be drawn from universities and other research institutions, government agencies, non-government organisations, or private enterprises. The team members should commit to making a significant contribution over the course of the project.

#### **1.4.3. Review and synthesise existing information on vulnerability and adaptation**

In this task the project team will identify and synthesise prior work on vulnerability and adaptation that is relevant to the priority system. This work may have been conducted within the team's country or in another country with relevant circumstances. Synthesis of this information will be used to develop a project baseline (below). It is against this baseline that future vulnerability and adaptation options can be considered and against which future progress toward adaptation goals can be viewed. A well-defined baseline should describe the current level of vulnerability and the adaptation measures in place to reduce that vulnerability. Key activities involved in this task include:

- Review and synthesise existing information on current vulnerability and climate risk, based on previous studies, expert opinion, and policy context
- Describe adaptation policies and measures in place that influence the ability to successfully cope with climate variability, including the effectiveness of those policies and measures
- Develop indicators of vulnerability and adaptive capacity

*Review and synthesise existing information on vulnerability and climate risk, based on previous studies, expert opinion, and policy context*

In cases where specific policies and measures have been implemented to address the impacts of climate change, including variability, on vulnerable systems, there may be extensive national literature upon which to draw. Existing data, information and analyses may be found in case studies, academic literature, publications by development practitioners, consultation with experts, community knowledge, and in policies and measures designed to

address other issues within the priority system. In addition, expert opinion and the policy context may offer information on the vulnerability of the priority system. Examples include national development plans, Poverty Reduction Strategy Papers and natural hazards assessments. It is important to let the scope and objectives of the project determine the relevance of this information. The synthesis should identify key factors of concern in the priority system, and outline what is known about the relationship between the risk and the priority system. Existing information on current socio-economic conditions that affect vulnerability to climate variability should also be evaluated.

Synthesis of available information can be based on expert opinion, analogue or historical studies, and/or modelling. The synthesis should outline the extent of knowledge on the key factors of concern, and the certainty and nature of the relationship between the risk and the system under study.

*Describe adaptation policies and measures in place that influence the ability to successfully cope with climate variability, including the effectiveness of those policies and measures*

Understanding the adaptations in place to cope with current climate risks is necessary to inform the development of adaptations to manage future climate risks. The output from this activity would be a preliminary adaptation baseline that describes the policies and measures in place to reduce vulnerability. It would involve identifying the autonomous and planned adaptations currently implemented to address climate risks in the priority system, including the level at which these have been implemented (national, regional and community level), their effectiveness and any barriers to their implementation. Also, it will identify institutions that can support implemented adaptation policies and measures. This evaluation will facilitate understanding what worked in the past, how policies and measures in place could be improved, and what strategies, policies and measures might be needed in the future. The project team should take a broad perspective and include relevant policies and measures that were designed to address other problems. TP4 provides guidance on conducting an assessment of adaptive responses to historic climate risks, and on developing the relationship between current climate risks and adaptive responses that can be used to calculate future climate risks. TP8 helps the user to define adaptation strategies, policies and measures relevant to the climate risks in the system.

*Develop indicators of vulnerability and adaptive capacity*

The information generated from the activities above can be used to summarise the existing vulnerability of and adaptations in place for the priority system (the project baseline). The project baseline describes where the project is starting from – who is vulnerable to what, what is currently being done to reduce that vulnerability, etc. In essence, the project baseline describes how well adapted the system is to current climatic conditions. With a sound understanding of where the project is starting from, a more accu-

**Box 1-2: Note on indicators**

Desirable indicators fulfil three criteria: (1) summarise or otherwise simplify relevant information; (2) make the phenomena of interest visible or perceptible; and (3) quantify, measure and communicate relevant information. They may be qualitative, quantitative or both. If quantitative scenarios of the future relevant to climate change vulnerability and adaptive capacity are desired, the process involves choosing indicators, collecting or locating appropriate data, and estimating future values for those proxies (see TP6 for more information on using indicators).

rate assessment can later be made of success of the project. Indicators chosen to describe the baseline should be used during project monitoring and evaluation whenever possible (TP9).

The APF discusses four main approaches to baseline development as outlined in section 1.3, *Key Concepts*. Projects will develop and rely on the baseline that corresponds to their project approach.

- TP3 describes methods to construct a *vulnerability baseline*, including the development of a set of vulnerability indicators for the project. The current vulnerability of the priority system may be quantified through the development of exposure-response relationships, or through the development of indicators to describe various aspects of the conditions of the system.
- TP4 Figure 4-2 provides a flow chart for assessing the current *climate risk baseline*.
- TP6 outlines the development of an *adaptation policy baseline*. This is a comprehensive description of adaptation-relevant policies that are in place to cope with current climate. TP6 also explains how to construct baseline indicators of socio-economic conditions that can drive vulnerability, risk and adaptive capacity.
- TP7 describes an approach for selecting indicators for defining the *adaptive capacity baseline*.

Additional guidance on choosing indicators is provided in Annex A.1.1.

**1.4.4. Design project for adaptation**

Key activities in this task include:

- Select approach and methods to:
  - Assess future vulnerability and adaptation
  - Characterise future climate-related risks
  - Assess future socio-economic conditions and prospects
  - Assess capacity to adapt
  - Characterise uncertainties
- Describe process for synthesising assessments of future vulnerability and adaptation, and for implementing options and recommendations
- Develop monitoring and evaluation plan
- Develop terms of reference for project implementation

The output of this task is a detailed project document.

*Select approach and methods*

The selection of an approach to and methods for acquiring the information needed for the project is addressed in some detail in TPs 3 through 6. The methods selected should be appropriate to the goals of the project, compatible with the potential constraints of available resources and sufficiently credible. Preference should be given to methods that build the national capacity for policy-making.

It may be appropriate to adopt an approach that is already in use, such as in development planning. Otherwise, the team will need to develop its own approach. Approaches recommended for adaptation projects are outlined in Section 1.3., *Key concepts*, and include:

- hazards-based approach (i.e., analyse possible outcomes from a specific climate hazard);
- vulnerability-based approach (i.e., determine the likelihood that current vulnerability may be affected by future climate hazards);
- policy-based approach (i.e., investigate the efficacy of an existing or proposed policy in light of a changing climate exposure or sensitivity); and
- adaptive-capacity approach (i.e., focus on increasing adaptive capacity and removing barriers to adaptation).

See Section 1.3 in this paper; TP4, Sections 4.4 and 4.4.2; and TP5 Section 5.4.1 for additional guidance on selecting approaches.

Stakeholder-led exercises discussed earlier may be useful when selecting methods (TP2, Annex A.2.2). The project team needs to select methods that provide sufficient information to enable stakeholders to make policy and investment decisions. Credibility of the assessment is, of course, extremely important to the policy-making and stakeholder communities. The assessment may lose its value if the methods are not appropriate to the objectives of the project, or if insufficient time and resources are spent to ensure reliability of results. In addition, methods should be internationally comparable and acceptable to facilitate the comparison of results among areas with similar vulnerabilities. Communicating results in a way that the underlying assumptions and the degree of uncertainty are understood can help to establish transparency.

The amount of information required for a specific project and the techniques and tools for obtaining that information will differ widely. For example, depending on whether the objective is to prepare for migrating disease vectors, to rationalise crop selection and tillage methods, or to find new employment for flood victims, the inputs may be significantly different. Methods and level of effort will change with the level of complexity or comprehensiveness of the adaptation project goal and objectives. For example, a comprehensive national adaptation strategy to cover all geographic areas and all sectors for the next 50 years will need more research support and different approaches than a five-year plan to help coastal fisheries to adapt to sea level rise and increasing storm surges. (See TP3 Annex A.3.3 for an illustration of the variation in methods and depth of analysis that are needed for different types of projects.)

For any proposed method, the benefits should justify any new data collection efforts. Practical considerations include the research skills needed, data availability, the cost and the length of time required to carry out the analysis, and computational requirements. In some cases, computer-based models may be available “off the shelf”. In this case, the data requirements of the model and the availability of modelling skills in the project team are factors to be considered. Most often, the project team will have to assemble a variety of methods appropriate to their situation. The choice of methods therefore has to consider the relevant criteria and make a balanced judgment in terms of the trade-offs amongst them. Some methods will be precluded by constraints, such as the lack of financial resources, the lack of long-term data sets, the capacity for implementation and the time required to obtain results. The project team should weigh the practical considerations against both the project objectives and the need for credible research.

Uncertainties need to be addressed in the process of project design. Time should be taken to understand and clearly articulate uncertainties and assumptions, and to minimise them in project design.

*Describe process for the synthesis of assessments of future vulnerability and adaptation, and for implementing options and recommendations*

Synthesising the information generated by the project can bring together and make sense of the various results in order to recommend policies and measures for the priority system. During this phase of the project, the team might develop an outline for the synthesis of results that is structured to facilitate the identification and implementation of adaptation options. Methods for synthesis of assessments and generation of options and recommendations are discussed in some detail in TP8.

*Develop monitoring and evaluating plan*

An adaptation project should provide realistic recommendations for implementing strategies, policies and measures for reducing vulnerability and increasing adaptive capacity in the

priority system. It is only possible to evaluate the effectiveness of these measures if monitoring and evaluating plans are incorporated into the project design. The development of monitoring and evaluation plans is discussed in detail in TP9. The initial monitoring and evaluation plan needs to describe how evaluation results will be fed back to the management process, and how these plans could contribute to the establishment of a long-term monitoring and evaluation capability in the country. For each project recommendation, indicators of success should be developed to facilitate assessment of effectiveness.

Barriers may exist for the deployment or the evaluation of adaptation strategies, policies, and measures such as resource constraints, lack of ability to deploy available resources or an unwillingness to do so. These barriers need to be identified and possible solutions explored.

*Develop terms of reference for project implementation*

The terms of reference for the project should clearly describe the project objectives and expected outcomes, the specific project activities, the stakeholders involved in the project, the budget, due dates, etc. A logical framework analysis (logframe) matrix of activities, describing objectives, activities, and outputs, may be useful for organisation. The tasks and activities necessary for accomplishing the project objectives should be detailed. The process of developing the terms of reference may include consultation with additional stakeholders and the general public to refine or reframe the policy context or the project objectives. Wide dissemination of the terms of reference will help ensure that the process of conducting the project is open and transparent.

## 1.5. Conclusions

As an output of APF Component 1 (and TP1), adaptation project teams will generally prepare a project proposal, with a detailed implementation plan including clear statements of objectives, activities and outcomes. Teams can use the checklist below to verify the comprehensiveness of their plans. (Each bullet below has been explored in the preceding guidance in Section 1.4.)

Has the team:

- Defined priority systems and project boundaries?
- Established a plan for identifying and engaging stakeholders?
- Determined project objectives and expected outcomes?
- Developed a plan for communicating results to stakeholders and decision-makers?
- Selected the project team?
- Identified, assembled, reviewed and synthesised pertinent information?
- Described the project baseline?
- Selected indicators?
- Selected an approach and the methods to be used?
- Described a process for synthesising assessments of

vulnerability and adaptation, and for implementing options and recommendations, if appropriate?

- Developed a strategy for assessing, monitoring and evaluating project effectiveness, including a preliminary strategy to overcome barriers to implementation of recommended adaptation measures?
- Analysed the national policy-making process in the context of adaptation?
- Prepared terms of reference for the overall project?

The main purpose of developing a detailed implementation plan for an adaptation project – one with clear statements of objective, activities, and outcomes – is to ensure that the project will ultimately result in the identification and implementation of effective adaptation strategies, policies and measures. In essence, this is a small-scale exploration of all the APF Components relevant to the priority system(s) in order to better design and implement the project. Conceptualising and defining the process at this stage, in a manner that is consistent with the APF principles, can greatly facilitate the implementation of the adaptation project.

## ANNEX

### Annex A.1.1. Questions to aid prioritisation of key systems

These questions are categorised under human, economic, and physical vulnerability to enable the project team to explore a range of vulnerabilities that can affect a single system. These questions are for organisational purposes only and can be modified as needed.

#### *Human vulnerability (sample system – smallholders):*

- Are there vulnerable groups within the system? Which groups?
- What is their key vulnerability (e.g., crop failure due to drought)?
- Historically, what is the typical impact on these groups (e.g., food shortage and malnutrition)?
- Historically, what is the magnitude of the impact (e.g., 250,000 people affected over two years)?
- Historically, have lives been lost because of this impact? How many?
- What has been done to mitigate this impact? How effective were these measures?
- What is the current level of risk?

#### *Economic vulnerability (sample system – water resources):*

- Is the system closely linked to the economy?
- What are the key links (e.g., crop irrigation, agricultural livelihoods, industrial processes)?
- What is the vulnerability associated with these links (e.g., reduced productivity or lost crops through drought)?
- Historically, what is the typical impact (e.g., drop in sorghum production, reduction of the workforce)?
- Historically, what is the magnitude of the impact (e.g., over five-year period, two of five regions were affected, a 10% drop in sorghum export, a 5% increase in unemployment)?
- What has been done to mitigate this impact? How effective were these measures?
- What is the current level of risk?

#### *Physical vulnerability (sample system – coastal region):*

- Is the system physically vulnerable (e.g., to coastal land loss or infrastructure damage)?
- What is the specific vulnerability (e.g., infrastructure damage through coastal inundation)?
- Historically, what is the magnitude of the impact (e.g., in a 1997 event, 20% of coastal structures in District X were damaged)?