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# STAKEHOLDER PARTICIPATION IN CLIMATE CHANGE ADAPTATION PLANNING

JANUARY 2013

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**ARCC**



African and Latin American  
Resilience to Climate Change Project

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AFRICAN AND LATIN AMERICAN RESILIENCE TO CLIMATE CHANGE (ARCC)

JANUARY 2013

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# ACRONYMS AND ABBREVIATIONS

CEDRA	Climate Change and Environmental Degradation Risk and Adaptation Assessment
CRiSTAL	Community-based Risk Screening Tool – Adaptation and Livelihoods
CVCA	Climate Vulnerability and Capacity Analysis
DCLG	Department for Communities and Local Government
FAO	United Nations Food and Agriculture Organization
IAP2	International Association for Public Participation
MCA	multi-criteria analysis
NAPA	national adaptation programs of action (United Nations)
NGO	nongovernmental organization
NOAA	National Oceanic and Atmospheric Administration
NPV	net present value
OECD	Organisation for Economic Co-operation and Development
UKCIP	United Kingdom Climate Information Programme
UN	United Nations
USAID	U.S. Agency for International Development

# KEY MESSAGES

- Climate change introduces greater uncertainty into development pathways and requires more flexibility than business-as-usual does. Stakeholder participation is a critical means of ensuring ownership and quality of decision-making for climate change adaptation. This approach improves long-term sustainability and stakeholder buy-in of climate change adaptation interventions.
- Stakeholder participation is strongest when integrated into existing democratic, accountable decision-making bodies. Many countries have legal requirements for public participation that need to be taken into account when designing climate change adaptation interventions.
- Stakeholder participation can employ a broad range of participatory tools at various stages of the decision-making process. Each format is suited differently to disseminating information, gathering information, and producing decisions. Additionally, many formats are appropriate only for a particular scale of participation.
- Participation is best carried out deliberately, with clear expectations on the part of decision-makers about the scope and scale of participation, and clear expectations on the part of stakeholders as to how their participation will impact decisions.

# I.0 INTRODUCTION

Stakeholder participation increasingly is a key element in modern public administration and decision-making. While a number of authors have highlighted the importance of participation in decisions for climate change adaptation (hereafter “adaptation”), practical guidance on how to integrate stakeholder participation into new and emerging practices is still lacking. This paper attempts to outline considerations for fully integrating participation into adaptation decision making processes. It aims to assist developing country officials, project developers, U.S. Agency for International Development (USAID) mission staff, and other development practitioners who might need to design participation processes for adaptation initiatives.

For purposes of this paper, “participation” means opening up official organizational processes to include *relevant and interested stakeholders* to take part in decision-making and problem solving. “Stakeholder” refers to affected and interested individuals and organizations, both public and private. Hereafter, “participation” refers to the range of practices to include members of the interested and affected public, relevant agencies, and other levels of government. Where the term “public participation” is used, it specifically refers to top-down opportunities for individuals and civil society organizations to exchange information with members of government.

# 2.0 JUSTIFICATIONS FOR STAKEHOLDER PARTICIPATION IN ADAPTATION PLANNING

Reasons for incorporating stakeholder participation into adaptation planning fall broadly into two categories: rights-based arguments, and arguments that participation improves the effectiveness of interventions. We briefly touch on these here, as they have implications for later sections.

## 3.1 RIGHTS-BASED APPROACHES

On one level, the argument for integrating stakeholder participation into decision-making derives from concepts of due process in decision-making, norms of openness and accountability, national legal frameworks and, in some contexts, through the application of international human rights law. Often, interagency and intergovernmental (between different levels of government) consultation – one form of stakeholder participation – is required in many adaptation relevant decisions, including, for example in the United States, those affecting endangered species and major levy construction. These are examples of a “rights-based” approach to participation giving individuals and organization the right to be informed and consulted, while ascribing a duty to official decision-makers to open up decision-making to the relevant stakeholders. This approach often also gives those stakeholders tools to enforce that right through courts or other administrative processes.

The rights-based approach to stakeholder participation may likely shape the context in which an adaptation planning process operates in many countries. Adaptation planning will take place in a particular national context, with existing rules and institutions that may require some form of participation. As a consequence, it is essential to identify key legal requirements for interagency consultation, intergovernmental cooperation, and public participation. These rights and duties for participatory processes should therefore form a floor for minimum levels of participation. In places where formal rights to participation are not extended to women or other groups, exceeding this floor will be required for equitable participation and for effective inclusion of critical stakeholder perspectives.

### 3.1.1 The Participation Imperative of Responding to Climate Change

Adaptation planning requires more than legal frameworks and compliance to ensure that decisions are *effective* in meeting the challenges of vulnerability reduction in the context of a changing climate. Decision-making in a changing climate requires new areas of expertise and wider consultation than might typically be involved in traditional “development decision-making,” given both the cross-sectoral nature of climate change impacts and the uncertainty regarding the level of climate change and climate variability. Climate change requires societies and communities to change, sometimes quickly, with widening extremes of weather, greater variability in climate patterns, and long-term changes in the local

setting. Additionally, the vulnerability of affected people and assets, natural or manmade, is itself complex with many variables contributing to exposure to climate change impacts, sensitivity to climate change, and adaptive capacity.

As a consequence, decision-making for vulnerability reduction can use stakeholder participation as an approach to balance the attributes of effective decision-making. Levin et al. (2010) identify a number of attributes of effective adaptation decisions. We examine and provide examples of how participation can strengthen each of these attributes.

- *Responsive*: A responsive decision-making process advances policies/plans after a climate change impact has occurred and allows systems to react quickly to the climate change.
  - *How stakeholder participation makes adaptation decision-making more responsive*: By improving participation, the implementing authority is better able to respond to impacts of climate change. To take an example from disaster risk reduction in Sri Lanka, improved early warning systems (a common adaptation intervention) in combination with improved participation in planning have strengthened preparation and quickened the response of agencies following the 2004 tsunami (UNDP, 2007).
- *Proactive*: A proactive decision-making process creates policies/plans in advance of a climate change impact, and the decision-making process prepares for these impacts.
  - *How stakeholder participation makes adaptation decision-making more proactive*: The cumulative and long-term nature of climate impacts requires anticipation and planning horizons that the political system might not be able to accommodate due to its short-term, election-driven nature. While the general public might not have the tendency to think long-term, portions of the nongovernmental organization (NGO) sector and the business sector often will. Further, a broad range of expertise, often beyond the capacity of decision-making bodies may be needed to predict long-term scenarios and consequences of decisions. An example of participation improving long-term planning is the recent commitment by a number of governments to accelerate ecosystem-based adaptation to reduce food insecurity and vulnerability to climate change. The Nature Conservancy, along with its national affiliates and partners, was able to push governments through the United Nations Conference on Sustainable Development (Rio+20) processes to make public major commitments (Deutz, 2012).
- *Flexible*: A flexible decision-making process adjusts policies/plans based on ongoing climate change, with each response readjusted due to learning from previous experiences and new conditions on the ground.
  - *How stakeholder participation makes adaptation decision-making more flexible*: In order to adjust to new information about climate change as it becomes available, adaptation policies and plans will need to be flexible. Establishing measures to revise and re-evaluate these decisions, either periodically or based on particular triggers, can help to regularize participation and improve the quality of inputs from experts, officials, and the public. Stakeholders that feel that they were a part of an earlier decision based on inaccurate predictions may be more willing to revise their decision further down the line. For example, the New York City Panel on Climate Change has recommended that the city set up a system for adaptation planning that establishes measures to revise and re-evaluate adaptation decisions for infrastructure based on specific triggers, also called Flexible Adaptation Pathways (SWITCH, n.d.).

- **Durable:** Durable decisions can accommodate the long-term nature of some changes in climate.
  - *How stakeholder participation makes adaptation decision-making more durable:* Similar to the need to be proactive, decision-making for vulnerability reduction requires longer time horizons than may be feasible in the formal political space. For that reason, involvement of civil society, subject matter experts, and broader societies can help policies and plans outlast political and economic cycles. Greater ownership is achieved through improved participation. In Bolivia, a consortium of NGOs has improved the quality of public dialogue on adaptation in the absence of forward movement by governments and international organizations at the policy level (Flores, 2012).
- **Robust:** Robust decisions are effective in managing a full range of possible impacts associated with a given climate change. This is necessary due to uncertainty regarding the timing, scope, and scale of some climate change impacts.
  - *How stakeholder participation makes adaptation decision-making more robust:* Because uncertainties are an essential part of a changing climate, being able to gather a wide range of likely or highly consequential scenarios is essential. Stakeholder participation in vulnerability assessment can aid in gathering information on this broader range of scenarios. Such information can be brought in through expert opinion and analysis, as well as

### BOX 3.1: LIMITATIONS OF STAKEHOLDER PARTICIPATION

Adaptation decisions, like most other policy-making and planning processes, can benefit from stakeholders participation; but it has significant limitations, especially where there is an emphasis on “public participation.”

**Public participation is difficult to take to scale.** As decisions interest larger populations or geographical scales, opportunity for participation needs to be rationed in view of finite budgets and staff capacity. Opportunities for two-way flows of information and devolution of decision-making power are fewer, and practitioners of adaptation planning will need to prioritize involved stakeholders in order to achieve representation as a larger group of stakeholders are implicated.

**Participation is not the same as representation.** It is not a substitute for political processes, where representativeness is a necessary attribute of a decision. While significant research suggests that participation can lead to more legitimate outcomes (see, for example, studies reviewed in Brinkerhoff and Crosby, 2002; Andersson, 2005; Fritsch and Newig, 2006), there are circumstances where only more political processes are appropriate. Participation can result in the loudest voice in the room dominating (Cooke and Kothari, 2001). It can also undermine legislative authority, either at the local level (Ribot and Larson, 2005) or at the national level (Dijkstra, 2005). As a consequence, when planning participation for adaptation planning, practitioners should carefully consider whether decisions are purely administrative in nature or if the best option would be to engage democratically elected representatives.

**Participation can lead to – but does not directly result in – accountability.** Participation can increase transparency and make clear to stakeholders the lines of decision-making, but on its own it cannot guarantee that officials hold themselves accountable to the decisions they make. Well-designed stakeholder participation might offer a reasoned response to major categories of comment. Indeed some procedures require publication of reasoning for decisions in light of participation, but these are the exception (Rhee Baum, 2011). Additionally, many development interventions do not provide the public means to sanction poor performance, such as removal from office or grievance mechanisms that would backstop legitimate issues brought up during participation and provide more effective means of accountability.

**Stakeholder participation might not spur long-term thinking.** Climate change adaptation requires significant anticipation of impacts, low probability-high impact events, and slow-onset events. Improving participation without adequate investment in stakeholder understanding of long-term needs can undermine the aims of the adaptation options identification process. As a consequence, practitioners need to identify stakeholder

inviting the experiences of a broad range of local stakeholders who can provide local contexts and ground truth scenarios. See Section 3.3.2 on public participation in vulnerability assessment for an example of this kind of outcome.

In order to make effective decisions, it is also critical to examine the limitations of participation, examined in Box 3.1 on the previous page.

### 3.2 STAKEHOLDER PARTICIPATION AND DEMOCRATIC INSTITUTIONS

Adaptation planning takes place in the context of other political and administrative processes. This context, including its power dynamics, can greatly affect the quality of participation and the legitimacy of decision outputs. The recent literature on aid effectiveness stresses the need for country ownership of policies, alignment with national priorities, and harmonization of funding sources (see OECD Paris principles on aid effectiveness and Booth, 2008; and Paul et al., 2011 for a review of implementation). Without these, development assistance can have the effect of creating parallel institutions where democratic institutions already exist. Promoting participation in parallel institutions can, in the long run, disempower citizens by undermining democratic institutions. (See Box 3.1 above for examples.) Given the top-down nature of most development assistance, even where there is public participation, it can provide opportunity for elite capture or can funnel significant funding through unaccountable local organizations.

To that end, processes for climate adaptation should use and strengthen existing, democratic institutions. Working through democratic institutions or established bureaucracies can also help to build capacities and reduce the potential for fragmentation of agencies and poaching of talented staff, leading to better long term performance. Finally, adaptation interventions, rather than avoid weaknesses such as poor capacity or corruption in official institutions, can actually work to address these weaknesses through dealing with these issues in a straightforward manner. If climate change adaptation investments are to foster adaptive, institutional, and social learning, they will need to do this by directly addressing issues of governance and empowering those who would hold officials accountable.

### 3.3 MAINSTREAMING PARTICIPATION IN ADAPTATION PLANNING

Given the increased need for stakeholder participation in adaptation planning, attention must turn to how to implement stakeholder participation. This paper builds on other participatory decision-making practices including integrated assessment (European Environment Agency, 2001; Vaccarro, et al., 2009); adaptive resource management (United States Department of Interior [www.doi.gov/initiatives/AdaptiveManagement/](http://www.doi.gov/initiatives/AdaptiveManagement/)), environmental impact assessment procedures; and structure decision making techniques for conservation action plans (Compass Resource Management,

#### BOX 3.2: CARE AND PARTICIPATION AT THE COMMUNITY LEVEL

CARE has developed a comprehensive set of tools for community-based adaptation. The tools cover the range of stages in adapting to climate change, from vulnerability analysis to design and selection of interventions, and from implementation to knowledge management and learning.

For each stage of the process, CARE has assembled a set of workbooks including the [Climate Vulnerability and Capacity Analysis \(CVCA\) Handbook](#), [Community-based Risk Screening Tool – Adaptation and Livelihoods \(CRiSTAL\)](#), the [Climate Change and Environmental Degradation Risk and Adaptation Assessment \(CEDRA\)](#), [Framework of Milestones and Indicators for Community-Based Adaptation](#), and the [Climate Context Monitoring Tool](#).

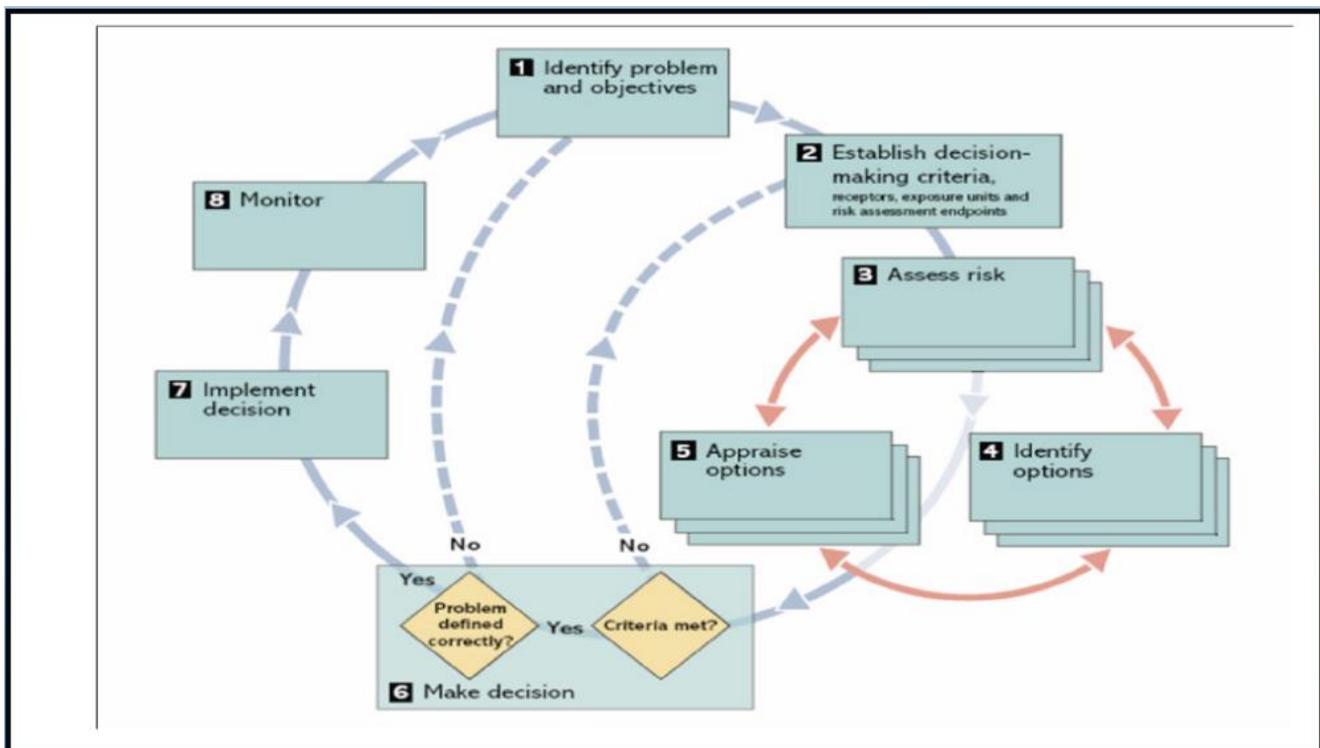
These tools are field tested and applicable at the community level. In designing the remainder of this paper, we attempted to reflect on the tools already developed by groups such as CARE while remaining relevant to all potential levels of governance.

2008). Indeed in the field of climate change adaptation, a significant amount of work has been done on participatory planning at the community level (See Box 3.2: CARE and Participation at the Community Level). This paper attempts to build on this work as well, while still remaining applicable to all levels of climate change adaptation planning.

This section justifies and describes key considerations for bringing participation into each step in the decision-making process. The section touches on other stages in planning framework in as much as they set the stage for participation in later phases of the project. Stages requiring decision-making by the team that leads stakeholder participation are numbered with lower case Roman numerals.

The stages in this section are adapted from the United Kingdom Climate Information Programme (UKCIP) scheme for climate adaptation planning (see Figure 3.1 below).

**FIGURE 3.1: UKCIP’S DECISION MAKING FRAMEWORK FOR ADDRESSING CLIMATE CHANGE RISKS**



Source: Connell et al. 2005.

### 3.3.1 Identifying Problems and Objectives

#### I. Setting Preliminary Goals

The initial phase of adaptation planning has a major impact on the ultimate selection of options. With regard to participation, at the very least, many stakeholders will need to be informed that a process will be underway, for which they will have the opportunity to take part in that process. In order to ensure that this information flow is strong, after practitioners set overall goals of the adaptation planning process, they can take steps to publicize the goals of the potential interventions, and the processes for determining, implementing, and monitoring interventions.

## 2. Identify necessary stakeholders, identify stakeholder needs, and define participation program

*Define the participation program*

Often the desires of stakeholders to fully participate in decisions will outstrip the pace and budget of the intervention (Lipsky, 1980). In other cases, stakeholders might need cajoling and incentives to participate. As a consequence, the number, timing, size, and format for participation need to be predicted in advance within the constraints of the adaptation planning process. Below, we offer steps for defining the participation program.

- **Identify legal requirements for stakeholder participation** in the planning cycle based on preferred tools and approaches. In many contexts planners legally must provide opportunities for participation, if not from the public, then often from other levels of government and other agencies. This should set for the minimum level of participation within the decision-making process.
- **Identify the appropriate level of impact of participation for each stakeholder group.** Some stakeholders might only want information about the ongoing process, while others may wish to actually influence outcomes. The proponents of the intervention itself might not be willing to cede any influence to stakeholders to begin with, often for legitimate reasons. “Figure 3.2: Stakeholder Participation Spectrum” is an adaptation of a spectrum commonly used in designing public participation programs across sectors. Clarifying the level of expected impact early on among members of the decision-making body paves the way for clearer communications and management of expectations with stakeholders who engage in the adaptation planning process.

**FIGURE 3.2: PUBLIC PARTICIPATION SPECTRUM FROM INTERNATIONAL ASSOCIATION FOR PUBLIC PARTICIPATION (IAP2)**



	<b>Inform</b>	<b>Extract</b>	<b>Consult</b>	<b>Involve</b>	<b>Collaborate</b>	<b>Empower</b>
Stakeholder participation goal	To provide stakeholders with balanced and objective information to assist in understanding the problem, alternatives, opportunities, and/or solutions.	To gain stakeholders' information, which might or might not be shared in subsequent forums.	To obtain public feedback on analysis, alternatives, and/or decisions.	To work directly with stakeholders throughout the process to ensure that their concerns are consistently understood and considered.	To partner with stakeholders in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the stakeholders.
Promise to stakeholders	We will keep you informed	Thanks for the information. We might let you know if anything relevant comes from it.	We will keep you informed, listen to and acknowledge your concerns and provide feedback on how your input influenced the final decision.	We will work with you to ensure that your concerns and aspirations are reflected in the alternatives and provide feedback for the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

Source: IAP2, 2007.

### Identifying necessary stakeholders

Different decisions require different stakeholders. For reasons of scarce resources, decision-makers must prioritize which individuals and organizations must be involved and what level of influence they will have over ultimate decisions. “Annex I: Decision-tree for Stakeholder Engagement” provides a generic process for identification of relevant stakeholders based on the needs of project decisions. It balances the need for legitimacy with the need for technical input and local knowledge. Particular emphasis should be placed on analyzing government stakeholders. Understanding concerned parties within the state may sometimes be more opaque and less straightforward than other stakeholders from the perspective of a development practitioner.

### Identifying the team required to run participation processes

Participation often works best with skilled facilitators who have experience in education and helping groups reach decisions. For that reason, practitioners should strongly consider a technical team skilled in communication and facilitation. That team may be comprised of experts in:

- Subject areas under discussion
- Risk communication
- Cross-cultural communication, including gender training
- Conflict management and resolution

### Identify the appropriate form of participation for each stakeholder group.

There are a variety of approaches to disseminate information or gather information from stakeholders. We adapt the set of those most relevant for adaptation planning in Table 3.1, below.<sup>1</sup>

**TABLE 3.1: SELECTED PARTICIPATORY TOOLS FOR INFORMATION DISSEMINATION AND GATHERING**

	Who participates?	How much decision-making power is devolved?	Advantages	Disadvantages
<b>Information Dissemination Only</b>				
<b>Public notice</b>	Interested readers	None	Inexpensive In permanent record	Does not reach large segments of stakeholder groups
<b>Informational meetings</b>	Interested public	None	Control of information/presentation Opportunity to reach a wide variety of individuals who may not have been attracted to another format Expands participant list Replicable	Can be too technical Might create disillusionment if participants thought they could participate

<sup>1</sup> The International Association for public participation has a much larger repository of *Public Participation* tools and processes, including benefits and risks of each at: [http://iap2.affiniscape.com/associations/4748/files/06Dec\\_Toolbox.pdf](http://iap2.affiniscape.com/associations/4748/files/06Dec_Toolbox.pdf)

	Who participates?	How much decision-making power is devolved?	Advantages	Disadvantages
<b>Information Gathering Only</b>				
<b>Expert panels and committees</b>	Experts and officials	Consultative or collaborative role	Encourages media participation Can be balanced Counters scientific misinformation	Requires significant preparation
<b>Focus groups</b>	Selected individuals representative of a stakeholder group	Informs decision-makers	Can help focus on particular stakeholder needs where affected or interested parties are numerous	Can be expensive
<b>Surveys</b>	Representative sample of public or affected stakeholder	Informs decision-makers	Representative, one-way information only Provides traceable data	Expensive Subject to quality of survey design
<b>Advisory committees</b>	Group broadly representative of different experts and stakeholders	Inform decision-makers	Can lead to compromise Can lead to nuanced understanding of issues	Public might not embrace decisions Labor-intensive Committee might not reach (desired) consensus
<b>Information Dissemination and Gathering</b>				
<b>Notice and comment</b>	Any interested party	Stakeholders might inform decision-making process	Provides clear paper trail and is usually a very transparent legitimate process Allows stakeholder to make very detailed commentary	Often requires written-only comments Passive notification method
<b>Participatory Appraisal</b>	Local stakeholders	Local community defines priorities for intervention	High component of local knowledge Capable of capturing voices of rural poor	Difficult to take to scale Requires high level of training
<b>Public hearings</b>	Any interested party	Can vary from one-way (purely informational) to collaborative	Provides opportunity for stakeholder to speak without rebuttal	Can result in unconstructive dialogue
<b>Decision-making</b>				
<b>Interagency review process</b>	Other agencies or levels of government	Stakeholder may provide comment, binding recommendations, or in some circumstances, veto implementation	Ensures legal compliance and coordination between government bodies	Can add additional paperwork or too many veto points
<b>Participatory workshops</b>	Selected individuals representative of one or more stakeholder groups	Can vary from informing decision-making to having final decision-making power	Maximizes feedback and public ownership Can draw out more timid stakeholders Requires stakeholders to answer difficult questions	High level of facilitation required
<b>Referenda</b>	Voting public	Decision-making	Can be highly legitimate	Costly at large scale
<b>Citizen juries</b>	Representative set of individuals	Advisory only	Can develop stakeholder understanding Public can identify with decisions.	Resource intensive

### *Designing an Educational Program for Stakeholders.*

Stakeholder participation is often thwarted by a lack of knowledge on the part of stakeholders. Facilitators might find themselves educating the public on the issue, rather than soliciting opinions; or

they might find that it seems that few of the participants have read the appropriate forms. On the other hand, participants might feel that the participation event is the first time they have seen the information, or that they need more time to digest the contents before coming away with an opinion. For that reason, many practitioners suggest educating stakeholders on the decisions to be taken before soliciting input or facilitating dialogues. This need not necessarily be more costly, but might simply require better briefing on the part of the facilitators.

An educational program must address two questions. First, do participants have enough information to make decisions? If not, stakeholders will need adequate education and background. In cases where stakeholders have limited access to knowledge or have limited education, communications should consider using appropriate forms through appropriate channels. Even experienced stakeholders may need education on the findings of the vulnerability assessment, especially the issue of shifting baselines due to climate change including variability, extremes, and directional change. See Box 3.3 on the specific educational needs of stakeholders in climate adaptation decision-making.

### **BOX 3.3: STAKEHOLDER EDUCATIONAL NEEDS FOR CLIMATE CHANGE ADAPTATION**

As practitioners decide on the educational program to improve public participation, they will need to decide which information stakeholders need in order to be effective participants.

Some areas are relevant to all types of participation:

- The process for decision-making;
- Documents being considered by decision-makers; and
- Opportunities and means of providing input into the decision-making process.

Other areas are more specific to climate change adaptation:

- Understanding of the causes of climate change (in relevant situations only);
- Information on directional changes in weather and climate, on extremes and on unpredictability;
- Means of assessing risk and drivers of risk; and
- Options assessed in addressing certain climate change impacts, including “hard” and “soft” solutions.

There are a number of ways to execute this education, including education at meetings, training of stakeholder representatives, hosting educational site visits, carrying out community mapping exercises, and provision of legal and technical advisors (Herbertson et al., 2009).

A second question is whether stakeholders are aware of their role in the process. At the point of first engagement with each stakeholder, the practitioners will need to explicitly communicate public roles in the process. Key issues of timing, authority, clarity on negotiable and non-negotiable issues, and the amount of control over decision-making. In order to support stakeholders’ abilities to participate, they will need decision-relevant documentation prior to any participation events to allow for stakeholders to make meaningful commentary.

#### **3.3.2 Assessing Risk (Vulnerability Assessment)**

By some estimates, the vulnerability assessment phase of the adaptation planning framework largely focuses on impartial information collection, which is the province of environmental scientists, social scientists, and policy experts rather than a more general public. While most stakeholders might largely play a role of informing the decision-makers rather than helping to make decisions as in later phases,

there is a growing body of practice wherein participants help to identify key vulnerabilities and drivers of vulnerability.

### **Participation in vulnerability assessment**

Both experts who are not members of the technical team and members of the more general public can add insight to the following tasks within the vulnerability assessment (adapted from Vaccaro et al., 2009).

- Defining the problem within the decision-making context and weighting different factors;
- Incorporating immeasurable, quality of life factors;
- Providing a broader range of expert opinions and local knowledge; and
- Reviewing results and identifying overlooked factors.

Waiting until the adaptation options analysis phase to begin stakeholder participation can diminish ownership for modeling and assessment and risk inaccuracies in the assessment. Academics and scientists from the country who will likely stay much longer than the development project team will need to understand and be able to critique and improve assessment methodologies.

Assuming that there is at least some expert participation in the vulnerability assessment phase, it can be very helpful to engage experts from this phase in other later phases. They can play a key role in bringing in other experts and stakeholders and can often better translate data and results to those stakeholders.

As noted above, one of the benefits to early stakeholder identification and involvement is that stakeholders involved in the vulnerability assessment (in refining or examining methods, data, or interpretation) can help to educate the wider group of stakeholders involved during the adaptation options analysis phase.

The United Nations (UN) Food and Agriculture Organization (FAO) has pioneered community participation in vulnerability assessment. Communities take part in a wide range of decisions including hazard identification (including weighting and importance), identification of key strengths and facilities, social areas, economic sectors, environmental assets, and opportunities for reducing risk exposure (FAO, 2012). Similarly, the Global Water Initiative has developed a comprehensive, community-based method for identification of hazards, impacts, and coping strategies at the community level (Cross, Awuor, and Oliver, 2009).

### **3.3.3 Appraisal and Identification of Options (Adaptation Options Analysis)**

Adaptation options analysis has two main aims: generation of ideas and evaluation of ideas. While we present these sequentially here, it is understandable that the process of analyzing options will be iterative while stakeholders and the technical team learn about existing proposals, add, revise, and forego other proposals. For that reason, participation events may or may not discreetly address each of these aims individually.

#### **Adaptation Options Identification**

A first step in any options analysis is to identify the range of adaptation options. Members of the public can add local expertise on otherwise unforeseen options, or introduce constraints and aspirations that can help to narrow the universe of options under consideration.

Specific questions other stakeholders might address include:

- Are there any potential actions that directly address climate change impacts within the vulnerable area?
- Are there actions that stakeholders are already autonomously undertaking that can be supported by interventions or that might make proposed interventions more successful?
- Are there any actions that indirectly address climate change impacts within the vulnerable area?
- Are there any actions that could or should be modified to help meet the goals of the adaptation plan?
- Are there any actions that directly conflict with the goals set in earlier stages of the planning process?

(Adapted from the National Oceanic and Atmospheric Administration [NOAA], 2010.)

### Evaluation of Adaptation Options

In terms of long-term success of most interventions, stakeholder participation is most important in the evaluation of adaptation options. The public can help to save significant costs and improve project effectiveness by providing input at this stage. Members of the public, the scientific community, other government agencies, and other levels of government can be critical in assessing basic feasibility of an option and in generating new proposals. Coordination and collaboration among agencies and stakeholders can help spur collaboration and synergies and avoid conflicts that could prove difficult and expensive to overcome in the future.

During the options identification phase, it is entirely possible that too many options could be identified for rigorous, data-intensive evaluation. Before undertaking any of the more data-intensive approaches to evaluation of adaptation options, stakeholder participation can help narrow the selection down to those that are acceptable to a range of

### Box 3.4: The STAPLEE Approach to Options Evaluation

One approach used to evaluate a given set of options in infrastructure or environmental management is the “STAPLEE Approach” an acronym for each of the major categories of concern in ranking projects. The categories include:

- S Social:** Adaptation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the communities social and cultural values.
- T Technical:** Adaptation actions are technically most effective if they provide long-term reduction of losses and have minimal secondary adverse impacts.
- A Administrative:** Adaptation actions are easier to implement if the jurisdiction has the necessary staffing and funding.
- P Political:** Adaptation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support of the action.
- L Legal:** It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce an adaptation action.
- E Economical:** Budget constraints can significantly deter the implementation of adaptation actions. Hence, it is important to evaluate whether an action is cost-effective, as determined by a cost-benefit review, and possible to fund.
- E Environmental:** Sustainable adaptation actions that do not have an adverse effect on the environment; that comply with federal, state, and local environmental regulations; and that are consistent with the community’s environmental goals have mitigation benefits while being environmentally sound.

Participants are able to evaluate each alternative according to these criteria, and, depending on the process, weight each criterion according to its relative importance. While no stakeholder group will likely be able to evaluate a given option on each of the criteria, the relatively plain language, in comparison to other methods, such as the multi-criteria analysis approach promoted by the United Nations Framework Convention on Climate Change in evaluation of national adaptation programmes of action (NAPAs), can be an easier fit to a highly participatory program, especially where data availability or capacity to analyze that is a limiting factor.

The approach is currently in use by a number of U.S. agencies, including the Federal Emergency Management Authority, the Army Corps of Engineers, and the National Oceanic and Atmospheric Administration (NOAA 2010), but is not, at present, widely used in international development efforts.

stakeholders. Box 3.4, “The STAPLEE Approach” is one example of a relatively non-technical means of discussing feasibility of projects with stakeholder groups of varying levels of sophistication.

Identifying socio-economic trends and climate impacts to develop potential scenarios can serve to provide a major basis for analyzing proposed options. The World Bank, in partnership with the International Institute for Sustainable Development has created very clear guidance on participatory interventions for scenario development (Bizikova, Boardley, and Mead 2010). The innovative approach includes such visualization tools which help communities to discuss vulnerability such as topographic maps, a “social issues poster”, impact and adaptation cards, and a climate change projections poster. These allow community members to discuss vulnerability and to analyze risk associated with each climate change option.

Following a narrowing of options, a more technical analysis can take place. For each of these, the role of stakeholders in carrying out the analysis will likely be informative, but considerably less decision-making authority will rest with any of the various stakeholder groups. Rather, the role of the technical team will be increased. Here we review the specific questions and means of participation for multi-criteria analysis and economic valuation methods.

#### *Participation in multi-criteria analysis*

When the monetary values of costs and benefits are known for the adaptation options, tools such as cost benefit analysis and cost effectiveness analysis can be used to analyze and pick options. When monetary values are absent, when there are gaps in technical information, or when uncertainties are high and biases are strong, multi-criteria analysis (MCA) provides a decision-making framework to shift through layers of complex information and make consistent and transparent decisions. MCA already relies on significant subjective judgment (Department for Communities and Local Government, 2009) and bringing stakeholder participation into the process can help to make this judgment clearer. The heart of a MCA is the creation of a “performance matrix” which allows for comparison of different options across chosen criteria.

To that end, stakeholders can provide input in an MCA process in three ways:

- *Identifying criteria.* Stakeholders may identify criteria or values that the technical team did not. These may be social or environmental values, technical and feasibility aspects, administrative, political, legal, or economic issues.
- *Ranking options based on criteria.* Stakeholders may also take part in the evaluation of identified options. Practitioners will need to decide and communicate the level of importance they give to stakeholder input.
- *Assigning relative weights to criteria.* Some multi-criteria analyses may take into account the relative importance of criteria. Stakeholders may help to weight each of those criteria.

These decisions can take place through a variety of formats, from surveys to charette, to interactive workshops or citizen juries.

#### *Participation in cost-benefit and cost-effectiveness analysis*

Cost-benefit analysis and cost-effectiveness analysis have standardized steps that can help to structure public input in order to bolster technical analysis and accurately account for preferences among options. Table 3.2: Opportunities for Participation in Cost-benefit Analysis outlines steps, types of input, and forms for input. (The two processes are similar enough from the perspective of the public participation practitioner to warrant only one table.)

**TABLE 3.2: OPPORTUNITIES FOR PARTICIPATION IN COST-BENEFIT ANALYSIS**

Step	Type of input	Form for input
1. Specify the set of alternative projects	Dealt with in previous section	
2. Decide whose benefits and costs count	Stakeholders can discuss who has “standing” in a particular analysis (e.g. funding parties only, affected populations, the country, the province).	Advisory committee; expert panel
3. Catalogue the impacts and select measurement indicators	Stakeholders will help to define the benefits and costs of each impact of a proposed policy that are due to climate change.	Focus groups; stakeholder workshops
4. Predict the impacts quantitatively over the life of the project	Technical task	
5. Monetize all impacts	Stakeholders can provide cost-estimates (in the case of regulation) or can provide other cost information.	Notice and comment periods; focus groups; surveys (stated preference, revealed preference, and willingness to pay)
6. Discount benefits and costs to obtain present values (set discount rate)	When dealing with issues of poverty, low employment, informal economy and risk-prone individuals - benefits will need to be discounted. Members of the public can give some idea about the relative benefit to each of the populations most affected by these issues.  Also, interventions can greatly affect secondary markets. In carrying out secondary markets analysis, it can be crucial to open the discussion to take into account markets which may be adversely affected by and intervention.	Focus groups or surveys of those who might have greater utility from an intervention (poor, unemployed, informal workers).  Notice and comment procedure for secondary markets.
7. Compute the net present value (NPV) of each alternative	Where discount rates are not standardized, experts can help to determine an appropriate discount rate and timeframe for calculating NPV of a proposed intervention (as some interventions are multi-generational in their intentions).	Expert panel or advisory panel
8. Perform sensitivity analysis	Given the greater variability and the quantity of unknowns in predicting climate impacts, participation can help to examine and weight the likelihood of individual impacts. In particular, experts can help to refine the distribution of impacts over time.  Other stakeholders can suggest weighting and non-economic criteria.	Expert panel  Citizen jury or advisory panel
9. Make a recommendation	Technical Decision	

### 3.3.4 Publication and Implementation of Outcomes

#### **Implementation strategy, official review, comment, and integration into final decisions and into development plans and programs**

In many cases, evaluation of adaptation options will be a final chance for participation. Following a draft publication of the planning documentation, stakeholders will need to be informed about outcomes of the process.

In some cases (e.g., where legislative or regulatory decisions are made), there may be mandate for a final opportunity to comment on a final decision either through public hearings or open notice and comment procedures. As always, it is critical to make clear to stakeholders exactly what aspects of a proposal remain flexible at this point.

Regardless of the final process, a strong participation process will have a clear record of the decision and the decision-making process. This record can be especially important where there are strong differences of opinion between stakeholders. It can include the following items that can help to improve future engagement and improve trust in the process:

- Reasons for selection of options among alternatives;
- Documentation of stakeholder engagement, including summary of major categories of comment;
- Reasoned response to major categories of comment, how those were integrated into final planning or why they were not;
- Documentation of points of contact for implementation and monitoring and evaluation phases of plan; and
- Establishment of a list of participants for contact in case of future decision-making processes.

### **3.4 CONCLUDING REMARKS**

There is a role for stakeholder engagement for each stage in the adaptation planning process. Each stage, however, requires different forms and types of engagement. Key considerations are summarized here:

- The reasons for improving stakeholder participation range from legal, rights- and duties-based arguments to arguments for equity, efficiency, effectiveness, and sustainability.
- Stakeholder participation takes place within a larger institutional and legal context. When designing participation, practitioners should consider situating participation within existing or emergent processes and strengthening existing democratic and accountable institutions. In most countries, legal and administrative requirements for participation in decision-making will form a floor for the minimum level of participation in adaptation-decision making.
- Participation can range from purely extractive (aiming only to gather information) or informative (seeking only to give information) to empowerment (ceding decision-making authority to stakeholders).
- The participation program should be defined proactively at the outset of an adaptation planning process. Such a process should include consideration of all major stakeholders, identification of stakeholder needs, hiring or training experts in facilitation, identification of appropriate forms of participation, and establishing an educational component to participation.
- Participation in a vulnerability assessment is largely extractive in nature, with practitioners getting key information from participants. This information, however, may be formative with public participation in identifying social trends, potential vulnerabilities to climate change, ranking potential impacts, and identifying critical assets for adaptation. Additionally, there is space for participation and critique of methodology and data by expert stakeholders.
- Stakeholder input is valuable in generating adaptation options and in evaluating those options. In cases where data is unavailable or analysis is difficult, there are less-technical alternatives for evaluation of adaptation options.
- At a minimum, all stakeholders should have access to the final decisions made in the adaptation process, the reasons for those decisions, and documentation of the process for those decisions.

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# ANNEX I: DECISION-TREE FOR PARTICIPATION

1. Is long-term ownership by the public, coordinating agencies, and other levels of government necessary?
  - a. If yes, go to 2
  - b. If no, go to 6
2. How many people are affected by the decision?
  - a. If many, go to 3
  - b. If few, decide on the appropriate level and form of public participation (inform, consultation, involvement, collaboration, or empowerment). **[Decide and record]** Go on to question 4.
3. Are there active constituencies (e.g. NGOs, elected officials) around the decision? Are there critical players whose power or role makes it impossible for the decision to move forward without them?
  - a. If yes, include them in participation. **[Decide and record]** Go on to question 4.
  - b. If no, consider either building the capacity of those organizations or NGOs, or working through official intermediaries, such as parliamentarians, media, political parties, or local government. **[Decide and record]** Go on to question 4.
4. Do you want to inform the public about problems and proposed solutions or involve them in the decision-making process?
  - a. Just inform. **[Decide and record]** Consider producing fact sheets, holding public meetings, or creating digital communications.
  - b. If you would like to involve the public. Go on to question 5.
5. Do you plan to reflect participant's input in the final decision?
  - a. If no, then consider allowing for public comments, focus groups, surveys and public meetings. Be sure to tell individuals involved that they will be heard, but that the ultimate decision is that of the official team. Ideally, document major categories of input and respond to these. Go on to question 6.
  - b. If yes, then structure the process to allow for public input, to record that input, and to incorporate these comments into the final version. Consider structuring public participation around workshops, citizen advisory committees, consensus-building activities, citizen juries, or voting.
6. Does the decision require technical expertise?
  - a. If no, (e.g. naming a head of a coordination committee) then only need to inform the public of official decision outcomes and the process undertaken for selection of the final decision.
  - b. If yes, decide on which experts should be involved and what information they might need to take part in the decision. **[Decide and record]**

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