

# ADAPTIVE POLICIES



## Guidance for Designing Policies in Today's Complex, Dynamic and Uncertain World

### THE CHALLENGE FACING POLICY-MAKERS

*"...for the first time in history, humankind has the capacity to create far more information than anyone can absorb, to foster far greater interdependency than anyone can manage, and to accelerate change far faster than anyone's ability to keep pace."*— Peter Senge on creating a learning organization<sup>1</sup>

Governments must operate in an ever-changing and uncertain world. For example, we know that the climate is changing, but we do not know precisely how, nor do we know what the specific impacts will be. This introduces yet more complexity to areas such as agriculture and water resources management. We know that energy prices are highly unpredictable, and that international trade rules are in a state of flux—creating further challenges for development policy.

Crafting policies in this setting to address acute issues—be they economic, social or environmental—is inherently complex and

dynamic. This is the reality facing today's policy-maker. The climate change issue is a case in point and has provided motivation for this research on adaptive policies. Higher variability in hydrology is projected by the Intergovernmental Panel on Climate Change, evoking great concern in such areas as world food supply, power generation and irrigation, just to name a few.

Experience demonstrates that policies crafted to operate within a certain range of conditions are often confronted by challenges outside of that range. The result is that many policies don't accomplish their goals and have unintended or perverse impacts. Therefore, in order to help policies help people, policy-makers need ways to craft policies that can adapt to a range of anticipated and unanticipated conditions.

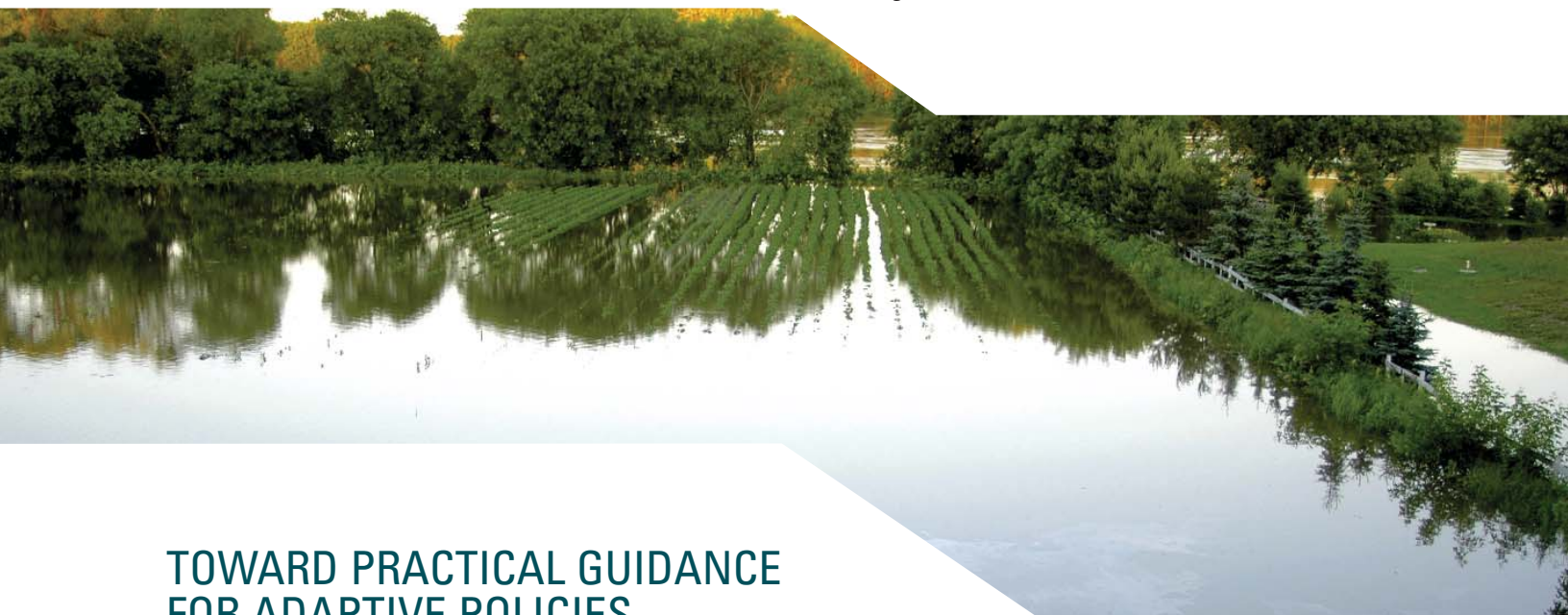
## A BRIEF HISTORY OF ADAPTIVE POLICIES

As early as 1927, it was proposed that “policies be treated as experiments, with the aim of promoting continual learning and adaptation in response to experience over time.”<sup>2</sup> Since then, practitioners and researchers have been thinking about how to better craft policies that can be effective under changing conditions.

In the transportation sector, it is proposed that public policies be “adaptive—devised not to be optimal for a best estimate future, but robust across a range of futures” and that policies “respond to changes over time and make explicit provision for learning.”<sup>3</sup>

In the health care field, it has been recommended that policy interventions should promote variation because “introducing small-scale interventions for the same problem offers greater hope of finding effective solutions,” based on the understanding that “many interventions will fail and that such failures are simply a feature of how one develops successful interventions in complex adaptive systems.”<sup>4</sup>

To better integrate science and politics in natural resources management issues, it is recommended that adaptive policies be “designed from the outset to test clearly formulated hypotheses about the behaviour of an ecosystem being changed by human use.”<sup>5</sup> It is also understood in the natural resources management field that in order to build resilience for complexity and change, interventions should promote self-organization by building networks of reciprocal interaction and matching scales of ecosystems and governance.<sup>6</sup>



## TOWARD PRACTICAL GUIDANCE FOR ADAPTIVE POLICIES

The International Institute for Sustainable Development (IISD) (Canada) and The Energy and Resources Institute (TERI) (India), with funding from the International Development Research Centre (IDRC), are drafting an *Adaptive Policies Guidebook*. The four-year research project is compiling insights from a range of sectors, such as those described above, to craft a pragmatic set of useful tools for adaptive policy-making.

To identify specific examples of adaptive policy mechanisms, the project is conducting community-level case studies in Canada and India. Using historic climate variability as a backdrop and agriculture and water resources management as the context, the project identified public policies that facilitated short-term coping and long-term adaptation measures of farmers, and studied the adaptive mechanisms of these policies.

Table 1 shows the framework that has emerged mid-way through the four-year research project as a work-in-progress. We have found that some policies can indeed adapt better than others to both anticipated and to unanticipated conditions, and still fulfill their original goals effectively.

A policy that is able to adapt to anticipated conditions is built upon insights into cause-and-effect relationships. Adaptive policy mechanisms for *anticipated* conditions that we have observed include:

**Automatic Adjustment** – Some of the inherent variability in socio-economic and ecologic conditions can be anticipated, and monitoring can help trigger important policy adjustments to keep the policy functioning well.

**Integrated Assessment to Inform Policy Parameters** – Through an integrated assessment of causal factors, key impacts and scenario outlooks, policies can be crafted to perform under a range of anticipated conditions, and possibly function even under worst cases.

**Multi-perspective Deliberation** – Deliberative processes strengthen policy design by building recognition of common values, shared commitment and emerging issues, and by providing a more comprehensive understanding of cause-and-effect relationships.

The ability of a policy to adapt to unanticipated conditions is a newer notion. It is based on a holistic appreciation of system complexity, capacity, performance and dynamics. Adaptive policy mechanisms for *unanticipated* conditions observed in our research include:

**Formal Review and Continuous Learning** – Policy review undertaken on a regular basis, even when the policy is functioning well, can help policies deal with “emerging” issues, and trigger policy adjustments.

**Encouraging Self-organization and Networking** – By encouraging interaction and initiative, policies can foster the emergence of innovative responses to unexpected events. This means providing space for flexible action and reducing barriers to collaboration and learning.

**Subsidiarity** – By recognizing that action will occur at different levels of jurisdiction, depending on the nature of the issue,<sup>7</sup> policies can be crafted to assign priority to the lowest jurisdictional level of action consistent with effectiveness. In many instances this involves matching the scale of ecosystems and governance<sup>6</sup> (e.g., watershed-based management).

**Promoting Variation** – Small-scale interventions for the same problem offer greater hope of finding effective solutions.<sup>4</sup> Diversity facilitates the ability to persist in the face of change, and spreading risk is part of managing complex systems.<sup>6</sup>

Table 1. Framework for adaptive policies

### Framework for Adaptive Policies

Objectives	Adapting to anticipated conditions			Adapting to unanticipated conditions			
Analytical basis	Analysis of cause/effect and outcomes			Holistic appreciation of system complexity, capacity, performance and dynamics			
<b>Adaptive policy principles</b>	<ul style="list-style-type: none"> <li>Fine-tune the process.<sup>4</sup></li> <li>Incorporate monitoring and remedial mechanisms.<sup>8</sup></li> <li>Understand carefully the attribution of credit.<sup>9</sup></li> </ul>	<ul style="list-style-type: none"> <li>Respect history<sup>4</sup></li> <li>Understand local conditions, strengths and assets.<sup>4</sup></li> <li>Place effort on determining significant connections rather than measuring everything.<sup>8</sup></li> <li>Look for linkages in unusual places.<sup>9</sup></li> </ul>	<ul style="list-style-type: none"> <li>Gather multiple perspectives from range of stakeholders.<sup>8</sup></li> <li>Use deliberative practice to build trust and consensus.<sup>10</sup></li> <li>Use epistemic communities to inform policy design and implementation.<sup>11</sup></li> </ul>	<ul style="list-style-type: none"> <li>Conduct selection by evaluating performance of potential solutions, and selecting the best candidates for further support.<sup>4</sup></li> <li>Policies should test clearly formulated hypotheses.<sup>5</sup></li> <li>Evoke disturbance.<sup>6</sup></li> </ul>	<ul style="list-style-type: none"> <li>Create opportunity for self-organization and build networks of reciprocal interaction.<sup>4,6</sup></li> <li>Promote effective neighbourhoods of adaptive cooperation.<sup>9</sup></li> <li>Facilitate copying of successes.<sup>9</sup></li> <li>Ensure that social capital remains intact.<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>Match scales of governance and ecosystems.<sup>6</sup></li> <li>Clearly identify the appropriate spatial and temporal scale to enable integrated management.<sup>13</sup></li> </ul>	<ul style="list-style-type: none"> <li>Promote variation, diversity<sup>4,6</sup> and redundancy.<sup>6</sup></li> </ul>
<b>Adaptive policy mechanisms</b>	<b>Automatic adjustment</b>	<b>Integrated assessment</b>	<b>Multi-perspective deliberation</b>	<b>Formal review and continuous learning</b>	<b>Encouraging self-organization and networks</b>	<b>Subsidiarity</b>	<b>Promoting variation</b>
	Some of the inherent variability in socio-economic and ecological conditions can be anticipated, and monitoring can help trigger important policy adjustments to keep the policy functioning well.	Through an integrated assessment of causal factors, key impacts and scenario outlooks, policies can be crafted to perform under a range of anticipated conditions, and possibly function even under worst cases.	Deliberative processes strengthen policy design by building recognition of common values, shared commitment and emerging issues, and by providing a comprehensive understanding of causal relationships.	Policy review undertaken on a regular basis even when the policy is functioning well, will help policies deal with “emerging” issues, and can trigger policy adjustments to conditions that could not have been anticipated.	Encourage interaction and initiative to foster emergence of innovative responses to unanticipated events. Provide space for flexible responses and reduce barriers to collaboration and learning.	Subsidiarity recognizes that action will occur at different levels of jurisdiction, depending on the nature of the issue. It assigns priority to the lowest jurisdictional level of action consistent with effectiveness.	Small-scale interventions for the same problem offer greater hope of finding effective solutions. <sup>4</sup> Diversity facilitates the ability to persist in the face of change, and spreading risk is part of managing complex systems. <sup>6</sup>





## ENDNOTES

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**For more detail and specific case study examples of these adaptive policy mechanisms, see:**

**[http://www.iisd.org/climate/canada/adaptive\\_policy.asp](http://www.iisd.org/climate/canada/adaptive_policy.asp)**

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**Look for our *Adaptive Policies Guidebook* to be published in late 2008.**