



WWF

BRIEFING

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Key concepts in climate change

VULNERABILITY

Introduction

Vulnerability is a central concept in the many disciplines involved in climate change research and practice. Historically, there have been three main traditions guiding vulnerability research: the risk/ hazard or biophysical approach; political ecology and resilience.

1. Vulnerability as a biophysical issue

The risk/hazard approach to vulnerability arose from work on natural hazards and was prevalent in early climate change assessments. The questions it poses are *What are the impacts? Where and when?* Vulnerability is thought of as an outcome – the net impacts of climate change once adaptation has occurred, often defined in terms of economic costs or ecosystem damage.

The weakness of an overly narrow biophysical focus is reliance on technical solutions that avoid confronting the political and moral aspects of vulnerability, and treat actors as passive victims.



2. Vulnerability as social context

A political ecology approach to vulnerability asks *Who precisely is vulnerable? How are they vulnerable?* This approach has been dominant in the areas of food security and poverty. It is more sensitive to issues of equity and power than traditional risk-hazard approaches, and seeks to explain differences in capacities to adapt.

Rather than an outcome, vulnerability is a state generated by multiple environmental and social processes, but worsened by climate change. Policy responses tend to be social rather than technical in nature and there is a strong focus on the present as well as the future.

3. Social-ecological systems

A resilience approach tries to understand processes of change in social-ecological systems, thresholds, and the underlying factors that allow systems to absorb disturbance. It asks *Why and how do systems change? What are the underlying processes that control the ability to adapt?*

Resilience thinking is sensitive to cross-scale interactions and tradeoffs, where reducing vulnerability in one part of the system may increase it in another. It often follows a positivist research tradition that assumes things can be objectively measured.



Vulnerability to climate change at WWF

Awareness of these underlying traditions is important, because it explains why different people mean different things when they talk about vulnerability.

As a conservation organisation WWF has a strong affinity for resilience-based methods. However our staff come from a broad range of disciplines in the natural and social sciences; an organisation as diverse as ours requires different approaches depending on the context. Our mission is to build a future in which humans live in harmony with nature, climate change notwithstanding.

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Images

Front cover: Kini Dunn of Togoru, Fiji at his family burial site now submerged in water. © Bent Stirton / Getty Images.

Back cover : aerial view showing the low lying nature of Funafuti atoll, Tuvalu. © Global Warming Images / WWF-Canon.

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Co-written by the WWF climate adaptation team

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Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.