



# Climate change: business as usual or a complex issue? Let's ask practitioner

Paulina Aldunce  
Department of Environmental Sciences and Resource Management  
and  
Center for Climate and Resilience Research  
paldunce@uchile.cl

Paulina Aldunce  
Ruth Beilin  
Mark Howden  
John Handmer  
Rotterdam, May 11<sup>th</sup> 2016



FONDECYT  
Fondo Nacional de Desarrollo Científico y Tecnológico



## Current adaptation deficit will increase in the future



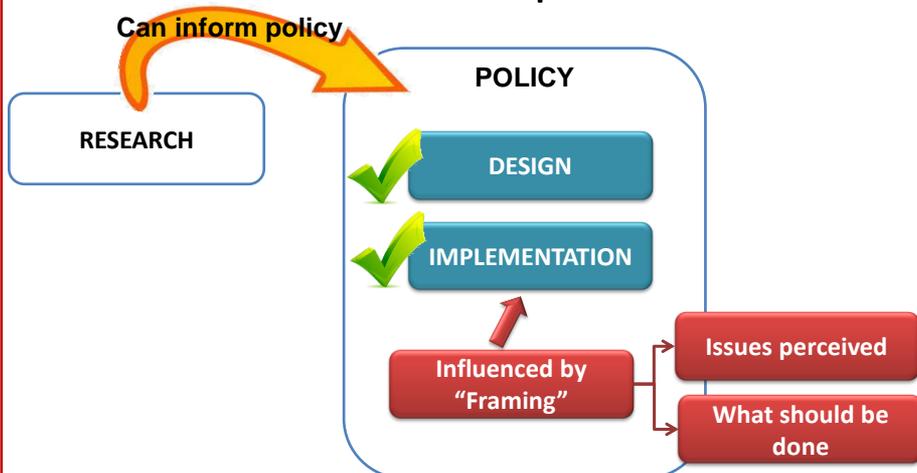
# Towards Adaptation

- Institutional settings and governance structures that enable adaptation



- Promote participation and a plurality of actors
- Integrate multiple levels of governance
- Include local stakeholders and communities

# Towards Adaptation



# Towards Adaptation

## Aim of the study

- Study does not aim to impose a predefined way of framing climate change in a top-down manner
- Instead, to contribute to theory and practice by exploring the framing of climate change in a bottom-up manner, through direct consultation with practitioners



## How we did it

### Natural Disaster Resilience Program



**FRAME ANALYSIS**

**Document review**

**Observation**

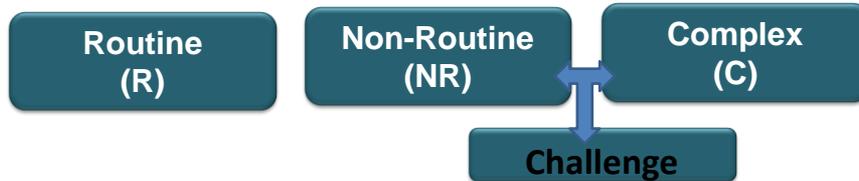
**In-depth interviews**



Quick Links

## ANALYTICAL FRAMEWORK

Adaptation of Handmer and Dovers typology of disasters (2007)



Analysis using two groups of attributes:

**Scale & Uncertainty**

How the issue is perceived

**Policy & Management**

What should be done

## Framing Climate Change

	Routine (R)	Non-routine (NR)	Complex (C)
Scale and uncertainty	0	9	17
Policy and management	8	14	4

Intention to face complex problems with less complicated policy and management solutions



	Routine (R)	Non-routine (NR)	Complex (C)
Scale and uncertainty	0	9	17
Policy and management	8	14	4

**SCALE /UNCERTAINTY**

<p><b>NON-ROUTINE</b></p> <ol style="list-style-type: none"> <li>1. Exacerbation of hazards within historical human experience</li> <li>2. Affecting geographical and seasonal distribution</li> </ol>	<p><b>COMPLEX</b></p> <ol style="list-style-type: none"> <li>1. Magnitude and frequency outside of historical record</li> <li>2. Increasing exposed population</li> </ol>
--	---

“... intensity in events is greater and so it will take people outside their historical experience of disasters and we are seeing that in bushfires in Australia already the forest fire danger index of the fires last year was well outside anything that anyone had experienced ...”

	Routine (R)	Non-routine (NR)	Complex (C)
Scale and uncertainty	0	9	17
Policy and management	8	14	4

**SCALE /UNCERTAINTY**

<p><b>NON-ROUTINE</b></p> <ol style="list-style-type: none"> <li>3. Uncertainty less defined in space and time</li> <li>4. Other uncertainties</li> </ol>	<p><b>COMPLEX</b></p> <ol style="list-style-type: none"> <li>3. Uncertainty: greater unknown, not predictable, resists quantification</li> <li>4. Wider range of types of uncertainty, their combinations and ramifications</li> <li>5. Complexity: different parts of the system affected simultaneously; combination of hazards</li> </ol>
---	--

“There is increasing uncertainty depending on the scale ... [There is also] the uncertainty to do with political reactions. There is uncertainty and then there’s uncertainty about political reactions to that uncertainty. That’s what I’m trying to get at. It’s a kind of second order uncertainty”

	Routine (R)	Non-routine (NR)	Complex (C)
Scale and uncertainty	0	9	17
Policy and management	8	14	4

**POLICY/MANAGEMENT**

ROUTINE	NON- ROUTINE	COMPLEX
1. Other drivers more important than climate change	1. Climate change as a catalyst for change, DRM needs adjustment – possible but difficult and painful	1. Climate change profoundly affects DRM

“... we’ve had to adjust our risk management philosophy because there’s no doubt that Australia in the next twenty, thirty years is going to experience more natural disasters...”

	Routine (R)	Non-routine (NR)	Complex (C)
Scale and uncertainty	0	9	17
Policy and management	8	14	4

**POLICY/MANAGEMENT**

ROUTINE	NON- ROUTINE	COMPLEX
1. Other drivers more important than climate change 2. Response to climate change based on standard procedures 3. Not enough evidence of the long term threat posed by climate change	1. Climate change as a catalyst for change, DRM needs adjustment – possible but difficult and painful 2. Preparation, revision of process, adaptation of response capabilities, continual improvement	1. Climate change profoundly affects DRM 2. Difficult to identify appropriate strategies; need for short-term and long-term strategies; limited and insufficient knowledge; systems need to be more flexible and adaptable

## Implications

When formulating policy is important to considering climate change as a challenge and the implications of this challenge



Climate change adds complexity: definition of problems and solutions



Urgent need to raise awareness of escalated uncertainty; uncertainty relates to multiple issues

## Implications

Increased uncertainty cannot constitute a driver for inaction but a catalyst for change and continual improvement



Adjustments are required, but we should not 'reinvent the wheel'; revising existing policy and practices can be a more effective and less painful strategy

Limitations of scientific knowledge in underpinning conventional DRM



Need to elevate the role of social science and social processes; climate change is increasing the need to make value judgments, and science can only inform these choices

## Implications



Few respondents frame climate change as not challenging

- Technocratic style: denotes a tendency to control nature
- Mechanistic approach: standard procedures, centralisation of power and rigidity

## Implications

Social learning, relevant in the presence of greater uncertainty and complexity

- Broadening the set of actors facilitates a wider range of knowledge and solutions for facing the unknown
- Imperative for enabling conditions that allow stakeholders to have meaningful participation



## Key messages

- There is a valid option to face complex problems, as climate change, with less complex policy and management solutions
- If we want to inform policy processes, is relevant to consider that this do not end at the policy design phase, rather continues to the implementation phase of a policy
- How the problems and solutions are framed by different practitioners inform how to develop coherent policies

# THANK YOU

Paulina Aldunce  
paldunce@uchile.cl