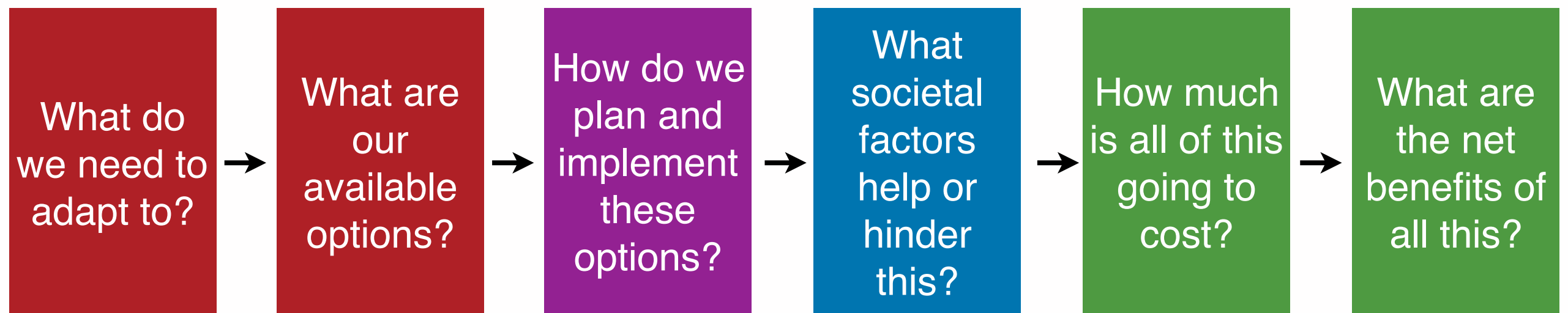


Adaptation Needs, Options. Limits & Constraints

Anthony Patt, Professor of Human-Environment Systems, ETH Zurich

Working Group II Review Editor, Chapter 14



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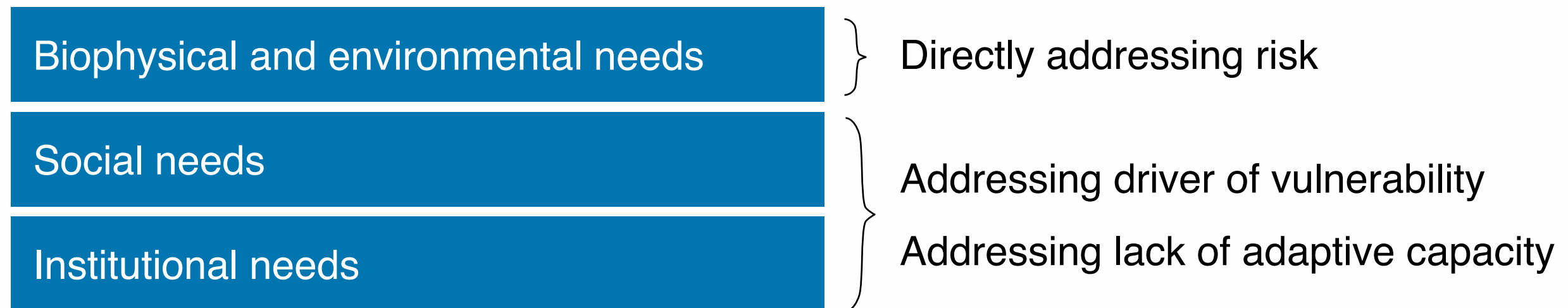
Financial
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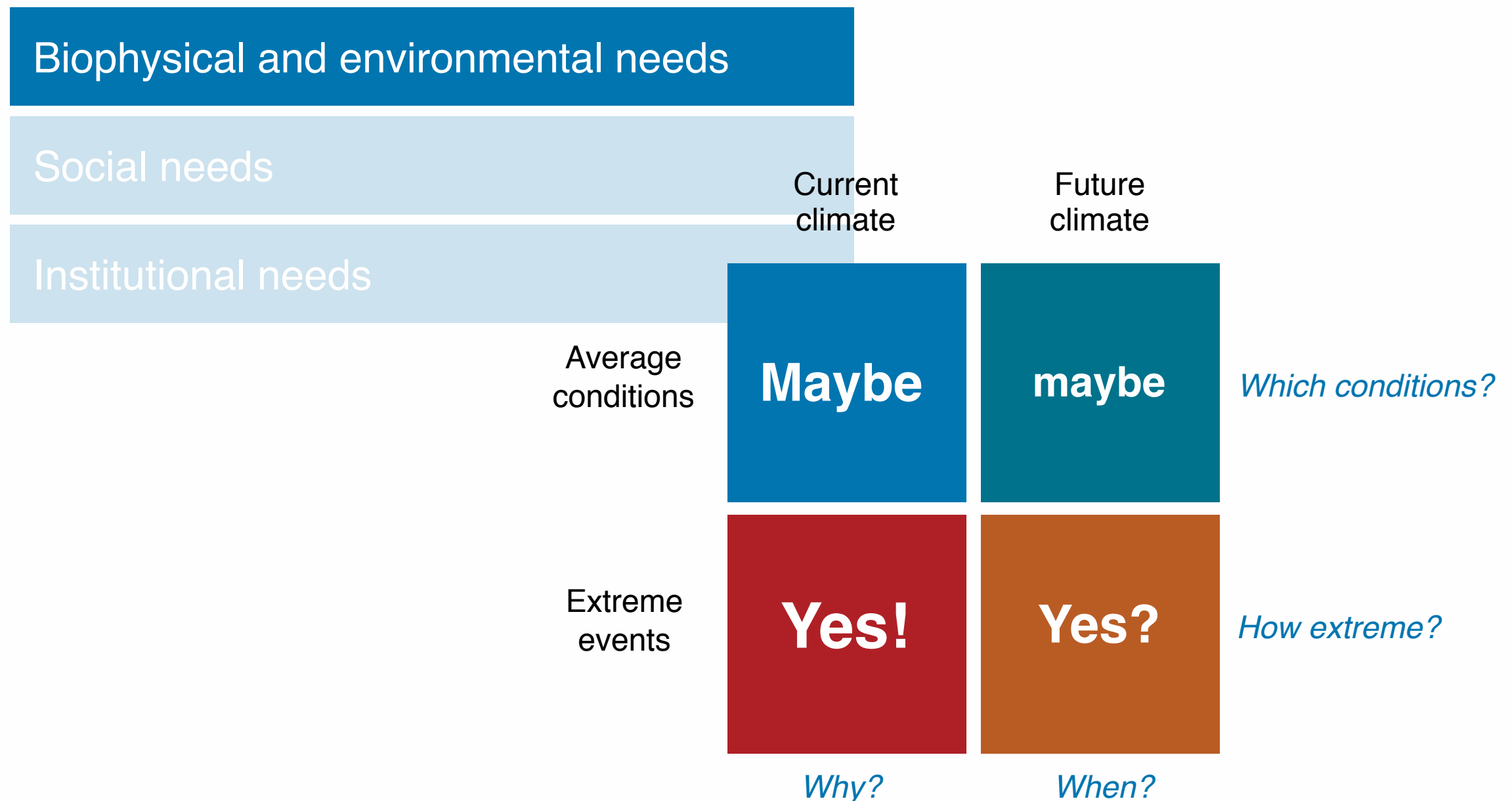
Adaptation needs

The circumstances requiring action to ensure safety of populations and security of assets in response to climate impacts



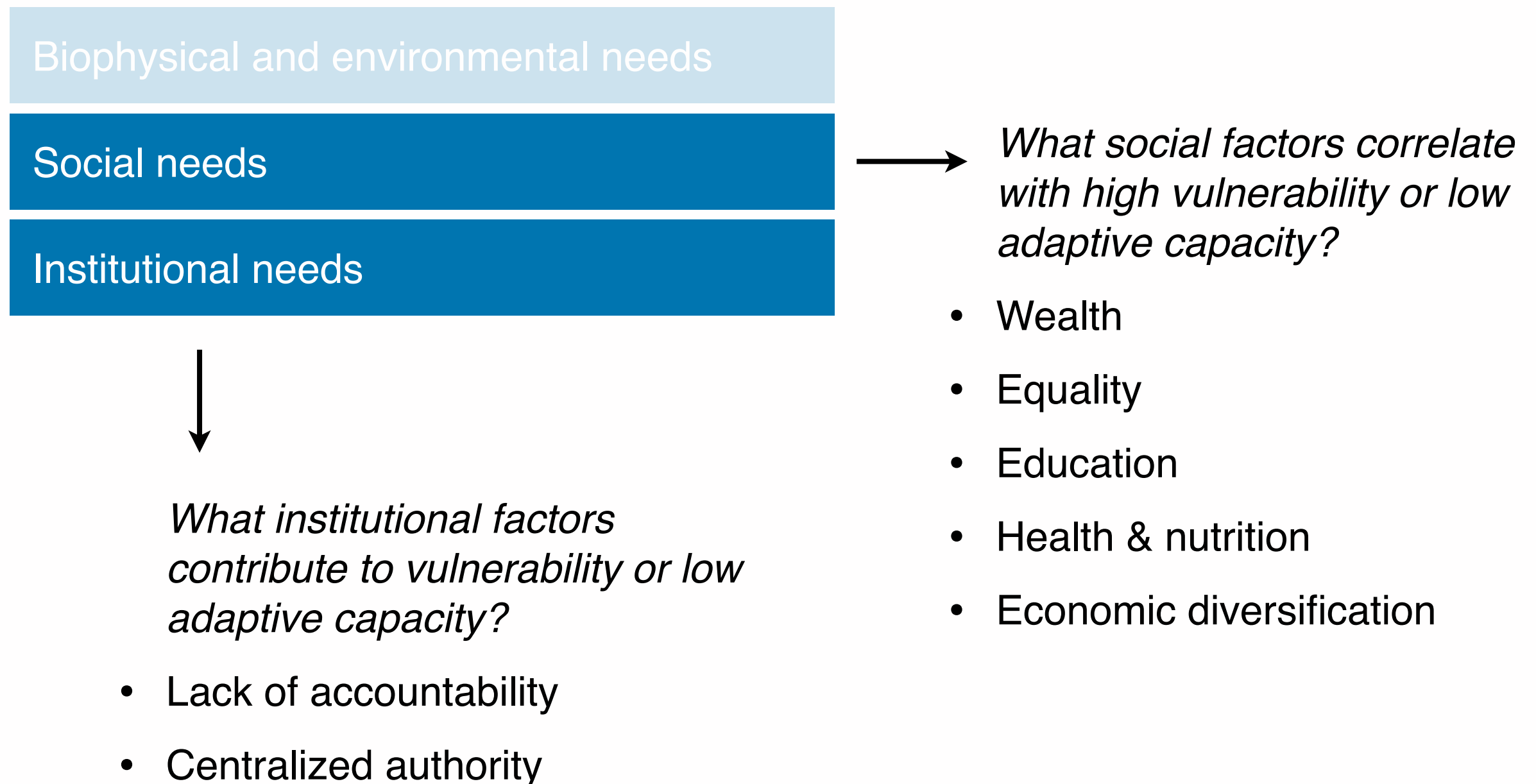
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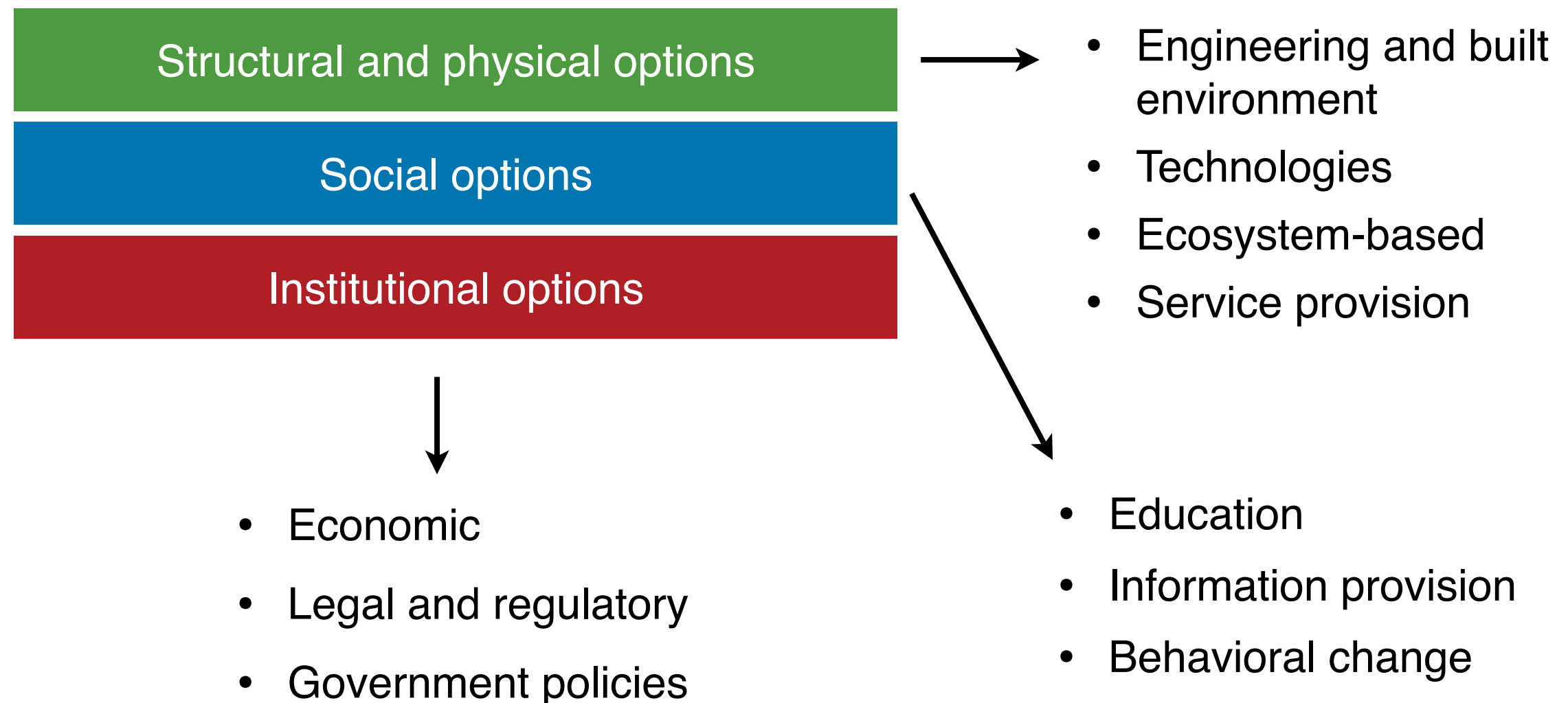
Adaptation needs

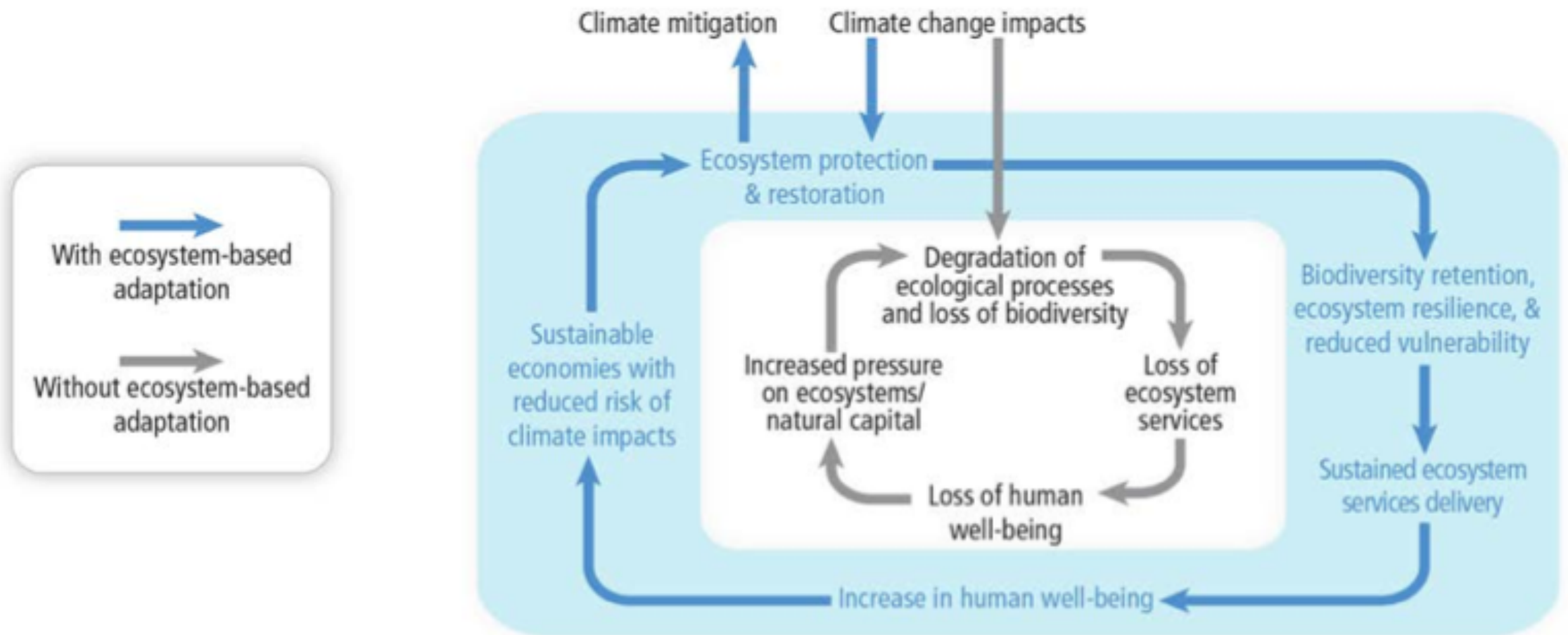
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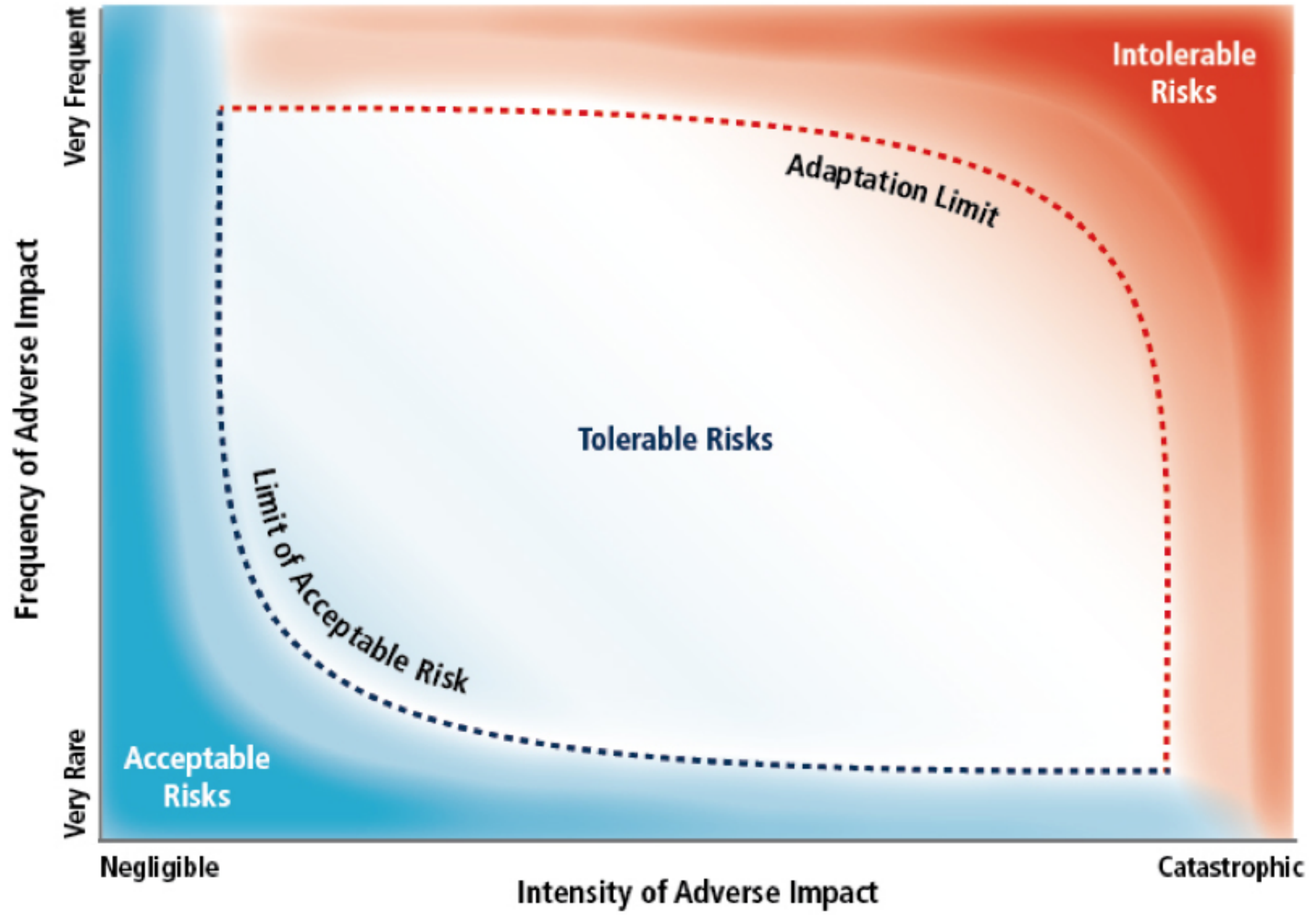


“Adaptation options

The array of strategies and measures that are available and appropriate for addressing adaptation needs. They include a wide range of actions that can be categorized as structural, institutional, or social.”







Source: IPCC WGII AR5 Ch16

Maladaptation

“Actions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future.”

	Broad type of maladaptive action	Examples in AR5 Report
1	Failure to anticipate future climates. Large engineering projects that are inadequate for future climates. Intensive use of non-renewable resources (e.g. groundwater) to solve immediate adaptation problem	FAQ 3.4; 22.3.7
2	Engineered defenses that preclude alternative approaches such EBA	Box CC-EA; 15.5
3	Adaptation actions not taking wider impacts into account.	22.4.5.8; 25.8.1.3; 26.8.4.1.1
4	Awaiting more information, or not doing so, and eventually acting either too early or too late. Awaiting better “projections” rather than using scenario planning and adaptive management approaches	7.5.1.2.2; 8.5.2; 16.5.2
5	Forgoing longer term benefits in favour of immediate adaptive actions; depletion of natural capital leading to greater vulnerability	13.2.1.3; 22.4.5.8; 22.4.5.8
6	Locking into a path dependence, making path correction difficult and often too late	16.4.2; FAQ 25-1
7	Unavoidable ex post maladaptation – e.g. expanding irrigation that will eventually have to be replaced in the distant future.	17.3.6.1; see also 5 & 6 above
8	Moral hazard – i.e. encouraging inappropriate risk taking based, for example, on insurance, social security net or aid backup	17.5.1; 29.8
9	Adopting actions that ignore local relationships, traditions, traditional knowledge or property rights, leading to eventual failure	12.5.2; 26.5.3
10	Adopting actions that favour directly or indirectly one group over others leading to breakdown and possibly conflict.	13.1.1; 13.1.4
11	Retaining traditional responses that are no longer appropriate	21.3.2; 22.4.5.8
12	Migration may be adaptive or maladaptive or both depending on context and the individuals involved	26.8.4.1.1; Box 29-1

Note: These examples of maladaptation represent a set of cases found in the Report and that might help the readers to understand the rich range of circumstances where maladaptive actions might arise. They do not represent a formal categorization of type of maladaptation.

Source: Final draft of 28 October 2013, Table 4

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5	Forgoing long-term actions; depletion of resources	
6	Locking into a path that is often too late to change	
7	Unavoidable actions that will eventually be replaced	
8	Moral hazard, for example, on investment in adaptation	
9	Adopting actions based on traditional knowledge	
10	Adopting actions that others leading to increased risk of adverse climate-related outcomes	
11	Retaining traditional responses that are no longer appropriate	21.3.2; 22.4.5.8
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Capacity factors

Behavioral factors

Institutional factors

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“Although different stakeholder groups have specific needs, an overarching adaptation need for communities, households, private sector, and institutions is the need for shared learning on adaptation.”

Which simplifies to:

We all need to adapt because we don't yet know how to adapt.