

# Sustainability indicators and metrics

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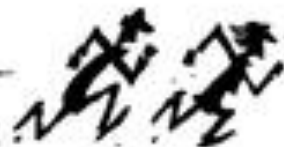
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2014 WAS THE  
HOTTEST YEAR ON  
RECORD...



WELL IT AIN'T  
GETTIN' ANY  
COOLER!

POLITICAL  
UPHEAVAL

SECTARIAN  
VIOLENCE

TERRORISM

RACIAL  
UNREST

RELIGIOUS  
HATRED

WAR

Walt Handegsman  
THE NEW ORLEANS  
ADVOCATE  
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## WHAT EACH COUNTRY LEADS THE WORLD IN



Source: <http://www.businessinsider.com/what-countries-are-best-at-2014-1>



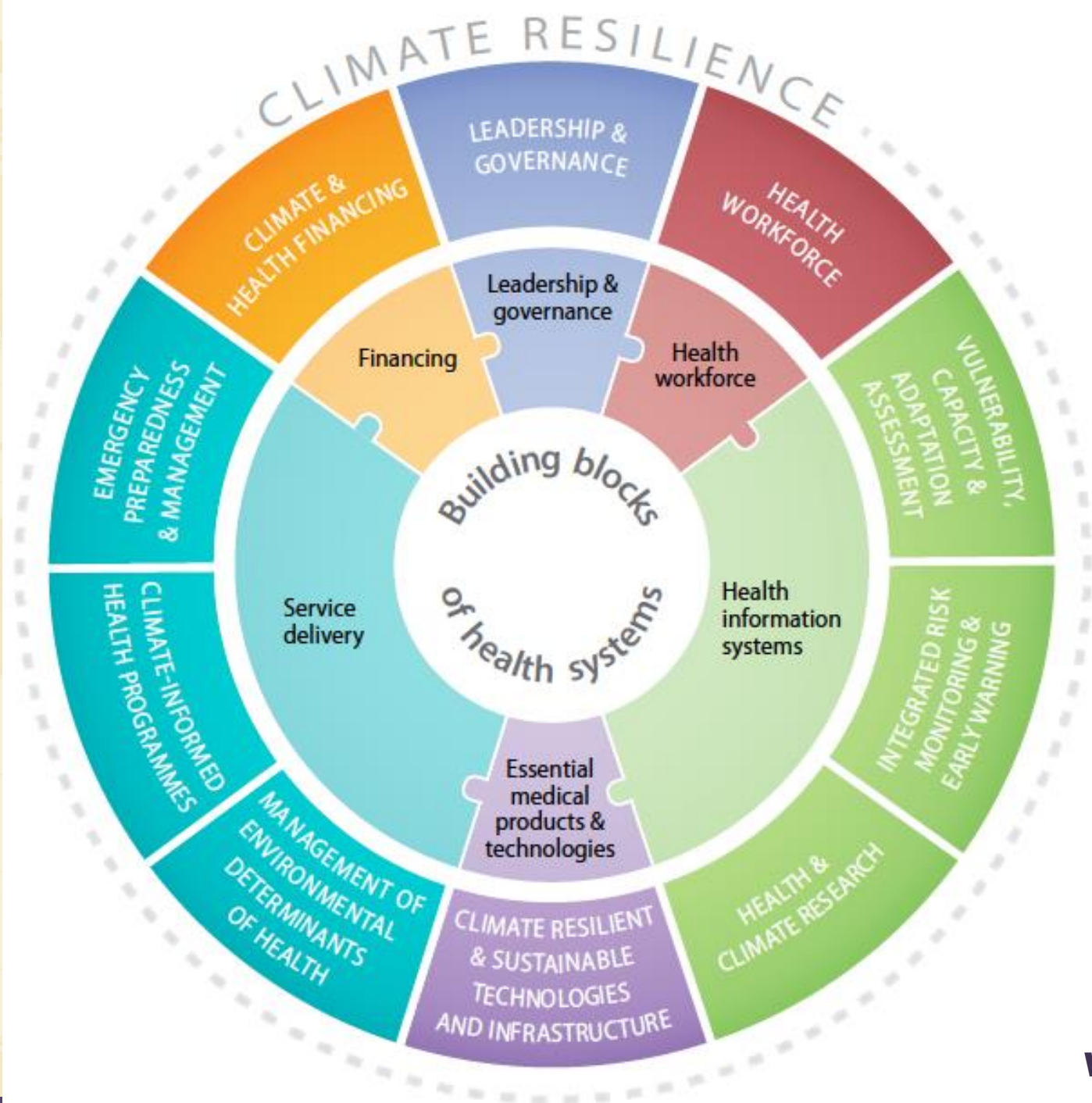


BREATHE LIFE



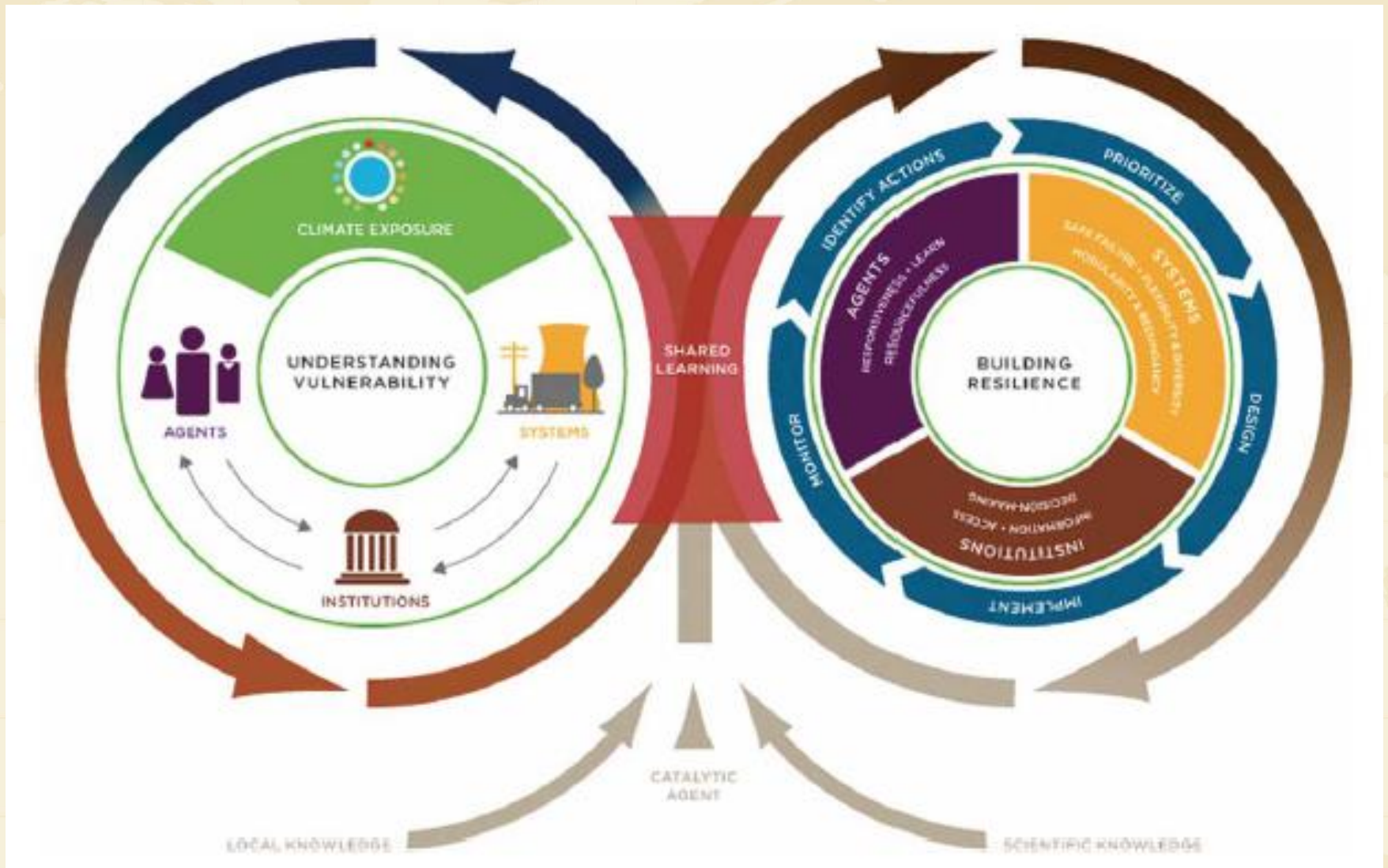






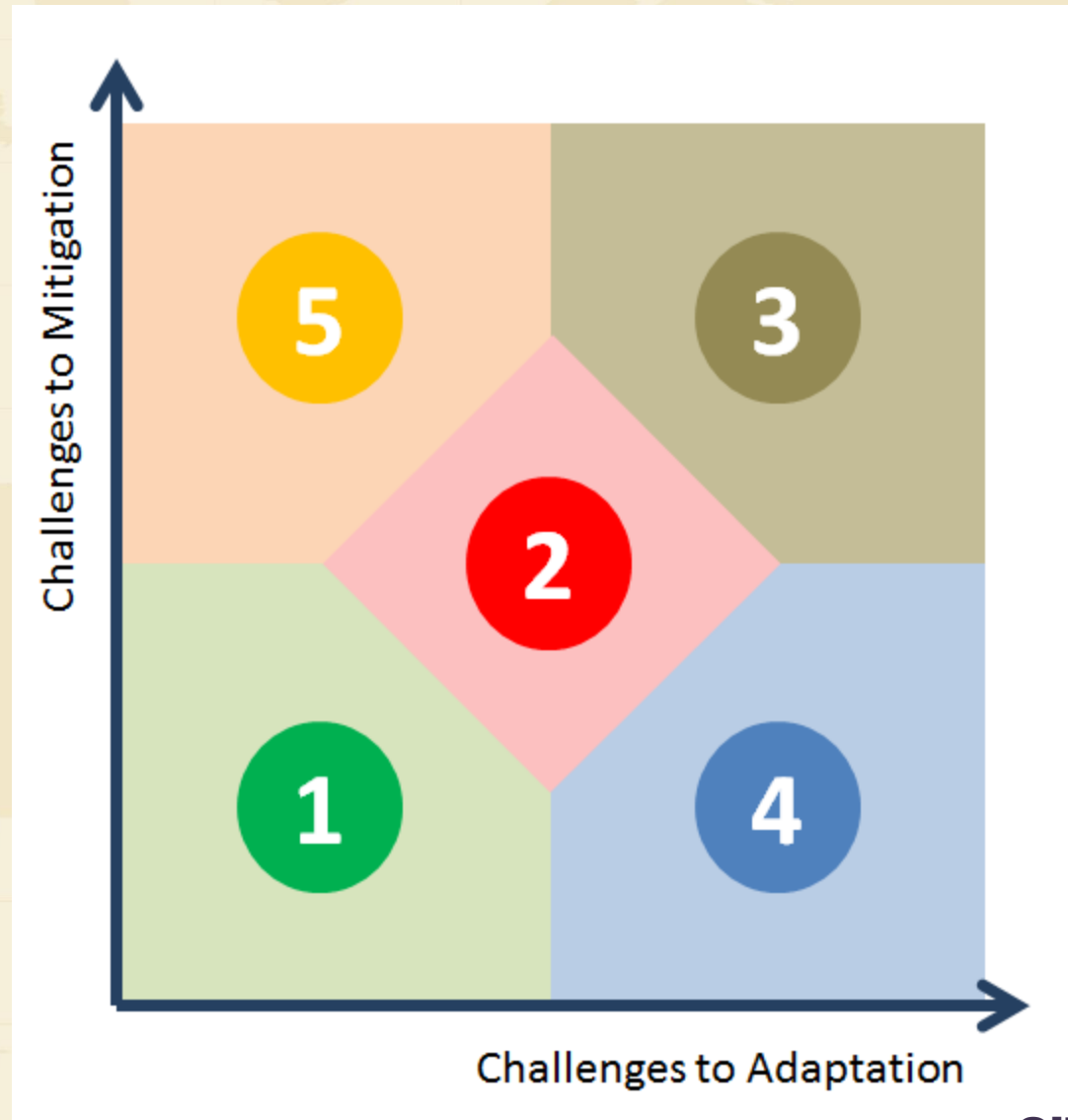


# Climate resilience framework





# Shared socioeconomic pathways





# SSP elements

Expert elicitation (Schweitzer & O'Neill, 2014)

Key determinants of adaptation challenges:

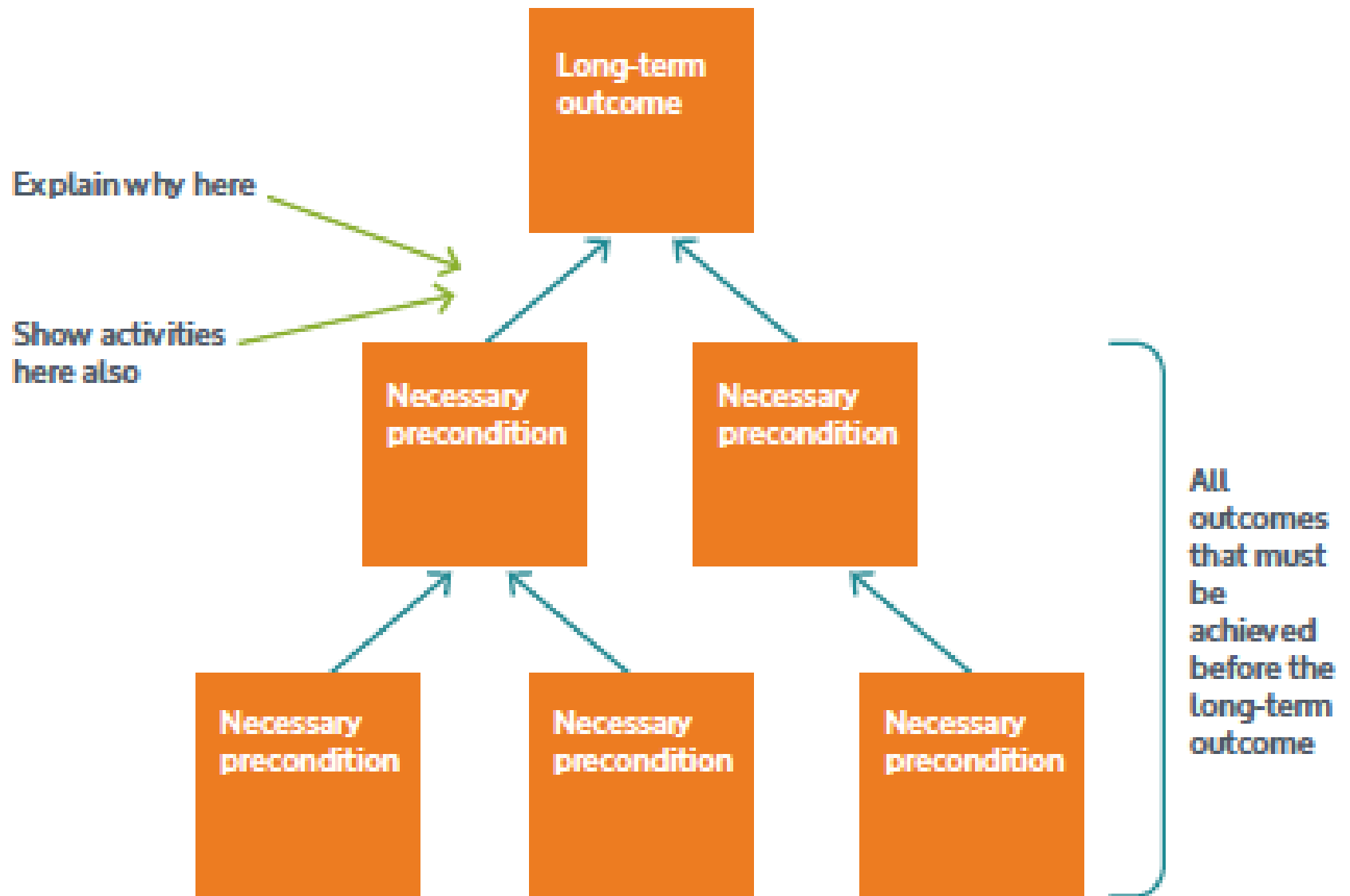
Determinant:	SSP variable:
Average wealth	<b>GDP projection</b>
Poverty	<b>Income distribution</b>
Quality of governance	<b>Governance</b>
People in coastal zones	<b>Spatial population projection</b>
Urbanization	<b>Urbanization</b>
Education	<b>Education</b>
Innovation	<b>Innovation</b>
Quality of healthcare	<b>Health projections</b>

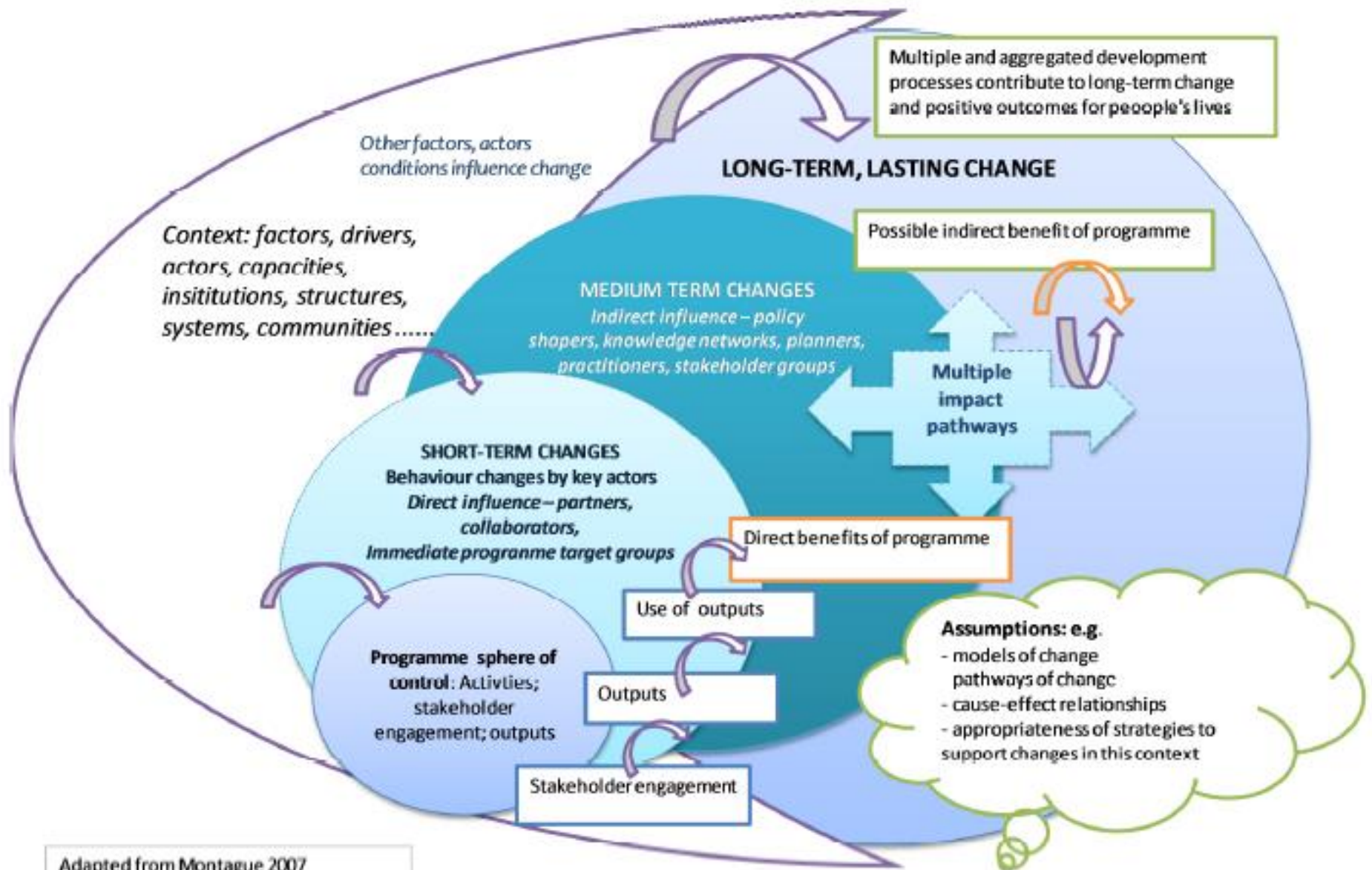
**Storyline**

**IAM elements**

**IAV elements**

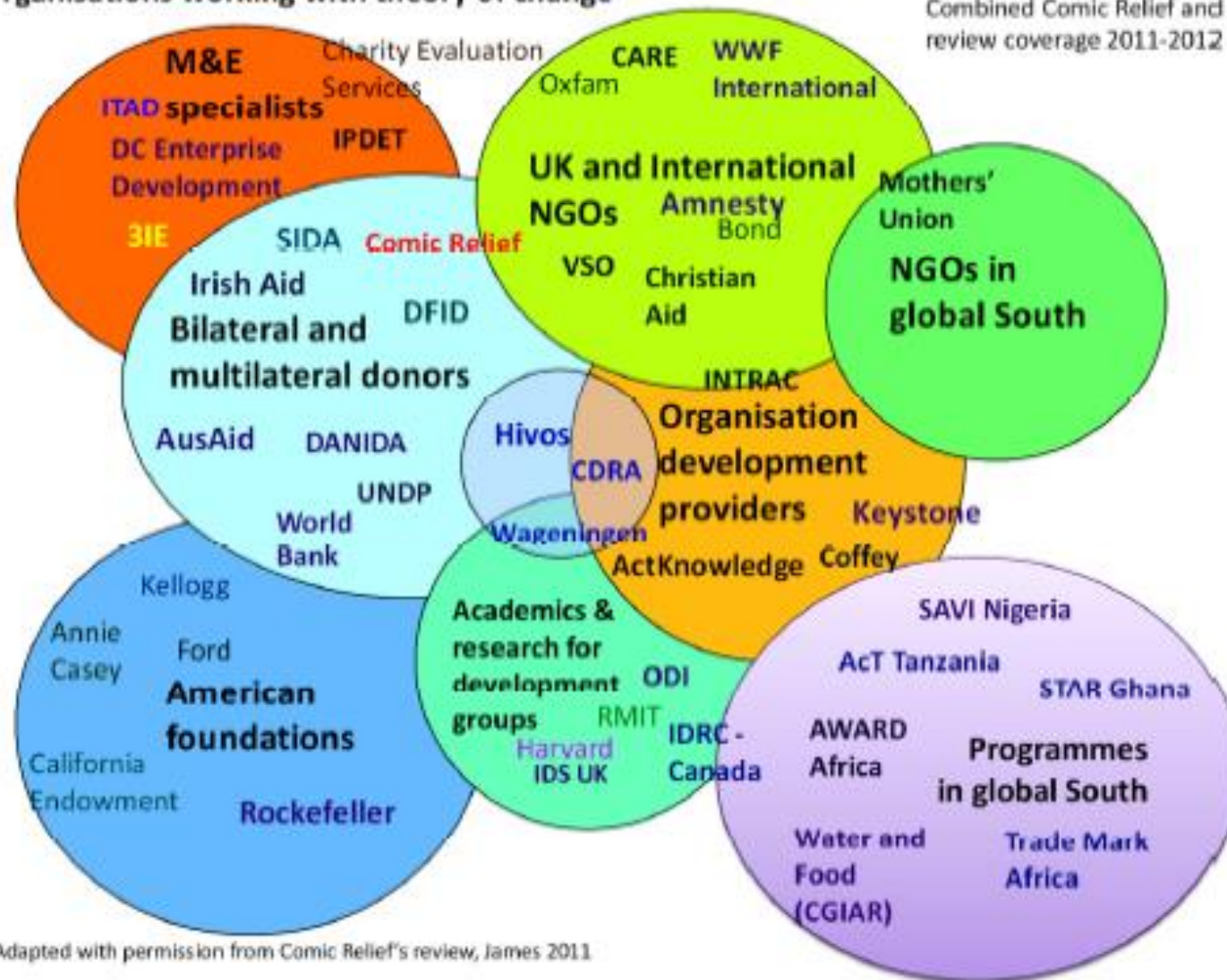








Combined Comic Relief and DFID  
review coverage 2011-2012



Adapted with permission from Comic Relief's review, James 2011





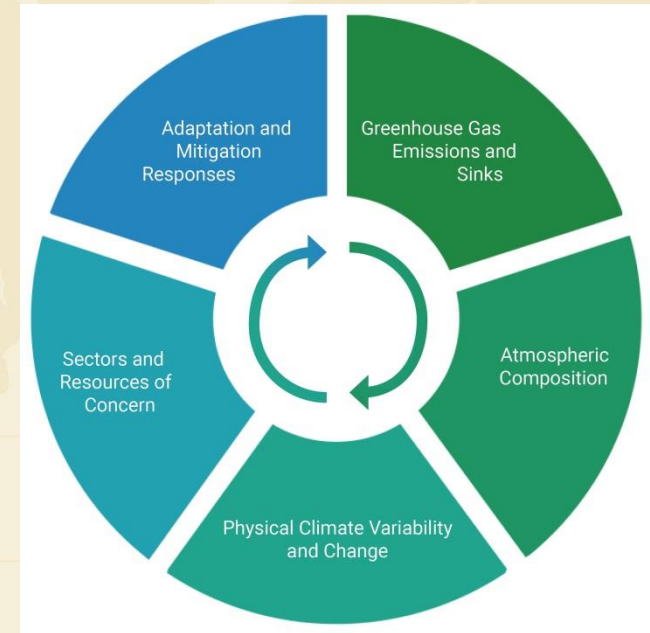
# NCA<sub>3</sub>

- As part of the third National Climate Assessment, Tony Janetos and Melissa Kenney chaired a working group of the advisory committee to design a system of indicators that would inform future assessments
- They decided to take an end-to-end approach
- Focused on not only the physical climate system, but from energy and emissions through climate to climate impacts on many sectors, to responses (both mitigation and adaptation)

# Recommendation: National Climate Indicators System

*A system of physical, ecological, and societal indicators that communicate and inform decisions about key aspects of climate changes, impacts, vulnerabilities, and preparedness.*

- Provide meaningful, authoritative climate-relevant measures about the status, rates, and trends of key physical, ecological, and societal variables and values;
- Inform decisions at multiple scales
- Identify climate-related conditions and impacts
- Provide analytical tools by which user communities can derive their own indicators for particular purposes.



Categories of Indicators: Framework for the National Climate Assessment Indicator System



# Implementation?

- NCA3 focused on guiding indicator development with conceptual models and using a pilot release to get actual data on use
- Comprehensive development - a dozen sectors, volunteer committee for each, lots of attention paid to communications designs
- Agencies implemented only a small part of the proposed pilot
- Agencies committed to implement more, but how or when is unknown, and the committee responsible has not met for months

# So What?

- Acknowledge the importance of multiple stresses and causal determinants of change in indicator design
- These will be necessary parts of indicators of sustainability, as will an end-to-end perspective that acknowledges social and economic issues
- But this also has made it difficult for mission-driven agencies and programs to implement
- Feedback Tony heard was “we thought this was supposed to be a climate-change-only set of indicators”



# Bottom Line

- There are in fact lots of potential indicators related to sustainability in the literature and in use
- Need a systematic, conceptually well-based way of integrating them
- But also need an institutional and political climate that is able to accommodate and nurture them - that is broader than single issue-based foundations