Capacity building to develop and review climate resilient policies

Climate resilience

Key adaptation principles

- Work in partnership
- Cope with uncertainty
- System vulnerability and resilience
- Manage climate and non-climatic risk
- Sustainable development context
- Explore co-benefits
- Iterative approach
- Action focus
- Low/no regrets approach
- Avoid maladaptation
- Multiple scales of governance

Climate resilience

Issues associated with mainstreaming

- Working with nature
- Maladaptation
- Vulnerability and resilience
- Future pathways – the sustainability context
- Managing change – the psychology of change
- The importance of innovators
- Participatory approaches
- Integrating ‘top down’ and ‘bottom up’
- A few other things to consider

The industrial revolution

A new relationship with nature

"The industrial revolution (1785 – 1830) was the first manufacturing technology in human history that was, in a sense, independent of nature, of geography and season and weather, of sun or wind or water or human or animal power."

Fitzpatrick Sale

J Constable, Dedham Vale
Oil on Canvas, painted in 1828

Our relationship with nature

"Look deep into nature, and then you will understand everything better." Albert Einstein

J Constable, Old Sarum
Watercolour, painted in 1834

Source: G Kenny, Old Sarum, 2007

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"The future condition of the globe's interlocking natural and social systems depends more on human behaviour than on the further investigation of natural processes, however desirable that may be." White, 1991

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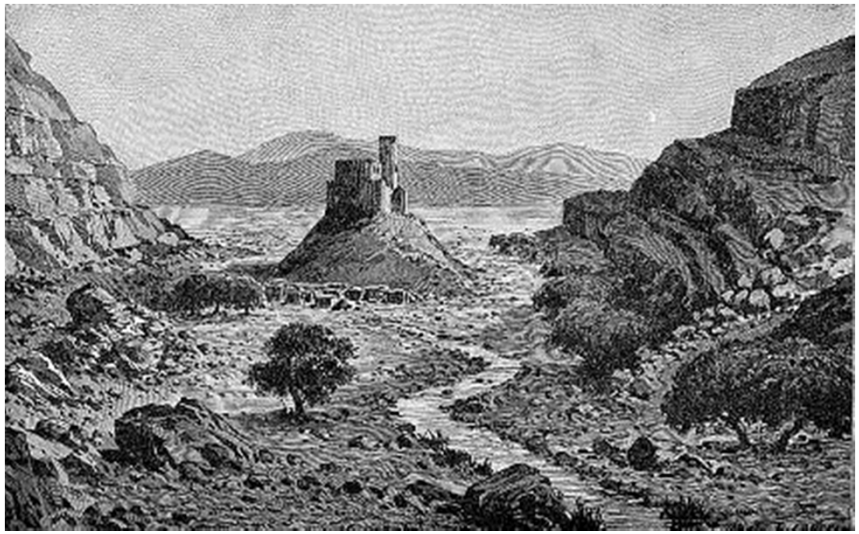
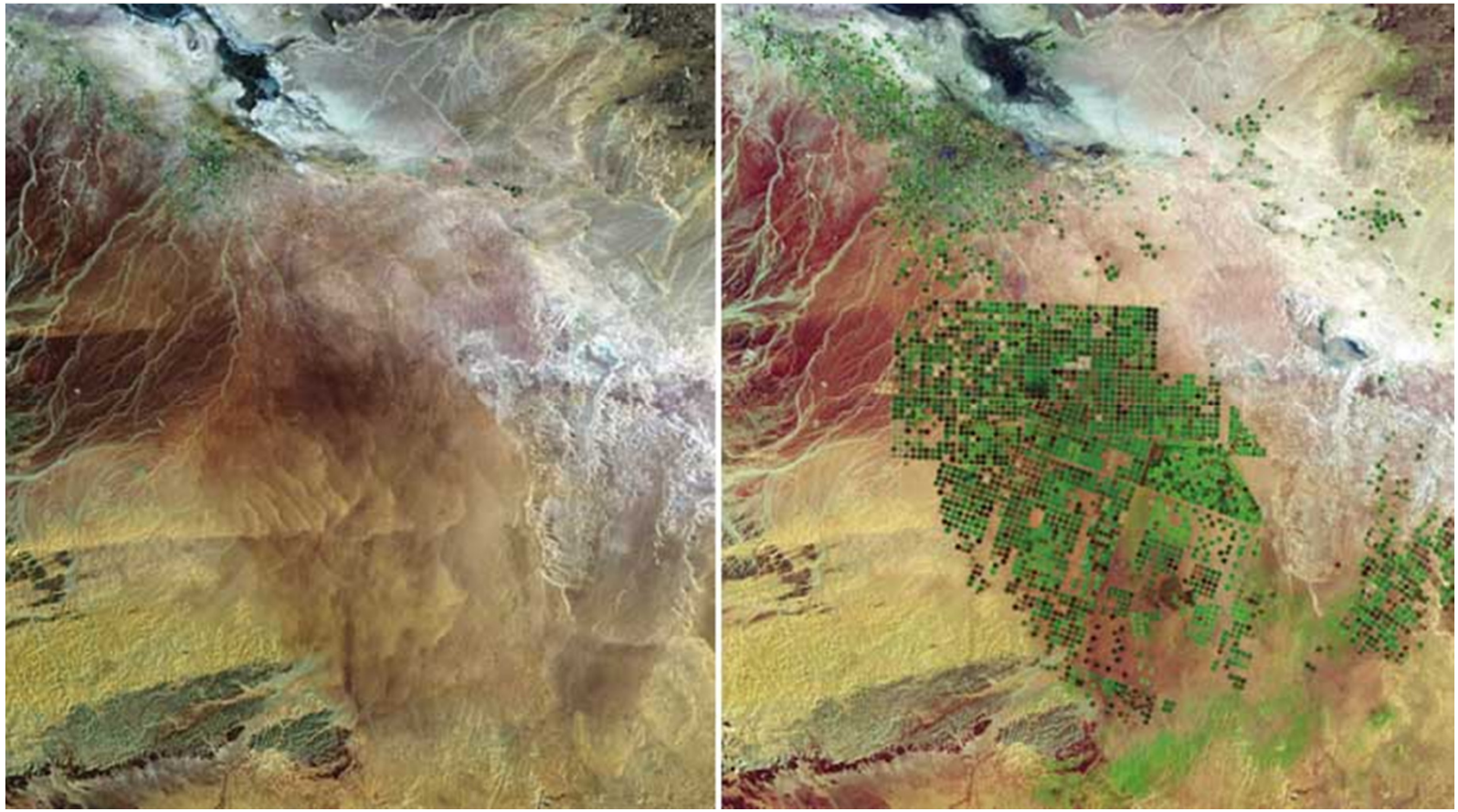
Maladaptation



"The whole course of civilization … may be seen as a process of trading up on the scale of vulnerability." Brian Fagan

Maladaptation cont.



Wadi-as-Sirhan, Saudia Arabia

Source: Still Pictures/NASA/UNEP

Maladaptation cont.

Deforestation and palm oil plantations, Solomon Islands

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Maladaptation cont.

Tourism and sugar production, Fiji

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Maladaptation cont.

Shopping complex development, Mauritius

Vulnerability and resilience

Vulnerability

- Exposure
- Sensitivity
- Adaptive capacity

Resilience

- Buffering capacity
- Capacity for self-organisation
- Adaptive capacity

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Resilience

“Ecosystem resilience is the capacity of an ecosystem to tolerate disturbance without collapsing into a qualitatively different state that is controlled by a different set of processes. A resilient ecosystem can withstand shocks and rebuild itself when necessary. Resilience in social systems has the added capacity of humans to anticipate and plan for the future.” www.resalliance.org

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Resilience

NZ farmer perspectives

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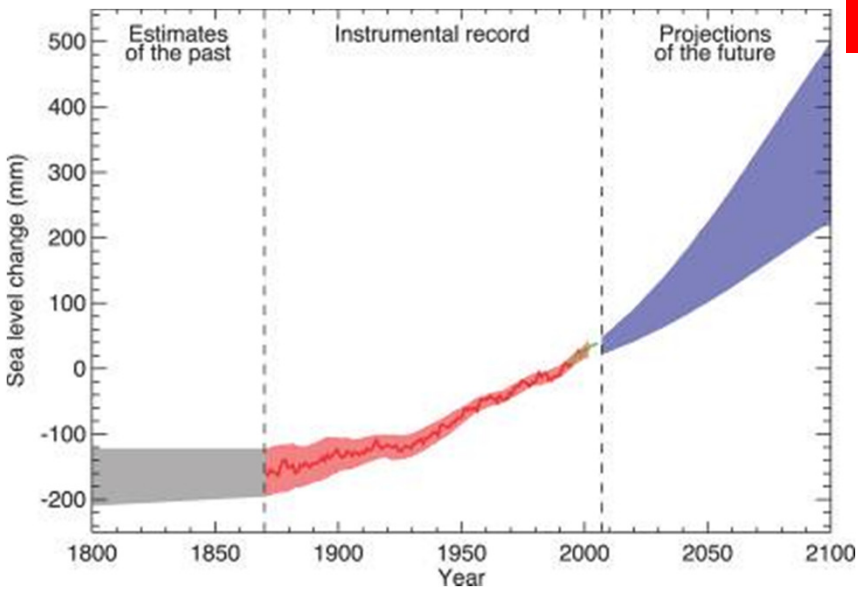
Future pathways



Sea-level rise of 0.9 – 1.6m is increasingly possible

- A 'Business-As-Usual' pathway will have serious consequences
- Extra-ordinary responses are required

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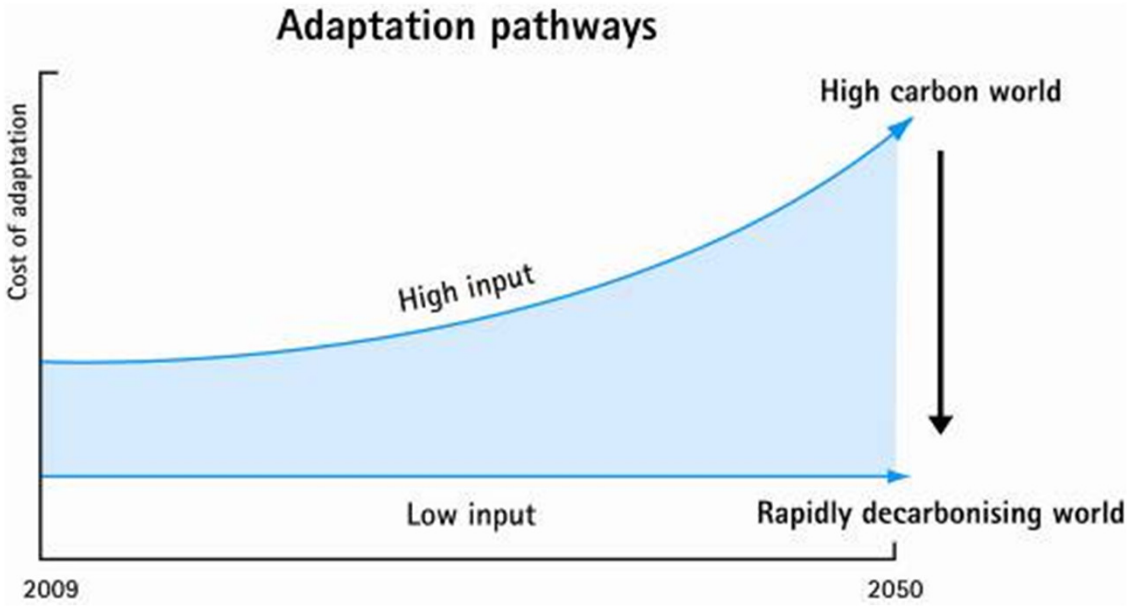
Adaptation pathways

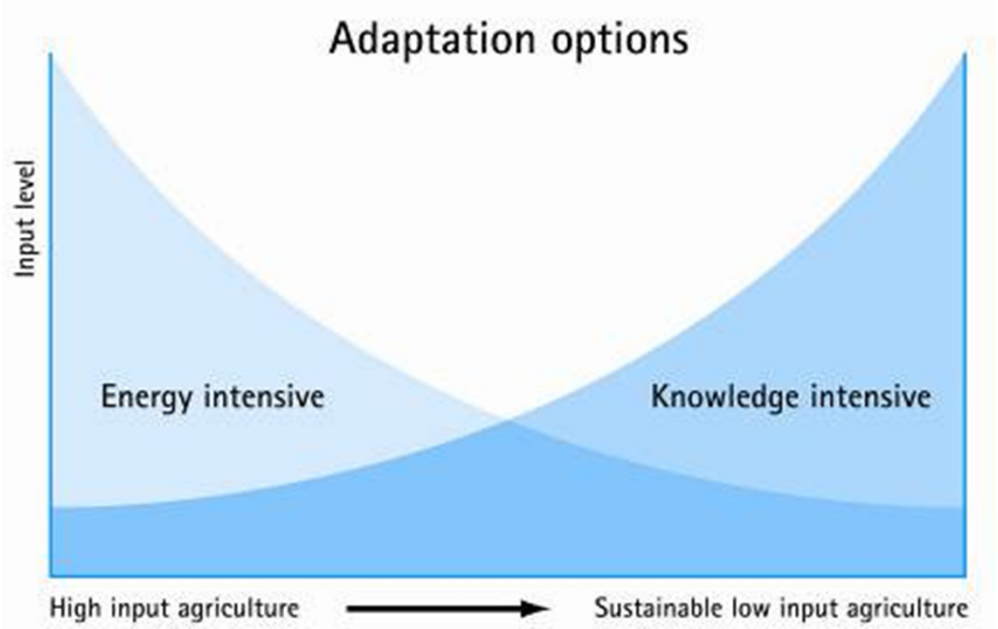
links to mitigation



Source: Kenny, 2011, Climatic Change,106: 441-462

Adaptation pathways

Shifting from fossil fuel dependence to ecological complexity and knowledge systems



Source: Kenny, 2011, Climatic Change,106: 441-462

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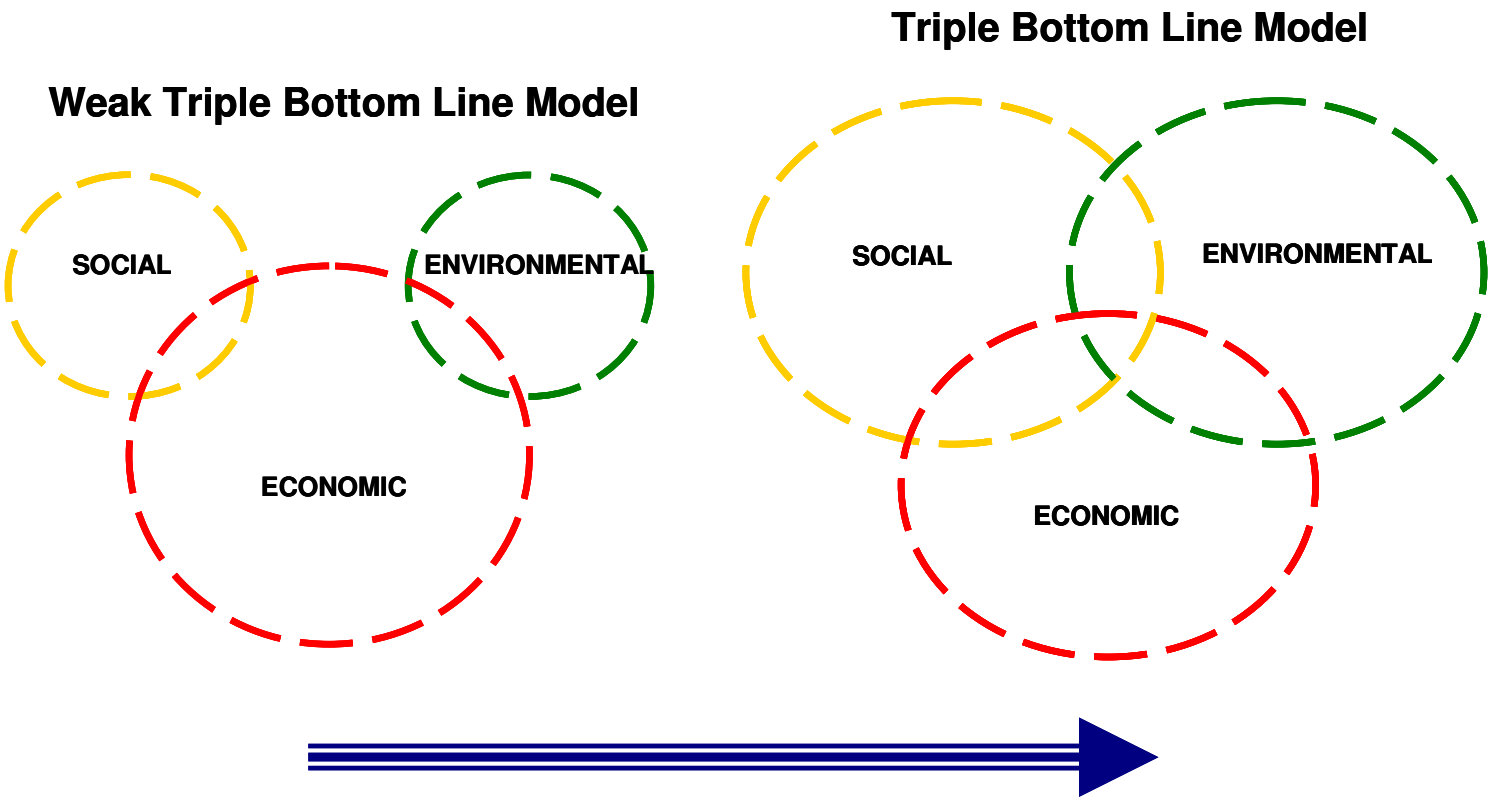
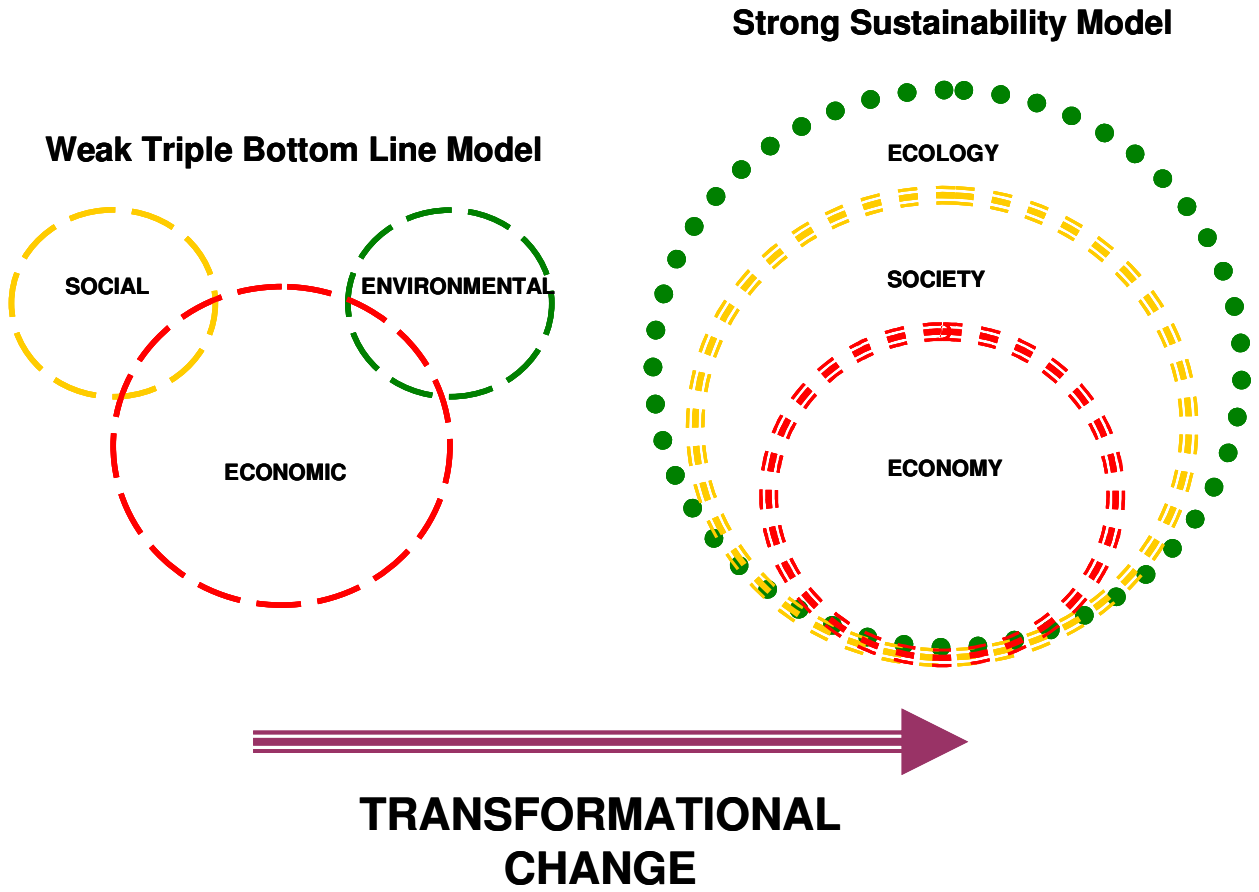
Managing change

Incremental change



Transformational change



Business as Usual approach

- Top down
- Wait & see (reactive)
- Weak ‘triple bottom line’ sustainability
- Impacts assessment
- Efficiency improvement
- Accommodation

Painting by Carrie Marill, courtesy of Jen Bekman gallery

Substitution approach

- Consultation
- Compliance/active
- Triple bottom line sustainability
- Vulnerability assessment
- Substitution
- Relocation

Painting by Carrie Marill, courtesy of Jen Bekman gallery

Redesign approach

- Participatory
- Proactive
- Strong sustainability
- Resilience building
- Redesign
- Recreate

Painting by Carrie Marill, courtesy of Jen Bekman gallery

Buzz groups (5 mins)

- Briefly articulate your future vision for Mauritius to each other

Barriers to change

Top down	Consultation	Participatory
Wait & see (reactive)	Compliant/active	Proactive
Weak triple bottom line sustainability	Triple bottom line sustainability	Strong sustainability
Impacts assessment	Vulnerability assessment	Resilience building
Efficiency improvement	Substitution	Redesign
Accommodation	Relocation	Recreate

Some of the barriers

- Information overload
- The psychology of denial
- It's all bad news
- Let the politicians and scientists sort it out
- Resistance to change – fear of the unknown

A 'Business-As-Usual' approach will not provide lasting solutions

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What does it take to change?

“On an island fighting for its future, the most visible reminder of the perils facing such an isolated and small nation is its rubbish.”

Toxic Tuvalu: Nowhere to go for mountain of rubbish 10/8/2010
http://www.stuff.co.nz/world/south-pacific/4008961/Toxic-Tuvalu

What does it take to change?

Isn’t this a sacred place?

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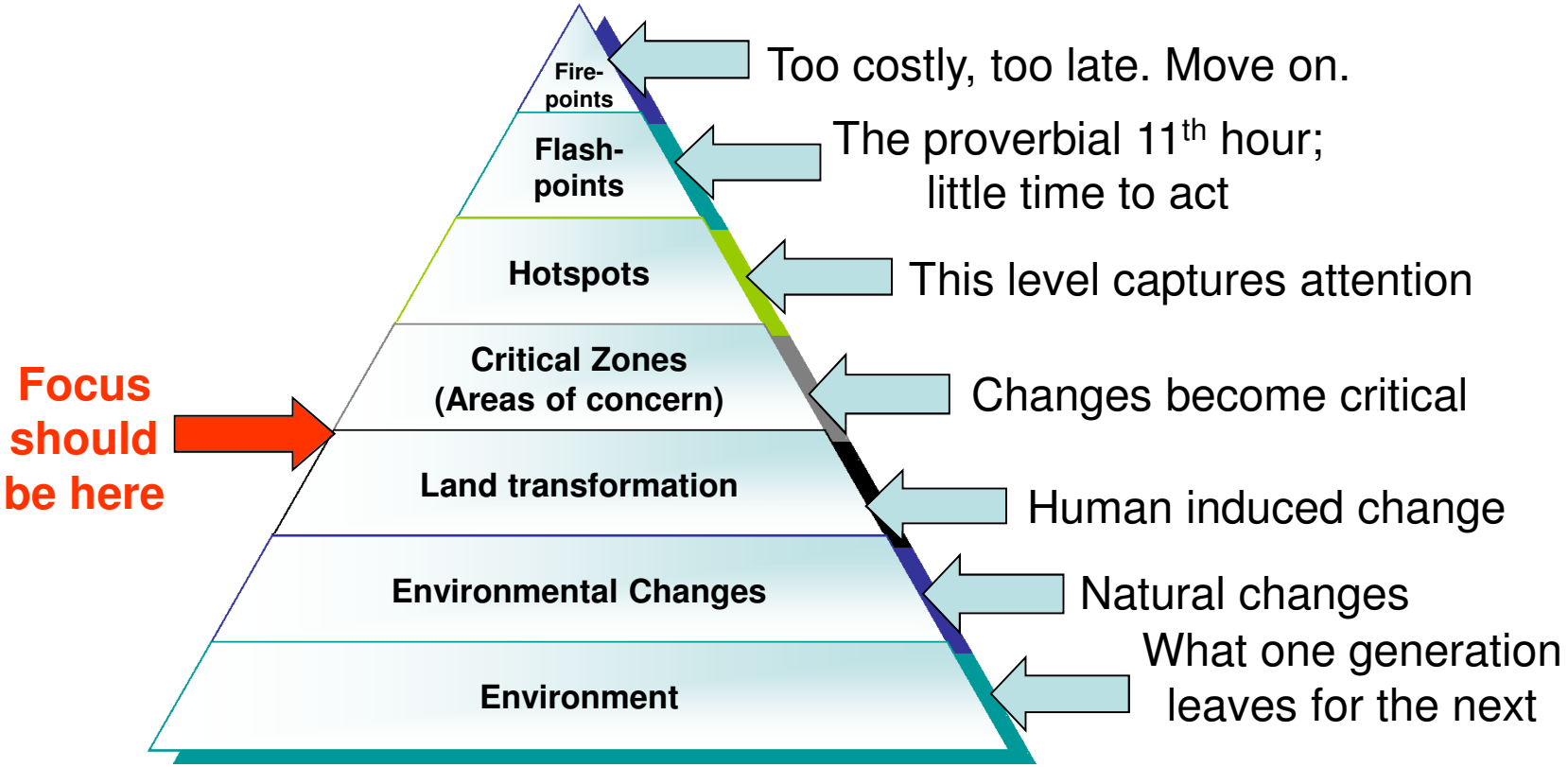
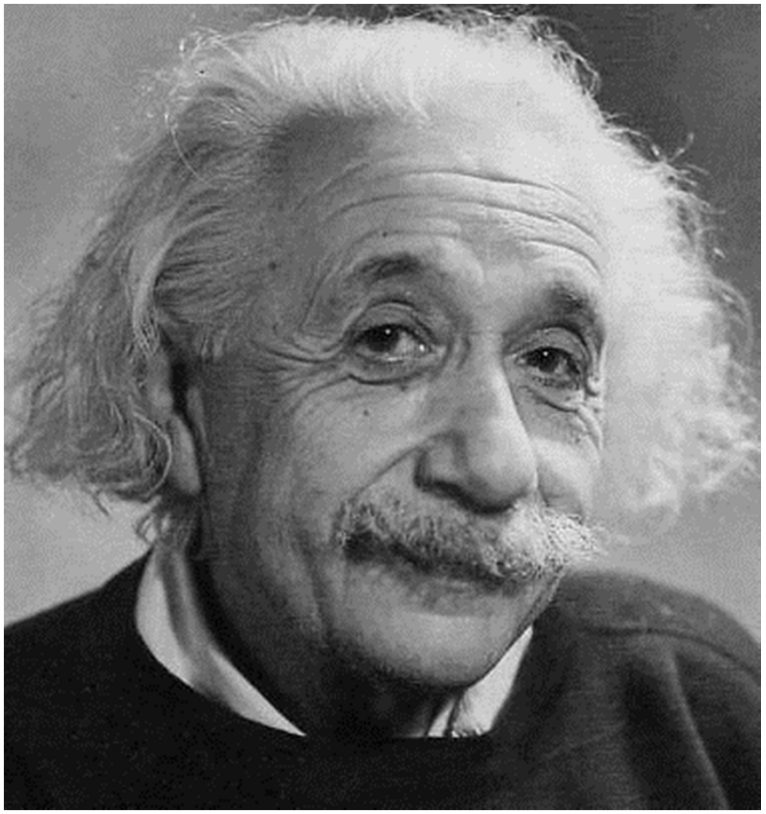
Do we need crisis to change?

Do we need crisis to change?



Source: Glantz, 2005

A ‘business as usual’ response won’t work



“We cannot solve our problems with the same thinking we used when we created them. We shall require a substantially new manner of thinking if mankind is to survive.”

Albert Einstein

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The psychology of change

Build on existing knowledge, capabilities and resources

Seven psychological principles that can help foster positive actions in addressing climate change:

- Promote success stories
- Provide positive future visions
- Focus on opportunity not risk
- Support social impulses
- Identity with place
- Fairness is vital
- Ownership of change/being heard

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The importance of innovators

- The term **innovation** derives from the Latin word *innovatus*, which is the noun form of *innovare* "to renew or change," stemming from *in*-"into" + *novus* – "new"
- Innovation for climate resilience is relatively unexplored territory

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The importance of innovators

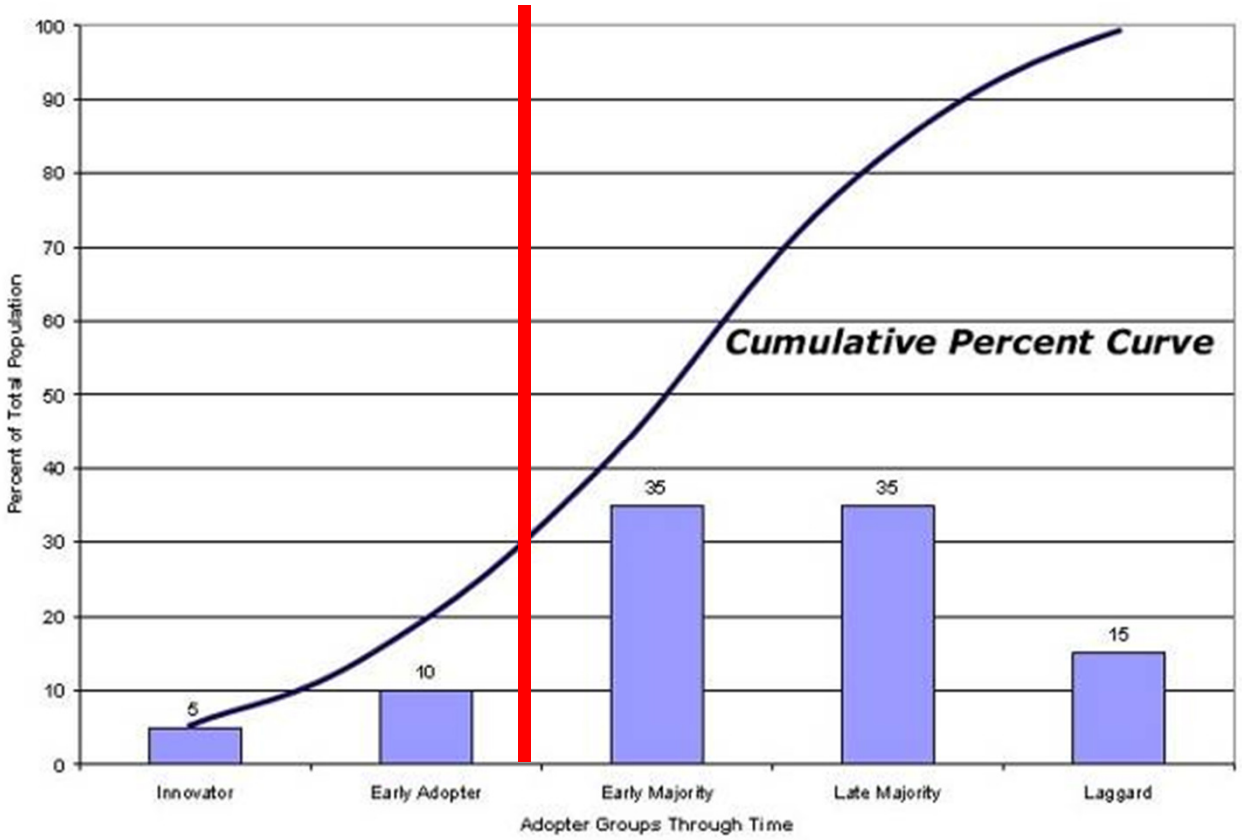

Figure 1. Percent Distribution of Diffusion Theory Adopter Groups

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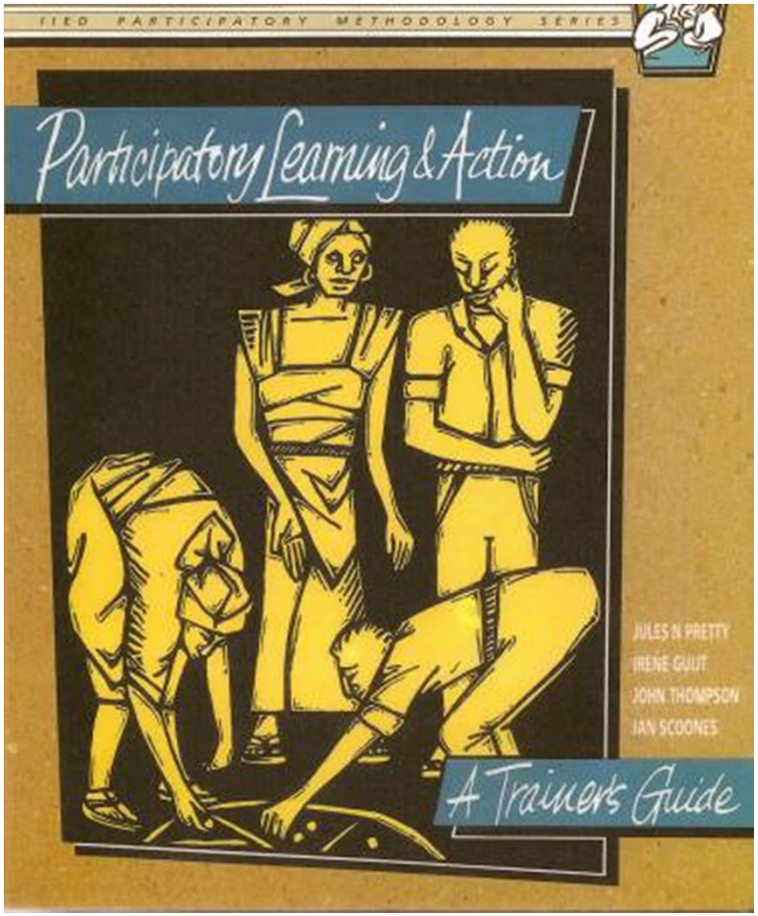
Geoff and Gill Brann

- SETTLING OF ROYDON DOWNS 'UNETHICAL ACTION,' AND 'GROSS MISTAKE' Bay of Plenty Times, December 3, 1963
- Over a 40-year period Geoff and Gill Brann have planted 150 ha (60%) of their farm in trees
- Their pioneering work is now widely recognised, with many visitors to the farm

Participatory approaches

Participatory approaches



- Adults are voluntary learners
- Adults usually come with an intention to learn
- Adults have experience and can help each other to learn
- Adults learn best in an atmosphere of active involvement and participation
- Adults are best taught with a real-world approach

Integrating top down and bottom up approaches

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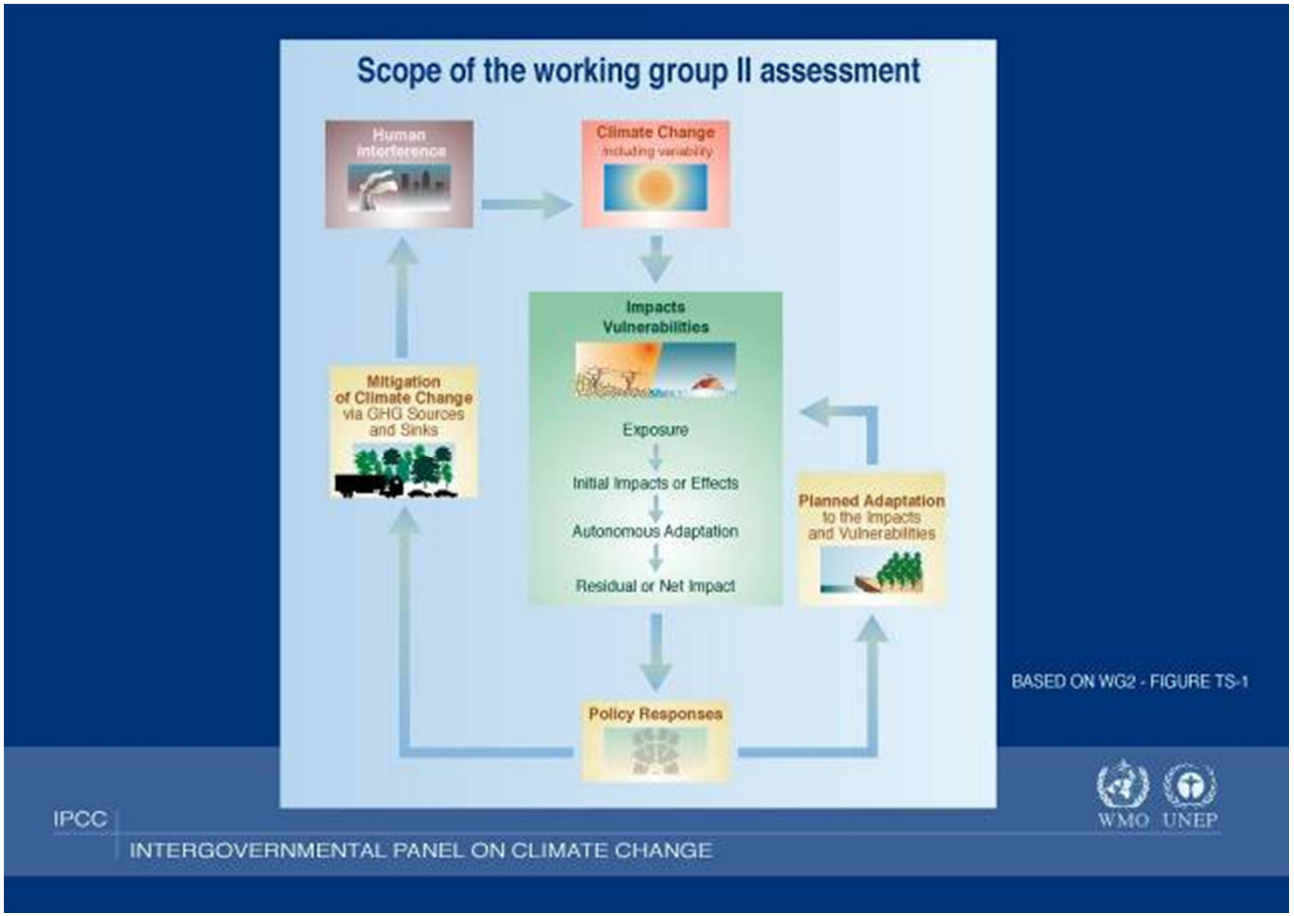
The IPCC Approach



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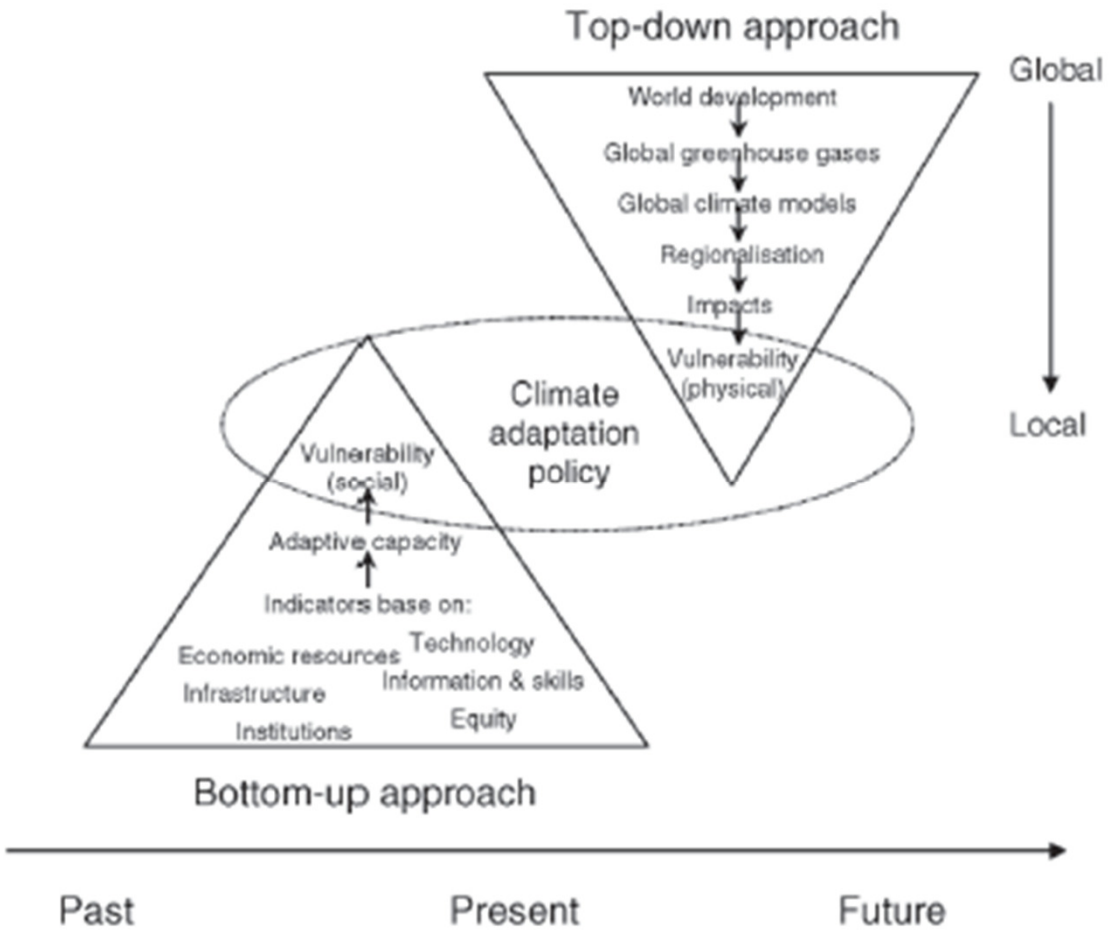
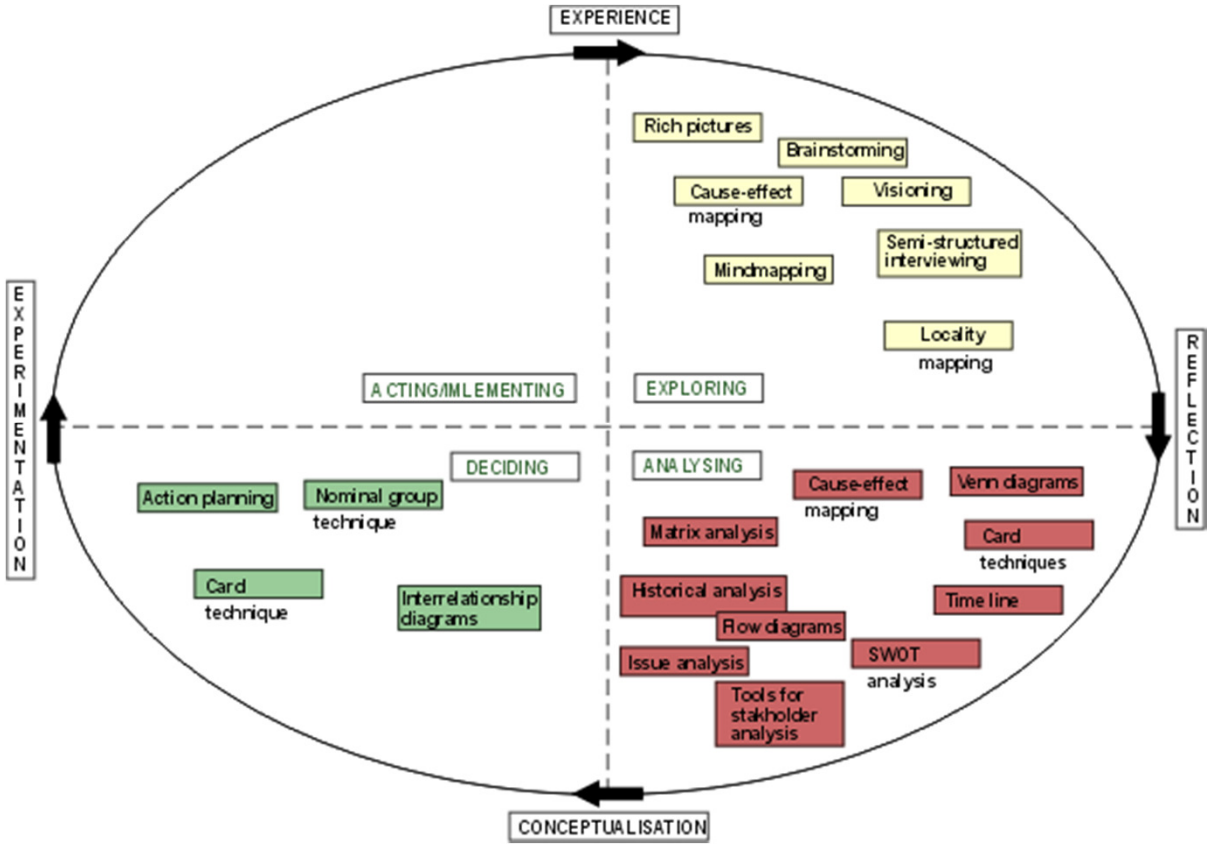
“Top Down” vs. “Bottom Up”

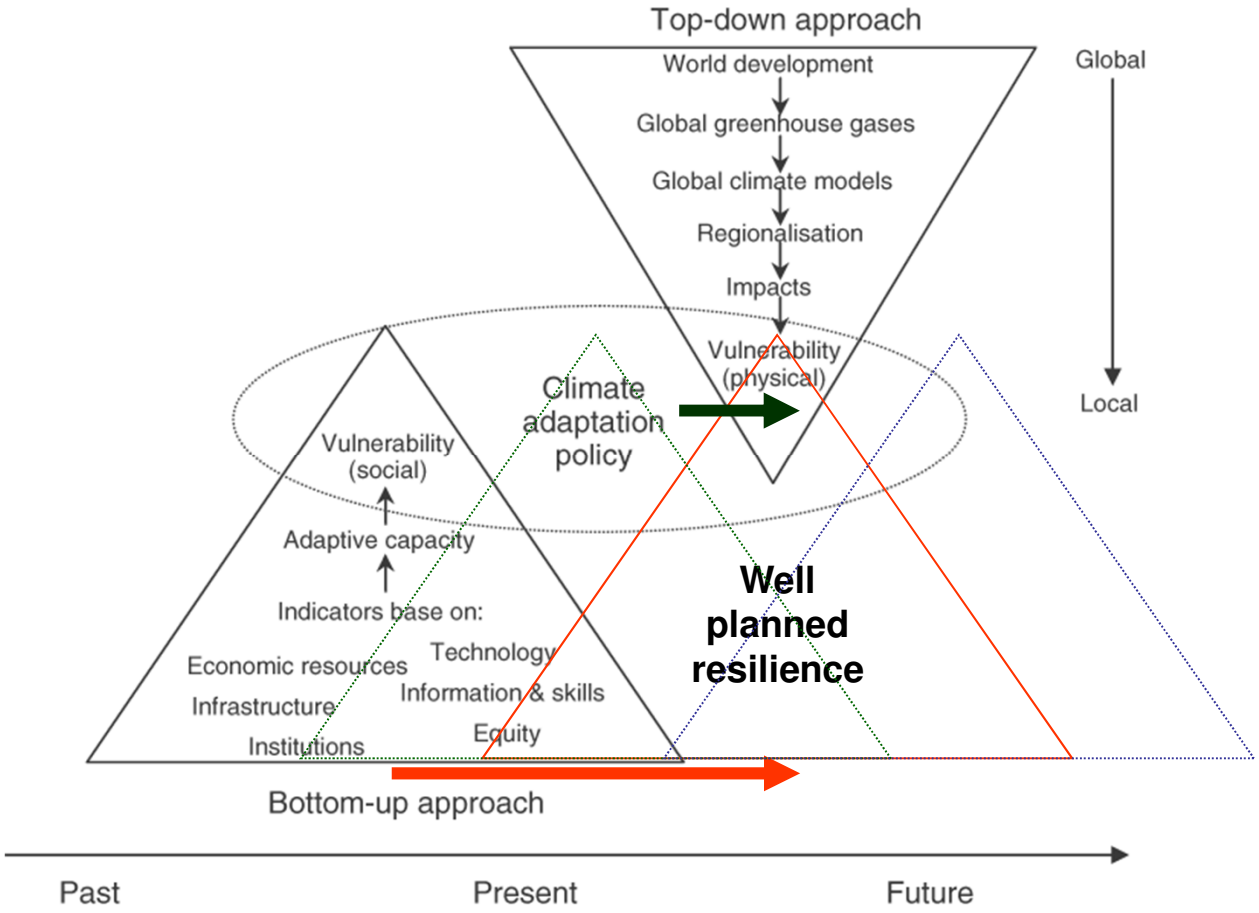


Multi-stakeholder (participatory) approaches



Source: http://portals.wi.wur.nl/msp/?page=1211

A resilience approach



Climate as a resource

What we can do locally

- **Some basic inputs**
  - Carbon
  - Water
  - Solar energy
- **It's how we manage these that matters**
  - *Fire and water are good servants but bad masters* (Aesop, 620–565 BC)
  - *Fire, water and climate are good servants but bad masters* (Glantz, 2005)

Developing response capacity

A climate for change

- **Leadership**
  – Make leaderfulness present throughout the community
- **Vision**
  – Design the community's preferred future
- **Community**
  – Organise networks and movements, identify and amplify the hubs of know-how, influence and coordination

From 'The shift is on to Craft Communities – in Organisations and Places' by Robert J. Leaver, www.newcommons.com

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The luxury of choice

These people have the option of being proactive

These people have no option but to be reactive

Every situation is different…

we need to work with that diversity

“Imagination is more important than knowledge. Knowledge is limited.”

Albert Einstein

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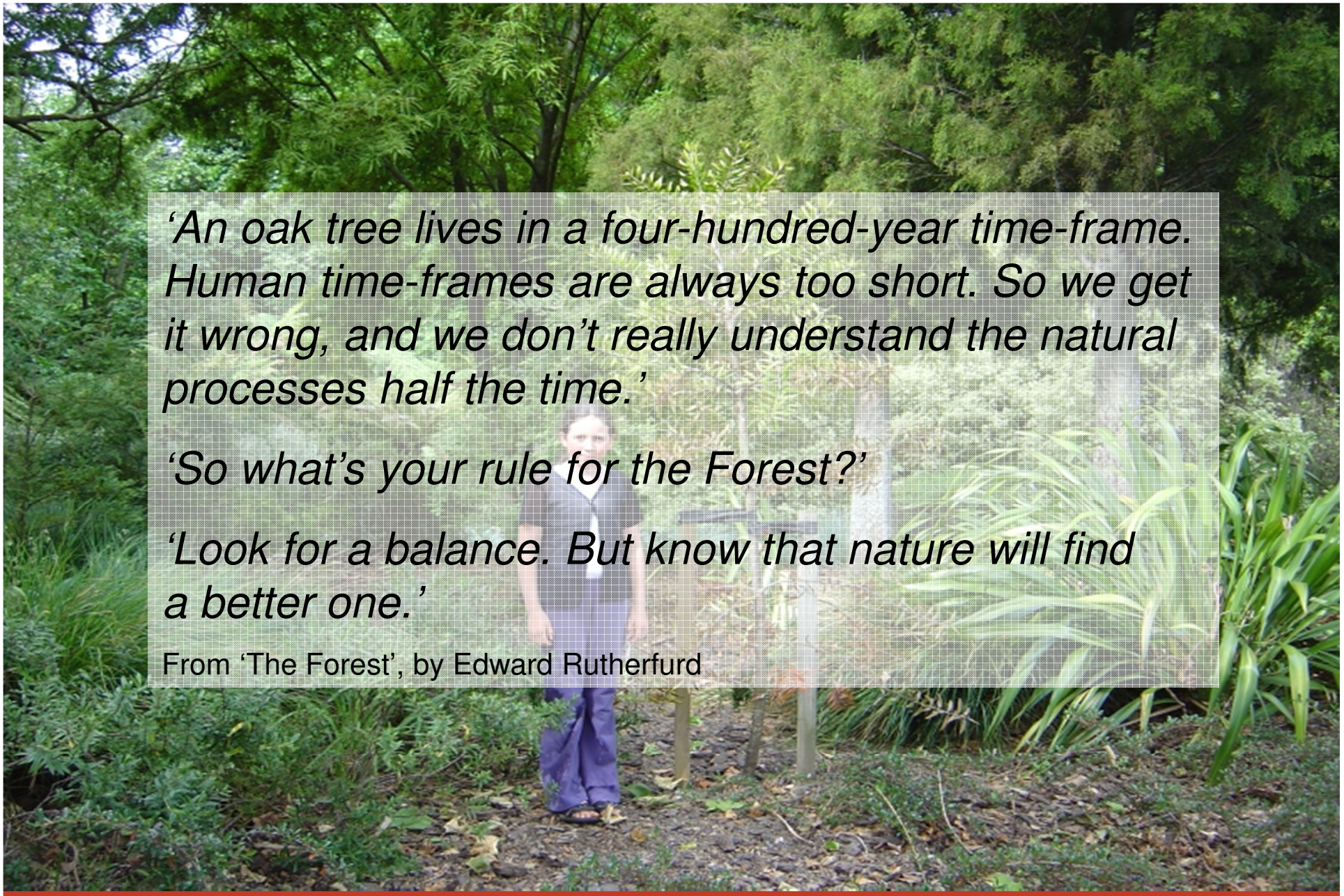
Some on-going challenges

- Crisis provides a learning opportunity
- Everyone has a point of view
- Innovation requires a change of thinking
- Action is increasingly a necessity

Key points

- Future visioning is vital
- Resilience building – action focus
- The need to be more aware of the psychology of change
- Identify and engage with innovators whose actions are consistent with future vision
- Participatory approaches need to be fully understood and applied for an effective integrated approach



'An oak tree lives in a four-hundred-year time-frame. Human time-frames are always too short. So we get it wrong, and we don't really understand the natural processes half the time.'

'So what's your rule for the Forest?'

'Look for a balance. But know that nature will find a better one.'

From 'The Forest', by Edward Rutherfurd

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A climate resilient Mauritius?

- Coastal environment (including fisheries)
- Water resources
- Land management (agriculture, land use change, forestry)
- Health and well-being
- Biodiversity