

Understanding climate vulnerability to support climate adaptation and development

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Why explore vulnerability?

- Need to understand both the physical and social aspects of risk(s) in order to decide how to act
- Recognise inherent complexity and uncertainty in evolution of various factors
- Identify how to build adaptive capacity to deal with new and emerging risks associated with climate change
- Inform targeted interventions

6 attributes of vulnerability

1. Differential exposure
2. Exposure to multiple stresses
3. Dynamic process
4. Rooted in the behaviour & decisions of actors
5. Driven & bounded by social networks
6. Constructed simultaneously at number of scales

(Downing et al, 2006)

Investigate...

- the different stresses that people in the area are vulnerable to i.e. adapt to what?
- the dynamic and multi-scale nature of this vulnerability i.e. vulnerable how?
- the capacity of vulnerable groups to respond to various stresses and threats i.e. vulnerable why?
- the adaptation choices that are made by different groups i.e. who adapts, how, when... why?

Instructions...

In your case study groups, revisit the vulnerability matrix you prepared on day 2...

1. develop a set of questions to collect primary data on key aspects of current vulnerability &
2. identify which actors / stakeholders you would address these questions to

Scenarios

<http://www.youtube.com/watch?v=vJ8leCy7Qvc>

Resilience: How is scenario planning useful?

Garry Peterson

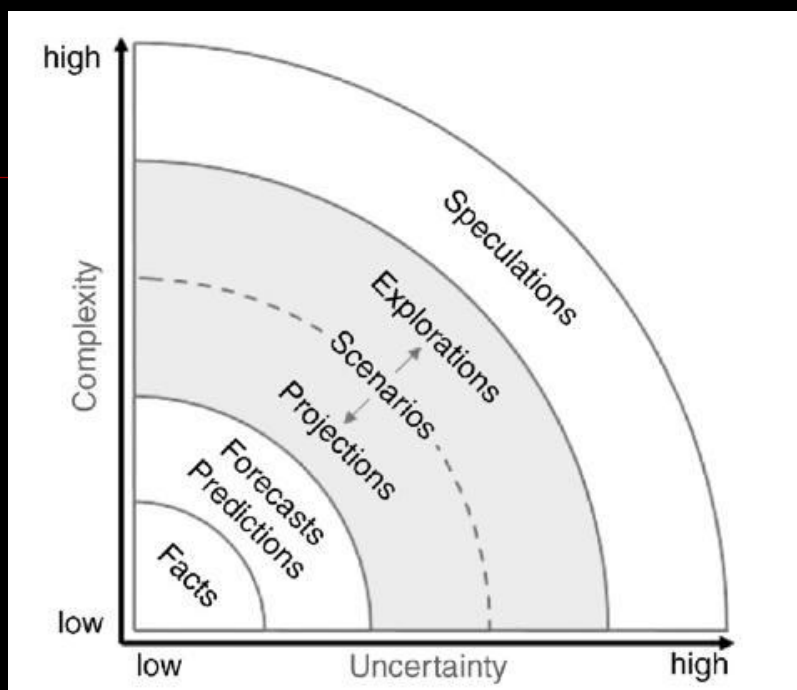
The role of scenarios

The limits of prediction

- Complex socio-environmental processes
- Surprise and the kinks of history

The nature of scenarios

- Vision of a future time
 - Sufficiently beyond the present to not be inherently predictable
- Internally consistent
 - Plausible relationships between elements, multiple attributes
- Policy-relevant not policy-prescriptive



Scenario methodologies

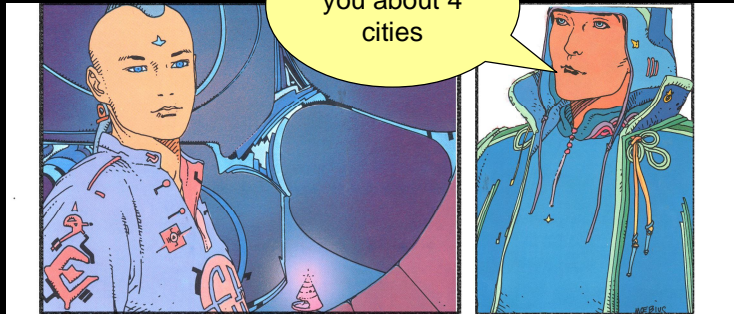
- Visions and back-casting
- Model simulation and probability
- Worst case
- Stakeholder-led/interactive
- Role playing, gaming

Scenario examples

- Venetian visions (Ulysses)
- Climate change
 - IPCC
 - Long term mitigation scenarios (DEAT)

VISIONS OF VENICE, 2050

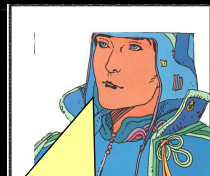
Tonight I'll tell you about 4 cities



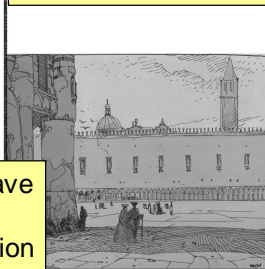
Marco Polo tells Kublai Kan...

Visions of Venice 2050

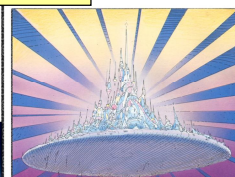
Tourism has trickled to a small fraction



Living conditions have deteriorated...
Air and water pollution significantly affect human and ecosystem health
Traditional activities close down
Building Decay



Emigration increases



A 'new Venice' in the mainland is created to preserve the cultural heritage

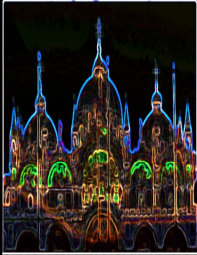
Gotham City

Visions of Venice 2050

Venice became a cultural park and a museum city: one of the 4 most important tourist destinations of the world

Corporations dominate economy and city life

Venice is a stage where the whole population acts in a gigantic performance



Carnival takes place 4 times a year

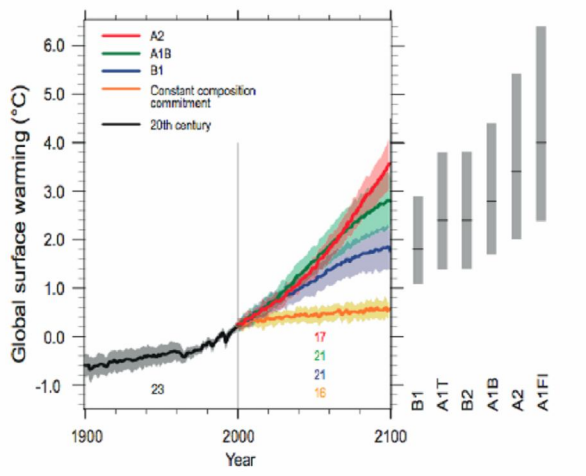


Floods and high tides become tourist attractions



Venezia Inc.

IPCC: Global mean surface temperature



A2 – local economic growth, high pop growth, low technological change

A1B – High economic growth, low pop growth, efficient technology

B1 – Sustainable development, low pop growth, high economic growth

Scenarios for adaptation planning

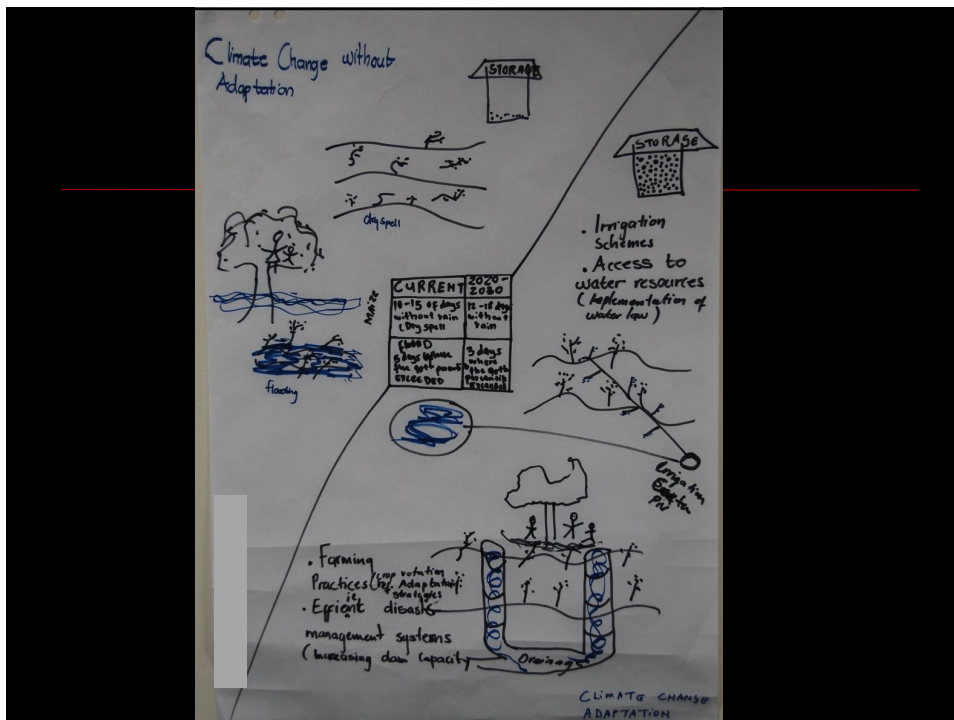
- Vehicle for exploring socio-economic futures in relation to change in climate
- Different stakeholders' perceptions
- Help to create shared vision
 - Recognition of differential vulnerability
- Recognises the dynamic nature of vulnerability

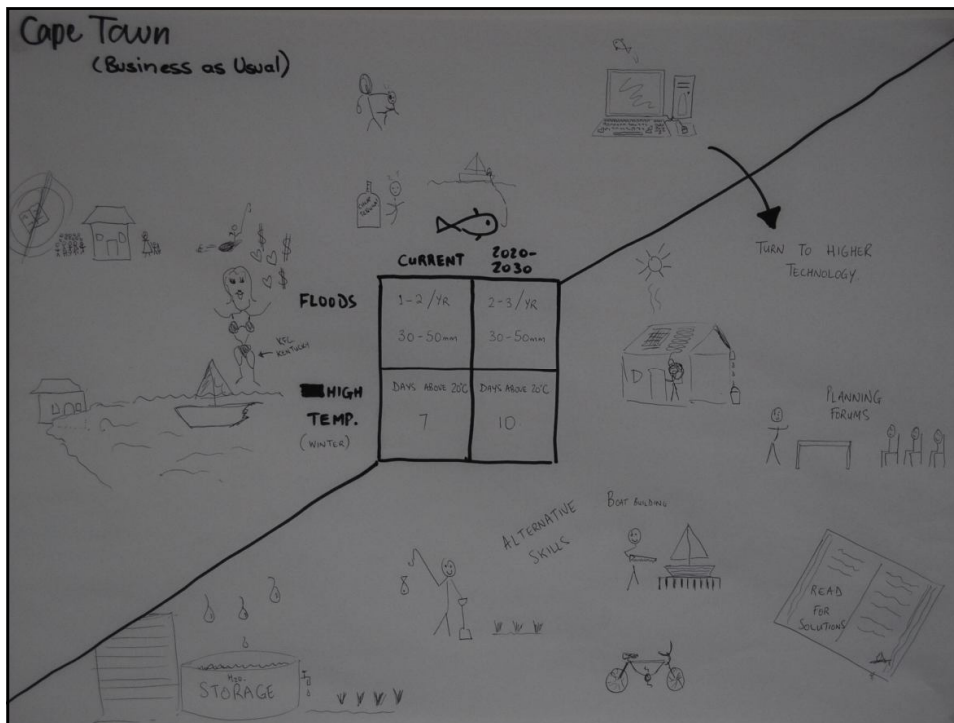
Adaptation planning

- Current understanding of vulnerability explored for different pathways into the future
- Future state
 - Different climate futures
 - Impacts of different adaptation responses
- Underpin adaptation plan
 - What is needed to get to desired state
 - What is needed to avoid future impacts

Exercise

- Case study groups
- Explore 2 futures for 2020
 - 1 where adaptation has occurred
 - 1 where adaptation has not occurred
- Graphically represent these 2 futures
- Annotate what an outline of an adaptation plan would be in order to ensure desired adaptation occurs





ADAPTATION STRATEGIES

1. BUILD CAPACITY THROUGH SKILLS DEVELOPMENT. (ASGISA) ^{FUNDING}
 2. DEVELOP REFLEXIVE ENVIRONMENTAL COMPETENCE
 3. BUILD INFORMATION EXCHANGE NETWORKS BETWEEN COMMUNITIES
 - STAKEHOLDER INPUT & CONSULTATION.
 4. BUILD IN SOCIAL LEARNING PROCESSES (PARTICIPATION)
 5. GOVT & OTHER ROLE-PLAYERS TO ASSIST WITH RESOURCE PROVISIONING
 6. BUILD SUPPORT STRUCTURES
 7. BUILD IN MONITORING & EVALUATION
 8. DEVELOP WIN-WIN SITUATIONS
 9. DEVELOP EDUCATION AROUND CLIMATE CHANGE
 10. ENCOURAGE TECHNOLOGICAL INNOVATIONS AIMED AT DEALING WITH CLIMATE CHANGE & VARIABILITY.
11. DEVELOP TOOLKIT TO BE USED BY INDIVIDUALS & COMMUNITY
 12. ENCOURAGE SUSTAINABILITY AT ALL LEVELS
 - USE BOTH SIDES OF YOUR PAPER.
 - SWITCH OFF UNNECESSARY LIGHTS / PHONES.
 - SAVE H₂O