Coastal Risks and Protecting Infrastructure Assets

What are we trying to protect, why, and what can we do?

Carmen Elrick
Senior Consultant
Coastal Zone Management Pty Ltd

Overview

- A misleading title?
- Are we asking, and answering, the right questions?
- Approaches, at home and away.
- Progress in the adaptation journey.
- Where to from here?

What are we trying to protect? Why?

- Easy questions, difficult answers.
- So what have we been doing to answer these questions, if anything?

- Focus on infrastructure
  - In this presentation title
  - And in the field of climate change adaptation

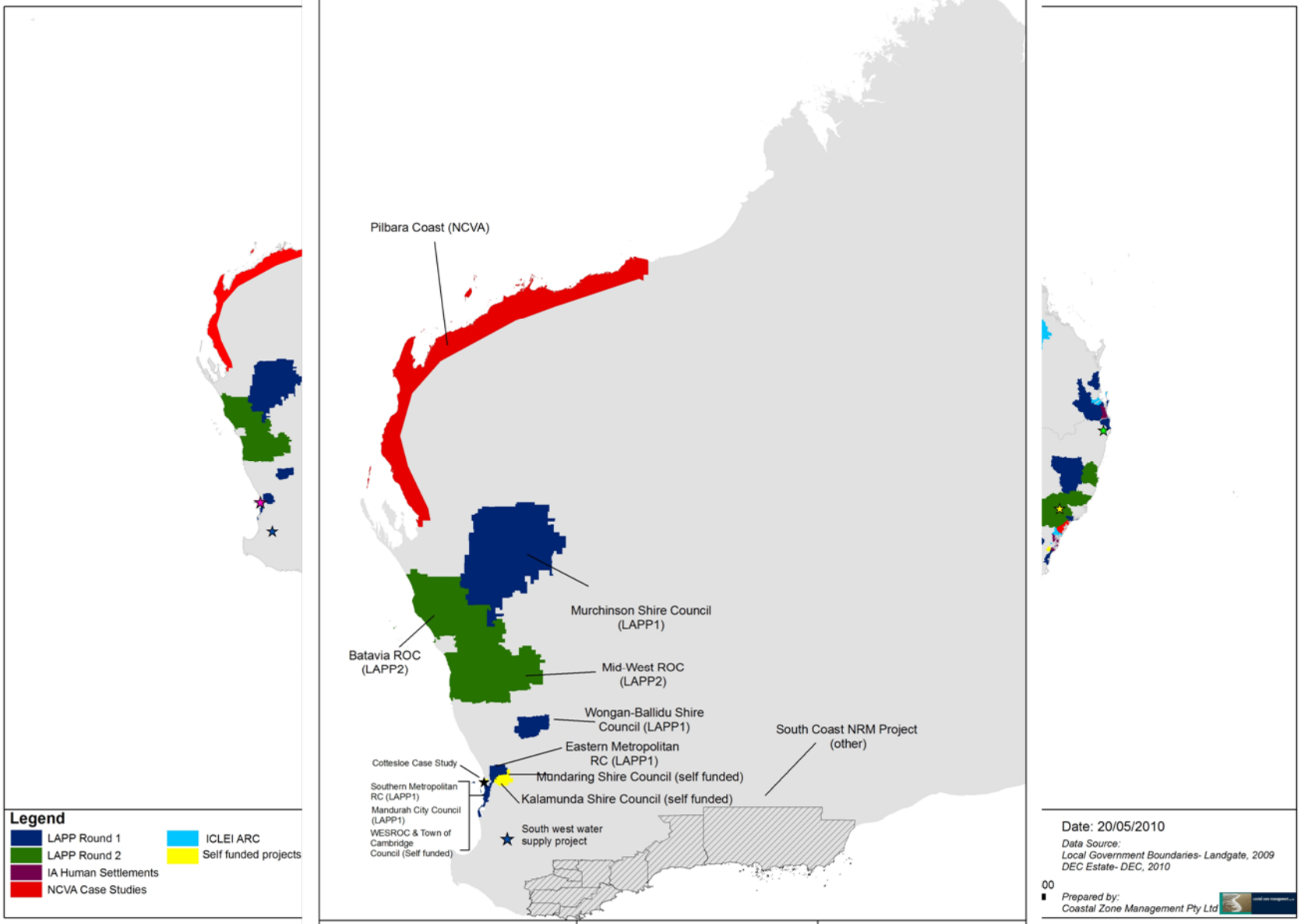
- Why?
  - Links to social and economic objectives
  - Tangible, easiest to evaluate impact
  - Can demonstrate a ‘case’ for infrastructure protection……..

But

- Decision making is more complex
  - No simple linear relationships between infrastructure and social and economic benefits
  - What about?
    - Environment
    - Culture
    - Values/perceptions
    - + other considerations?

What's happening in Aus?

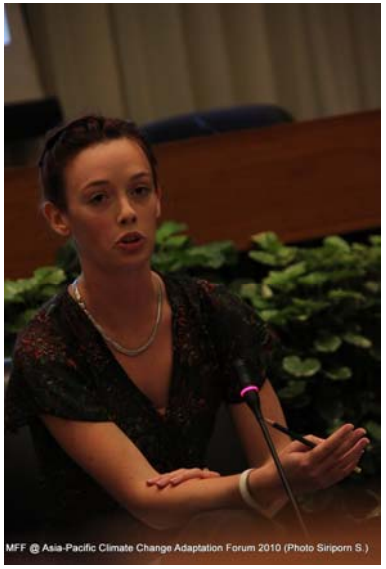
- Have we been moving beyond infrastructure to understanding the complex interactions of systems in our adaptation planning?


Pilbara Coast (NCVA)
Murchinson Shire Council (LAPP1)
Batavia ROC (LAPP2)
Mid-West ROC (LAPP2)
Wongan-Ballidu Shire Council (LAPP1)
South Coast NRM Project (other)
Eastern Metropolitan RC (LAPP1)
Cottesloe Case Study
Mundaring Shire Council (self funded)
Southern Metropolitan RC (LAPP1)
Kalamunda Shire Council (self funded)
Mandurah City Council (LAPP1)
WESROC & Town of Cambridge Council (Self funded)
South west water supply project
Legend
LAPP Round 1
LAPP Round 2
IA Human Settlements
NCVA Case Studies
Local Government Funded
Other
NCCARF
ANU
Integrated Climate Change Adaptation Projects in Western Australia
N
0 50 100 200
Kilometers
Date: 16/03/2010
Data Source:
Local Government Boundaries Landgate, 2009
Prepared by:
Coastal Zone Management Pty Ltd
Legend
LAPP Round 1
LAPP Round 2
IA Human Settlements
NCVA Case Studies
ICLEI ARC
Self funded projects
Date: 20/05/2010
Data Source:
Local Government Boundaries- Landgate, 2009
DEC Estate- DEC, 2010
Prepared by:
Coastal Zone Management Pty Ltd

- Risk based approach dominant
- Good but not great
- A linear approach
- Complexity not well incorporated

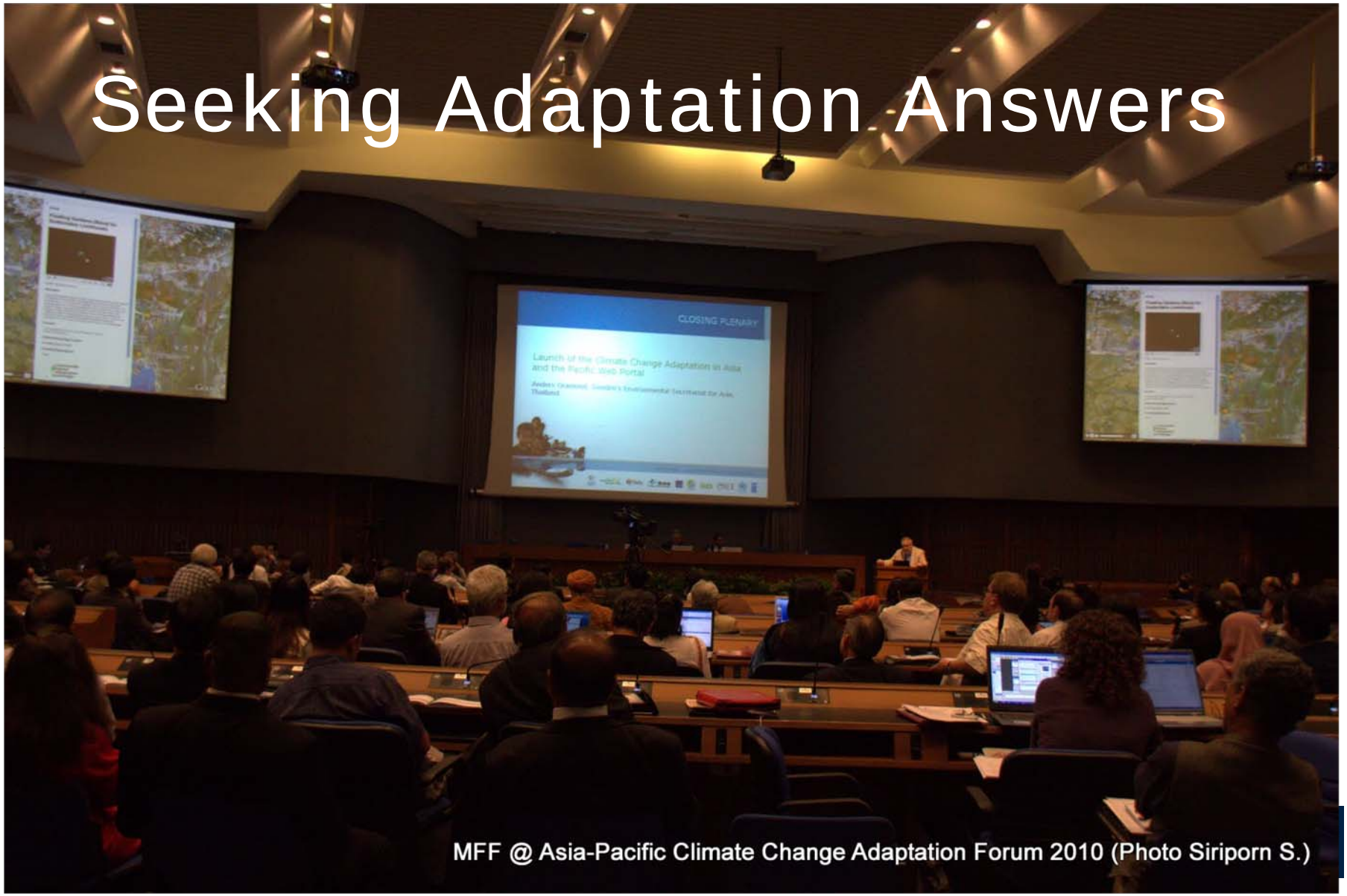
What's happening elsewhere?

- Asia-Pacific Climate Change Adaptation Forum
- Risk based approach dominates
- Not tied to one framework
- Multiple approaches
  - Vulnerability and adaptation
  - Community based adaptation
  - Resilience based approaches



coastal zone management pty ltd

Seeking Adaptation Answers



MFF @ Asia-Pacific Climate Change Adaptation Forum 2010 (Photo Siriporn S.)

Interesting Metaphor

- Adaptation community is in pre-primary.
- Wants to get a PhD.

coastal zone management pty ltd

A Journey

- An important issue.
- One to take together.
- Most successful if specific about ‘what’ adaptation for ‘what’ purpose.
- Connecting knowledge to action.

- Promote a shared journey of discovery.

coastal zone management pty ltd

Commencing the Journey

- Mainstreaming is the key to sustainable investments in CCA
  - Capacity building approach to risk assessment
  - Skill transfer – connecting knowledge to action
  - Ownership is the key to success – direct the what and the why

Tools to build capacity

- Internal involvement – focal points
- Tools to own and operate
  - For example, Adaptation toolkit
    - Demonstrates complexity
    - Importance (in terms of risk treatment) vs barriers (to implementation)
    - Transparency in decision making
    - Allows modification and tailoring to context
- Internal leadership

GENERAL OPTIONS

G01 - Ensure quality and validity of information sources for decision making
G02 - Disseminate information on implementations of identified risks of climate change within the WESROC region
G03 - Communicate with/educate rate payers and residents on climate change risks and adaptation activities
G04 - Communicate with key service providers to facilitate a 'hared care' approach to the management of the impacts of climate change on key services within the WESROC region
G05 - Establish/strengthen relationships with community groups to facilitate monitoring activities, raise awareness and participate in adaptation strengthening activities
G06 - Strengthen the profile of climate change and capacity building within local government
G08 - Communicate with and lobby State government to take leadership action on climate change
G09 - Review insurance coverage of council assets and liability

INFRASTRUCTURE AND PROPERTY SERVICES

IPS01 - Review the structural integrity of existing defence structures
IPS02 - Monitor changes in condition of infrastructure items (i.e. roads, council buildings, transport and lighting) so that any modifications/retrofitting occurs on time and prior to failure
IPS03 - Improve storm water capture and reuse
IPS04 - Encourage state and federal departments (Building Design Code of Australia, Planning & Infrastructure, Health, Housing) to review and amend design specifications (retrofitting existing developments and provisions for new developments)
IPS05 - Review geotechnical information and establish information gaps and needs
IPS06 - Investigate opportunities to adopt alternate technologies, which increase resilience to projected climate change impacts
IPS07 - Investigate opportunities to improve waste collection, management, reuse and recycling
IPS08 - Investigate opportunities for increased grey-water re-use and recycling

PLANNING

PPD01 - Incorporate climate change scenarios into policy and decision making processes (planning specific)
PPD02 - Modify council planning approval process

HEALTH AND COMMUNITY SERVICES

H01 - Educate the community and local government staff on health related impacts of climate change
H02 - Modify work practice to reduce community and staff vulnerability to the impacts of climate change
H03 - Monitor change in human health and/or key determinants effecting human heath (ie water quality)

EMERGENCY MANAGEMENT

EM01 - Review and update disaster planning and management

NRM

NRM01 - Review current plans and strategies to incorporate local climate change impacts into NRM plans
NRM02 - Increase community awareness of the potential impacts of climate change to encourage private land conservation
NRM03 - Establish coastal and/or estuarine monitoring program
NRM04 - Protect species/ecosystems through active management controls, as appropriate
NRM05 - Increase feral animal/weed management control
NRM06 - Enhance coastal and estuarine foreshore management

RECREATIONAL SERVICES

R01 - Investigate opportunities to enhance water management
R02 - Investigate opportunities to maintain adequate public open space/landscaped areas and street trees
R03 - Monitor change in public open space (in particular, coastal erosion and condition of recreational facilities
R04 - Allocate resources to support maintenance and provision of recreational facilities

Success, yes! Finished, no!

- This has been successful.
- Progress in integration – mainstreaming
- But…. It remains a long journey

Adaptation Leadership

- City of Mandurah
  - Coastal Climate Change Risk Assessment and Adaptation Plan
  - Mainstreamed adaptation outputs across organisation – risk register
  - Policy under development
  - Guidelines under development
  - Continual learning and improvement

2008: Commence Coastal Climate Change RA

2009: Complete Coastal Climate Change RA

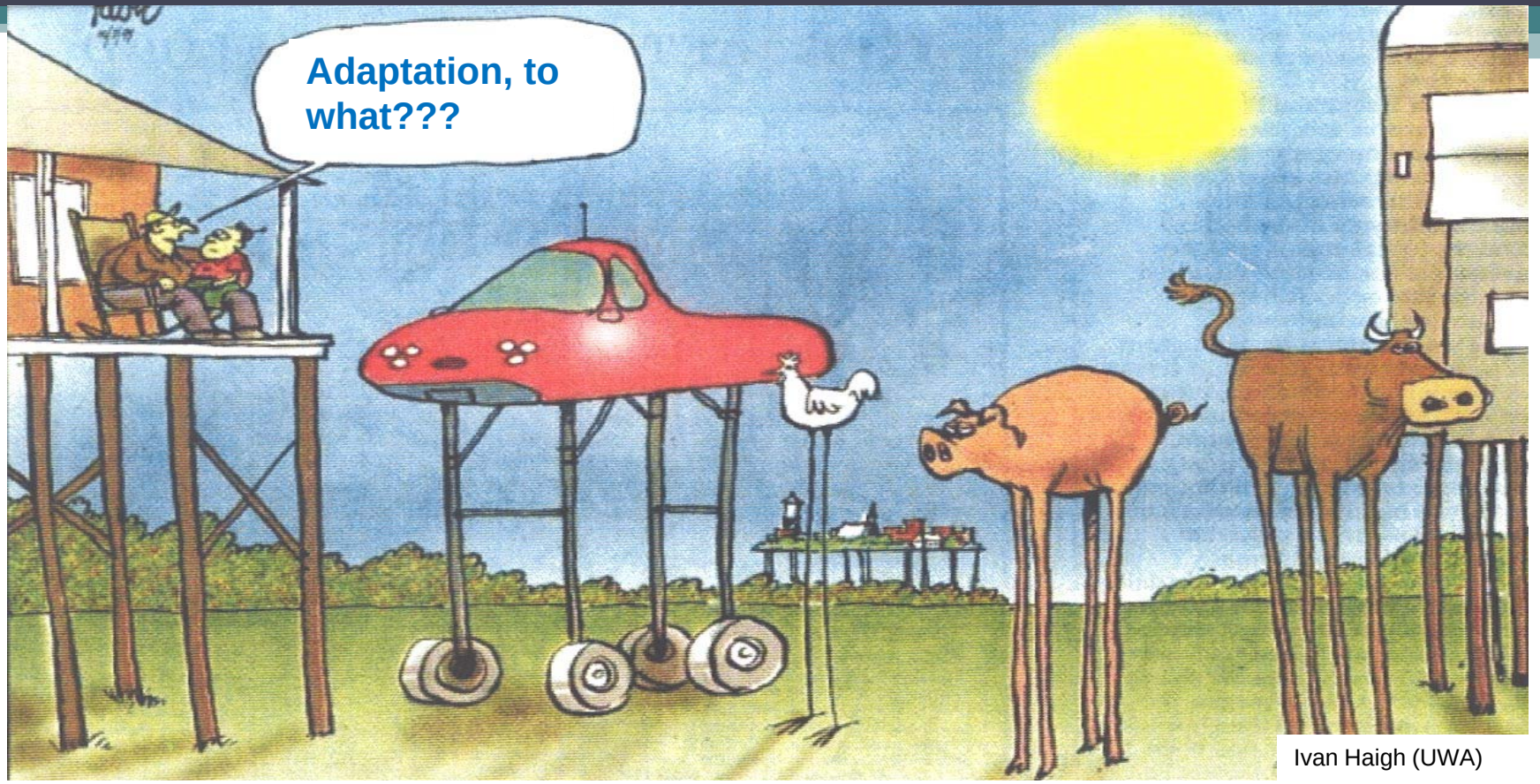
2010: Mainstreaming; Risk Register Policy

Future: Broaden RA Regional Collaborations

coastal zone management pty ltd

Where to from here

- Learn from others
- Broaden the adaptation agenda – and toolkits
- Create a collective curriculum to progress the adaptation journey



Ivan Haigh (UWA)

CONTACT DETAILS

Carmen Elrick
Unit 1/237 Stirling Hwy
Claremont, WA, 6010
Carmen.elrick@coastalmanagement.com

coastal zone management pty ltd