



IPWEA

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA



IPWEA Climate Change Workshop

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Workshop Outline

1. Overview workshop objectives and process
2. Contingent CC assessment for my council (LGAQ guide + Innovation + Talk/learn)
3. Review the guiding concepts: risk mgt; adaptation; mitigation; innovation; talk/learn
4. Identify CC issues priorities for my community?
5. Outline CC policy implications/strategy options
6. Discuss my role as an institutional champion to inspire and gain support from others

Workshop Objectives

IN TWO (?) HOURS:







1. Identify most likely Climate Change events impacting my community.
2. Outline %RAMIT+(risk-adaptation-mitigation-innovation-talk/learn) options.
3. Present policy development/strategy implementation options for my council.
4. State what I will do to make a difference re CC, and what I will ask of others.

Group discussions: Comparable Councils

1. To identify what you believe your council & response to CC should be covering:
 - ” Risk Management
 - ” Adaptation
 - ” Mitigation
 - ” R&D/Innovation
 - ” Talk/learn
2. Outline how you will:
 - ” Engage others, and
 - ” Recommend a CC policy position to your council

Assessing climate impacts

(from LGAQ (2007) *Adapting to Climate Change: A Qld Local Government Guide*)

<i>Climate change element</i>	<i>Specific areas/ locations vulnerable</i>	Nature of the impact	
		<i>Sudden, extreme event</i>	<i>Gradual, long term change</i>
Cyclones & storm surge	Yes		
Storms (& flooding)	Yes		
Increasing temps	No		
Heat waves	No		
Decreasing rainfall	No		
Sea level rise	Yes		

Local Government Engineering Strategies to Adapt/ Respond to Climate Change in Terms of Particular Climatic Events

Type of community		Flood	Drought	Fire	Wind
Capital City	coastal				
	inland				
Regional city	coastal				
	inland				
Small town	coastal				
	inland				

Workshop process/task

- Find colleagues (4-6) from councils in similar types of geography (inland/coastal; hinterland; urban developed; tropical /temperate etc etc)
- **FIRST GROUP TASK:** Identify 3 to 5 common Climate Change issues in your **TYPE OF REGION** (appoint a scribe to take notes to tell the rest of us about them)

What is risk?

Risk = Likelihood x Consequences

See AS/NZS 4360:2004

Likelihood

Level	Description	Frequency
Very Likely	Expected to occur always	Daily occurrences
Likely	Will probably occur often	Regular instances
Possible	Might occur at some time	Some local history
Unlikely	Could occur, but not likely	No local history; elsewhere
Very Unlikely	Only occur exceptionally	Never recorded anywhere

Consequences

CONSEQUENCE CRITERIA	MINOR	LOW	MEDIUM	HIGH	EXTREME
	Not really worth worrying about	Consequences readily absorbed but management effort to minimise impact	Significant event, which can be managed under normal procedures	Critical event, with proper management, will be endured	Disaster will lead to collapse
Environmental Nuisance to material or serious environmental harm. (Can also be defined by the Environmental Protection Act 1998)	No harm to the environment	Environmental nuisance or some minor physical environmental damage	Material environmental harm with medium term impacts (< 3 years)	Serious environmental harm with long term impacts (> 3 years)	Uncontrolled toxic release, never able to be restore at all
Human Health & Safety No injuries to fatalities. How would the health & safety of employees or local community be compromised or impacted?	No or extremely low potential for health impact	Nuisance that has potential for health impacts	Exposure results in high potential or immediate health impact, medical treatment may be sought	Immediate health or safety impact, or potential for, of an extreme nature, immediate intervention required	Fatalities or potential for fatal health impact
Economic Cost to community & businesses, fines, Council financial resources, clean up & repair costs (potential litigation expenses <u>not</u> included)	Less than \$1,000	\$1,000 < impact < \$10,000	\$10,000 < impact < \$100,000	\$100,000 < impact < \$0.5M	Impact > \$0.5M
Strategic Significance Threat to Council or Community Assets (How important is the issue to Council?)	No local law or state regulation governing the issue	Local law or state regulation developed to address the issue	Specific Council policy or operational priority (key focus area or strategy)	Immediate impact on Council / Community asset (major focus area or strategy)	Long-term, detrimental impact on public view of area, impacting viability of the area
Community Exposure To differentiate between isolated incidents and broader community impacts	Localised impact Single complaint & single source	Localised impact Multiple complaints <3 & single source	Localised impact Multiple complaints >3 or multiple sources	Suburban/wider community impact	City wide / Regional community impact

Risk Assessment Example

Probability	Consequences				
	Minor	Low	Medium	High	Extreme
Very Likely	Low	Medium	High	High	Extreme
Likely	Low	Low	Medium	High	Extreme
Possible	Minor	Low	Medium	High	Extreme
Unlikely	Minor	Low	Medium	Medium	High
Very Unlikely	Minor	Minor	Low	Medium	High

Risk Management

(Name/describe climate event) Likelihood of this event occurring?	Describe the consequences of this event				
	Minimal	Low	Medium	High	Extreme
Very likely					
Likely					
Possible					
Unlikely					
Very unlikely					

Workshop process/task: Risk Assessment

- SECOND GROUP TASK:
- Using one or two of the climate change issues identified by your table group prepare a risk assessment.

What is adaptive management?

- Implementing policies as experiments
- Is learning while doing: does not postpone action until ~~enough~~ is known
- Acknowledges time and resources are too short to defer *some* action
- Systematic monitoring to detect surprise
- Integrated assessment to build system knowledge

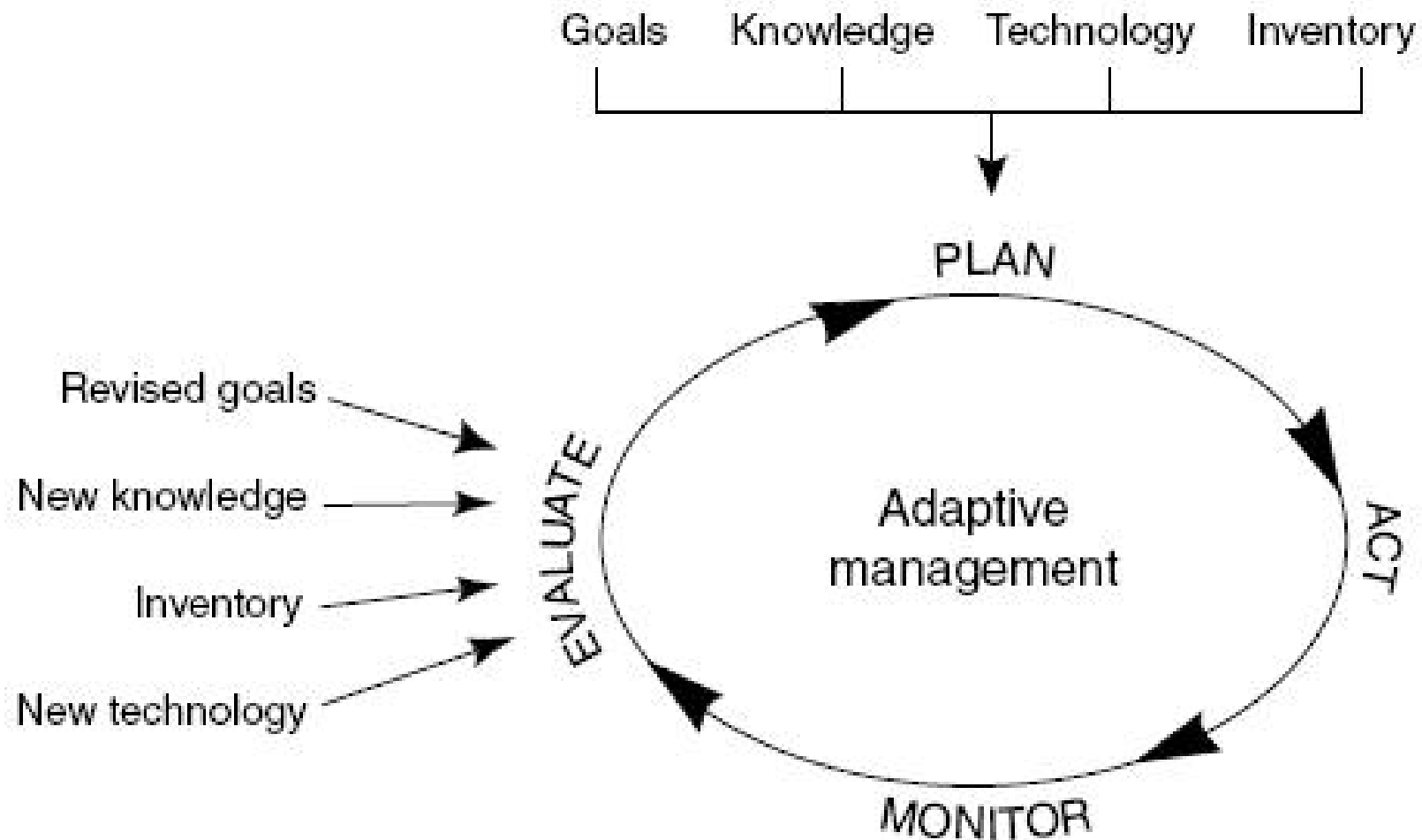
(after K Lee (1999) ~~Appraising adaptive management~~ in *Conversation Ecology* 3(2))

Principles of governance to respond to climate change (Costanza 2000)

1. Access carries attendant responsibilities
2. Institutions match the scale of the problem
3. In the face of uncertainty err in caution
4. Acknowledge uncertainty adaptive mgt
5. Full cost allocation of resource use
6. All affected stakeholders participate

“the remedy is in progressive adaptation and innovation in institutional arrangements ”

Adaptation Planning & Management



Workshop process/task: Adaptation strategies

THIRD GROUP TASK:

- What are several immediate adaptation strategies that can be made by your council to address a specific CC issue?
- What needs to happen for this strategy to be implemented by your council (within current org processes? With support of additional resources? By third parties/private sector?)

What is CC mitigation?

- Mitigation involves attempts to slow the process of global climate change by lowering the level of greenhouse gases in the atmosphere.
- What is your council's energy use?
- How dependent is your council on fossil fuels?
- How can you reduce this dependency (and cost under an emissions trading scheme)?

Workshop process/task: Mitigation

FOURTH GROUP TASK:

- Do you know what your council's current GHG emissions are?
- How will you build an effective GHG monitoring process across council?
- What specific things can your council do to reduce its GHG emissions?
- What can your council do to show leadership for others to develop GHG reduction strategies?

Why innovate, undertake local climate change R&D?

- As CC impacts is about changing probabilities of events it is important to be innovative about the way we undertake local R&D.
- These local efforts inform both local policy makers and the community of what is likely to occur and how they should respond

Workshop process/task: Innovation/R&D

FIFTH GROUP TASK

- How can you learn more about regional Climate Change issues and develop appropriate responses (in-house? Consultants? Local uni/TAFE/schools?)
- How will you direct this inquiry and monitor progress?
- How will you disseminate the information acquired across the broader community?

Why is talk/learn an essential process to deal with CC impacts?

- From adaptive management we know it is about policy experimentation
- We need to learn through responding . talking and learning together creates capacity, leads to resilience, empowers people and communities to act
- The principles of social learning help us to structure the dialogue

Use principles of social learning to engage others

1. Make it a reflective process: question actions, assumptions and values
2. Be systemic: accounts for interdependencies between social and ecological
3. Commit to integrate ideas across intellectual, social and org boundaries
4. Negotiate agendas and indicators of success

Principles of Social Learning

5. Address conflict and tension
6. Learning is participative and adaptive
7. Recognise power relations
8. Support social change by transforming institutions, individuals and groups
9. Respect and value diversity, transparency and accountability

(from V Brown *et al* (2005) *Social Learning in Environmental Management: Towards a Sustainable Future*, London, Earthscan.

Workshop process/task: Talk/learn

- SIXTH GROUP TASK
- What do your specific CC issues suggest to you as to who council should be talking and learning with (farmers? manufacturers?)?
- What institutional arrangements are in place for this conversation/learning (community groups? Landcare? Water wise? Schools? Seniors groups?)
- How will you initiate and maintain this community conversation?

Institutional champion

- Someone who spans functions (technical, management, research, community)
- More likely of success if champion comes from within the council
- Without such a person low likelihood of success
- One of the key factors to address in the addressing CC . LEADERSHIP!!

Workshop process/task: Institutional champion

FINAL GROUP TASK

- What is my role here?
- What am I going to do NOW? Next week?
And into the future?

IPWEA Professional Development

- If you would like to be part of an IPWEA program which documents case studies following the format of this workshop please email Chris Champion (cchampion@ipwea.org.au)
- We will follow up with those that reply and assist them as best we can as they further develop their council's CC policy and strategy
- Thankyou and Best Wishes!