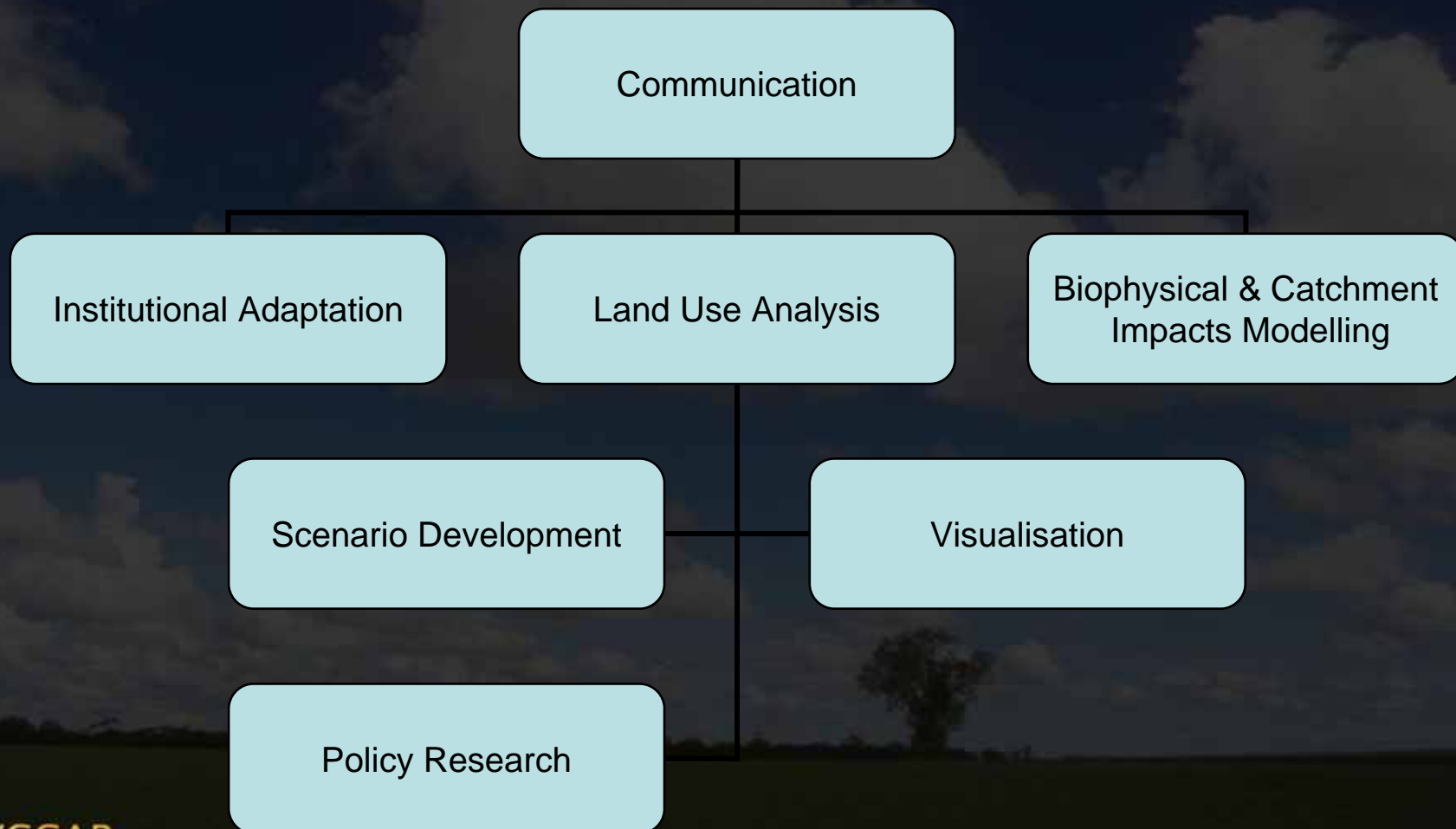


DEPARTMENT OF
PRIMARY INDUSTRIES

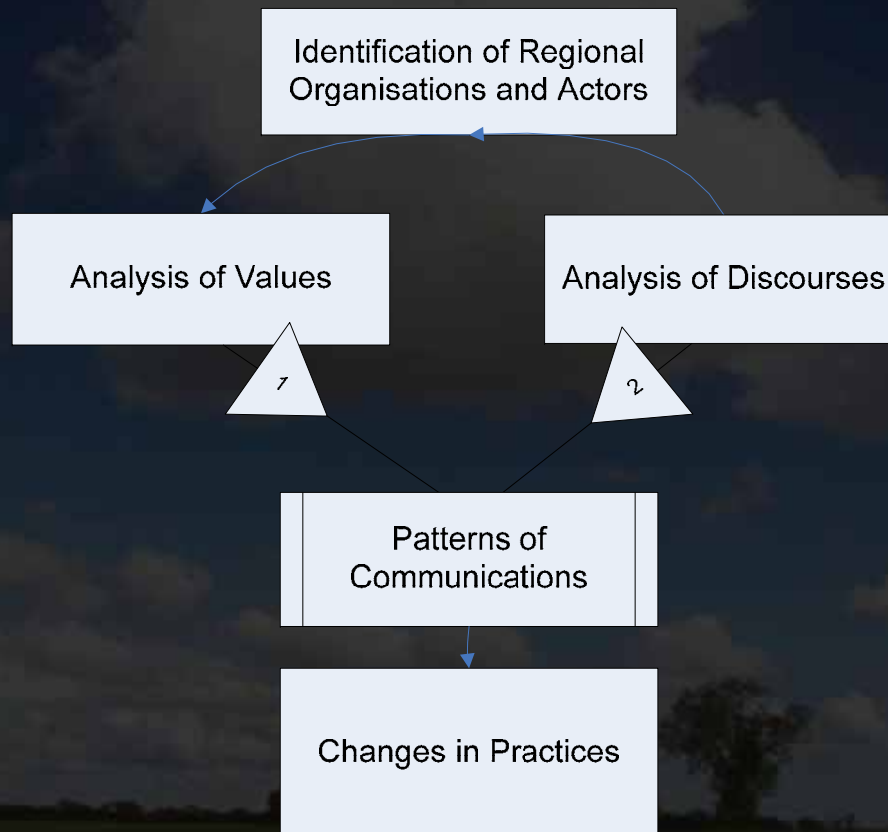
Victorian Climate Change Adaptation Program



Victorian Climate Change Adaptation Program (VCCAP)



Institutional Analysis for Climate Change Adaptation



Institutional Values and Adaptive Capacity

- Are there limits to adaptation?
- Limits to adaptation depend upon the goals of adaptation, which are underpinned by diverse and complex value systems.
- This diversity of values may lead to a paralysis of adaptation actions.

Why values matter

- *Values influence* outcomes considered desirable and are given priority
- Adaptation measures have an impact on what individuals or groups *value*
- *Values change* as individuals and societies develop
- *Differences in values* between urban and rural, generations and social classes as well as scale

A mandate for leadership

Adaptation to climate change is necessary

to address impacts resulting from the warming which is already unavoidable due to past emissions

However:

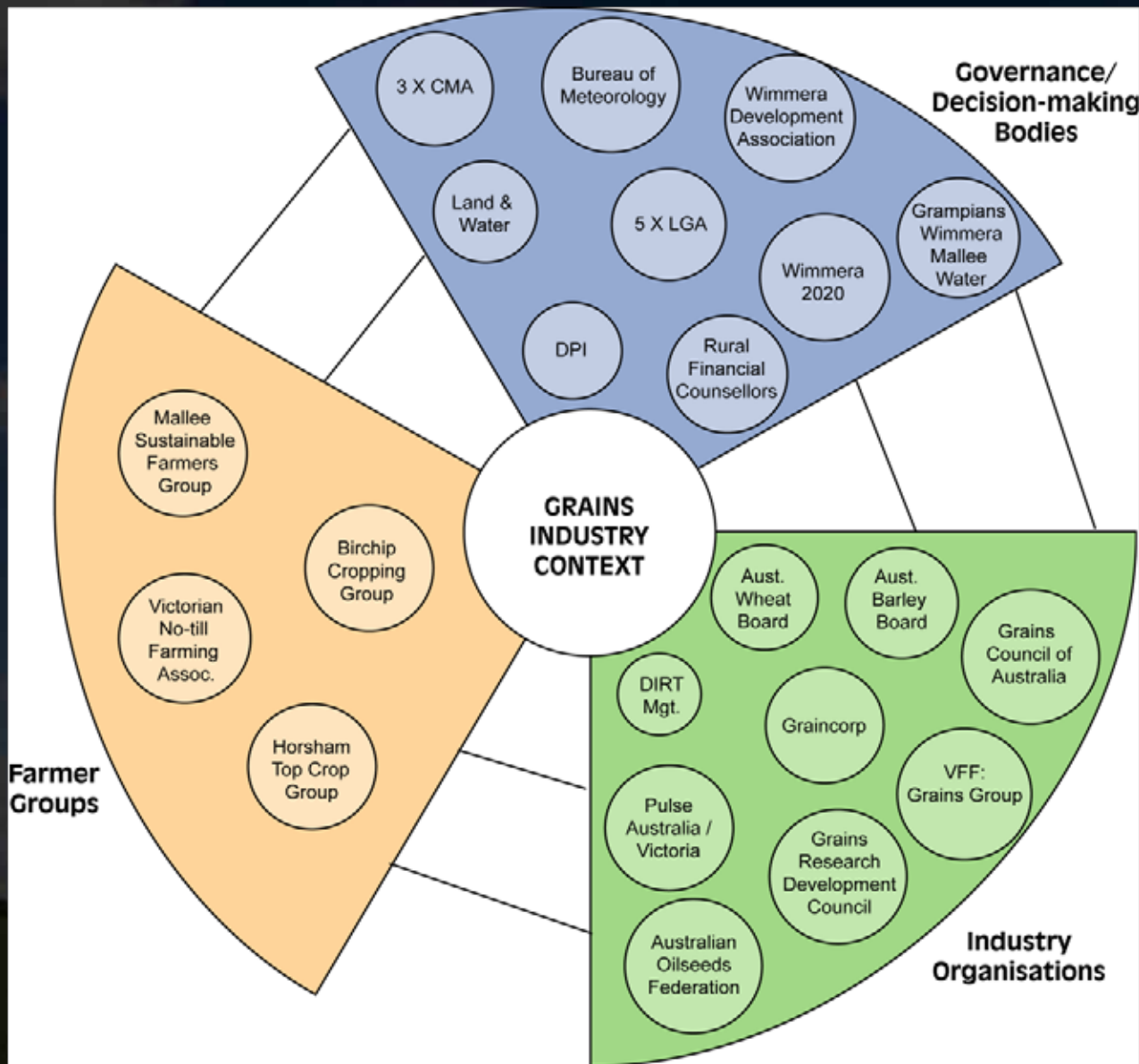
- Adaptation alone cannot cope with the projected impacts
- The costs of adaptation and impacts will increase as global temperatures increase

Making development more sustainable

can enhance both mitigative and adaptive capacity to reduce emissions and vulnerability

IPCC Fourth Assessment Report, Working Group Report, Key Findings

Grains industry north-west Victoria



Definitions

Warming of the climate system is unequivocal.

IPCC Fourth Assessment Report, Synthesis Report

Climate Variability

- Short term aspects in relation to rainfall and temperature with variations from past trends that represents a natural variability
- Recognition that there is likely to be a greater range of weather conditions.

Climate Change

Climate change refers to a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.

It refers to any change in climate over time, whether due to natural variability or as a result of human activity.

Differs from the United Nations Framework Convention on Climate Change (UNFCCC), where climate change refers to a change of climate that is attributed directly or indirectly to human activity.

Farmer Groups

Issues

Marketing

- Pricing of grains and inputs

Technological Innovation

- New technologies that address frost tolerance and low rainfall

Infrastructure

- Freighting of grain

Socio-cultural

- People's non acceptance of climate change
- Gaining acceptance for new technologies

Systemic

- Consideration of whole of system changes

Knowledge

Variability

The earth does have variability and will react to this variability.

Fluctuations in climate and rainfall events.

Climate Change

Whilst sceptical about climate change, there is a strong connection with the weather.

The world has been affected in previous times by similar things thousands of years ago.

Is an environmental change as a consequence of human requirements for resources such as food and water.

Industry Groups

Issues

- Grains marketing
- Capacity to meet international demands
- Introduction of GM crops
- Access to new technologies

- Deregulation of the wheat and barley industries

- Financial viability of farms

Knowledge

Variability

Short term changes from season to season – the point for intervention and adaptation.

Climate Change

Related to the weather – shifts in weather patterns, variations in weather and relationships to long term business planning.

Farmer Groups

Practices - 2006

Communication

- Focus groups to determine what farmers believe will occur (rainfall and temperature) to develop models for adaptation options.

New technologies

- Develop a yield profit program for seasonal variability and climate risk management as a tool for growers.

Policy

- Contribute to committees to develop climate change policies - national and local.

Research

- Identify climate change as a key project and invest in research.

Practices - 2007

Practice Change

- Changing farming practices— increase ground cover and direct drill to avoid dust storms.
- Promotion of whole farm planning.

New Technologies

- Breed more varieties that are drought tolerant.

Communication

- Conduct forums to assist in understanding climate change.
- Conducted a round table conference to identify key issues and climate change took up 50% of the agenda.

Industry Groups

Practices - 2006

Socio-economic

- Encourage geographical mobility – move away from places where climate change has limited resources, particularly rainfall.

New technologies

- Focussed on new varieties that are more drought tolerant and taller varieties of lentils.
- Develop capacity to predict the weather (short-term forecasting tools)

Practices - 2007

New technologies

- Research into how crops respond to higher levels of CO₂.
- Modelling seasonal outlooks and weather forecasting as well as grain marketing based on seasonal variations.
- Research that promotes water use efficiency on farms.
- Commercialisation of new varieties of lentils.

Industry diversification

- Collaboration across industry and government focussed on better integration of enterprises on farms to enable greater flexibility.

Governance Groups

Practices - 2006

- Presentations
 - water conservation, solar energy.
- Lobbying
 - other tiers of govt for infrastructure.
- Engagement
 - with farmers to consider land use practices that impact biodiversity, water quality and soil retention.
- Policy
 - Developing a sustainability strategy.
 - Identifying exceptional circumstances.
- Infrastructure
 - a pipeline to improve reliability of water.

Practices - 2007

- Planning
 - with small regional communities to generate an environmentally sustainable culture in the townships – water and energy savings.
- Facilitation
 - drought relief programs.
- Research
 - An Economic Growth Strategy to produce scenarios for the livestock and grains sector.
- Engagement
 - Hosted a conference on the impacts of climate change on regional Victoria.
 - Discuss potential carbon markets with community groups.
- Policy
 - Establish an environmental committee to discuss sustainability issues.

Traditional Values

Values

- Authoritarian values
- Rule dominated
- Emphasis on group membership/identity

Adaptation Strategies

Recognises local knowledge, supports traditional sectors and livelihoods and preserves cultural icons and identities

Adaptation Strategies

Governance

- *Not sure that climate change has been identified as a task for CMAs*

Industry

- Predicting the impact of weather rather than climate – weather records from different regions combined with weather occurrences to predict what a crop will be like.

Farmer Groups

- Conducted a round table conference to identify key issues and climate change took up 50% of the agenda.

Transformative Values

Values

- Pluralistic worldview
- Recognition of linkages between and among systems
- Emphasis on self-actualisation ie creative adaptation
- Focus on ecosystems, ethical or moral values

Adaptation Strategies

Attention to future generations

Adaptation Strategies

Governance

- Community planning to generate an environmentally sustainable culture

Industry

- Collaboration across industry and government focussed on better integration of enterprises on farms to enable greater flexibility.

Farmer Groups

- Promotion of whole farm planning.

Rational Values

Values

- World centric
- Emphasis on progress, technology & growth
- Focus on self esteem, achievement, respect

Adaptation Strategies

- Considers affect on material well-being

Adaptation Strategies

- **Governance groups**
 - Lobbying other tiers of govt for additional spending on infrastructure.
- **Industry groups**
 - Focussed on developing new varieties that are more drought tolerant and taller varieties of lentils.
- **Farmer groups**
 - Develop a yield profit program for seasonal variability and climate risk management as a tool for growers.

Analysis of Discourses

Genetically modified crops

Capacity to predict seasons

Uncertainty

Natural variations in climate

Values Matter

- Values matter
 - Consider the scale and agency of adaptation decision-making (Governance)
 - When communicating with stakeholders
 - Who communicates – scientists or communicators
 - Who is the target audience
 - Leading or following?
 - Clarification of terms
 - An open and honest appraisal of impacts and adaptation responses
 - Respond to different and dynamic values linked to the perspective of those carrying out the adaptation not to those making the decisions
 - Identify adaptation strategies that recognise and address a spectrum of values