



Australian Government

Department of Agriculture, Fisheries and Forestry

# Risk: communication, perception and policy

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# Overview

## Risk Analysis

### Sociological perspective

- power

### Psychological perspective

- elements of risk perception
- trust
- languages of risk

### Outrage

- components
- reduction

### Conclusions



# Risk Analysis

## Risk assessment

- identifying and estimating the risks associated with an option and evaluating the consequences of taking those risks

## Risk management

- identifying, documenting and implementing measures to reduce these risks and their consequences

## Risk communication

- interactive exchange of information and opinions concerning risk between risk analysts and stakeholders



# Sociological Perspective: communication and power

Trend to empowering individuals,  
decreasing role of the welfare state:

|                      |      | Power delegated to lay public |               |
|----------------------|------|-------------------------------|---------------|
|                      |      | Low                           | High          |
| Level of interaction | Low  | Information                   | Canvassing    |
|                      | High | Consultation                  | Participation |



# Power and risk communication

Four phases in risk communication:

- *stonewall*: ignore public(s) and *tell*
- *missionary*: public ignorant, so *educate*
- *dialogue*: start *listening* to your public(s)
- *organisational*: make risk communication part of *how you work* (plan, budget, reward)



# Example (1)

Shows we intuitively approach several elements of a risk analysis:

## Probability

- likelihood or chance of an undesirable consequence

## Consequence

- type, magnitude and duration of undesirable consequence
- what do / stand to lose?

## Benefit

- what do / stand to gain?
- cost–benefit analysis; expected value



# Example (2)

Shows we intuitively approach several elements of a risk analysis:

## Utility

- individual differences in attitudes to risk
- what risk is 'acceptable'?
  - individual
  - group

## Choice

- voluntary
- imposed



# Psychological Perspective

Slovic's three elements in risk perception

- unfamiliarity
- dread
- number (of people) exposed

*Note changes occur: perception varies depending on time, place*



# Unfamiliarity

- not observable
- unknown to those exposed
- delayed effect
- new
- unknown to science
- uncontrollable
- fear
- globally catastrophic
- fatal consequences
- not equitable
- risk to future generations
- not easily reduced
- risk increasing

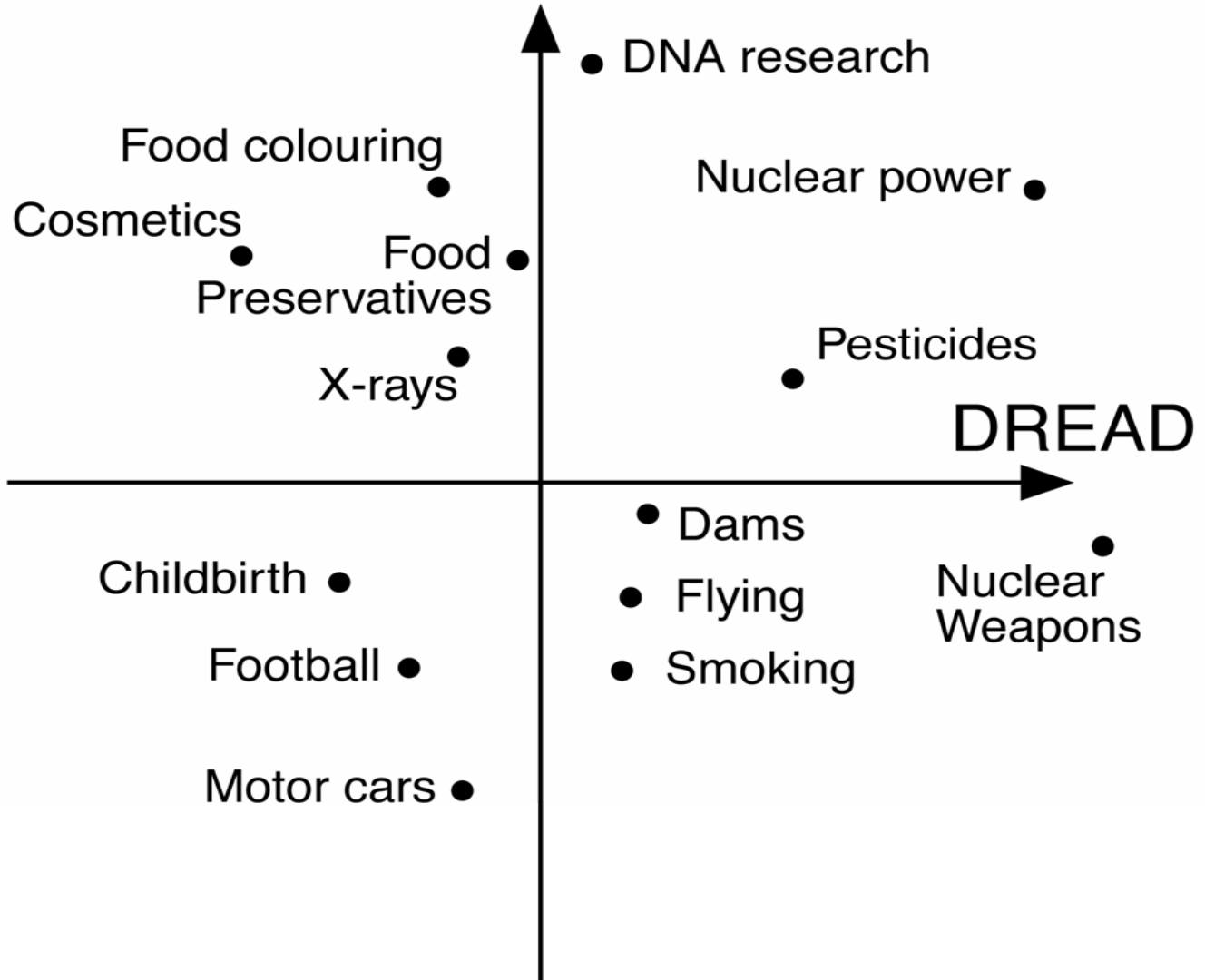


# Dread

- uncontrollable
- fear
- globally catastrophic
- fatal consequences
- not equitable
- risk to future generations
- not easily reduced
- risk increasing
- involuntary
- affects *me*



# UNFAMILIARITY





# Trust

Acceptance of risks depends on confidence in risk management

- this depends on trust (e.g. medical vs industrial uses of radiation or chemicals)

Effectiveness of risk communication is proportional to the amount of trust



# Trust (2)

Trust is fragile: compared to positive events, trust-destroying (negative) events

- are much more visible
- carry much greater weight
- tend to be seen as more credible
- reinforce and perpetuate distrust

In the absence of trust, science (including risk assessment) only feeds distrust by uncovering more bad news



# Two 'languages' of risk

| <b>Expert</b>                 | <b>Public</b>                         |
|-------------------------------|---------------------------------------|
| scientific                    | intuitive                             |
| stochastic                    | yes or no                             |
| acceptable risk               | safety                                |
| changing<br>(new information) | static (is it or isn't it<br>safe...) |
| comparative                   | absolute/discrete                     |
| population average            | personal effects                      |
| a death is a death            | it matters how we die                 |



# Outrage

## Sandman's equation

Risk = Hazard + Outrage

$R = f(H, O)$

## Outrage is

- as real as hazard
- as measurable as hazard
- as manageable as hazard
- as much a part of risk as hazard
- as much a part of your job as hazard

In general, we do better at managing hazard than outrage



# Components of outrage

- voluntary/coerced
- natural/artificial
- familiar/unfamiliar
- memorable/not memorable
- dreaded/not dreaded
- chronic/catastrophic
- knowable/not knowable
- controlled by me/others
- fair/unfair (NIMBY)
- morally relevant/irrelevant



# Components of outrage (2)

- effect on vulnerable populations
- delayed or immediate effect
- can I *trust* you or not?
- is the process responsive/unresponsive?
- effect on future generations
- identifiability of the victim(s)
- elimination or reduction
- risk–benefit ratio
- media attention
- opportunity for collective action



# Reducing outrage

Stake out the middle, not the extreme

Acknowledge prior mistakes

Acknowledge current problems

Discuss achievements with humility

Share control and be accountable

Bring concerns into the open



# Conclusions

Risk analysis provides a useful framework for understanding risk and risk perception

Risk communication is an integral part of risk analysis (and often the most critical)

Risk communication needs to

- begin early
- be ongoing
- be iterative

Risk communication needs to acknowledge and manage **outrage**

- using a communications strategy
- recognising not all decisions can be 'win-win' for all stakeholders