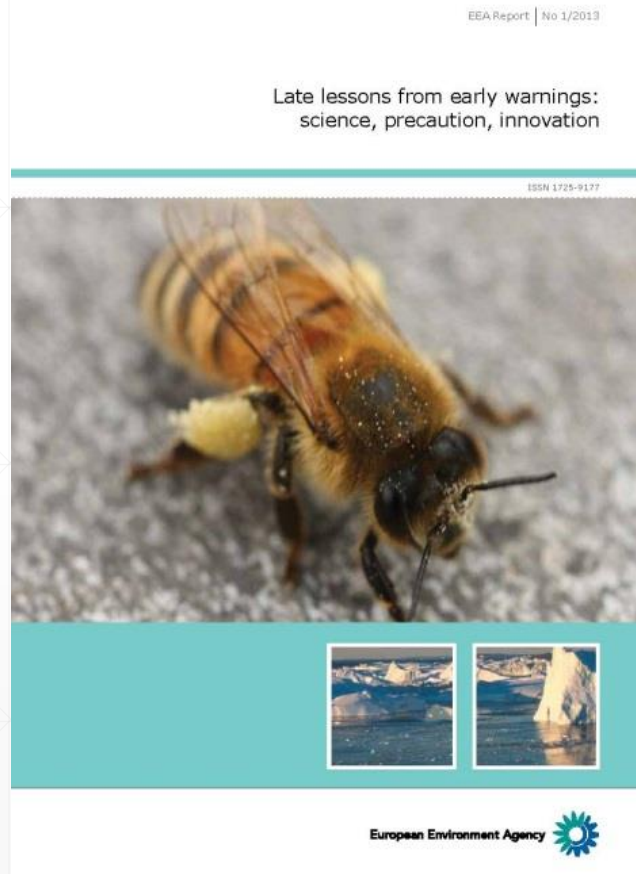


Bits and Pieces on the Precautionary Principle

Sybille van den Hove

'The science and ethics of gene drive technology - Case study: Eradicating malaria'
STOA - European Parliament – 19 March 2019

Precautionary Principle



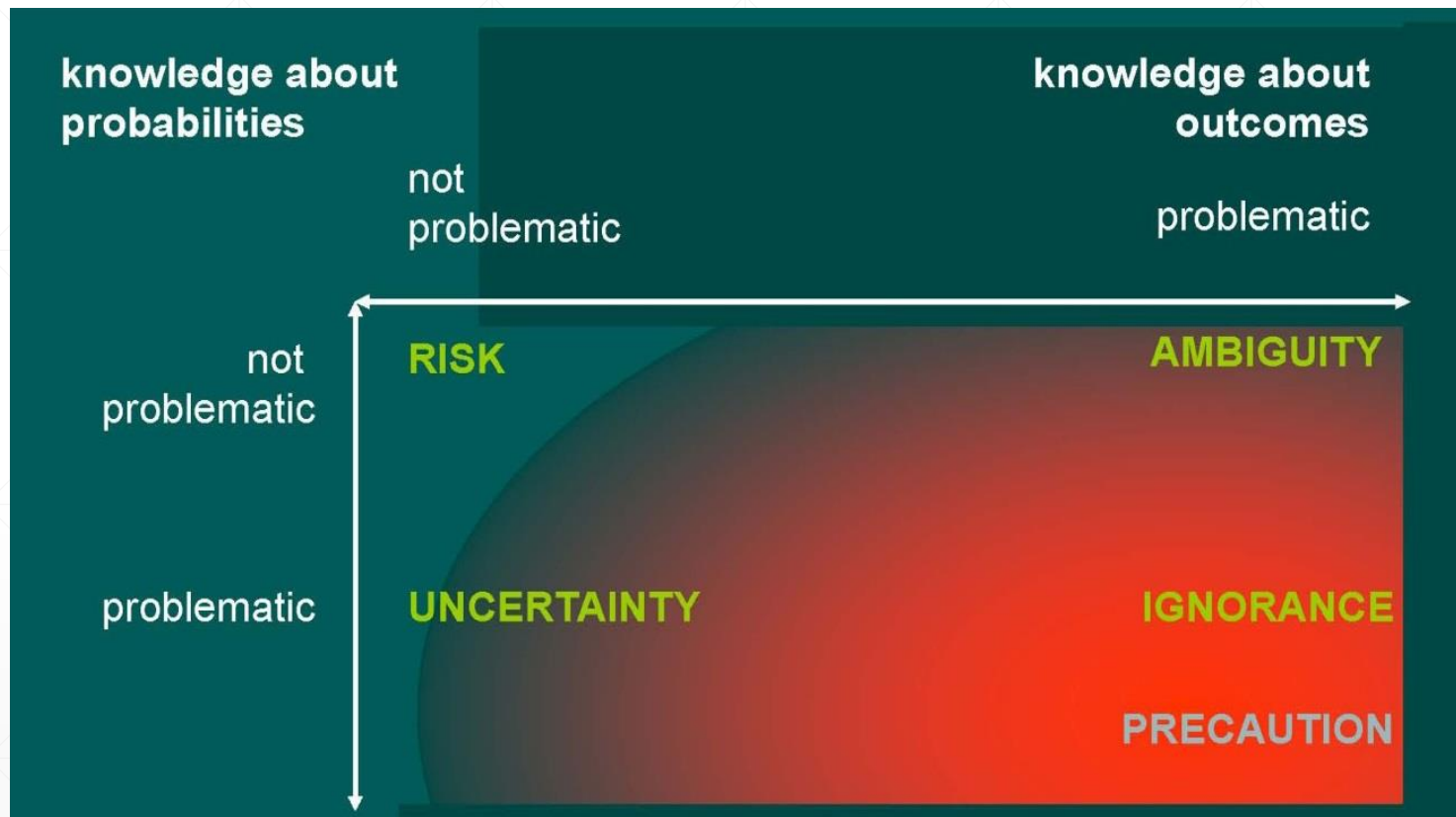
*'The precautionary principle provides justification for public policy and other actions in situations of scientific **complexity, uncertainty and ignorance**, where there may be a need to act in order to avoid, or reduce, **potentially serious or irreversible** threats to health and/or the environment, using an appropriate strength of scientific evidence, and taking into account the **pros and cons of action and inaction** and their **distribution**.'*

Source: EEA 2013

Why is precaution a key principle?

- Complex issues in complex social-ecological systems: often the realm of **ignorance and ambiguity**
- Potential **irreversibility**
 - e.g. altering genome, self replicating technologies, biodiversity loss, climate change, nuclear contamination, ...
- We live on a **single and finite planet**
 - ⇒ Necessity of upstreaming: being proactive rather than reactive: avoid harm as much as possible
 - e.g. avoid, substitute, reduce at source, 'benign by design' ...

Precaution: away from the narrow risk domain



(Source: A. Stirling & EEA 2001)

Knowledge about consequences and about their probabilities is problematic (non-existent, or at best limited)

Elements for the governance innovations

- Reflect on consequences over time, and on their effects on quality of life, well-being and sustainability \Rightarrow Gauge an innovation against societal goals/visions
- Beware of vested interests
- Be transparent and dynamic (there are unknowns, knowledge evolves)
- Apply the precautionary principle when stakes are high, uncertainty and ignorance prevail
- Consider irreversibility of potential negative consequences
- Upstream: adopt a precautionary mindset in research and innovation
- Acknowledge the possibility of surprises
- Cherish diversity of solutions to build resilience
- Be adaptive, allow to revisit decisions and choices
- Keep options open, yet accept to close down inappropriate paths...
- Reflexivity, open-mindedness and humility are de rigueur

Inspiration: A. Stirling & EEA 2001, 2013

References

- EEA 2001. Late lessons from early warnings: the precautionary principle 1896–2000. European Environment Agency report 22/2001.
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Thank you sybille@b4sd.eu