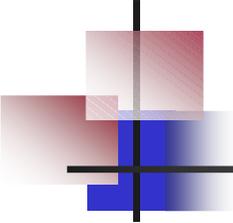


Addressing uncertainty in risk assessments – what is the role of stakeholders?

Ellen-Marie Forsberg
**NKS NordThreat seminar 31.
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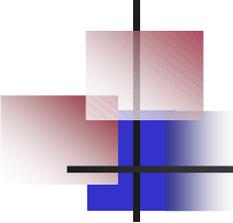
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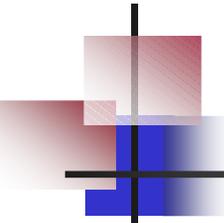
My background for this talk

- Expert based consensus conference on a value platform for protection of the environment against ionising radiation, 2001
- STRATEGY: Development of a program for stakeholder consultation and ethical assessment of holistic countermeasure strategies (2002/03)
 - A small 'taste' of the program used in the Norwegian Preparedness organisation's annual seminar 2004
- Consensus conference with experts/end users on model development for protection of the environment against ionising radiation, 2006 (ERICA)



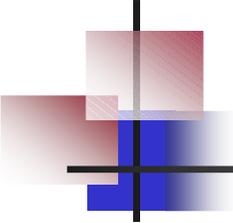
Risk and uncertainty

- In the case of contamination by ionising radiation, risk assessment of the effects of the contamination and of the countermeasure strategies will be carried out
- This risk assessment will inherently contain uncertain elements, for instance with regard to:
 - Concepts
 - Models
 - Data
 - Interactions of contaminants with other environmental or physiological factors
 - Interactions of countermeasures with other environmental factors
 - The implementation of the countermeasures
 - Economic impacts etc.



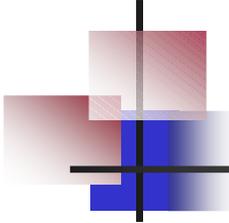
Where scientific uncertainty is high...

- ...it is important that
 - these uncertainties are transparent, communicated to, and understood by, decision makers
 - continuous research is performed in order to reduce uncertainty
 - broad scientific peer review is carried out



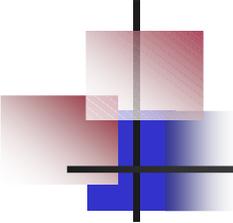
Making decisions in the face of uncertainty

- In situations of high uncertainty and high stakes decisions/actions/solutions must be assessed not only by a scientific peer community, but by a larger public, so-called 'extended peer review' (Funtowicz and Ravetz 1990)
- The reason is that scientists do not have the privilege of determining what is acceptable uncertainty or what are acceptable stakes – this is a value issue and the public and those affected by the decisions should be heard
- These situations may also call for applying the *precautionary principle*



The precautionary principle

- When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm (UNESCO, Comest, 2005)
 - *Morally unacceptable harm* refers to harm to humans or the environment that is
 - threatening to human life or health, or
 - serious and effectively irreversible, or
 - inequitable to present or future generations, or
 - imposed without adequate consideration of the human rights of those affected.
- Are scientists in a privileged position to determine what is serious, inequitable or imposed without adequate consideration?



Determining the right action

- Challenges:
 - each action has many dimensions;
 - different people will be affected in different ways;
 - the complexity of the issues (many countermeasures have both positive and negative social and ethical consequences);
 - the various “trade-offs” that may be required when making choices; and
 - a possible lack of agreement within society on what is practical or acceptable, let alone on how one should “put a price on” such non-monetary side-effects.

- These decisions should involve a broader scope of participants!

Rio Declaration 1992

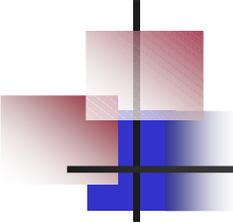


Principle 10: Environmental issues are best handled with the participation of all concerned citizens, at the relevant level.... States shall facilitate and encourage public awareness and participation by making information widely available....

Aarhus Convention

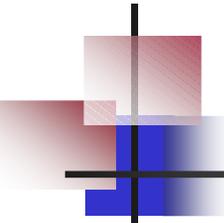
The Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters

Adopted June 1998, ratified October 2001, www.unece.org/env/pp



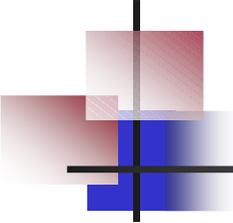
Benefits of stakeholder involvement

- Including stakeholders and the public in decision making may also lead to:
 - Increased by public legitimacy of decisions
 - Increased trust in decision makers
 - Increased knowledge base for decisions
 - Broader ownership to decisions – which may enhance implementation of countermeasure strategies
 - Democratisation
 - Empowerment



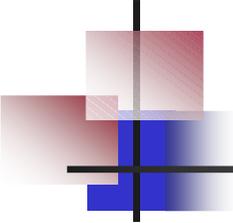
Stakeholder involvement processes

- Standard routines in radiation protection policy: hearings, consultations, etc.
 - **IAEA/OECD** – ongoing procedures – expert meetings, working groups, consultations
- There are also other ways to include stakeholders/the public in decision making



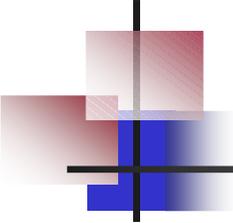
Forms of extended peer review

- Consensus conference (with lay people or stakeholders + experts)
 - Citizens' juries
 - Value workshops
 - Etc.
-
- Dialogue tools (like a value matrix) may be used



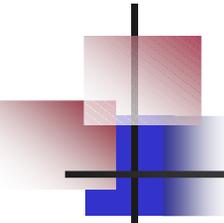
Stakeholder involvement at different levels

- Stakeholders are those affected by the actions – by the accident and the countermeasures
- May be involved at different levels:
 - In national fora: representatives of consumer organisations, farmers, fishermen, environmental organisations, etc.
 - Regional/local level: representatives of important local businesses, local municipalities, citizens organisations, important land owners, waste location stakeholders, union representatives representing those who will handle the waste (who may take on additional risk), etc.



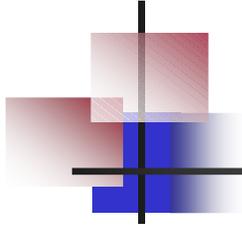
How to involve stakeholders

- Start early, don't start when everything in reality is decided
- Play fair: inform stakeholders about what status/impact their advice will have
- Have transparent procedures where it is clear where the stakeholder input will come in, and what other input may influence the decision making process
- Be clear about your expectations to the stakeholders. Are they to communicate with their peers? Any other responsibilities?



Prepare for stakeholder involvement

- Stakeholder involvement practice could be carried out at emergency planning/preparedness exercises – generic stakeholders could be identified and contacted, and consultation methods could be tried out
 - Dialogue conferences with generic stakeholders could be carried out in order to develop broadly acceptable procedures for stakeholder involvement
- This should not be novel when an accident occurs!



Thanks!

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