

ICCL Stockholm September 2007

**CONTAMINATED LAND AND  
RISK COMMUNICATION**

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**THERE ARE RISKS YOU HAVE TO TAKE!**

**THERE ARE RISKS YOU CAN NOT TAKE!**

**Friedrich Dürrenmatt**



## FEAR FACTORS 1(2)

*Risks are generally more worrying (and less acceptable) if perceived to be:*

1. **involuntary** (e.g. exposure to pollution) rather than voluntary (e.g. dangerous sports or smoking)
2. **unequally distributed** (some benefit while others suffer the consequences)
3. **inescapable** if personal precautions are not taken
4. arising from an **unfamiliar or novel** source
5. resulting from **man-made, rather than natural, sources**
6. the cause of **hidden and irreversible** damage, e.g. through the onset of illness many years after exposure



## FEAR FACTORS 2(2)

*Risks are generally more worrying (and less acceptable) if perceived to be:*

7. posing a particular danger to **small children or pregnant women** or, more generally, **future generations**
8. containing the threat of a type of death (or illness/injury) that arouses **particular dread**
9. damaging **identifiable rather than anonymous victims**
10. **poorly understood by science**
11. subject to **contradictory statements** from responsible sources (or, even worse, from the same source)



## A NEW DEFINITION OF RISK COMMUNICATION

Hazard = probability x magnitude

Outrage factors = all those things ignored by the experts that, nevertheless, worry people

**RISK = HAZARD + OUTRAGE FACTORS**  
**R = f(H,O)**



## RISK COMMUNICATION - A DEFINITION

*National Research Council, 1989*

Risk communication is an **interactive process of exchange of information and opinion** among individuals, groups, and institutions. It involves multiple messages about the nature of risk and other messages, not strictly about risk, that express concerns, opinions, or reactions to risk messages or to legal and institutional arrangements for risk management.

Risk communication **provides lay people/communities with the information they need to make independent judgements** concerning risks related to health, security and environment.



## OUTRAGE FACTORS *(Peter M. Sandman)*

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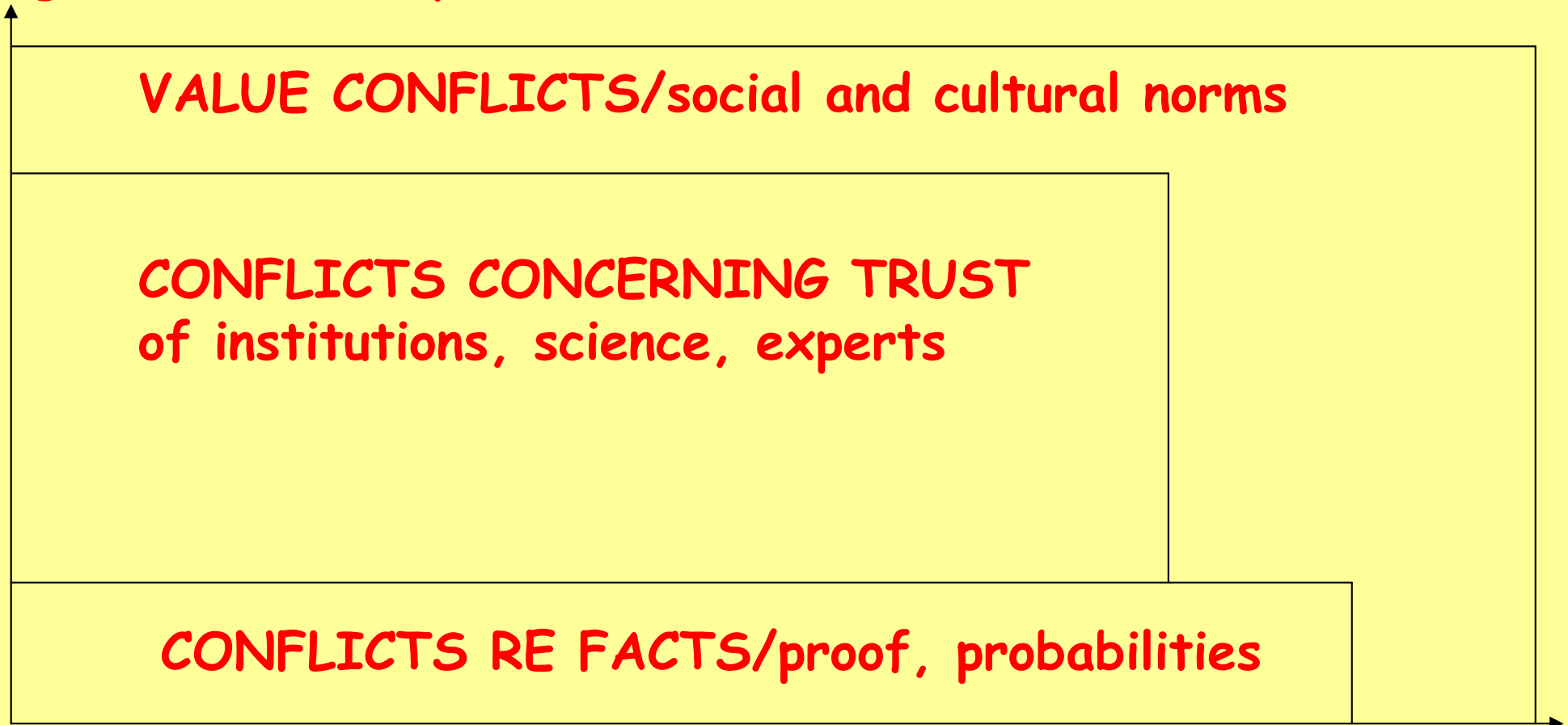
- 1 Voluntary
- 2 Natural
- 3 Familiar
- 4 Not memorable
- 5 Not dreaded
- 6 Diffuse in time/space
- 7 Knowable
- 8 Controlled by me
- 9 Fair
- 10 Morally irrelevant
- 11 Trust
- 12 Process responsive

- Coerced
- Industrial/Artificial
- Unfamiliar
- Memorable
- Dreaded
- Focused in time/space
- Not knowable
- Controlled by others
- Unfair
- Morally relevant
- No trust
- Process unresponsive



## THREE LEVELS OF RISK DEBATE

Degree of intensity



Degree of complexity



## WHAT HAS BEEN LEARNT FROM COMMUNICATION WITH THOSE RESIDING IN THE VICINITY OF INDUSTRIAL SITES?

- Technical measurements on their own are not enough to allay people's worry
- Communication should be established from the beginning
- Lay people/the public can often come up with practical solutions: take their suggestions seriously and use them if appropriate
- Keep the public informed and involved



## THINGS TO FOCUS ON WHEN REMEDIATION WORK HAS BEEN DONE

- Were people kept informed/was there effective communication?
- If there was a plan, was it adhered to?
- What was good/bad?
- Was there anything lacking?
- Which sources were trusted/not trusted?
- When and where did communication take place?



## END RESULT: GUIDELINE

1. Goal of risk communication
2. Identify interested parties and the social structure
3. Find out the public's understanding/perception of risk and trust
4. Select ways to communicate
5. Appoint whoever will be responsible for communication
6. Form a communication plan and follow it
7. Follow up, evaluate (examine/inspect)



## SEVEN CARDINAL RULES OF RISK COMMUNICATION

- 1 Accept and involve the public as a legitimate partner.
- 2 Plan carefully and evaluate your efforts.
- 3 Listen to the public's specific concerns.
- 4 Be honest, frank and open.
- 5 Coordinate and collaborate with other credible sources
- 6 Meet the needs of the media
- 7 Speak clearly and with compassion





THAT'S ALL FOLKS!

