

Strategies for Risk Communication on Base Stations

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Part 1


What is special about risk?

The challenges for public
perception and communication

A water droplet is captured in mid-fall, just above the surface of a pool of water. The droplet is perfectly spherical and reflects light. Below it, a series of concentric ripples spread out across the water's surface, creating a sense of motion and impact. The background is a solid, deep blue color.

Risk Characteristics

Three challenges of risk management

- *Complexity* in assessing causal and temporal relationships
 - *Uncertainty*
 - variation among individual targets
 - measurement and inferential errors
 - genuine stochastic relationships
 - system boundaries and ignorance
 - *Ambiguity* in interpreting results
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Application to EMF

■ *Characteristics*

- Health impacts unlikely but uncertain
- Limited knowledge about long term effects
- Difference between perception of mobile phones and transmitter antennas
- Often non-risk ambiguities

■ *Problems*

- Almost everyone exposed (social amplification of risk)
- Concern about siting procedures (procedural equity)
- Different interpretation of precaution
- Potential for high social mobilization

Part 2

Risk Perception

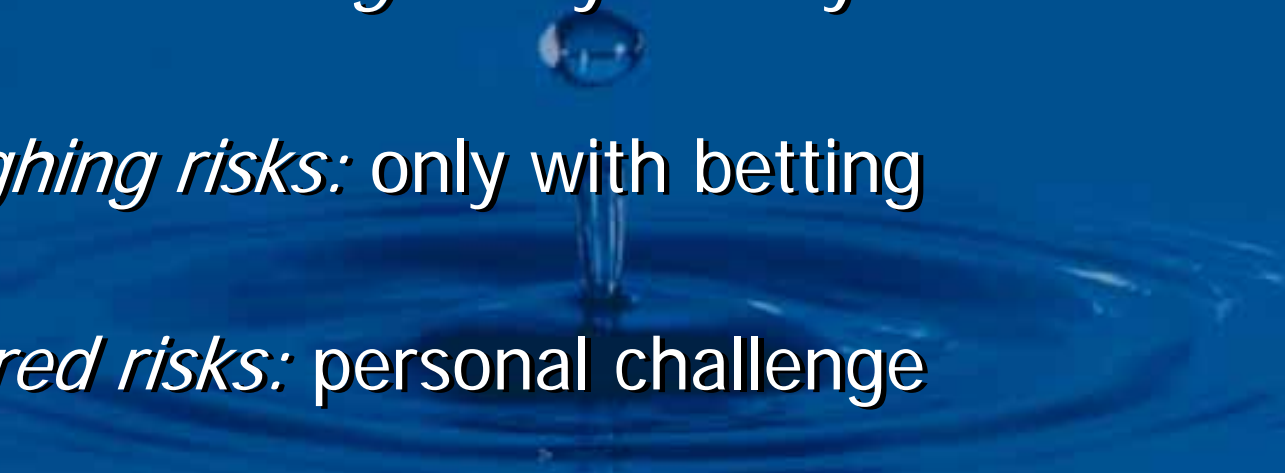
What do we know?

A high-speed photograph of a water droplet falling into a pool of water, creating a series of concentric ripples. The background is a solid blue color.

Principles of Risk Perception

- Human behavior depends on perceptions, not on facts
- Perceptions are a well-studied subject of social science research: they differ from expert assessments, but they follow consistent patterns and rationales
- There are four genuine strategies to cope with threats: fight, flight, plying dead, experimentation

Five dominant risk perception clusters

- *Emerging danger*: randomness as threat
 - *Creeping danger*: confidence or zero-risk
 - *Surpressed danger*: myth of cycles
 - *Weighing risks*: only with betting
 - *Desired risks*: personal challenge
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Example: „EMF“

- Public perception: Representative of Cluster: “Creeping danger”
 - Concern about long-term impacts
 - Key variable trust:
 - ▬ If yes: risk-benefit balancing accepted
 - ▬ If no: request for zero risk
 - ▬ If maybe: orientation on external criteria
 - Perception as invisible and unnatural (scary)
 - Symbolic association with radioactive radiation and big business
 - Concern about procedural equity and due process

Part 3

Risk Communication and Participation Requirements

Some general lessons

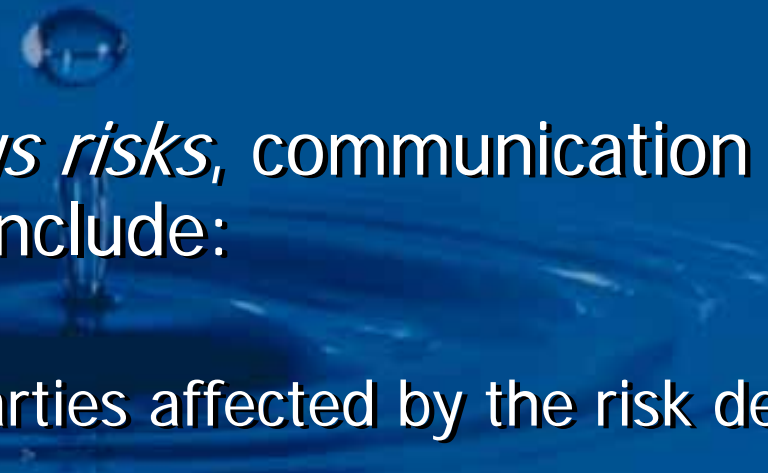
Important Risk Management Distinctions

- Dealing with routine, mundane risks
- Dealing with *complex* and sophisticated risks (high degree of modeling necessary)
- Dealing with highly *uncertain* risks (high degree of second order uncertainty)
- Dealing with highly *controversial risks* (high degree of ambiguity)
- Dealing with eminent dangers (need for fast responses)

Application to Communication and Deliberation

- For *routine risk management*, communication should include:
 - Information on the process of risk management
 - Information on potential protective behavior
 - Information on routine risk management actions
 - If necessary, a hot-line for questions and observations
- For *highly complex risks*, communication and deliberation should include:
 - All of the above
 - Discourse among experts on range of risk
 - Additional effort for collecting feedback

Application to Communication and Deliberation

- For *highly uncertain risks*, communication and deliberation should include
 - All of the above
 - Involvement of major stakeholders
 - Possibly, public hearings
 - Complete documentation and publication of all steps of decision making
 - For *highly ambiguous risks*, communication and deliberation should include:
 - All of the above
 - Involvement of all parties affected by the risk decision
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The Risk Management Escalator

(from simple via complex and uncertain to ambiguous phenomena)

			<i>Risk Tradeoff Analysis and Deliberation Necessary</i> Risk Balancing Necessary Risk Assessment Necessary
		<i>Risk Balancing Necessary</i> Risk Assessment Necessary	Types of Conflict: cognitive evaluative normative
	<i>Scientific Risk Assessment Necessary</i>	Types of Conflict: cognitive evaluative	
<i>Routine operation</i>	Types of Conflict: cognitive	Actors: Risk Managers External Experts Stakeholders such as Industry, Directly Affected Groups	Actors: Risk Managers External Experts Stakeholders such as Industry, Directly Affected Groups Representatives of the Public(s)
Actors: Risk managers	Actors: Risk Managers External Experts	Actors: Risk Managers External Experts Stakeholders such as Industry, Directly Affected Groups	
Discourse: internal	Discourse: cognitive	Discourse: reflective	Discourse: participatory
Simple	Complex	Uncertain	Ambiguous

Part 4

Application to EMF

What has worked?

A high-speed photograph of a water droplet falling into a pool of water, creating a series of concentric ripples. The background is a solid blue color.

Insights from Communication Studies

■ Best Communication strategy

- Explain difference between hazard and risk
- Explain difference between effect and adverse effect
- New interpretation of precaution
 - Not for lowering standards except ALARA
 - But for providing transparency and procedural equity
- Admitting uncertainty but also demonstrating vigilance and monitoring efforts
- Concentrate on what people can do to protect themselves

Insights from Participation Studies I

■ Low conflict situations

- Early information of communities
- Apply best communication strategy
- Full transparency about siting process
- Availability of experts for questioning and inquiries
- Hotline for concerned citizens
- Cooperation with local community leaders

Insights: Participation Studies II

■ Medium conflict situations

- Conflict and actors' analysis
- Identification of major stakeholders (pro and con)
- Public hearings or public office hours
- Clearing house for concerned citizens
 - Physical presence during specified time
 - Meeting with stakeholder groups
 - If necessary and possible, flexibility on selection of local site
- Public town meeting for presenting results

Insights: Participation Studies III

■ High conflict situations

- Conflict and actors' analysis
- Identification of major stakeholders (pro and con)
- Public hearings and community meeting
 - Identification of concerns
 - Collecting citizen requests
 - Explaining procedure
 - Respond to questions
- Round table or citizens forum
 - Flexibility needed for change of local site
 - Assurance of local control over enforcement
- Recommendation of participatory group(s)
- Public town meeting for presenting results

One example: Siting conflict in the German Town of Balingen

■ Situation

- Vodaphone wanted to site antennas
- Citizen initiative formed
- Strong public protests: high emotions
- City officials unable to resolve conflicts

■ Approach

- Preliminary meeting with all groups
- Town meeting: arguments pro and con
- Round Table with representatives of major groups
- Widening of siting options and decision on one option
- Public meeting to explain settlement

Summary I

- People behave according to perceptions not facts
- Perceptions follow consistent patterns, but their expression may vary from culture to culture
- There are dominant perception clusters that govern the intuitive evaluation of risks
- Within the cluster of 'creeping dangers, trust and confidence in risk management are key to risk acceptance
- Policy making needs to address perceptions

Summary II

- Risk communication needs to address the three components of risk: complexity, uncertainty and ambiguity
- There are different communication requirements for dealing with
 - Low conflict: best communication strategy
 - Medium conflict: stakeholder input and procedural transparency
 - High conflict: participatory methods
- Evaluation studies show that early communication, transparency and openness for public input help to build trust in the EMF debate.

Quote:

- What man desires is not knowledge but certainty
Bertrand Russel
 - Science and scientific mediators cannot produce certainty but can help people to develop coping mechanisms to deal prudently with the necessary uncertainty that is required for societies to progress
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