

Integration of Risk Assessment and Risk Management The Need for Caution

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Problem Statement

“Science and Decisions”

- Trichloroethylene
- Formaldehyde
- Dioxins

If Risk Management is Broke, Why
Fix Risk Assessment?

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- **"If it ain't broke... the government will fix it until it is." Dell Hunt, 2001**

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Risk Assessment

- Weight of evidence approaches inherently put a line through a continuum. Inevitably, the weight of evidence for some compounds will be close to the line such that minor scientific disagreement is converted into a yes/no argument
- Extrapolation to lower risk levels than there are verifiable data is done only in response to societal decisions to be protected against low level risk. It uses science – but it isn't verifiable.
- Risk assessment is more suitable for population-based public health than it is for individual risk.

IARC Overall Evaluation of Carcinogenicity to Humans

1	Carcinogenic to Humans
2A	Probably Carcinogenic
2B	Possibly Carcinogenic
3	Not Classifiable
4	Probably Not Carcinogenic

Weight of Evidence

Stealth Farmer Scenario

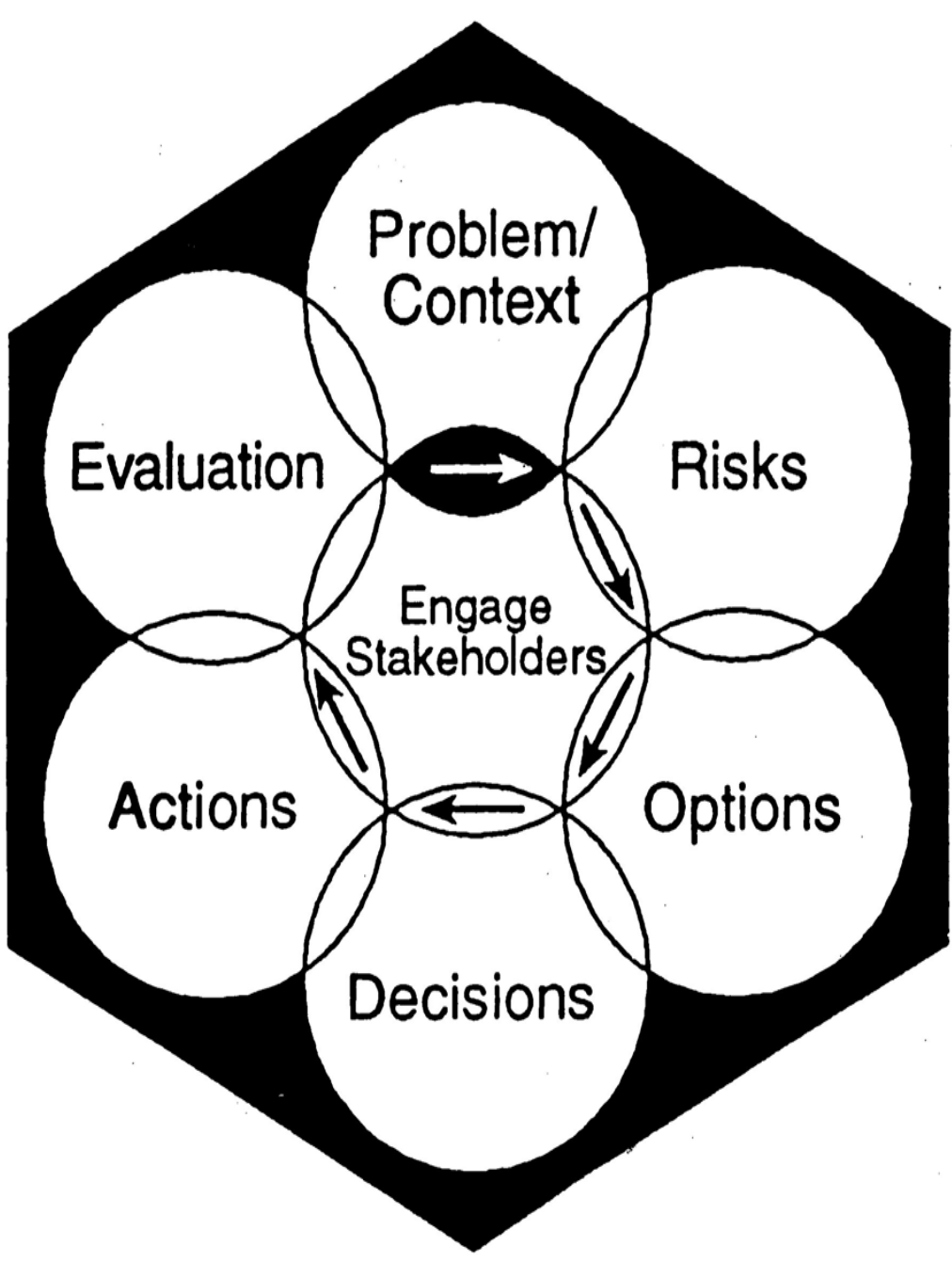
- Family of 4 secretly develops subsistence life style on DOE land contaminated to level of 1/100,000 risk. Replaced every 70 years with another family of 4
- One adverse event will occur every 1.75 million years
- Humans have been on planet approximately 1.75 million years.

Safe, Safety

*“freed from harm or risk ... secure
from threat of danger, harm or loss ...
harmless”*

Protect, Protection

*“to cover or shield from injury or destruction:
guard ... syn. see defend”*



Framework is Conducted:

- In **collaboration** with stakeholders.
- Using **iterations** if new information is developed that changes the need for or nature of risk management.



