

Risk Perception and Communication Unplugged: Twenty Years of Process (B. Fischhoff)

Management Context: The sophistication of technology for risk management requires that public and institutional risk perceptions are operable. Can understand this need through a series of development stages of risk communication:

DEVELOPMENT STAGES IN RISK MANAGEMENT

All We Have to Do is Get The Numbers Right

All We Have to Do is Tell Them the Numbers

All We Have to Do is Explain What We Mean By the Numbers

All We Have to Do is Show Them They've Accepted Similar Risks

All We Have to Do is to Show Them That It's a Good Deal For Them

All We Have to Do is Treat Them Nice

All We Have to Do is Make Them Partners

Implications of Poor Risk Communication

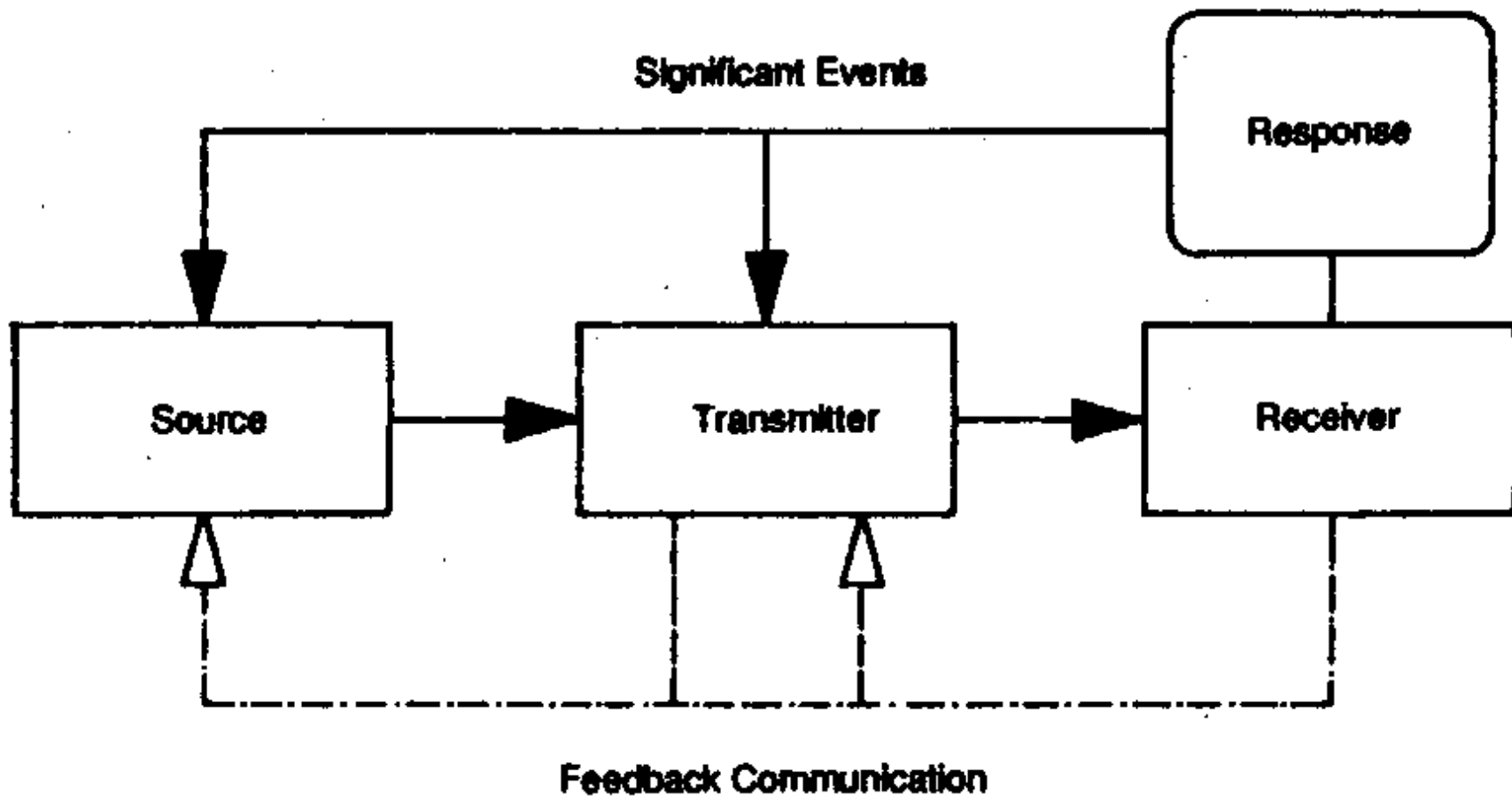
Uncertainty Results From a Lack of Communication

Communication Difficulties Are Compounded During
a Hazardous Event

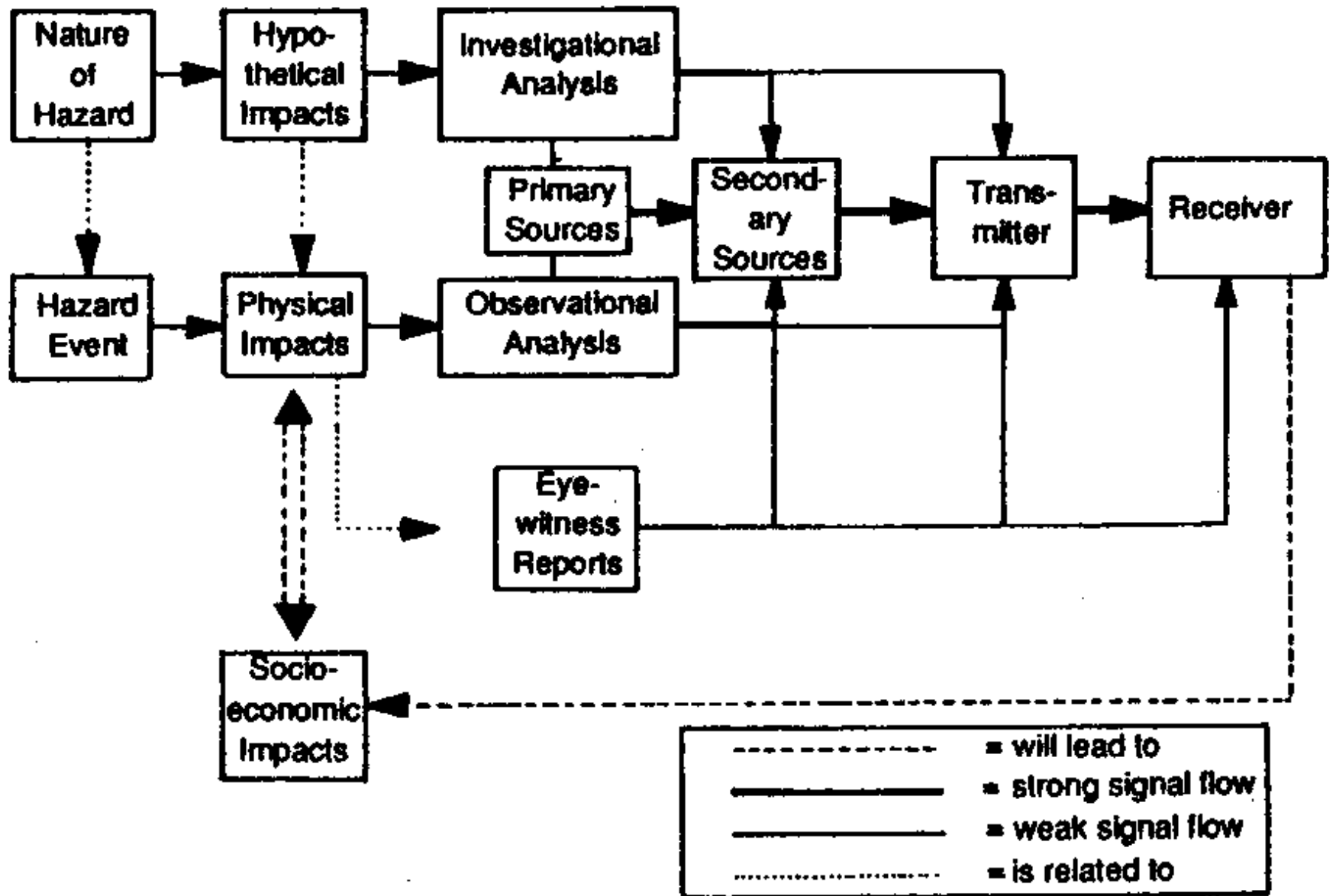
Uncertainty Amplifies Public Perceptions and
Acceptance of Risk

Social Amplification of Risk (Kasperson et al., 1988)

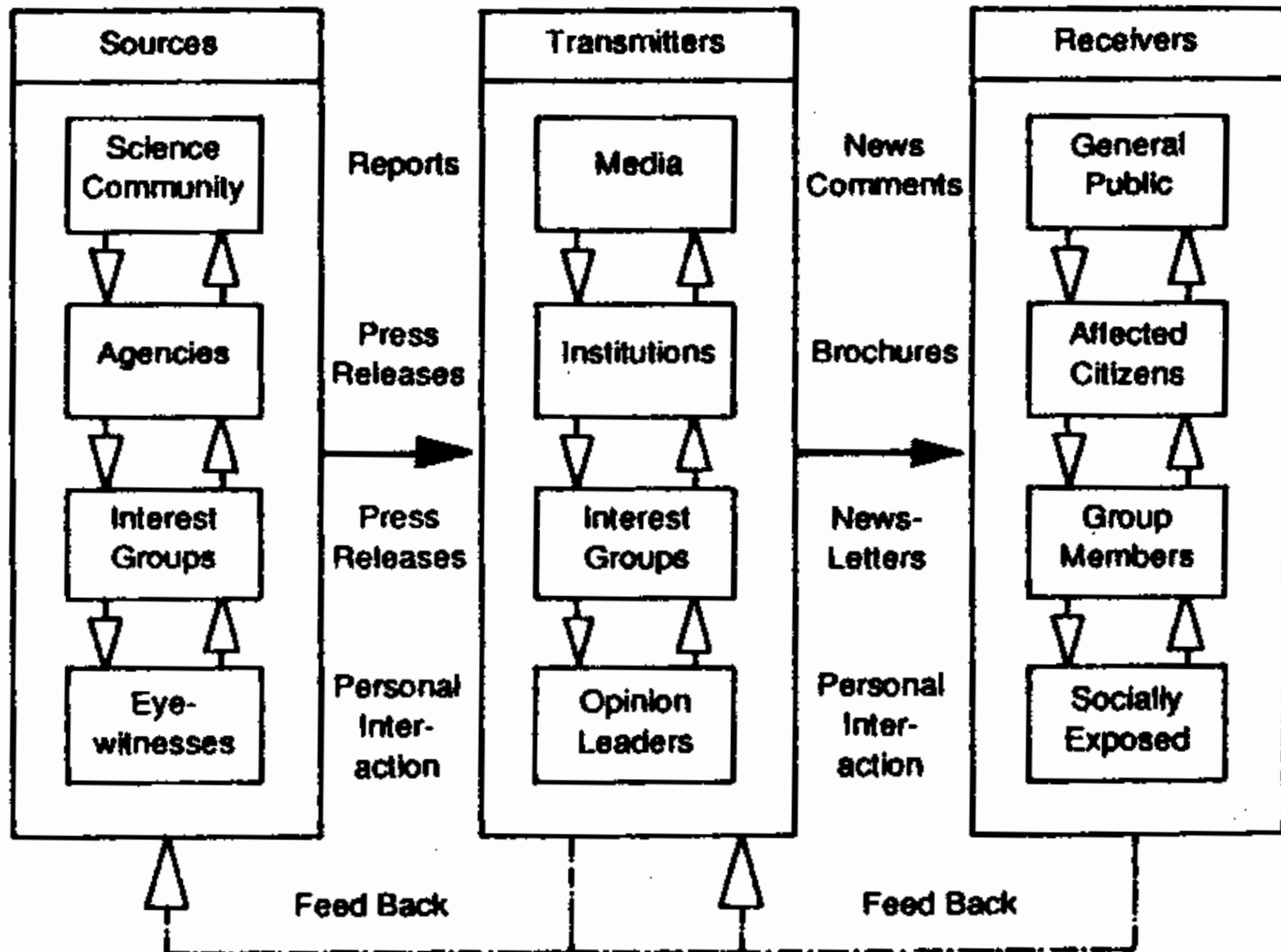
Basic Communication Model



Information Flow Model for Risk Communication



Organizational Structure of Communication



Social Amplification of Risk

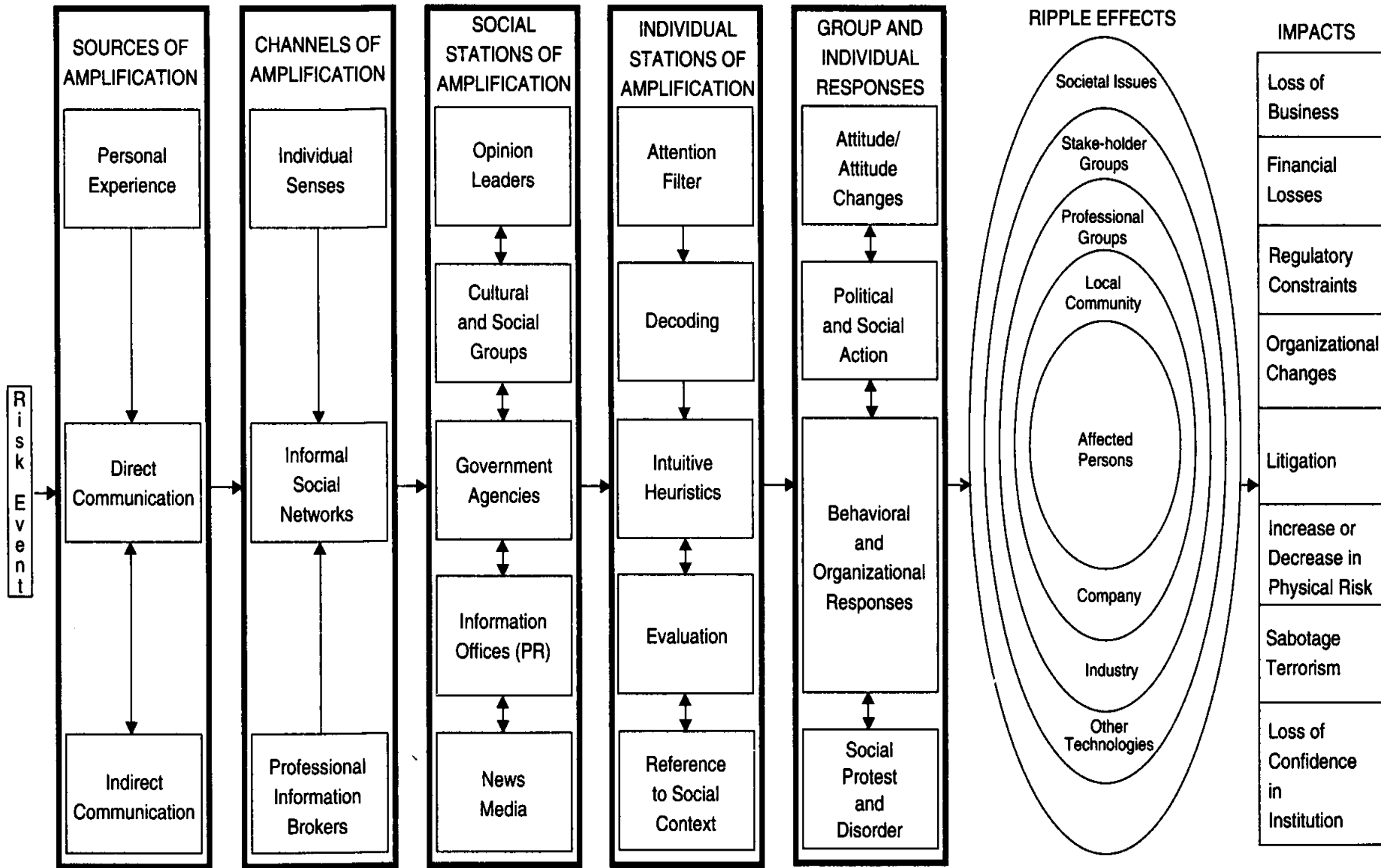


FIGURE 2. Detailed conceptual framework of social amplification of risk.

Policy Implications

Varied understanding of statistics is problematic

Response procedures are not well understood by residents, i.e. roles and responsibilities in a flood event

Communicated messages are delivered but the meanings are not transmitted

Land owners didn't receive adequate information to respond

Cross-sectional education is required to improve understanding of communication messages

Perceptions of Risk: We need to define 'risk' .

There are two major categories of risk: risk as perception and risk as science (Objective vs Subjective; Determinism vs. Possibilism).

i.e. Although the risks associated with driving an automobile are more serious, the public typically perceives products made from agricultural biotechnology as being riskier. Why is this so?

- Research conducted during the past 20 years consistently has established that public assessments of risk from modern technologies and activities are different than expert assessments.
- Experts primarily evaluate risk in terms of narrowly defined deleterious events.
- The public considers broader factors such as control, catastrophic potential, dread (possible delayed and/or disturbing effects), level of knowledge, equity, clarity of benefits, trust, effects on future generations, and effects on children.
- In general, public perceptions of risk are the product of intuitive biases and economic interests that often reflect cultural values.

- Rank the risks from the following activities (from most risky to least risky):
- Rank the risks based on what you believe.

- Alcohol
- commercial aviation
- Construction
- Contraceptives
- fire fighting
- food preservatives
- Handguns
- motor vehicles

- Motorcycles
- Nuclear power
- Pesticides
- Police work
- Private aviation
- Smoking
- Spray cans
- Surgery

GROUP QUESTIONS

- Which activity did you rank first, second, and so on.
- Why did you rank the activities as you did.

Below are rankings from experts and college students based on data by Slovic (1987). Compare and contrast these rankings with those of your group members and ponder: Why the rankings are different?

Experts

1. motor vehicles
2. smoking
3. alcohol
4. handguns
5. Surgery
6. motorcycles
7. X-rays
8. pesticides
9. electric power
10. swimming
11. contraceptives
12. private aviation
13. construction

College Students

1. nuclear power
2. handguns
3. Smoking
4. pesticides
5. motor vehicles
6. motorcycles
7. alcohol
8. police work
9. contraceptives
10. fire fighting
11. surgery
12. preservatives
13. spray cans
14. construction

Based on research, specific factors that influence public risk perception include:

Control - the ability of the individual or society to control the risk

Catastrophic potential - the possibility of fatalities or ill effects grouped in time and space as in an epidemic

Dread - the fear of the possibility of serious delayed effects, such as cancer

Familiarity - the degree of familiarity lay people have with the risk

Equity - refers to the equal distribution of risks and benefits throughout society

Level of knowledge - the general understanding lay people have with the process or activity posing the risk

Voluntariness of exposure

Effects on children and future generations - concerns about possible delayed effects on humans and the environment posed by the risk

Clarity of benefits - represents the awareness and understanding of the benefits provided by the activity posing the risk

Media attention

Trust in organizations or institutions