Science and Public Policy: Bridging the Gap

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Introduction to the Study

Research question: What do we know from the literature about the science-public policy interface?
- What are the different ways the relationship is conceptualized?
- What are some of the factors complicating the relationship?
- What are the implications for scientists who want to be engaged with policy?

Conceptualizations of the Science-Policy Interface

Research shows the linear model promoted in the wake of World War II does not hold.
- Basic research → Applied research → Development → Societal Benefit

Science and policy are distinct spheres of activity interacting through a very complex and complicated relationship, characterized by some of the following.

Design Factors

- How are interactions between scientists and policymakers structured?
- How is knowledge and information from stakeholders incorporated into the process and then disseminated to stakeholders?

Cognitive Factors

- What is the state of scientific knowledge?
- What is the degree of consensus on
  - the problem?
  - its causes?
  - its solutions?

Context

- Is the issue being paid much attention?
- How politically contested is the issue?
- Is the issue linked to other issues?

Science and Technology Studies scholars often cite the lack of a real division between science and policy.

Social Processes

- Construction and use of scientific information involves social, political, and cultural processes in which norms, methods, and agendas are negotiated
- Multiple influences on the questions being asked
- Science is not a separate phenomenon from politics

Complicating Factors

The following factors often complicate the relationship between science and public policy

Politicization of Science

- Science provides competing interests with their own set of legitimized facts about nature
- Some scientists are beginning to encourage political conflict through science

Values

- David Hume's "is-ought" problem
- Important policy decisions are based on values, not answerable by science
- Values must be fully articulated through a political process

Uncertainty

- Misunderstanding of scientific uncertainty by the public and decision-makers
- Conflation of scientific and political uncertainty
- Social construction of uncertainty
- Uncertainty is used to dodge making difficult political decisions

Uncertainty → More Research → More Uncertainty → More Political Debate
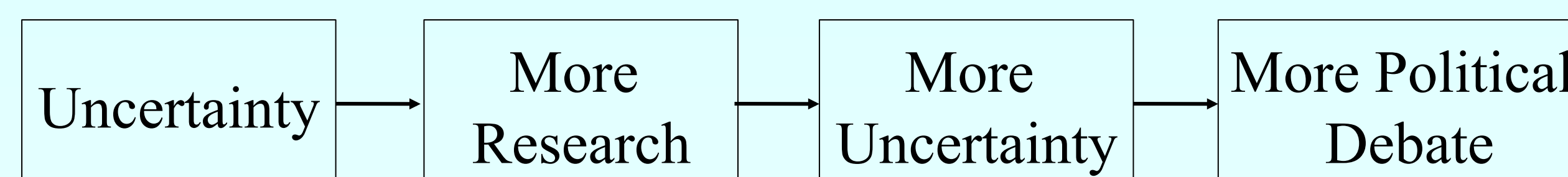
Institutional Framework

- A healthy policy process must be established first in order to facilitate incorporating scientists and scientific knowledge into the policy process
- The questions of policymakers that scientists can address must be determined through a policy process
- A successful institutional framework is policy-driven, not science-driven

Implications for Scientists

There are several potential roles for scientists who want to engage in policy-relevant science

"Use-inspired" Research

Stokes 1997:74

Join Formal Assessments

- "Formal efforts to assemble selected knowledge with a view toward making it publicly available in a form intended to be useful for decision making"
  Mitchell et al. 2006:3

- For example, the IPCC or the Western Water Assessment

Other Potential Roles

- Enumerate the plausible consequences of our actions/ inaction and monitor the effects of our choices

- Act as an Honest Broker of Policy Alternatives
  - Clarify and expand the scope of choice available to decision-makers
  - Integrate scientific knowledge with stakeholder concerns

- Address the questions of policymakers, which are formed through a policy process

Acknowledgements