



#8: Frameworks: Boundary Organizations

ESD.864

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Session 8



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Two readings on Boundary Orgs

- Guston on theoretical approaches and case of Office of Technology Transfer [MIT PhD in political science, current Prof. at ASU]
- Cash on Agricultural Extension [Harvard Kennedy School PhD, now Undersecretary of Policy at Mass. Executive Office of Enviro Affairs]

Boundaries between science and policy

- Constructivist approaches identify “boundary work” as important part of science-policy negotiation
 - Jasanoff on science advisory committees: where line of demarcation is clear, policy-making difficult; ambiguity helps
- Boundary “objects”
 - “both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” [Star, Griesemer]
- Standardized packages
 - Combine boundary objects into defined, more structured, less-ambiguous aggregations

Boundary organizations:

- Help answer the question, how does the science/politics boundary stabilize?
- Provides a forum for negotiating, codifying the boundary
- Three characteristics (from Guston):
 - Create a space for creation and use of boundary objects or standardized packages, or a combined 'scientific and social order';
 - Involve collaborative participation of principals and agents, or scientists and non-scientists;
 - Are moored to mutual interests and distinct lines of accountability.

A helpful concept?

- Examples of boundary organizations
 - From the readings: Office of Technology Transfer, Agricultural Extension
 - From previous readings (?): Office of Technology Assessment, European Environment Agency
 - From projects: NESCAUM, ARPA-E?
 - Do research centers at MIT have characteristics of boundary organizations?

Discussion questions:

- Would any organization you have worked at or with qualify as a boundary organization? Does it fulfill the three criteria?
 - Space for boundary objects/packages
 - Involve principals/agents
 - Mutual interests and lines of accountability
- Does this help in conceptualizing its role? Is it a useful concept?

Cash: Agricultural extension

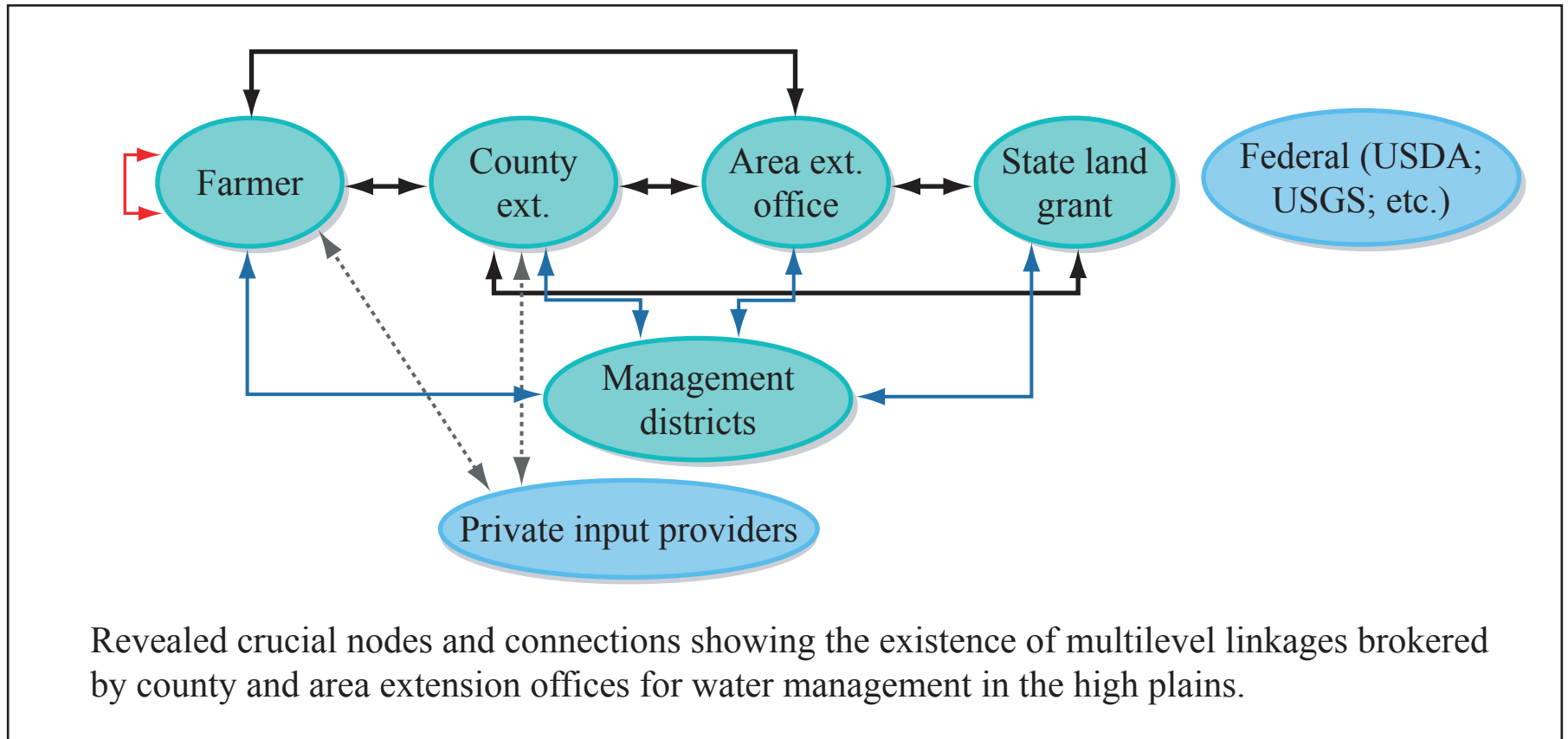
- Ag extension: linking research to practice, particularly for farmers

Characteristics of Ag extension as boundary organization

- ❑ Negotiating between science and decision-making (county agents: facilitators, translators...)
- ❑ Accountable to both sides of boundary (overseen by elected committee, employed by land-grant institution)
- ❑ Uses boundary objects (many sorts of models!)

New results from Ag case

- Boundary organizations can link different levels of organization



Revealed crucial nodes and connections showing the existence of multilevel linkages brokered by county and area extension offices for water management in the high plains.

Image by MIT OpenCourseWare.

New results cont...

- Where extension offices serve as boundary organizations & coordinate across scale, more useful and relevant scientific products guide management decisions

Another example: Health Effects Institute

- **From HEI web site:** "HEI is a nonprofit corporation chartered in 1980 as an independent research organization to provide high-quality, impartial, and relevant science on the health effects of air pollution. Typically, HEI receives half of its core funds from the US Environmental Protection Agency and half from the worldwide motor vehicle industry"

More info at: <http://www.hks.harvard.edu/gea/pubs/huru1.pdf>

HEI history

- 1970s in the US: EPA and auto industry conflict, lots of conflicted scientific assessment of health effects of vehicles
- Private sector/Public sector collaboration creates HEI as jointly funded, independent institution

HEI criticism

- In a 1993 review, National Academy of Sciences says HEI does high-quality research but lacks relevance, timeliness
- In response, since then, HEI taken steps to expand mission, broaden activities, connect with research community

Another example: NESCAUM

From their website-

- NESCAUM is a 501(c)(3) nonprofit association of air quality agencies in the Northeast. Our Board of Directors consists of the air directors of the six New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), New Jersey, and New York. Our purpose is **to provide scientific, technical, analytical, and policy support** to the air quality and climate programs of the eight Northeast states. A fundamental component of our efforts is to assist our member states in implementing national environmental programs required under the Clean Air Act and other federal legislation.
- NESCAUM **hosts committees and workgroups** comprised of state staff who **meet regularly** to discuss issues ranging from regional haze to air permitting to mobile source issues. NESCAUM also provides forums for public education, promotes research initiatives such as the [Northeast Center for Atmospheric Science and Policy \(NCASP\)](#) and the [Northeast Diesel Collaborative \(NEDC\)](#), and hosts the [Clean Air Academy](#) which provides advanced air quality training for state officials.

Ongoing research questions

- Why are some boundary organizations effective at producing high-quality, relevant information to support policy, and some aren't?
- Is it a helpful concept for those working in such organizations?

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