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Lesson – Governance Theory, Part 2: Case Studies in Polycentric Resource Management

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Overview:

This is the second lesson in a two-part series on governance. It is recommended to read the companion explainer articles on governance and polycentric governance first and to then complete the lessons in order, as they build upon concepts. The first lesson can be found here: Governance Theory, Part 1: Revising the Tragedy of the Commons.

Political economist Elinor Ostrom won a Nobel Prize for her work on polycentric governance—which is roughly defined as a system, consisting of multiple stakeholders who collaborate to govern a limited resource. Ostrom based her theory on innovative research of polycentric water management in the arid American West. Ostrom and her collaborators critiqued the prevailing paradigm of "The Tragedy of the Commons" from Garrett Hardin's 1968 article. It argued that common-pool resources would inevitably be overused if unregulated and that top-down government management or privatization were the only ways to avoid a tragic collapse of shared natural resources. What can polycentric theory add to socio-environmental governance strategies today? Positive outcomes result from what researchers call "social fit," the ability of a governance structure to reconcile diverse people's values, beliefs, and expectations in the management of a socio-environmental system.

This is the second lesson in a two-part series. Lesson 1 addressed the paradigm shift from Hardin's pessimistic view of the commons to Ostrom's more inclusive and constructive theory of polycentric governance. It considered climate change as a particularly wicked polycentric governance challenge. This lesson, Part 2, takes a case study of a vast marine reserve in Hawai'i to demonstrate how the design of polycentric governance can include local, tribal, state, and federal stakeholders; it also demonstrates how the design can evolve in time to promote sustainable use, community input, and information sharing to build values and consensus across stakeholder groups with contrasting worldviews. Participants will apply the principles of trust, communication, and social fit to a new case study and develop flow diagrams of the regulatory networks that would result in optimal sustainable use of common-pool resources.

Assumed Prior Knowledge:

Appropriate for undergraduate, graduate, and higher-level learners.

Learning Objectives:

- Consider details of polycentric theory from a governance and efficacy perspective and seek new ways of developing common-pool resource management.
- Illustrate successful polycentric resource management using a case study in Hawai'i; explore how this case may not apply to systems with economic and population pressures.
- Study the idea of social fit, that is, the extent to which diverse people's norms, values, and expectations regarding a socio-environmental system are fulfilled in its governance.
- Study the governance attributes, enabling conditions, and design dimensions that support good social fit between stakeholders and the socio-environmental system they regulate.
- Develop a theoretical polycentric governance structure for a new case study, consider its social fit and inclusion of viewpoints, and integrate socio-environmental networks theory.

Key Terms and Concepts:

polycentric governance; Elinor Ostrom; multilevel management; common-pool resource management; enabling conditions; social fit; worldviews; cultural norms; psychology; sustainable management; socio-environmental networks



Bisti/De-Na-Zin Wilderness Area, New Mexico.
Photo Credit: Matthew Dillon, Wikimedia Commons, CC SA 2.0.

The "Hook" (suggestions for quickly engaging students):

(5 min.) The special location of the Bisti/De-Na-Zin Wilderness Area is marked by a wilderness boundary, managed by the Bureau of Land Management within the U.S. Department of the Interior. Ask learners what other federal agencies

may have involvement in regulating wilderness areas in the United States. (For example, the National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, and U.S. Forest Service co-manage the National Wilderness Preservation System (NWPS) and each of these federal agencies manages many wilderness units of different sizes and geographies.)

Beyond the patchwork of federal regulators, what other stakeholders have an interest in the use of this wilderness and who has access to it? The name comes from Navajo: Bisti (a large area with shale hills) / De-Na-Zin (cranes). Spend 5 min. discussing the rules (below) for this wilderness area and how they allow people to enjoy the ecosystem without altering it. What stakeholder groups has this governance structure possibly excluded or sidelined?

- As a federally designated wilderness area, it is closed to motorized vehicles and mechanical forms of transportation (mountain bikes included).
- Building campfires, collecting fossils or petrified wood, climbing on delicate geologic features, gathering in groups of more than eight people, and trespassing on adjacent tribal lands are all prohibited.
- Permits are required for grazing, scientific research, and commercial guiding.

Teaching Assignments:

Case Studies in Polycentric Resource Management (One, 75-min. class, with optional extensions)

1. **Prior to Class:** As preparation for the learning session, ask advanced participants to read the entire Acton et al. (2021) study (below in open-source, pre-print PDF format) and ask undergraduates to read the highlighted portions. Participants should take notes on the attributes of polycentric governance, as well as the dimensions and enabling conditions of social fit.

   Acton_et_al_2021_Highlighted.pdf

2. **(10 min.)** Review the points covered in the below PPT, using slides 1–4.

   Governance_Theory_Pt2_Lesson_Slides_Accessible.pptx

3. **(5 min.)** Enumerate the reasons that the Papahānaumokuākea Marine National Monument provides an interesting case study of polycentric governance but also how it may represent an exceptional degree of egalitarian design and diverse stakeholder inclusion. For example, how has the recent designation of the monument (2006); its layers of tribal, local, state, and federal oversight; and the clear mandate for ecological and cultural conservation over economic goals contributed to this special case of polycentric governance?

4. **Split into Groups:** Divide participants into four groups of 4–5 learners each and assign each one of the topics below. Note that these four topics are diverse and are exigent arenas to explore polycentric governance, but the topics do not necessarily exemplify it, nor do they have scientific publications that analyze their capacities in this governance realm. Learners are conducting exploratory, and at times speculative, work; they should expect the need for inference and the existence of gaps in knowledge.

   - National forests: Timber versus trails
   - Farmland conservation versus suburban sprawl

- Old freeways, new urban community retrofits
- Superfund site repurposing for a sustainable future

5. **(15 min.)** Give each group 15 min. to explore their topic on the linked website and with further self-directed research. Some of the links come directly from community or environmental stakeholder groups, which present a particular viewpoint about wise governance. Groups should be aware of partisan or partial information and try to represent all points of view. Groups might choose to assign stakeholder roles to individuals so as to embody and voice the varied viewpoints at play in the case study (federal, state, community, cultural, ecological).

6. **(10 min.)** Have each group analyze their case in the same way Acton et al. (2021) evaluated the Papahānaumokuākea Marine National Monument.
    - Does it have the two attributes of polycentric governance? (PPT slide 2)
    - Does it include the four enabling conditions of Social Fit? (PPT slide 3)
    - Does it include the three dimensions of Social Fit? (PPT slide 4)

7. **(10 min.)** Now have each group list:
    - Points of governance dispute and the economic, ecological, or cultural value systems that inform them
    - Intersections between regulatory choices and integrative considerations like stakeholder values, worldviews, psychological well-being, and cross-cultural communication that fosters social learning across groups.

8. **(20 min.)** For the last 20 min. of class, have groups explore an optimal polycentric governance outcome for their topic by 2050. Have them draw an organizational diagram to show the governance hierarchy and how polycentricity has enticed stakeholders to share interests and use resources wisely.

9. **As Homework:** Have each group post their network diagram and social fit analysis to an online discussion board. Review these ideas and sum up the advantages and challenges of polycentric governance online, or in the next class.

10. **Optional Extension 1:** Advanced groups that are familiar with socio-environmental networks analysis might design a network diagram that integrates humans with ecological system dynamics in the context of climate change.

11. **Optional Extension 2:** As an extended project, have advanced participants design a research paper based on their target case study to formally analyze its existing polycentric design and/or potential for it to develop in the future. Following Acton et al. (2021), their plan would probably involve:
    - A survey of stakeholders and their governance positions and authority
    - A history of governance choices related to the issue or site

- An assessment of the degree to which their case embodies Acton's details of polycentric attributes, enabling conditions, and social fit dimensions
- A network diagram to show stakeholders, hierarchy, communication, and trust.

Background Information for the Instructor:

1. **The Uncommon Knowledge of Elinor Ostrom**
    - This accessible book celebrates Ostrom's legacy to ecology and economics, challenges the Tragedy of the Commons, and presents a series of case studies to illustrate polycentric design.
    - Nordman, E. (2021). *The Uncommon Knowledge of Elinor Ostrom*. Island Press. https://www.google.com/books/edition/The_Uncommon_Knowledge_of_Elinor_Ostrom/UHBWEAAAQBAJ?hl=en&gbpv=0
2. **Toward comparative institutional analysis of polycentric social-ecological systems governance**
    - This paper develops a conceptual approach to evaluating the function of polycentric governance designs, and advocates for Comparative Institutional Analysis to better evaluate case studies.
    - Thiel, A., & Moser, C. (2018). Toward comparative institutional analysis of polycentric social-ecological systems governance. *Environmental Policy & Governance, 28*(4), 269-283. https://doi.org/10.1002/eet.1814
3. **The Environmental Optimism of Elinor Ostrom**
    - This collection of essays explores the Water Management case study in Ostrom's work, with specific chapters to elaborate on integrative polycentric case studies
    - Jenkins, M.E., Simmons, R., & Wardle, C. (2020). *The Environmental Optimism of Elinor Ostrom*. The Center for Growth and Opportunity at Utah State University. https://www.thecgo.org/wp-content/uploads/2020/09/The-Environmental-Optimism-of-Elinor-Ostrom.pdf

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- U.S. Environmental Protection Agency. (n.d.). *Superfund redevelopment program*. https://www.epa.gov/superfund-redevelopment

Related SESYNC Content:

- Palmer, M.A. (2024, July 19). *Explainer – What Is Governance? A Socio-Environmental Perspective.* SESYNC. https://www.sesync.org/resources/explainer-what-governance-socio-environmental-perspective
- Scott, H. (2023, July 27). *Explainer – Polycentric Governance: When Is It Good?*. SESYNC. https://www.sesync.org/resources/polycentric-governance-when-it-good
- Scott, H. (2022, August 31). *Lesson – Governance Theory, Part 1: Revising the Tragedy of the Commons*. SESYNC. https://www.sesync.org/resources/governance-theory-part-1-revising-tragedy-commons

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