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F. Iyalomhe, A. Jensen, A. Critto, A. Marcomini 2013. Science-policy interface for climate change adaptation: the contribution of ‘communities of practice’ theory (accepted for publication in *Environmental Policy and Governance* journal).



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OBJECTIVE

- How vigorous and dynamic communities of practice could enhance a robust social context in climate change adaptation projects;
- To understand how a successful science-policy interface in these projects could be envisioned as a community of practice.



BACKGROUND

SCIENCE-POLICY INTERACTIONS

- ✓ Science push or loading dock approach: curiosity science in pursuit of knowledge produce results that are delivered to end users.
- ✓ Demand pull: In pursuit of solution to a problem science is sought out by end-users
- ✓ Interaction model: This combines both the science push and demand pull in order to establish an interactive process between producers and users (Lemos and Morehouse 2005).
- ✓ Complex spider-web of linkage in which exchange between nodes ensure knowledge is co-produced, negotiated and reflected upon (Vogel et al. 2007 and Kasperson and Berberian 2011).



SCIENCE-POLICY INTERFACE CONSTRAINTS

- ✓ **Structural** e.g. different institutional settings, standards and practices, accountability and reward systems etc.,
- ✓ **Functional** e.g. divergent objectives, needs, scope and priorities etc.,
- ✓ **Social** e.g. cultural values, responsibilities, communication, misunderstanding of climate change complexity etc.

[e.g. Weichselgartner &Kasperson, 2010]



THE AFTERMATH - GAP

- ✓ Two distinct complex communities having apparent and fuzzy boundaries;
- ✓ Lack of robust social context needed to foster active relationship and trust;
- ✓ Inconsistent interactions/relations;

These falter the science and policy efforts aimed at addressing common problem (i.e. climate change adaptation).



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COMMUNITY OF PRACTICE [COP]

A group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their understanding and knowledge of this area by interacting on an ongoing basis.

[Wenger et al., 2002; Lave and Wenger, 1991]





COP: UNIQUE CONCEPTS

✓ **Joint enterprise:**

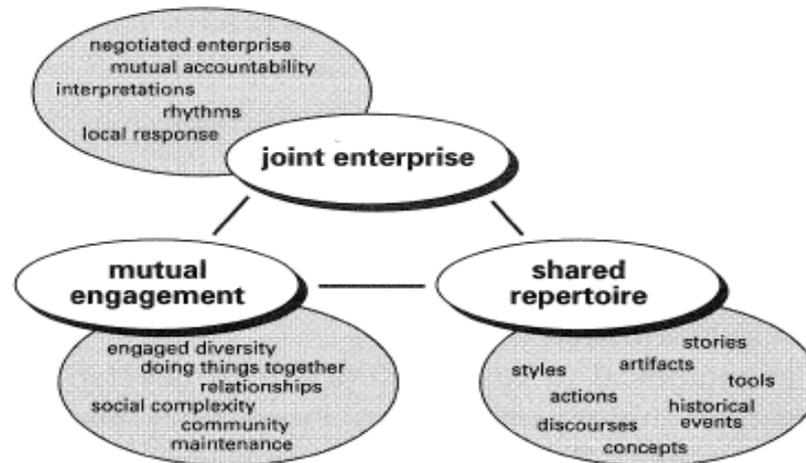
What topics and issues do we really care about? What are its open questions and the leading edge? What is in it for us? What matter and what does not?

✓ **Community:**

What roles are people going to play? How often will the community meet? How will members connect on an on-going basis? What will generate synergy and develop trust?

✓ **Shared practice:**

What kind of knowledge will be shared, developed, and given form? Which models, instruments, Lessons Learned, and shared-ways of doing, etc. ?





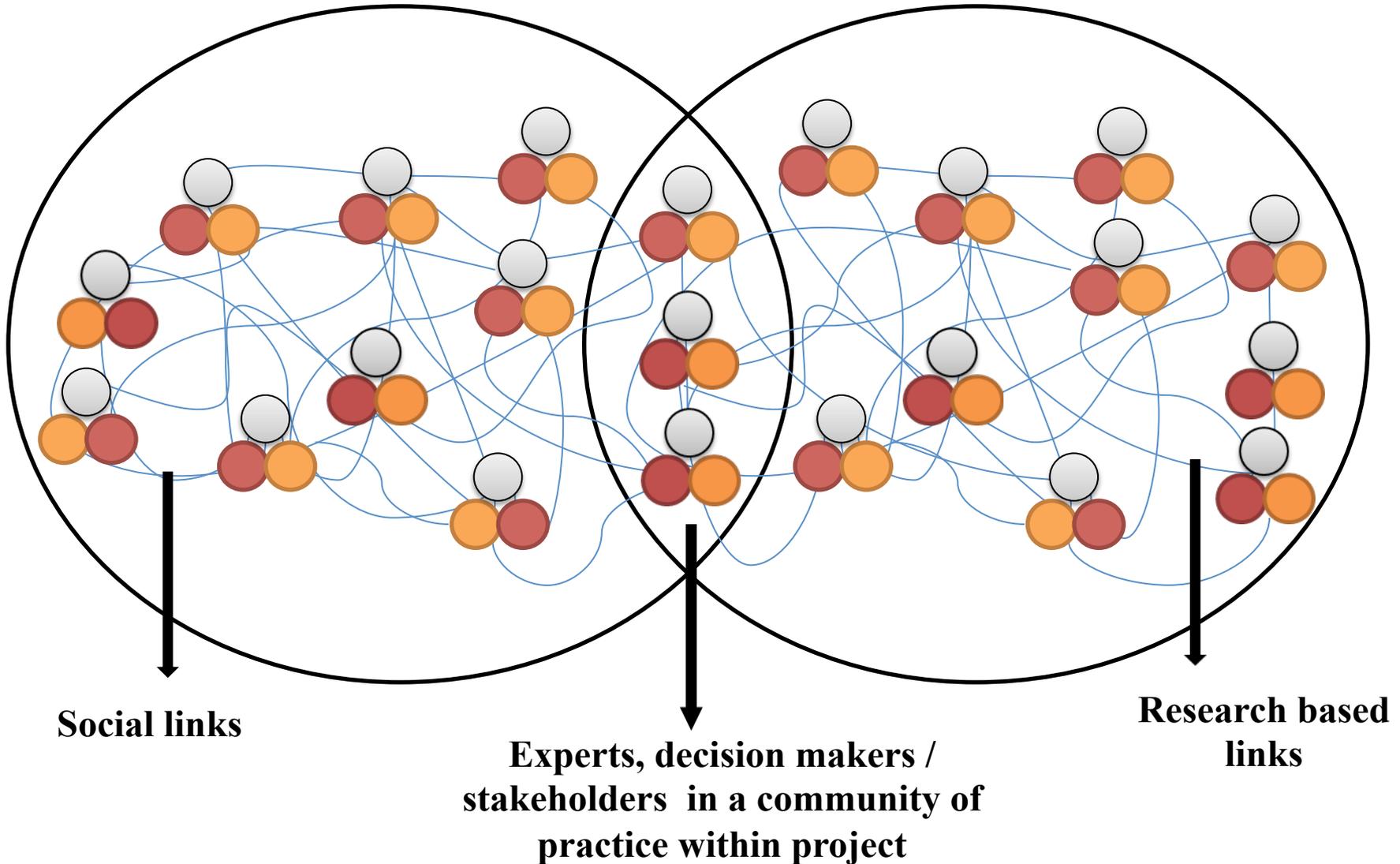
PREMISE

- ✓ The relationship between knowledge producers and users is considered a potential mechanism for their effective interaction;
- ✓ The concepts of COP – define activities as social processes and historical practices that engage different perspectives.
- ✓ The unusual complex set of mutual participation i.e. action and connection;
- ✓ A platform where everyone is a student and teacher i.e. intensive negotiation of competence and experience;
- ✓ COP makes knowledge an integral part of interactions.

A hypothetical scheme of linkage between experts, decision makers/ stakeholders within research project based community of practice

Communities of practice

Climate change research project





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CLIMATE CHANGE ADAPTATION PROJECTS: AS MODEL CASES

- ✓ Life+ project: SALT (Sustainable mAnagement of the esino river basin to prevent saLine inTrusion in the coastal aquifers in consideration of climate change) in the Marche region of Italy.
- ✓ ClimLandLive-Delta: Applied research in the Red River Delta in Vietnam, focused on climate change effects on water flows, and how this will impact local agriculture and livelihoods, and altered water management.



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ANALYSIS OF THE MODEL CASES

- Open-ended surveys, interactive research experience and observation.
- Inductive reflection on model cases vis-à-vis COP;
- Ideal for exploratory studies and to discover possible relationships between premises and empirical cases.



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FINDINGS: OPPORTUNITIES

1. GIS-database system, regional risk procedure and SWAT models, and questionnaires and qualitative interviews;
2. The middle space for intense participation (asymmetric informal and formal interactions) and negotiation, reflection and feedback during technical workshops and meetings;
3. Professional acquaintance and trust, and the new skills and contextual knowledge developed by experts and researchers;
4. Project general objectives that led to mutual accountability among experts/researchers and stakeholders.



FINDINGS: CONTENTIONS

1. Limited participation of stakeholders:

- ✓ Undermine the focus of COP on participation in social network and practice.
- ✓ Challenges Wenger's (1998) views on legitimate participation.

2. Strong focus on the model cases formal objectives compared to informal objectives:

- ✓ Undermine the learning aspect of social practice, stressed by Lave and Wenger (1991).

3. The ad hoc contextual knowledge and practice produced to meet the primary objectives of these model cases:

- ✓ Opposes the more stable historic shared practice emphasized within COP



CONCLUSIONS

1. Vigorous and dynamic COP promises to enhance a successful science and policy relations:

- ✓ locally developed shared-ways of doing as social processes and practice.
- ✓ Robust relationships and interactions based on personal and professional acquaintance, commitment and trust.

2. Potential new approach to several two-way interactions in the climate change adaptation learning projects.



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Thank you for your attention!

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