META-ORGANIZING CLUSTERS AS AGENTS OF TRANSFORMATIVE CHANGE THROUGH 'RESPONSIBLE ACTORHOOD'

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CONTEXT: SUSTAINABILITY TRANSITIONS

Urgency of tackling climate change and socio-environmental issues

Planetary boundaries increasingly exceeded, which poses a threat on the "safe operating space" for humanity (Rockstrom et al 2009)

Need for a new "deep transition" of industries, ecosystems, modes of production and consumption, multi level transformations of niches, sociotechnical regimes and institutional landscapes (transition studies, e.g. Geels 2002, Schot and Steinmueller 2018)

Transformative outcomes, innovation, policy: those that contribute to these multi-level transitions



DESIGN OF NEW STI POLICIES FOR TRANSITION

A new frame of STI policy is needed, to sustain these transformative change, with a focus on local experimentations and deliberative governance (Köhler et al., 2019, Schot & Steinmueller, 2018)

Clusters = seen as an outdated policy instrument rather than a complementary agent to be used for transformative change in sustainability transition, that created inequalities and governance issues due to the emphasis on competitiveness (Schot & Steinmueller, 2018)

Omnipresence in the world, both emergent dynamics and results of past public policy



OBJECTIVE OF THE RESEARCH

How to organize clusters as local agents of transformative change, i.e. players that actively contribute to systemic sustainability transitions anchored in territories?



META-ORGANIZATIONAL LENS ON THE DESIGN OF ECO-INDUSTRIAL CLUSTERS

Industrial ecology
literature & Science and
Technology Innovation
policy & Geographies of
regions and territories

'Responsible actorhood' of clusters is a key organizational condition for clusters to act as local agents of transformative change.



META-ORGANIZATION

Autonomous organization made of autonomous organizations, different from network and institution, (Ahrne and Brunsson 2008) with elements of organizationality

MO's nature, functioning, life cycle, differ from individual-based organizations

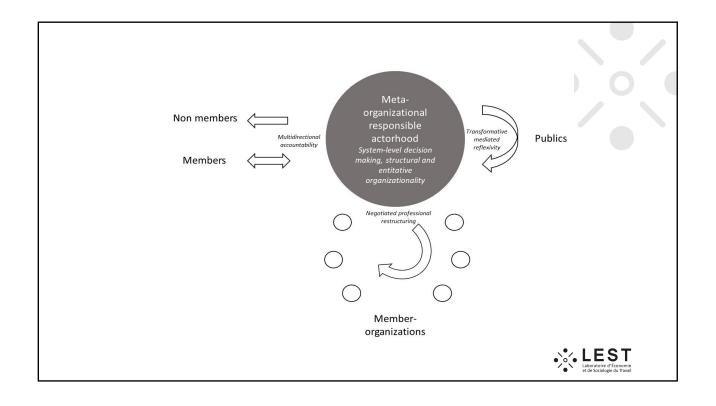
Tension on autonomy (Kerwer 2013), MO acts as a neutral space among members to take joint decision and build collective capabilities (Berkowitz 2018)

Can be a transformative agent, under certain conditions, which we investigate here, focusing on clusters



ANALYSIS

Concept	Definition Main outcome
Responsible	A system of autonomous decision making externally Enabling clusters and meta-
actorhood	recognized as an actor, and which decisions highlight a organizations in general to have
	care for future generations and a commitment to enacting a transformative outcomes
	sustainable future
Multi-	Complex ties of accountability between the meta- Addressing the answerability issue
directional,	organization and its members, and between the meta-
meta-	organization, members and external publics
organizational	
accountability	
Transformative	A continuous process mediated by the meta-organization Mitigating the path dependency towards
mediated	and consisting in identifying, reflecting upon and growth
reflexivity	integrating external changes as well as impacts on all
	publics (including nonhuman publics)
Negotiated	A deliberative process enabling cluster's stakeholders to Transforming risks of labor resistance
professional	renew and adapt their professional and labor activities to into labor adaptation to the new
restructuring	technological or social ruptures, especially as a result of professions and sectors of the transition
	meta-organizational accountability and transformative
	mediated reflexivity



TAKE AWAY AND CONTRIBUTIONS

- Achieving responsible actorhood through:
- o Gaining 'multi-directional meta-organizational accountability'
- Nurturing 'transformative mediated reflexivity' about technological ruptures and ecological performance
- Developing 'negotiated professional re-structuration' to establish new knowledge processes at work
- o Contributions to the literature on clusters, STI policy and Meta-organization
- Policy and practical implications for the design and (self-)steering of eco-industrial clusters
- In other settings than clusters based in developed countries

