

Emerging circular bioclusters: A comparison of two forest-based bioclusters in southern France

Circular bioclusters appear to be territorialized organizational models capable of combining economic development and environmental preservation. However, their emergence remains uncertain, particularly in rural areas where cooperation around bioresources remains fragile. This article analyzes the social, symbolic, and institutional conditions that enable actors to start a collective action around a bioresource in order to initiate a circular biocluster. The goal is to focus on the often understudied emergence phase, during which collective dynamics remain informal and unstable.

The study draws on work on clusters (Porter), circular bioclusters (Labrousse et al.), the theory of the commons (Ostrom), communities in transition (Christiansen et al.), the economy of proximity (Boschma; Torre & Rallet), and multi-level governance (Bache & Flinders; Hooghe & Marks). It conceives emergence as a process of communalization articulating shared representations, coordinated actions, and feelings of belonging. Bioresources, viewed as malleable resources, may give rise to controversies or synergies depending on the socio-technical and institutional mediations at play.

The analysis is based on a comparative study of two forest bioresources in the Cévennes: the chestnut tree (*Castanea sativa*) and the maritime pine (*Pinus pinaster*). A qualitative approach was adopted. Based on 24 interviews (15 individual, 4 collective), we interviewed forest owners, professional organizations, public institutions, processing companies, and researchers. The thematic analysis combines deductive coding (three community dimensions) and inductive coding (proximities, governance) in order to identify the social and institutional mechanisms influencing the emergence of a biocluster.

The comparison reveals that similar structural configurations can produce divergent dynamics. The chestnut tree remains trapped in ambivalent representations—heritage, decline, or marginally ecological—that fail to stabilize into a common mobilizing narrative. Cooperation remains local and fragmented, without articulation towards an operational value chain. Geographical and identity proximities remain dormant, while poorly articulated multi-level governance maintains the dispersion of responsibilities.

Conversely, the maritime pine benefits from a stabilized productive narrative, supported by socio-technical demonstrators (resin experiments, local furniture) that transform representations into tangible evidence. These mediations activate existing proximities, strengthen trust, and structure visible interdependencies. The presence of key players and a functional link between local initiatives and institutional mechanisms thus enable the gradual emergence of a coherent collective dynamic.