

Paper Session

[A07] Bringing ecology and ecosystems in transition research

Dorith Vermunt [Netherlands]¹ , Simona Negro [Netherlands]¹ , Pita Verweij [Netherlands]¹ , Marko Hekkert [Netherlands]¹

Copernicus Institute of Sustainable Development, Utrecht University¹

While transition research has delivered important insights in the societal change processes towards sustainability, the attention has mainly been focused on the energy and transport domain. Surprisingly, shifts in societal systems to deal with the enormous impact of mankind on natural ecosystems have hardly received any attention.

This is remarkable since ecosystems have important functions and provide multiple services that are vital to society, such as food security, freshwater, fertile soils, prevention of erosion, mitigation of floods and resilience against climate change. However, rapid degradation of ecosystems is jeopardizing these benefits, as ecosystems decline faster in the past 50 years than any other period in human history before (CESR, 2008). A large share of this decline can be found within agricultural production systems, which cause huge pressures on natural resources (Scherr and McNeely 2008).

In this paper we focus on the transition of the food system with special attention to what is needed to safeguard vital ecosystem services and biodiversity. Most of the research that has been done in this area focusses on improving supply chains and actions that landowners can take to harvest agricultural products in a more environmental friendly way. Recently different authors call for a novel approach to guide the transition of the food system. This is called the landscape approach. The central idea of this approach is that a focus on complete landscapes is necessary in order to achieve biodiversity and ecosystem preservation. Therefore, multiple landowners that are active in different sectors need to cooperate. The focus on complete landscapes is more difficult than a focus on improving the practices of individual landowners, but the effects on combatting deforestation, land degradation and loss of biodiversity are much more positive.

Since the natural environment is an important part of the analysis, current transition models like the MLP or TIS framework are not fully suitable since they do not take the ecological factors into account. An approach that is developed in a neighbouring academic community is specifically focused on linking societal change processes with the ecological system; the socio-ecological system framework (Ostrom 2009). While the combination of ecological and social systems is a strength of the framework, the rigor of the transition models to understand change is missing.

In this paper we assess the usefulness of transition models and the socio-ecological system approach for understanding transitions in the food sector to preserve natural landscapes. Based on a thorough assessment of these frameworks a combined framework is developed that delivers the combined strengths of the frameworks.

Another novelty that we address in this paper is an explicit attention for both the micro and the meso-level of transitions in the food sector. For firms to engage in change processes that preserve natural landscapes, new business models are required to integrate benefits from preserved landscapes into economic benefits.

In this paper we will empirically test the framework we developed by studying three cases in which large multinational firms have engaged in landscape preservation initiatives. Based on these empirical cases we aim to create insight in conditions that lead to successful build-up of landscape preservation initiatives where large firms are involved, and in the factors that hamper or stimulate firms to engage in these initiatives.

Therefore this paper will contribute to the transition literature in two ways. First, it aims for a theoretical contribution by developing a new framework to understand processes of change within the food system, where the strengths of transitions models and socio-ecological system frameworks are combined. Second, by empirically testing this framework this research aims to shed light on the conditions that accelerate or hamper preservation of natural landscapes in the food sector.