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# Cooperatives as catalysts for sustainable neighborhoods – a qualitative analysis of the participatory development process toward a 2000-Watt Society

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## ABSTRACT

Studies on the adoption of sustainable consumption patterns have shown that citizen participation in the development of new products, services and systems, such as eco-towns, can, among other things, increase the legitimization, market acceptance and sustainability impact. Cooperatives that traditionally act on behalf of and work very closely with their members may be particularly well-suited to leading participatory development processes. By exploring the cooperative-led development of a new sustainable neighborhood in Switzerland, we analyze how citizens participated in different phases of the development process and the extent to which cooperative characteristics influenced this participation. We find empirical evidence that cooperatives and cooperative networks are a promising organizational form for involving citizens in all phases of the development process of new sustainable neighborhoods. Our findings add new insights to the literature of sustainability transitions by highlighting the cooperative network as a powerful actor for promoting participation in sustainable urban development, inducing learning processes beyond the boundaries of the newly developed neighborhood.

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## 1. Introduction

The current transition toward sustainable lifestyles has often been criticized as being too slow and incremental (e.g., Markard et al., 2012; Vergragt et al., 2014). The lock-in effects of unsustainable consumption and production patterns can be attributed to financial, cultural, institutional, political and socio-psychological aspects (Vergragt et al., 2014). With regard to consumption patterns, green products and services often require, for instance, changes in citizens' behavior, practices and lifestyles (e.g., Heiskanen et al., 2005; Vergragt et al., 2014; Vergragt and Brown, 2007). Several scholars have therefore called on the private and the public sectors to involve citizens in the green development process to ensure that green products and services correspond to citizens' expectations and can ultimately unfold their positive impact on the environment (Heiskanen et al., 2005; Hoffmann, 2007; Laperche and Picard, 2013; Ornetzeder and Rohracher,

2006; Owens, 2000; Stirling, 2008). This argument has also been put forward in the context of eco-towns and the development of new sustainable neighborhoods (Bayulken and Huisingsh, 2015a; Doyle and Davies, 2013).

One way to involve citizens in the development process of new sustainable neighborhoods may be through cooperatives, which traditionally act on behalf of and work very closely with their members. Although some studies suggest that the cooperative business model is suitable for promoting sustainable lifestyles (Boone and Ozcan, 2013; Dorado, 2013; Sagebiel et al., 2014; Sanders, 2002), there is surprisingly little research on how cooperatives innovate and collaborate with inside and outside actors in this context (Penna and Geels, 2012; Seyfang, 2007; Smith et al., 2014). Against this background, this article empirically investigates how cooperatives organize and implement citizen participation throughout the development process of a new sustainable neighborhood. More specifically, we will look at the participatory formats applied by the cooperative in the different phases of the development process as well as the cooperative's characteristics that affect this participatory development approach.

We answer this question by analyzing the case of Mehr Als Wohnen (MAW – “more than housing”), a housing cooperative that

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developed an entirely new sustainable neighborhood in Zurich, Switzerland. The neighborhood called Hunziker Areal was finalized at the beginning of 2015, offers living and working space for approximately 1300 people and sets new standards in terms of ecological, economic and social sustainability (MAW, 2015b). This single case is interesting and unique for three main reasons. First, MAW was established as an experimental and learning platform to explore, test and learn from new participatory formats and sustainable future living solutions, which had not been done before (BWO, 2010). The case, therefore, shows a very high degree of participation throughout all phases of the development process. Second, MAW was founded and established by 34 Swiss cooperatives that aimed to consolidate their financial and non-financial resources to create a new sustainable neighborhood. MAW also represents a type of cooperative network, which adds additional peculiarities to the cooperative's characteristics and has been given little attention by researchers (Novkovic and Holm, 2012). Finally, MAW aims to reach the 2000-Watt Society. The vision of the 2000-Watt Society<sup>2</sup> is a leading principle in Swiss municipal policy that foresees a society that only consumes as much energy as worldwide energy reserves permit without damaging the environment (i.e., 2000 W of primary energy per resident compared to today's average of 5000 W in Switzerland (City of Zurich, 2011)). By investing in new materials and building technologies as well as providing the necessary infrastructure (e.g., electric mobility stations), MAW ultimately seeks to empower the residents of the Hunziker Areal to change their lifestyle and reach the 2000-Watt Society (BWO, 2010, 2013). This objective, as well as the cooperative's focus on an entire neighborhood, makes the potential contribution of this case to urban sustainability exceptionally high.

The results of our analysis show that cooperatives represent powerful actors to promote participatory development approaches for the adoption of sustainable lifestyles. By highlighting the potential of cooperative actors in this context, our research adds to the literature on sustainability transitions that has often been criticized for a lack of actor perspective (Farla et al., 2012). We argue that the participatory development approach, which was led by MAW, induced social learning among the member cooperatives and other participants in the process and thus can be described as a bounded socio-technical experiment that promotes the transition toward sustainability (Vergragt et al., 2014).

After reviewing and summarizing the key findings of the relevant literature on green innovation and the role of citizen participation and cooperatives for sustainable development, we describe our research methodology. Based on the empirical results, the discussion and conclusion sections present the key insights and supporting evidence as well as discuss the implications of our findings.

## 2. Literature overview

### 2.1. Green innovation and the development of eco-towns

In light of climate change, resource scarcity and environmental degradation, newly developed products and services promise to reduce the environmental impact in the overall life cycle (Del Río González, 2005; Sangle, 2011). The public and private sector therefore increasingly focus their contribution to developing and diffusing new technologies and related products and services, which are less environmentally harmful than commonly used

alternatives (e.g., Irwin and Hooper, 1992; Sangle, 2011). In an increasingly urbanized world, the development of eco-towns has a particularly important role in achieving the transition to sustainability (Bayulken and Huisingsh, 2015a). Since the early 1980s, concepts such as sustainable development and ecological modernization guide many urban policies, as cities represent an ideal context for experimenting with new environmentally friendly concepts and technologies and disseminating the results and findings of innovation efforts (Bayulken and Huisingsh, 2015b; UN-Habitat, 2011).

One factor that influences the success of these innovation efforts is the opening up of the development process (e.g., Bayulken and Huisingsh, 2015a; Dangelico et al., 2013; Laperche and Picard, 2013). Scholars stress the necessity of collaboration between professionals from different backgrounds such as the public, private and educational sector (e.g., De Marchi, 2012). In addition, there is widespread agreement that the processes and methods to increase transparency, deliberation and participation in sustainability-oriented research, policy and innovation projects are crucial for fostering legitimacy and creating a pluralistic and socially situated understanding (Bäckstrand, 2003; Owens, 2000; Stirling, 2008). Accordingly, the involvement of end-users — i.e., citizens — and civil society actors plays a particularly important role in making sustainable development a success, as further explained in the next section.

### 2.2. The role of citizens in the development of green products and eco-towns

The empirical findings show that collaboration with citizens allows for the development of products and services that correspond to citizens' needs and wants and the generation of awareness of novel technologies (Arnold and Barth, 2012; Bayulken and Huisingsh, 2015a; Carrillo-Hermosilla et al., 2010; Heiskanen et al., 2005; Hoffmann, 2007). This is particularly important in the context of green products and services as their adoption often requires changes in peoples' behaviors, values or daily habits (Brown and Vergragt, 2008; Doyle and Davies, 2013; Laperche and Picard, 2013; Vergragt et al., 2014). As Vergragt et al. (2014) show, it is becoming increasingly recognized that technology alone will not be able to solve current ecological problems and that innovators have to anticipate the overall acceptance of new technology among society actors.

The positive impact of participatory approaches on market success has also been highlighted with regard to the development of ecological cities (e.g., Brown and Vergragt, 2008; Doyle and Davies, 2013). In a recent literature review on the lessons learned from eco-town projects, Bayulken and Huisingsh (2015a) identify stakeholder involvement in the planning and implementation process as one of the key factors for long-term success of eco-towns, as it creates a culture of consensus and commitment (Bayulken and Huisingsh, 2015a). With regard to citizens, Sanders (2002) emphasizes participatory design approaches “for” and “with” citizens. Constant and early involvement of citizens increases interest in and commitment to the project and leads to social learning effects as well as lasting changes in behaviors (Bayulken and Huisingsh, 2015a; Brown and Vergragt, 2008; Kronsell, 2013). In sum, Bayulken and Huisingsh (2015a) stress that both the width and depth of citizen participation, defined as the diversity of opportunities for participation and the extent to influence the decision-making and outcomes, have a positive impact on eco-town developments.

Irrespective of the positive effects of citizens' contributions in the development of eco-towns, participatory development processes can also have shortcomings such as time delays, increased

<sup>2</sup> For more information on the concept of the 2000-Watt Society, please see: <http://ourworld.unu.edu/en/2000-watt-society>.

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