Exploring the Transition Potential of the Ecovillage Movement

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Abstract

This paper explores the following question: what is the transition potential of the ecovillage movement? After arguing the relevance of this question, literature in transition studies is discussed in order to specify three research questions on the 'transition potential' of ecovillages. Second, the ecovillage movement is described with reference to literature on intentional communities and social movements. Third, the 'transition potential' of the ecovillage movement is explored by answering the following three questions: 1) how can the ecovillage movement be characterized in transition terms, 2) how does the ecovillages movement empower actors and what kind of power do these actors exercise and 3) how and to what extent is the ecovillage movement 'mainstreamed'? For each of these questions, a set of research hypotheses are formulated. In the conclusion, these hypotheses are further discussed, and challenges for future research are distilled. This is an explorative paper; rather than testing or (dis)proving predefined hypotheses, the aim is to explore the synergy between an empirical phenomenon (ecovillages) and a theoretical perspective (transition theory) and on that basis distil hypotheses and challenges for future research.

Keywords: ecovillage movement, intentional communities, transition studies, niches and regimes

> *For millennia, people have lived in communities close to nature, and with supportive social structures(…)*
> *Ecovillages are now being created intentionally, so people can once more live in communities that are*
> *connected to the Earth in a way that ensures the well-being of all life-forms into the indefinite future.*
> *(Website Global Ecovillage Network)*

I. Introduction: The Relevance of the Ecovillage Movement for Transition Studies

This paper explores the transition potential of the ecovillage movement, i.e. the thousands of ecovillages across the world and their possible contribution to sustainability transitions. The ecovillage movement emerged in the 1980s/90s in response to ecological and social challenges in modern societies. The approach of ecovillages starts holistically in daily life and extends to all areas of consumption, economic activity, infrastructural planning, organization and governance. Studies on ecovillages measured their ecological footprint as only 28- 42 % of the German average (Simon et al., 2003) and 21,5- 37% of the UK average (Dawson, 2006). While significantly reducing energy consumption, examined ecovillages prove increased life quality conditions in terms of security, choice of lifestyle, co-existence with others, working freedom and combining work and family live (Karl-Heinz Simon et al., 2003; Kunze, 2006). Ecovillages achieve this not only by

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applying alternative technologies and practices in self-sufficient living, but mostly through *communality*, i.e. social and spatial factors such as common possession, shared living spaces, short distances between living and working spaces, and so on (Dawson 2006). There are thousands of ecovillages across the world, which are organised in trans-national, global and regional, networks. The ecovillage movement explicitly distinguishes itself from the earlier environmental movement and hippie 'back-to-the-land communes' of the 60s and 70s (as will be demonstrated further on in this paper). We will look at this ecovillage movement from the perspective of transition studies.

The field of transition studies applies theories and methods from various disciplines to study the history, dynamics and governance of 'societal transitions', defined as non-linear processes of social change in which a societal system is structurally transformed (Rotmans et al., 2001; Kemp and Rotmans, 2002, Geels, 2005, Schot, 2002, Grin, 2005, Loorbach, 2007). Transitions are distinguished from other processes of innovation or change, in that the observed changes are *long-term, structural*, *radical* and help shape *new, alternative* systems, rather than *incremental* changes that *optimise* a status quo (i.e. 'system innovation' versus 'system optimisation'). The primary objects under study are 'societal systems' and how these are and can be structurally transformed. So far, the delineation of 'societal systems' has been either socio-technical, functional (e.g. energy system, agriculture system, transport system, health care system, etc.) or regional, which challenges us to study innovation in terms of *system* innovations and complex societal dynamics. This level of analysis offers an interesting perspective on how the ecovillage movement interacts with its societal context.

Moreover, the empirical phenomenon of the ecovillage movement allows us to explore a number of issues that are particularly relevant for transition studies: 1) radical change *beyond* functional or socio-technical innovation, 2) *multi-functional interaction*, i.e. how different innovations interact in a local context, 3) the social dimension of *community building*, 4) the dynamics of self-governed *citizen initiatives* as opposed to centralised governance and 5) the role of trans-national networks and so-called *social movements* in sustainability transitions. Several investigations about transformation towards a sustainable world culture attribute a leading role to civil society and social movements (Raskin et al., 2003, Agenda 21[1]). New insights in social movement literature argue that social movements go beyond attempts to change markets or states, and that a social movement is in fact (also) about changing personal relations, beliefs and ways of living that *cannot* be mediated by markets or states (Moore 1999; Myers and Cress, 2005; Darnovsky, Flacks, and Epstein, B., 1995, in: Moore & Wight, 2007). The study of so-called 'intentional communities', provide insights on how such social movements emerge. Moreover, the experimental way in which intentional communities aim to develop ecologically and socially sustainable living conditions can offer an empirical answer to neglected questions on the relation between sustainability, lifestyle and social organisation structures (Kunze, 2009). Especially the *ecovillage movement*, as a collection of specific types of intentional communities, allows us to explore how people across the world self-organize beyond markets and states to respond to ongoing sustainability challenges.

This is an explorative paper; rather than testing or (dis)proving predefined hypotheses, the aim is to explore the synergy between an empirical phenomenon (ecovillages) and a theoretical perspective (transition theory) and on that basis distil hypotheses and challenges for future research. Our paper is structured as follows. First, we shortly discuss some of the basic concepts of transition studies as well as some of the more recent discussion points. On that basis we specify three research questions on the 'transition potential' of ecovillages. Second, we describe the ecovillage movement with reference to literature on intentional communities and social movements. Third, we move on to explore the ecovillage movement from a transition perspective by answering the three research questions and formulating hypotheses. In conclusion we discuss these hypotheses and distil challenges and questions for future research.

II. Transition Studies and the Conceptualisation of 'Transition Potential'

Transitions are defined as non-linear processes of social change in which a societal system is structurally transformed. This process is conceptualised in terms of dynamic interaction between 'regimes', 'niches' and a changing 'landscape' (Geels & Schot, 2007, Geels, 2005, Rotmans, 2005). The *regime* is defined as the most 'dominant' configuration of actors, structures and practices; it dominates the functioning of the societal system and defends the status quo. *Niches* on the other hand are defined as configurations in which non-conformism and innovation can develop. Niches are also part of the societal system, but able to deviate from the dominant structures, practices and actors within that system. As the regime dominates the societal system, a necessary condition for a transition to occur is that this regime is either transformed or replaced by a new regime. The *landscape* refers to the surroundings of a particular societal system under study, where one sees trends with a relatively slow progress and / or developments with a high autonomous character. At this landscape level we find global trends such as globalisation, climate change, individualization, and so on (Geels, 2005, Rotmans, 2005). Landscape developments confront incumbent regimes with new situations and pressure regimes to adapt and transform. Niches providing alternative technologies and ideas that offer solutions for landscape developments and regime tensions. Niches also exert (bottom-up) pressure on regimes by challenging mainstream practices, articulating societal tensions and advocating a need for change. At first, the regime resists change, but as societal pressure at the landscape and niche-level increase, the regime starts breaking down. As changes accelerate and multiply, old regime structures are replaced by new structures. Ultimately a new dynamic state of equilibrium is achieved; a new regime has been formed that has replaced the old regime (Rotmans et al. 2001).

Besides research on the history and system dynamics of transition processes, transition studies also address the *governance* challenges involved in the interaction between niches, regimes and landscapes. These governance challenges are addressed both descriptively and prescriptively in terms of strategic niche management (Hoogma et all, 2002, Raven, 2005), transition management (Loorbach, 2007, Kemp & Loorbach, 2005, Rotmans et all., 2001), transition experiments (Van der Bosch & Rotmans, 2008) and reflexive governance (Grin, 2005). Transition management is a new governance model that attempts to resolve persistent problems in societal systems. The underlying

assumption is that full control and management of these problems is not possible, but that we can 'manage' problems in terms of adjusting, adapting and influencing the societal system by organizing a joint searching and learning process, focused on long-term sustainable solutions (Rotmans, 2005; Loorbach, 2007).

While the implicit references to power in transition studies are obvious, an explicit integration of power concepts is lacking in much of the literature, as pointed out by several authors (Shove & Walker, 2007, 2008, Duineveld et al, 2007, Smith & Kern, 2008, Smith & Stirling, 2008, Hendriks, 2007, Meadowcraft, 2007, Genus & Cole, 2008). In response to this critique, Avelino and Rotmans (2009) developed a framework to conceptualize power in the context of transitions, proposing to redefine concepts such as 'niches' and 'regimes' in explicit power terms, and to reorient the focus of 'transition management' on the aspect of empowerment. In this framework, a distinction is made between constitutive, innovative and transformative power.

While much of the power literature focuses on dependency on an existing distribution of resources and the reproduction of existing structures of domination (constitutive power) it is argued that in order to understand transition processes, it is necessary to study how actors create and invent new resources (innovative power) and how actors develop new structures and institutions, thereby enabling the *redistribution* of (old and new) resources (transformative power). Incumbent regimes 'dominate' societal systems in the sense that they exercise constitutive power, i.e. reproduce and maintain existing structures and institutions that determine how existing resources are distributed within the societal system (e.g. property laws, market principles, tax regulations, physical and organisational infrastructures etc.). Niches can 'outmanoeuvre' regimes by creating new resources that are not (yet) controlled by regimes (innovative power) and by setting up an institutional context in which these new resources can be distributed and replace old resources (transformative power).

The challenge in a transition process is to *empower* niches in such a way that they can exercise innovative and transformative power. Empowerment is defined as actors gaining 1) (access to) resources, 2) strategies and skills and 3) the willingness and motivation to exercise power for a specific goal (Avelino & Rotmans, 2009). In order to create a new resource, e.g. a new technology, one needs access to existing resources, e.g. information, money, raw materials, people, and in order to gain such access, one needs strategies and skills, including implicit and explicit knowledge. Moreover, actors needs to gain the intrinsic motivation to exercise power for a specific goal, not only by envisioning a specific goal, but also by believing that they *can* exercise power to reach that goal. This intrinsic motivation is dependent on complex psychological processes in the way people interpret their own daily activities in relation to their societal context (Avelino, 2009). Transition management is about empowering niches, by providing them with the necessary resources, strategies, skills and intrinsic motivation to exercise innovative and transformative power in the pursuit of a more 'sustainable society'.

As pointed out by Smith (2006) the transition literature confronts us with a paradox: "niches will be more influential when they show some compatibility with the incumbent

regime, but such compatibility also blunts the innovative potential of the niche" (441). Empirical studies of 'radical' green niches such as eco-housing and the organic food movement in the UK (Smith, 2006, 2007) demonstrate how "conventional actors have entered the niche without radically transforming their own practices", how "profitable elements of the niche have been skimmed off and inserted into mainstream regimes" and how "less radical elements have been absorbed without requiring wider transformation in the incumbent socio-technical regime" (2006: 454). These insights are confirmed by transition scenario models on sustainable housing and sustainable communities (Bergman et al., 2007:27), in which "niches adapt their practices to be somewhat similar to that of the regime to gain support" and "actors who plan and build energy efficient houses tone down the efficiency in order to appeal to the mainstream".

For a transition to occur, niche practices need to be 'up-scaled' and transferred to mainstream practices. As these mainstream practices are dominated by regimes, niches need to somehow cooperate with incumbent regimes. In this cooperation process there is a risk that niches are 'absorbed' by regimes, loosing their ability to 'replace' or substantially 'transform' these regimes. Smith argues that niches need to be flexible in terms of being *both* radical and reforming; while some niche elements are transferred to the mainstream, more radical components of the niches are 'kept alive' by committed actors that 'remain advocates for more radical system innovation' and continue 'radical experimentation':

> "there can be niche elements which can be appropriated by the mainstream relatively easily and which may form a first step towards mildly more sustainable reforms. Meanwhile, the more radical practices will continue to be pursued by committed actors within a renewed niche. They remain advocates for more radical system innovations (…) [This] permits more radical experimentation to continue amongst more committed actors whilst, at the same time, allowing mainstream reforms which acknowledge the importance of sustainable development. (…) Over time, new links between the reformed regime and the radical niche may be forged and a new round of incremental reconfigurations initiated" (Smith, 2006b, 455-456).

So far we addressed some of the basic concepts in transition studies, as well as some of the more recent theoretical discussion points. On that basis, we propose to explore the transition potential of the ecovillage movement by asking the following questions; 1) how can we characterize the ecovillage movement in transition terms, i.e. in which transition(s) is it involved and what is the dynamic interaction between niche, regime and landscape? 2) How does the ecovillage movement empower actors and what kind of power do these actors exercise? 3) How and to what extent is the ecovillage movement 'mainstreamed', i.e. to what extent does it 'replace' and/or 'transform' regimes?

III. Ecovillages, Intentional Communities and Social Movements

Ecovillages are founded with an ecological and often also socio-political or spiritual intention and experiment with unconventional and new forms of living. This often includes experiments with new and alternative technologies related to energy, architecture, agriculture, spatial planning, forest management, water management, education, health care, etc. Ecovillages are globally and regionally organised in the

Global Ecovillage Network (GEN), which "has been a driving force in spreading the ecovillage movement across the globe" as it not only supports and facilitates ecovillages, but also organises education and demonstration programs, and represents ecovillages at international institutions such as the UN, EU and several NGOs (Bagadzinski, 2002: 16)[2]. Founded in 1995 in the Findhorn Ecovillage[3] by several hundred participants from all over the world, GEN is a platform for exchange, discussion, information and further development of the ecovillage concept (Jackson, 2004)[4]. It defines an ecovillage as "a human-scale, full-featured settlement, in which human activities are harmlessly integrated into the natural world, in a way that is supportive of healthy human development and can be successfully continued into the indefinite future" (Gilman, 1991). Together with its members, the Global Ecovillage Networks discusses and develops specific criteria to identify what an ecovillage is and to specify which conditions a project should strive for when it wants to become a member.[5] Today GEN lists about 4.000 ecovillages worldwide. Other sources (Eurotopia, 1998-2004) reveal that there is high fluctuation and all together a quick grow in projects who call themselves ecovillage.

Examples of ecovillages are eco-architectural town-experiments (e.g. Auroville, India and Arcosanti, USA), farmland communes with sustainable living structures (e.g. Earthheaven, USA, Sieben Linden, BRD), spiritual communities with ecological life style (e.g. Wongsamit Ashram, Thailand), traditional villages in developing countries that rediscover ancient ecological knowledge (Colufifa, Senegal) and the Sri Lankan Sarvodaya peace movement consisting of several thousand villages. Rather than discussing these different local examples, we now address the ecovillage phenomena from a scientific perspective, first by discussing ecovillages in terms of *intentional communities* and second addressing the ecovillage movement as a *social movement*.

Ecovillages are a specific type of 'intentional community' that can be defined as "a group of people who have chosen to live together with a common purpose, working cooperatively to create a lifestyle that reflects their shared core values. The people may live together on a piece of rural land, in a suburban home, or in an urban neighbourhood, and they may share a single residence or live in a cluster of dwellings"[6]. As an inclusive term 'intentional community' covers many sorts of communities from monasteries, kibbutzim and (rural) communes, over *ecovillages,* to student cooperatives and cohousing groups. Although these different examples are diverse in philosophy and lifestyle, each of them "places a high priority on fostering a sense of community--a feeling of belonging and mutual support that is increasingly hard to find in mainstream Western society"[7].

Intentional communities are not a modern phenomenon. They have existed throughout history in all different cultures (Metcalf et al., 2003). Communal building processes are the fundaments of societies; historical research analyses societies and their institutional structures as resulting from social processes, and it has been argued that community building can be regarded as the origin of governmental structures (Grundmann 2006). Intentional communities are in a constant creation process by their members, which distinguishes them from fixed organizations or institutions. This difference between community and society was already addressed by the sociologists Ferdinand Tönnies (1963) and Max Weber (1964). In modernization processes it was observed that

institutions formalize and often 'colonize' (Habermas, 1984[8]) communal structures that are characterized by personal, direct interactions, and replace these by formal, general constitutions and laws, abstracted from the personal members. While a community is characterized by its specific members, an institution is a set of formal rules and structures where the individual members are replaceable. Intentional communities integrate positive modern values while at the same time protecting communal structures and the life world from being colonized by institutional bureaucracy.

Scientific perspectives on intentional communities[9] (see for example Jansen 1990; Miller 1999; Pitzer 1997; Shenker 1986; Zablocki 1980) identify the following seven criteria to characterise an intentional community: (1) no bonds by familial relationships only; (2) a minimum of three to five adult members; (3) members join voluntarily; (4) (a certain level of) geographical and psychological separation from mainstream society; (5) a common ideology that is adhered to by all members; (6) sharing of (a part of) one's property; and (7) the interest of the group prevails over individual interests (Meijering et al., 2007). Furthermore, intentional communities have a specific socio-political dimension in that they 1) are founded consciously on the basis of an alternative vision on society, 2) search and explore new ways of living together with other people and with nature, 3) develop group building qualities through common aims, communal living and a derived life style and 4) while "natural" communities (like families) tend to subordinate to society, intentional communities strive for intervention and creation of society (Grundmann/Kunze et al. 2006). This is not only about creating an alternative vision, but mainly by about the *process* of trying to achieve this vision by experimenting with it in the context of daily life:

> "*Developmental communalism* focuses on the dynamic nature of intentional communities, recognizing intentional communities as processes rather than entities. […] in contrast to many previous theorists of intentional communities (…) intentional communities must be examined not in terms of whether they succeed in creating utopias, but rather in terms of the *process of striving* for their utopian visions" (Lockyer 2007: 397).

According to this approach of developmental communalism intentional communities can be seen as *social experiments* and *laboratories* (Grundmann/ Kunze 2008) that allow us to directly observe how social structures are built and reproduced (Coleman 1997).

Intentional communities can also be seen as the 'seeds' of social movements. New insights in social movement literature argue that social movements are for a great part about changing personal relations, beliefs and ways of living that *cannot* be mediated by markets or states (Moore 1999; Myers and Cress, 2005; Darnovsky, Flacks, and Epstein, B., 1995, in: Moore & Wight, 2007). Schehr discussed intentional communities in the context of social movement theory by focusing on the ways in which they perform resistance at the level of the life world and within civil society:

> "While ICs [intentional communities; I.K.] have traditionally been ignored in the classical social movement literature, largely for their "utopian" constitution, it is precisely this utopian component that I argue is crucial to a successful social movement. Simultaneously granting the persistence of resistance within civil society and recognition of an utopian vision for the future, make ICs the ideal social movement entity" (Schehr 1997: 174).

Brown characterises intentional communities as 'cultural critique' in the form of a 'revitalization movement' (Brown, 2002). Whether religious or secular, based on a revival of traditional culture or an unrealized utopian goal, a revitalization movement serves as a juxtaposition to the larger society (ibid. 154). Wallace defines a revitalization movement as "a deliberate, organized, conscious effort by members of a society to construct a more satisfying culture" and designates it as "a special kind of culture change phenomenon" (1956: 265). The difference to other kinds of cultural change is that these revitalization movements result from the individual's decision to change his mazeway or "mental image of society and its culture" (ibid. 266).

While intentional communities are age-old phenomena, the term 'ecovillage' is relatively new as it was first coined in 1985[10]. The Ecovillage Movement emerged in the early 1990s and can be distinguished from 'anti-society' movements such as the early environmental and commune movement or the contemporary anti-globalization-movement. These "new communities have realized that sustainable communities cannot be built around only the things that are rejected (…), but must be built around common positive values" (McLaughlin and Davidson 1985: 22). From the 1980s on intentional communities wanted to bridge with the best aspects in society; they were more service-oriented, strived for more membership-commitment and became more structured and organized (ibid. 100-1). Moore and Wight argue that the ecovillage movement can be seen as "both an extension and a *rejection* of aspects of the back-to-the-land homesteading and communal living movements of the late 1960s and the 1970s" (2007: 3, emphasis added). The ecovillage movement "represents neither a bottom-up nor top-down model for organizing human-nature relationships, but a network of people, organizations and material things that relies on a model of human-nature relationships that is neither preservationist nor purely utilitarian" (ibid:2).

In contrast to earlier preservationism, ecovillages embrace technology and 'machines' as a key mediator to manage the relationship between humans and nature[11]. Ecovillages can be contrasted with the communes of the 1960s in that "instead of just living a simple rural live close to the earth," ecovillages "have often added some of the best aspects of modern culture: the beauty of art and music, the efficiency of technology" (McLaughlin and Davidson 1985: 22). Or in other words:

> "one of the distinctive differences between the communard and homesteading movements and the EVM is that it is self-consciously attempting to create communities that are "civilized" in the sense of promoting creativity, and that provide people with high levels of comfort, that have close ties to people and activities that are not part of ecovillages themselves" (Moore & Wight, 2007:11).

Various authors have emphasised this last point, that ecovillages are not isolated endeavours but interact with their surrounding and with people outside the community (Moore & Wight, 2007: 14). Gilman, one of the 'founding fathers' of the ecovillage concept, explicitly stated that "ecovillages must not become insular, exclusive, or sheltered but must interact with and integrate wholeheartedly with the surrounding culture"[12]. Many contemporary ecovillages have multiple exchanges with the local economy and planning municipality, outreaches by education and learning centres for the

larger region (Dawson, 2006). Although many ecovillages are rural, a large proportion is not, and several are integrated in urban contexts (Moore & Wight, 2007).

Ecovillages explicitly aim to contribute to an improvement of the society they live in and seek to serve as "emissary" and "exemplary" models of organization (Weber 1982). Providing *concrete examples* of transition has been one of the main motivations behind the ecovillage movement. The Global Ecovillage Networks, for instance, was set up when "in 1990, the [Gaia] Trust (…) concluded that, more than anything else, the world needed good examples of what it means to live in harmony with nature" (Jackson, "GEN's History", 2002). In this regard, the ecovillage movement provides an answer to voices that criticise the environmental movement for its 'erratic opposition' and lack of a comprehensive vision of an alternative to mainstream (Frankel, 2002: 223). Ecovillages "challenge established cultural codes and show, by the things they do and how they do them, that an alternative is possible" (Melucci, 1995: 812), and rather than being erratic in its resistance, the ecovillage movement provides an alternative vision and "sustained challenge to the mainstream" (Bagadzinski, 2002: 17).

Another distinctive feature of the ecovillage movement is that it does not only aim to reverse the ecological crisis, but also the social crisis (Bagadzinski, 2002: 12). The social focus in the ecovillage movement is "reacting to the alienation of the individual due to institutionalisation of traditional support functions, the breakdown of the family, and the marginalisation of the weaker members of society" (Jackson in GEN, "What is an ecovillage?: Community", 2002). Material inequalities and discrimination are also explicitly addressed in ecovillages (Dalton, Kuechler and Burklin, 1990: 5, in: Bagadzinski, 2002). The inseparatability of social and ecological factors is the main guiding principle of the ecovillage movement (Kirby, 2003: 324)[13]. The ecovillage movement sees it at its task to emphasise and remind others of the integral nature of sustainability: "any sound ecological perspective rests in great part on our social perspectives and interrelationships; hence to draw up an ecological agenda that has no room for social concerns is as obtuse as to draw up a social agenda that has no room for ecological concerns" (Bookchin, in: Chatterton & Cutler, 2008).

IV. Exploring the Transition Potential of the Ecovillage Movement

So far we discussed the literature on ecovillages as intentional communities and social movements. This literature in itself provides interesting insights for transition studies, as it theorizes the role of citizen communities in the transformation of society. However, rather than pursuing a theoretical comparison of different research fields we now move on to apply concept in transition studies to explore the transition potential of the ecovillage movement as an empirical phenomena. We do this by addressing the three questions that were formulated in section II and formulating hypotheses. Besides the literature on ecovillages as discussed so far, our hypotheses are based on empirical, ethnographic case-study research of several ecovillages (Kunze, 2009, 2006)

Question 1: *How can the ecovillage movement be characterised in 'transition terms'?*

As elaborately discussed in the previous section, the ecovillage movement respond to perceived ecological and social crises by providing a space in which citizens can create alternative structures and experiment with alternative practices. In transition terms, the ecovillage movement responds to various *landscape developments*, including environmental awareness, resource depletion, ageing populations, social disintegration, individualization, globalization, emancipation, cultural pluralisation, and so on. The ecovillage movement responds to these developments by initiating various transformation processes. First, bottom-up residential planning methods applied in ecovillages replace the top-down infrastructure planning methods of regimes. Second, the creation of small-scale, self-sustaining economies replaces corporation-oriented, capital-growth economy (Bennholdt- Thomsen & Mies, 2000). Third, citizen self-governance replaces centralized governance. Fourth, socially fragmented and individualized modes of living are replaced by a holistic way of living and working within a community. Overall, ecovillages envision a *global transition from large, fragmented and centrally governed societal systems, to smaller, integrated and self-governed systems*. Therein, we can regard ecovillages as niches within existing planning, governance and economic models.

Moreover, due the wide variety of alternative practices we see in the majority of ecovillages, we can relate them to various other (socio-technical) transitions in energy, agriculture, housing and forest management. Within ecovillages, the mainstream food industry is replaced by local food production through organic agriculture and permaculture. Fossil fuels are replaced through the use of various renewable energy sources, such as solar energy systems, bio-diesel and windmills. Mainstream construction methods are replaced by eco-housing architecture. Ecovillages do not merely challenge or provide solutions for one specific socio-technical regime; rather they aim to replace various socio-technical regimes at the same time by experimenting with a wide variety of alternatives.

Besides local niche-formation and experimentation, ecovillages form trans-national ecovillage networks, such as the Global Ecovillage Network discussed in the previous section. There is a strong link between the (global) movement on the one hand and local initiatives on the other hand:

> By being a grass roots movement, ecovillages remain sensitive to local social, environmental and cultural needs, while at the same time through GEN are able to maintain a dialogue about best practices and new ideas, as well as push awareness of their cause into the international public arena. And this is a clear strength of this movement (Bagadzinski, 2002: 18).

In this regard we can characterize the ecovillage movement as a trans-national 'niche-network' that aims to connect and facilitate various niches world-wide. By doing so, the ecovillage movement 'bypasses' incumbent regimes that rely heavily on institutionalisation processes at national levels.

Ecovillages are quite risky experiments; according to Christian (2003) 90 % of the projects fail in the first 5 years. One of the main challenges is to find affordable land and planning permissions (Dawson, 2006). On the other hand, thousands of ecovillages proofed their success by managing to surpass the planning stage, some of them existing for over 30 years on a significantly independent basis. The 'failed cases' demonstrate that to build and run ecovillages individuals require special social and organization skills (Kunze, 2009: 179-81). Ecovillages, both the successful and failed cases, do not aim to provide 'the solution', but rather experiment with alternative ways of living, searching and learning new skills on how to organize these alternatives. This resonates with the way in which the transition literature characterizes 'transition experiments' as projects in which participants create and experiment with a new culture, new structures and new practices (Van den Bosch & Rotmans, 2008). Transition experiments have a high level of risk; the chances of failure are high, because these projects are searching and learning processes that explore new territories and challenge incumbent practices. The goal of a transition experiment is not only to 'succeed' in conventional terms but also to learn in the case of failure. This resonates with research that characterizes ecovillages as 'social-ecological transformation experiments' (Kunze 2009) that provide 'transformative knowledge' on how to create new culture, structures and practices through an experimental approach (Kunze, 2009[14]). In this sense ecovillages can be regarded as 'experimental gardens' or 'holistic transition experiments' in which various niche-practices are explored, including technological, economic and social alternatives.

In summary we can formulate the following hypothesis: an ecovillage is a locally condensed 'cluster of niches' that functions as a *holistic* transition experiment and the ecovillage movement is a *trans-national* network of transition experiments which aims to trigger a transition from large, fragmented and centrally governed societal systems, to smaller, integrated and self-governed societal systems.

Question 2: *How does the ecovillage movement empower actors and what kind of power do these actors exercise?*

Empowerment and emancipation is an explicit aim of ecovillages. Ecovillages focus on the mobilization of citizens rather than government officials or business representatives and thereby they "reduce the burden of government by increasing neighbourhood self-reliance" (Arikin, 1995: 112, in Bagadzinski, 2002) and "look to ordinary people rather than governments for ways to promote human and nonhuman life" (Moore & Wight, 2007: 19). Empirical data shows the emancipatory practices of intentional communities. In 62% of the 113 intentional communities in Germany the real estate is in the hand of the community unit and 69% are organized as charitable, non-profit, democratic units. 47% apply consensus decision making, 36% majority vote and 21% autonomous subgroup decisions, while some combine these methods (Dierschke/ Kunze et al. 2006). Besides these participatory models, ecovillages also empower citizens by providing them with 1) (access to) resources, 2) strategies and skills and 3) the willingness and 'intrinsic motivation' to exercise power to realize a specific goal.

Ecovillages enable their citizens to *own* and mobilize technological and natural resources to materialize their sustainable ideas and visions. This capacity of *citizens* to *own* and mobilize technologies and natural resources is exceptional. The 'ownership' of these resources is typically in the hands of (socio-technical) regimes. While technologies (e.g. solar panels) and natural resources (e.g. a piece of land) *can* be 'bought' and 'owned' by citizens, this is usually limited to an elite population, due to the high costs of these resources. The shared ownership models in ecovillages allow citizens to own and mobilize technological and natural resources that they would otherwise not have access to. This *physical* component is an important feature of the empowerment in ecovillages. While geo-politics and consequent power relations are often studied in terms of international relations, Routledge (1996) argues that *local* geo-politics deserve more attention, especially in the context of social movements, because the 'terrains of resistance' that these social movements are grounded in have an important physical component[15]. As ecovillages have such physical grounding, they can challenge regimes not only in ideological terms, but also in *geo-political* terms. Because their ideas for sustainable living are *materialised* in technological and spatial applications in actual villages, they can visualise their vision on alternative life forms, providing powerful mental images to the rest of society.

Enabling citizens to acquire new strategies and skills is one of the primary aims of the ecovillage movement. Besides their own residents, ecovillages also empower other actors, mostly by providing demonstration projects and educational programs, through which they share their acquired experiences, thereby transferring 'transformative knowledge' (Kunze, 2009). The Global Ecovillage Network plays an important role in organising and facilitating the transfer of hands-on experience and knowledge, between different ecovillages as well as between ecovillages and wider society. This is most clearly illustrated by the "Ecovillage Design Education Program" (EDE) set up by GEN; a four-week introductory course in an ecovillage that provides an overview of the full spectrum of design considerations for implementing sustainable communities. Education methods include hands-on experience, body-based memory or shared work, thereby providing lessons on how to accept responsibility for community maintenance and apply open communication methods.

As members enter ecovillages on a voluntary basis and are committed to common goals, efforts are primarily based on intrinsic rather than extrinsic motivation. This intrinsic motivation is further confirmed as the results of daily work are tangible and visible in one's direct surrounding. Ecovillages provide a space for actors to *materialize* their ideas and to create their *own* social and physical environment. By doing so, ecovillages enable the empowerment of individuals that feel *dis*empowered by the cultural and physical constraints of mainstream society and suffer from a so-called 'cognitive dissonance' between their identity and the physical reality and cultural paradigm surrounding them:

> For individuals living according to conventional cultural patterns an increasing sense of dissonance becomes evident between their sense of self and the behaviours that the culture encourages them to adopt. Recognition of the structural constraints that are inherent in a consumer-oriented environment lead to the realization that the construction of a new space

may offer solutions to their personal experience of psychological dissonance (Kirby, 2003: 324).

Empirical research on why and when people decide to join an ecovillage, demonstrate that these 'decision moments' correlate with so-called 'life transitions'; disruptions of identity in one's personal life, such as leaving a job, starting a family, children growing up or leaving home, separation and divorce, aging and retirement, and so on (Kirby, 2004: 327). Ecovillages play into the momentum of *personal transitions* as the "nodal points at which individuals reconsider their duties, needs and options" (ibid). These 'personal life transitions' increase the intrinsic motivation of individuals to integrate alternative practices in their daily life and to break with their ingrained patterns. In this sense, ecovillages do not only respond to global ecological or social crises, but also provide an answer for specific individual and psychological needs. Rather than just participating in an innovation project or lobbying in political or business circles, ecovillagers are defending and promoting their *own* (new) way of life, their *own* (new) identify and their *own* (new) family, i.e. their 'intentional community'. By directly involving citizens in this manner, the ecovillage movement breeds individuals that are exceptionally motivated to develop, implement and advocate alternative forms of living. It is the specific *synergy between personal and societal transformation* that increases intrinsic motivation and empower individuals to 'make a difference'.

Not only do ecovillages provide citizens with access to existing resources, they also empower citizens to create and invent *new* resources, such as new technologies, new currencies (e.g. interest free currency in Damanhur) and new natural resources. Residents of Auroville have been experimenting with energy alternatives since the 70s and early 80s (see for instance the 'solar bowl')[16] and continue to design and build alternative energy products; "solar lamps, solar charge controllers and inverters to provide a complete solution for solar home systems-, wind energy systems - design, supply and erection of wind-diesel hybrid systems- as well as micro-hydro systems (…) solar transport (…) the 'solar bike"[17]. In terms of natural resources, many ecovillages have settled on abandoned or unused land. They transformed deserts into rain forests (Auroville) sand dunes into gardens and tourist sites (Findhorn), military ruins into seminar centers (ZEGG), Nazi working camps into permacultural[18] vibrating settlements (Lebensgarten Steyerberg), a monocultural part of forest in a permacultural garden village (Ökodorf Sieben Linden), and so on. They almost all brought new businesses like organic farms and food stores or workshops for ecological building technology, young people, sometimes new jobs and cultural facilities to former abandoned and dying areas (Kunze 2009: 124-29). As such ecovillage exercise *innovative power*: they create and invent new technological and natural resources. Rather than having to 'buy' or 'compete' over existing resources, they develop and create their own.

Moreover, ecovillages redistribute these new resources,, replace old resources by new resources, and create new structures and institutions. They create an entire *new social context* by forming new communities (i.e. a social context) from which new structures and institutions emerge 'organically'; as the community develops in time, new norms, new rules and new traditions are established. For instance, in a case-study by Kunze (2006), an ecovillage is described that has a fully shared economy[19] for its 70 members.

The distribution does not occur in terms of 'equal pocket money', but everyone takes as much as he or she needs from the community account in the public office. While being observed by the others he/she has to write the amount and his/her name on the list, which creates social control. It works for 20 years now and is economically stable. Their common economy can even carry a few non-working ill and old people and many children. The discussions of the early days about the ecological value of private expanses almost disappeared. The members profit from the system and kept it ever since because it provides safety for people to start up businesses and gives the community and its members the power to define the value of work and consequent salaries completely on their own. This model can be seen as a new financial and institutional structure that developed over time. New ideas on property and ownership were applied and resources were redistributed amongst the members. Community members accepted this new structure and were directly involved in the development and reproduction thereof. We see the same 'bottom-up' development of new structures within the Global Ecovillage Network, where individual ecovillage members created the network, and subsequently agreed on certain standards, criteria and auditing schemes with regard to full membership. The different ecovillage experiments world-wide are shared, communicated and used to continually reconsider and create new standards and criteria. As such ecovillages exercise *transformative power*; they set up new structures and institutions at both local and trans-national levels.

In summary we can formulate the following hypotheses. First, the ecovillage movement empowers citizens both physically and psychologically. Second, such empowerment occurs primarily through *community building*; the community principles of 'participating' and 'sharing' are necessary instruments to provide citizens with 1) access to physical resources, 2) strategies and skills and 3) intrinsic motivation to pursue a combination of personal and societal goals. Third, ecovillages exercise innovative power in that they create new technological and natural resources, and they exercise transformative power in that they set up new structures and institutions at both local and trans-national levels.

Question 3: How and to what extent is the ecovillage movement 'mainstreamed' and to what extent does/ can it 'replace' or 'transform' regimes?

The high number of 'ecovillage attempts' (Christian 2003) shows the 'demand' for 'ecovillage living' is increasing. The reason for this demand lies in changed expectations about communal living by citizens of individualized societies. The trend of individualisation and subsequent growing number of one-person households does not only have far-reaching environmental implications, but also affects the psychological condition of individuals. While some single-householders explicitly wish to keep their living conditions as "happy independents", there is also a large number of "regretful loners" that can benefit from alternative living arrangement such as communal living, (Williams, 2006, in: Bergman et al, 2007: 8). Moreover, ecovillages also attract "happy independents" because existing ecovillages demonstrate that communal living is not contradictory to individualism, and can in fact facilitate *both* communal and individualistic desires. A comparative case-study research in Germany demonstrated the increased life quality conditions of ecovillages in terms of 1) security, 2) self-

determination, 3) flexibility, 4) efficiency, 5) 'existential' and psychological needs and 6) co-existence (Simon et al., 2003).

We hypothesise that the 'demand' for ecovillage living will continue to increase in reaction to developments such as ecological crisis, resource depletion, financial crisis, ageing populations in the western world, cultural tensions, subsequent safety issues in large cities, and so on. The question however, is to what extent the ecovillage movement is able to further stimulate and facilitate this demand. Many of the current successful ecovillages already receive more joining requests than they can handle (Kunze, 2009). So the question is, to what extent ecovillages can be 'up-scaled' and 'mainstreamed'. We can already observe ecovillage concepts being implemented in (more) mainstream contexts.

A first example can be found in the numerous co-housing projects (Meltzer, 2005) as a "light" kind of ecovillages, which are especially popular in North-Western Europe. A second example of the ecovillage concept being 'up-scaled' to a wider societal level can be found in the Transition Towns initiative, which calls upon the networking of local communities (mostly local governments and urban neighbourhoods) to face the challenge of peak oil and climate change and to come up with (local) solutions[20]. The Transition Town initiative uses many of the community-based ideas of ecovillages and applies some of the alternative practices in ecovillages to the urban context (e.g. permaculture), including all the key areas of life (food, energy, transport, health, heart & soul, economics & livelihoods, etc). Not only was the Transition Towns initiative founded by an individual involved in the ecovillage movement[21], various other participants in the ecovillage movement are involved with Transition Towns, both in terms of supporting and advocating it[22], and in terms of providing constructive criticism and suggestions for improvement.[23]

A third example of the ecovillage 'going mainstream' is provided by developer-led 'eco-cities', such a the BedZED project, a housing and workspace development in South London. 82 homes and 18 live-work units are embedded in an urban village that is designed to be environmentally friendly and energy efficient. According to architect Bill Dunster "a lot of people marginalize this as a study in green technologies" while "it is actually a serious study in high-density, contemporary urban living" (Sommerhoff 2003, in: Bergmans et al. 2007: 10, see also see also www.bedzeg.org.uk). Based on the BedZED-model, the World Wildlife Federation (WWF) and BioRegional started a world-wide imitative called "One Planet Living Communities", in which several developer-led eco-cities are planned in five continents, carried by businesses and independent from governments[24]. The planning of these developer-led 'eco-cities' comes with considerable challenges. For instance, the One Planet Living community planned in Portugal (called Mata de Sesimbra) plans a 4,800 hectare nature reserve alongside a 500 hectare tourism including 5000 units 'providing homes, leisure facilities and working space for 30.000 people'. While the 1 billion project is celebrated in various media sources[25] as 'the world's first-ever integrated sustainable building, tourism, nature conservation and reforestation project', it was opposed by Portugal's three largest environmental NGOs, leftist political parties and local citizens[26] as a case of 'green-washing' which allows the

construction and tourism industry to build a mega touristic park in a protected natural area.

An interesting question for transition studies, is whether this mainstreaming of the ecovillage concept through developer-led 'eco-cities' can be seen as a case of regime 'replacement' or as a case of regime 'absorption'. From the perspective of the ecovillage ambition to safeguard citizen self-governance, bottom-up residential planning and small-scale local economies, developer-led 'eco-cities' are a case of regime absorption. For these mega-projects are planned in a top-down manner and provide profit for established construction and tourism industry, without involving the local population in the process. However, from the perspective of socio-technical transitions in energy and housing construction, developer-led 'eco-cities' can be regarded as 'regime replacement' in the sense that old architectural standards are replaced by new standards that are relatively radical in terms of reducing the ecological footprint of houses (e.g. in terms of energy, water, construction materials etc.).

Interestingly the ecovillage movement actively engages with the mainstreaming of the ecovillage concept, by supporting, promoting, advocating and facilitating these projects through education, training, constructive criticism and professional consultancy. Representatives of the Global Ecovillage Movement, for instance, consulted the BedZED project, and various ecovillages are involved in consulting residential planning projects in their regional and national context (Dawson, 2006). The ecovillage movement has widened its orientation from merely 'creating more ecovillages' to transfer and translate ecovillage concepts to mainstream society. The "Ecovillage Design Education Program" mentioned earlier was set up by the Global Ecovillage Network to transfer and translate practical knowledge and experiences of ecovillages to wider society and to discuss and modify the concept of an ecovillage (EDE 2005). The curriculum is designed to be inherently flexible, to be adapted to the unique needs of specific projects or circumstances[27] and to be applicable in more traditional settings such as academia, professional circles, urbanized contexts, NGO-activism and international politics[28]. As pointed out by Jonathan Dawson, one of the executive secretaries of the Global Ecovillage Network, the "ecovillage training programmes have, for the most part, shifted from being courses in how to create ecovillages into immersion experiences in ecovillages (from which participants emerge inspired and better resourced to be able to get stuck into building sustainability back in their home places)"[29]. In this sense the ecovillage movement looks beyond its own vision on sustainable living, and manages to combine its own vision with the creation of and facilitation of various other sustainability initiatives.

The concept of an ecovillage is in itself in a constant changing and developing process. The Global Ecovillage Network emphasises that the 'perfect ecovillage' doesn't exist yet[30], and its ecovillage definition (as discussed in section II) was expanded to include a wider variety of initiatives. Therein, it is not bounded to the frame of a village any more, as some projects in mega cities show.[31] Moreover, the ecovillage movement is seeking new ways to cooperate with governments and business at a national, regional and international level (Dawson, 2006). The ecovillage model is presented as a way to deal

with current government challenges such as environmental degradation, urban sprawl and city planning, by 'going beyond today's dichotomy between urban and rural settlements' and by combining supportive social community structures with low-impact lifestyles.[32] As such the ecovillage movement fulfils the condition of 'flexibility' as discussed by Smith (2006, 2007) in the sense of being both radical and reforming, providing concepts that can be mainstreamed while continuing with radical and holistic experimentation within ecovillages. These individual ecovillages function as the 'radical nuclei' and 'breeding grounds' of the ecovillage movement.

In summary, we can formulate the following hypotheses. First, ecovillage concepts are up-scaled and mainstreamed in different forms, such as co-housing projects, citizen initiatives (e.g. Transition Towns) and developer-led 'eco-cities' (e.g. One Planet Living communities). Second, developer-led 'mega-eco-cities' are a 'regime absorption' of the ecovillage concept but this absorption contributes to 'regime replacement' in socio-technical transitions in energy, tourism and housing. Third, the ecovillage movement is reflexive and flexible, in that it manages to adapt and translate ecovillage concepts to mainstream society, while simultaneously protecting the ecovillage concept (through criteria and assessments) and maintaining 'radical nuclei' alive in thousands of individual ecovillages world wide.

V. Conclusion: Challenges for Future Research & Transition Studies

This paper made a first attempt at characterizing and conceptualising the ecovillage movement in transition terms. On that basis we formulated three sets of hypotheses. We now conclude by discussing these hypotheses and how they could address future research. By doing so, we also aim to distil challenges and opportunities for transition studies.

Hypothesis 1: Characterizing the Ecovillage Movement in Transition Terms

- An ecovillage is a locally condensed 'cluster of niches' that functions as a *holistic* transition experiment
- the ecovillage movement is a *trans-national* network of transition experiments
- which aims to trigger a transition from large, fragmented and centrally governed societal systems, to smaller, integrated and self-governed societal systems.

To further explore ecovillages as 'clusters of niches' and 'holistic' transition experiments we would need to study the interaction between different innovations within ecovillages. This paper discussed examples of alternative practices that ecovillages experiment with, but a more systematic analysis of these practices is necessary to study the multi-functional interaction between different niches. Therein, the delineation of empirical study objects would be local and transnational, rather than national and functional (as is often the case in transition research, i.e. the 'Dutch energy system' or the 'UK food industry').

This does not mean that we suggest to 'leave behind' the socio-technical, functional or national study objects in transition studies. Quite on the contrary, the interesting point is to study how ecovillages and the ecovillage movement (and other intentional communities and social movements more generally) *interact* with transitions in energy, architecture, agriculture etc. The 'sustainability vision' of the ecovillage movement (in terms of smaller, integrated and self-governed societal systems) could be compared to other sustainability visions studied in transition research. How do the issues addressed by the ecovillage movement, e.g. economic distribution, geo-political struggles, globalisation and governmental decentralisation, relate to the sector-specific transition in between energy, architecture, agriculture etc?

Moreover, in order to characterise the transition *dynamics* of the ecovillage movement, and overall challenge for future research consists of further historical analysis of ecovillages. We referred to existing literature on ecovillages and on that basis distinguished them from the isolationism of earlier 'back-to-the-land communities', positioning the ecovillage movement as a relatively new phenomena that emerged in late 80s/early 90s, while grounded on the age-old phenomena of intentional communities. In order to place these temporal processes in a transition context, it is necessary to analyse them in terms of the interaction between niches, regimes and landscape developments

Hypothesis 2: Power and Empowerment in the Ecovillage Movement

- The ecovillage movement empowers citizens both physically and psychologically.
- Such empowerment occurs primarily through *community building*; the community principles of 'participating' and 'sharing' are necessary instruments to provide citizens with 1) access to physical resources, 2) strategies and skills and 3) intrinsic motivation to pursue a combination of personal and societal goals.
- Ecovillages exercise innovative power in that they create, invent and distribute new resources, and they exercise transformative power in that they set up new structures and institutions at both local and trans-national levels.

In order to research these hypotheses it is necessary to study empowerment processes in ecovillages in both physical and social terms. Besides qualitative analysis on subjective experiences, quantitative analysis of physical resource distribution (i.e. technologies, natural resources, money) would help to study the extent to which citizens are empowered by being involved in ecovillages. Such research would reorient the focus on the role of citizens, rather than on government officials, professionals, scientists, consultants, business representatives, NGO-activists etc. For transition studies, the contribution would be to indicate how the direct involvement of citizens in experimentation would facilitate the growth of niches. As for the role of community-building, one could compare ecovillages to other 'niches' and 'transition experiments', and analyse to what extent a strong community makes a difference in terms of empowerment and niche-growth.

Although many would expect the power exercised by ecovillages to be marginal, our hypothesis is that the innovative and transformative power of the ecovillage movement is significantly stronger than many other 'niche-networks' in terms of *materialising direct results*. We hypothesise that besides the community-basis, the power of ecovillages comes forth from the exceptionally strong intrinsic motivation of individuals to pursue common goals that are 'personal' as well as 'societal' and 'political'. The most powerful aspect thereof is that these individuals demonstrate that an alternative life in fulfilling economic, social and ecological needs is not only 'possible' but that it *already* exists; these individuals *are living* this alternative life. A contribution to transition studies would be to analyse how the transformation of personal, daily life styles interacts with more strategic and political ambitions.

Hypothesis 3: Mainstreaming the Ecovillage Concept

- Ecovillage concepts are up-scaled and mainstreamed in different forms, such as co-housing projects, citizen initiatives (e.g. Transition Towns) and developer-led 'eco-cities' (e.g. One Planet Living communities).
- developer-led 'mega-eco-cities' are a 'regime absorption' of the ecovillage concept but this absorption contributes to 'regime replacement' in socio-technical transitions in energy, tourism and housing.
- The ecovillage movement is reflexive and flexible, in that it manages to adapt and translate ecovillage concepts to mainstream society, while simultaneously protecting the ecovillage concept (through criteria and assessments) and maintaining 'radical nuclei' alive in thousands of individual ecovillages world wide.

These hypotheses can be researched by studying the similarities, differences and interactions between the ecovillage movement, co-housing projects, citizen initiatives (such as the Transition Towns network) and developer-led 'eco-cities' (such as the One Planet Living communities). One could, for instance, compare the contribution of these different developments to sector-specific sustainability transitions in energy, agriculture or architecture. Another research focus could be to research the interaction between these developments within a specific national context. The UK would be an appropriate study object to do so, not only because it harbours a high amount of ecovillages and co-housing projects, but also because it had a leading role in initiating the Transition Towns network and the One Planet Living communities (inspired by London's BedZED project).

The interesting point of comparing these different developments is that the evaluation of 'regime absorption' versus 'regime replacement' depends on the 'transition perspective' that one takes. Regime absorption in one place can trigger regime replacement in another place, but also the other way around. For sustainability transitions, this is a crucial dynamic to study and it requires an analysis of the interaction between different transitions. We hypothesise that there is a serious risk that the ecovillage concept is and will continue to be 'absorbed' by business interests in terms of developer-led 'eco-cities' and 'eco-tourist-parks' that are being planned all over the world. This risk relates to more general sustainability discussions on environmental justice, geo-political struggles and

relations between North and South (e.g. North-western domination of 'eco-tourism' in developing countries). We believe that transition research can provide an important perspective on these discussions, and that an empirical transition analysis of the rise and spread of ecovillages and 'eco-cities' across the globe is an appropriate way to demonstrate this.

So far our discussion of the hypotheses distilled in this explorative paper. As pointed out in the introduction, we aimed to focus our paper on how to characterise ecovillages in transition terms, and did not explicitly discuss what we can learn from the ecovillage movement in terms of transition governance, or what the ecovillage movement could learn from the insights provided by the ongoing research on transition management. However, the hypotheses discussed so far can be linked to transition management in numerous ways. To mention a few, the ecovillage movement provides an interesting case-study on how *holistic, multi-fucntional* transition experiments are managed and connected through transnational networks, and how citizens are involved. The transition management model can be used to analyse this process in more detail, both as a descriptive framework as well as prescriptive framework.

We hypothesise that the ecovillage movement already applies many transition management principles, such envisioning and experimenting, 'deepening' (learning and experimenting within ecovillages), 'broadening' (replicating ecovillages across the globe) and 'up-scaling' (imbedding ecovillages in transnational networks and regional contexts) (Van der Bosch & Rotmans, 2008). Interestingly, in an ecovillage, *the experiment is the vision*, both being continually adapted, which is why ecovillages have been analysed in terms of their transformational and experimental knowledge on socio-ecological change (Kunze, 2009). By analysing these processes in explicit transition management terms, policy suggestions for the ecovillage movement could be distilled, and the other way around, empirical lessons can be drawn for transition management theory. The case of ecovillages and 'eco-cities' is especially interesting for recent and ongoing research projects in regional and urban transition management (Loorbach, 2007), to bring in the aspect of citizen self-governance and community building in urban and regional transformation processes.

We want to end this paper with an additional remark on the transition potential of the ecovillage movement. At the beginning of this paper, we referred to the paradox of niches loosing their innovative power as they are mainstreamed, and Smith's empirical insights on the importance of the 'flexibility' of niches to be both radical and reforming. This is an important insight on how niches can engage with regimes while maintaining their 'radical edge'. However, Smith points out that this will lead to an *incremental* reconfiguration process. This while transition studies explicitly aims to understand *radical non-linear* change, i.e. how this reconfiguration process between 'radical niches' and 'incumbent' regime can enter a so-called 'acceleration' and 'take-off' phase (Rotmans, 2003). Power is a crucial concept in this regard. While niches can create new resources and develop new institutions (i.e. exercise innovative and transformative power), they 'need' incumbent regimes to distribute these resources and to implement these new institutions at a large societal level (i.e. constitutive power). However, regimes

also 'need' niches to face new landscape developments. As such, there is certain level of mutual dependency: niches need to 'use' the constitutive power of regimes to extend their innovative and transformative power to a broad societal level, while regimes try to use the innovative and transformative power of niches to maintain and further enforce their constitutive power. In this power struggle, the key factor is *dependency*. If niches are more dependent on regimes than the other way around, they are eventually 'absorbed' by regimes. To avoid this, niches need to become *less* dependent on regimes for their survival and growth.

One of the most interesting things about the ecovillage movement is that they do exactly that: decrease this dependency on regimes. The main reason why incumbent regimes are powerful and can dominate societal systems is that they are (believed to be) necessary to manage the distribution of resources. Citizens massively enforce these regimes through consumption and subordination to societal structures, which makes sense as they live in a system that is dominated by these regimes. The ecovillage movement is not about people 'leaving' the societal system or 'dropping-out' of society (as many of the earlier hippie back-to-the-land communes were). On the contrary, it explicitly aims for societal intervention and transformation, by experimenting with new forms of living and transferring this knowledge and experience to other contexts. However, the ecovillage movement is also about enabling people to *'leave' regimes*. The ecovillage movement demonstrates that by creating smaller, self-sufficient and community-based systems, people can mobilise resources independent from existing regimes. By multiplying ecovillages across the world, more and more citizens are enabled to live independent from regimes, while still being actively involved in societal action and maintaining life quality conditions. So far transition studies are focused on transforming societal systems by 'replacing' regimes and forming 'new regimes', which is of course important. However, we believe that from a citizen perspective, the capacity to live a daily life independent from existing regimes, socio-technical, functional, national or otherwise, is just as important and deserves more attention in sustainability transitions.

Endnotes

[1] UN document from 1992 about strategies for sustainable development signed by 170 state governments: http://www.un.org/esa/sustdev/documents/agenda21/index.htm

[2] Since 1991 the development and foundation of the "Global Ecovillage Network" (GEN) was primarily supported by "Gaia Trust" which is the main (financial) initiator for networking and promoting Ecovillages. www.gaia.org

[3] See: http://www.ecovillagefindhorn.com/

[4] The founding members came from ecovillages in western countries, but also from traditional villages in developing countries with different ecological approaches and developing needs

[5] http://gen.ecovillage.org/activities/csa/English/

[6] As formulated by the "Fellowship intentional communities". http://wiki.ic.org/wiki/Intentional_Communities 15.04.09

[7] ibid

[8] "The colonization of the life world" is a destructive, pathological effect of rationalization and institutionalization in modern societies described by Habermas (1984).

[9] Empirical studies that focused on ecological intentional communities, including ecovillages: e.g. Meltzer 2005; Meijering 2006; Lockyer 2007; Kunze 2006, 2009.

[10] The term was coined by McLaughlin and Davidson, residents of the Findhorn intentional community in Scotland (McLaughlin and Davidson, 1985) "McLaughlin and Davidson set out to promote a new kind of living arrangement: small-scale communities that used "creative problem solving" within a loosely bureaucratic structure, whose purpose was to integrate humans and nature in ways that supported the continuity of both" (Moore & Wight, 2007).

[11] This is referred to as an "inventionist" approach (Gross, 2003, in: Moore & Wight, 2007)

[12] Robert Gilman was a former astrophysicist that founded and wrote for *The Context Institute*, a nonprofit research organization that promoted "humane sustainable culture" with and emphasis on community and village relations. In the early 1990s, the Gaia Trust commissioned Diane and Robert Gilman to write "Ecovillages and Sustainable Communities" (Jackson and Jackson, 1998). The definition of an ecovillage as given by in the Gilmans' report (Gilman and Gilman 1991: 4) is often referred to. Gilman was seen as an American 'ecovillage' guru (Moore & Wright, 2007:13).

[13] This indicates that the ecovillage concept needs to be understood in a multidimensional way similar to the concept of sustainability with its three pillars: ecological, social and economic. Moreover, the spiritual dimension also plays an important role, in terms of (changing) worldviews, personal relations and values. Although these differ for every ecovillage, common values in ecovillages are described as: "honouring unity through diversity; celebrating diverse cultures and creeds; practicing racial, cultural, and gender equality; promoting social justice and environmental awareness; striving for peace and local self-determination; raising consciousness and human potential; and, generally, respecting the living Earth as our planetary home" (EDE, 2005).

[14] In the study Kunze (2009) this method was applied and in Germany five promising community projects could be selected and examined. For the selection *social-sustainable principles* were deduced from the level of research about sustainable community management, town planning and sociological group building studies in a first step. The selected intentional communities were examined by using methods of ethnographical case studies like participant observation. In weeklong visits the researcher lived with the community members and took part in their assemblies, community happenings and private households. This method was conducted to be able to check the daily reality in comparison to the mostly positive and professional website presentations. Also many narrative interviews and spontaneous talks with members were hold about the sustainability of the projects.. Social dynamics such as decision making processes, communication culture and the learning of social competences were seen as those important transition methods to examine.

[15] Routledge emphasises the importance of place in the study of social movements (1996: 138-9). The author argues that the democratization of civil society depends on mainly three spatially contingent factors: "(1) the degree to which the social relations within civil society are based on the "local community" rather than on either commodity relations or the state (…); (2) the degree to which political and economic processes are made sensitive to the particularities of the local; (3) the degree of spatial concentration of

different classes (…) that may facilitate the articulation and establishment of localized, democratic civil societies (…)" (Routledge 1996: 139).

[16] http://www.auroville.org/research/ren_energy/solar_bowl.htm

[17] http://www.auroville.org/research/ren_energy/aep.htm

[18] "Permaculture is an ecological design system for sustainability in all aspects of human endeavor. It teaches us how to build natural homes, grow our own food, restore diminished landscapes and ecosystems, catch rainwater, build communities and much more."
http://www.permaculture.org/nm/index.php/site/classroom/ 23.04.09

[19] In this fully shared economy none of the members has an individual money account or real estate property any more. The time of integration and the case of leaving the ecovillage is negotiated individually.

[20] see: http://transitiontowns.org/

[21] Transition Towns was founded by Rob Hopkins, a pioneer of permaculture, also involved in the coordination of ecovillage network in Ireland. http://transitiontowns.org/TransitionNetwork/TransitionWiki

[22] See for instance Jonathan Dawson's (executive secretary of GEN and educators at Findhorn) statements on ecovillages & transition towns: "I find myself with increasing frequency pointing course participants to the Transition Town rather than the ecovillage model as the vehicle for their new-found enthusiasm". http://www.newstatesman.com/blogs/life-at-findhorn/2008/03/ecovillages-transition

[23] See for instance the report by the Education Collective Trapese (which also teaches at Findhorn ecovillage), called *The Rocky Road to a Real Transition: The Transition Towns Movement and what it means for social change*, Chatterton & Cutler, 2008, at: http://www.stuffit.org/trapese/

[24] The aim is to build communities that adopt a lifestyle that only requires 'one planet'. Communities are planned across 'the highest impact countries' (= ecological footprint compared to wealth) in five continents (Australia, Canada, China, Portugal, South Africa, UAE, UK and USA). This is done independent from government subsidies, through economically viable business cases. Communities in an advanced state are in Portugal, the UK and USA: http://www.oneplanetliving.org/index.html

[25] For positive reports on Mata de Sesimbra, see for instance: news.bbc.co.uk/1/hi/sci/tech/3746535, http://www.bioregional.com/oneplanet/Sesimbra and
http://www.guardian.co.uk/money/2006/nov/19/observercashsection.theobserver2

[26] For criticism on the Mata de Sesimbra project, see: http://www.esquerda.net, dn.sapo.pt,
http://Setubal.bloco.org, http://www.esquerda.net, http://www.setubalnarede.pt,
http://deconsumption.typepad.com/deconsumption/2005/08/index.html and
http://www.greenbiz.com/news_third.cfm?NewsID=126811,

[27] Villages and other community projects can apply to become a member of GEN while an assessment questionnaire helps to identify, if the project is or has the potential to become an ecovillage. Therefore criteria or more principles in the worldview/spiritual, social, ecological and economic dimensions were brought together from ecological life styles and the experiences of existing ecovillages. On their website they point out, that the ideal ecovillages doesn't exist, yet. This was one of the reasons why GEN started with the EDE (2005).

[28] The EDE has the endorsement of the United Nations Institute for Training and Research (UNITAR) as an official contribution to the UN Decade of Education for Sustainable Development (UNDESD). Further the Findhorn ecovillage is certified as a UN CIFAL-training center for local authorities "CIFAL Findhorn, United Nations Institute for Training and Research affiliated training centre for Northern Europe, offers a series of regional, national and international training events that focus on sustainable solutions to the many and varied challenges of climate change." http://www.cifalfindhorn.org/ 15.04.09

[29] http://www.newstatesman.com/blogs/life-at-findhorn/2008/03/ecovillages-transition

[30] http://www.gaia.org/gaia/ecovillage/ 29.04.09

[31] E.g. the ecovillage project in Los Angeles www.ic.org/laev

[32] May East for the Johannesburg world summit on Sustainable Development. In: Findhorn Network News No.32, (2002: 18).

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