

4. Grassroots innovations for sustainable consumption

4.1 What are grassroots innovations?

Grassroots innovations is a new field within the academic literature, which examines the emergence and diffusion of sustainability projects within civil society. In their seminal article, *Grassroots Innovations for Sustainable Development: Towards a New Research and Policy Agenda*, Seyfang and Smith (2007) sketch out an indicative agenda for researching grassroots innovations conceptualising the grassroots as a site for innovative niches. This situates grassroots innovations within the wider literature on sustainability transitions, while it opens up for examining innovative grassroots niches as boundary objects (Star and Griesemer, 1989). Seyfang and Smith (2007) define grassroots innovations in the following way:

We use the term 'grassroots innovations' to describe networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved. In contrast to mainstream business greening, grassroots initiatives operate in civil society arenas and involve committed activists experimenting with social innovations as well as using greener technologies (p. 585).

What is more, in theorising these networks of activists and organisations as sites for innovative niches, the objective is understanding the dynamic learning processes that take place:

Green niches are sustainability experiments in society in which participation is widespread and the focus is on social learning. Niche-based approaches explore problem framings (e.g. mobility, food, energy services) and search for solutions – in contrast to technology demonstration projects that begin with 'technical solutions' to tightly framed problems (ibid., p. 589).

Viewing the grassroots as sites of 'innovative diversity' where 'the rules are different', research on grassroots innovations is concerned with "the contexts, actors and processes under which niche lessons are able or unable to translate into mainstream situations (and transform sustainabilities)" (ibid., p. 598).

Grassroots innovations are found in specific localities (within 'civil society arenas') and involves 'networks of activists and organisations' who experiment with 'solutions for sustainable development'. The focus of analysis is "the social networks, learning processes, expectations and enrolment of actors and resources in emerging niche practices" (ibid., p. 590). The authors identify two main challenges for grassroots innovations which require further examination and elaboration. The first is related to intrinsic challenges around internal organisation and the other is related to diffusion¹ challenges around external take up of niche innovations. Further, there is an implicit normative dimension to the analysis: "By viewing community-level activities as innovative niches, we gain a better understanding of the potential and needs of grassroots initiatives, as well as insights into the challenges they face and their possible solutions" (ibid., p. 585). Thus, as a field of study, grassroots innovations propose an analytical framework that focuses on how contextualised knowledges can deliver sustainability outcomes and raise important questions related to the normative understandings of sustainable development itself (both in terms of enacted normativities within the niche *and* research ethics).

Seyfang and Smith put forward their research agenda as an attempt to marry two as yet separate strands of enquiry: research on the grassroots and the literature on innovation. This union, they propose, will provide new insights and solutions for sustainable development. It is worth stepping back and examining the term 'grassroots innovations', and situating this emerging field within the broader context of academic literatures, in order to see what is new and acknowledging existing fields that have other perspectives on the subject. This may also help to better understand *where* we might find grassroots innovations.

4.2 Mapping the territory

The Oxford English Dictionary (2nd ed. 1989) has the following relevant entries on 'grassroot' and 'innovation':

grass root, n.

2. *fig.*

a. The fundamental level; the source or origin.

b. *Polit.* Used *spec.* to describe the rank-and-file of the electorate or of a political party.

1 The authors explore the different challenges related to diffusion in more detail, but do not explicate specific processes of diffusion. However, Seyfang (2009) identifies three distinct forms of diffusion: 1) replication (an innovation is reproduced in a new context); 2) scaling-up (an innovation grows in size); and 3) translation (parts of the innovation are translated to a different context).

innovation, *n.*

1.

a. The action of innovating; the introduction of novelties; the alteration of what is established by the introduction of new elements or forms. †Formerly const. of (the thing altered or introduced).

2.

a. A change made in the nature or fashion of anything; something newly introduced; a novel practice, method, etc.

†b. A political revolution; a rebellion or insurrection. (= Latin *novæ res.*) *Obs.*

5. *Comm.* The action of introducing a new product into the market; a product newly brought on to the market.

The 'grassroots', according to this definition, implies the lowest structural or systemic level of an entity, or signifies the membership base of a (political) organisation. Although this relatively simple definition is quite precise in *where to look for the grassroots*, it also opens up a wide range of questions relating *what the grassroots consist of*. Moving beyond (party) political organisations, a wealth of campaigning organisations, social enterprises, trade unions, fundraising bodies, charitable trusts/foundations, support groups, religious and spiritual congregations, activist networks, cooperatives, professional associations, volunteering organisations, community associations, aid and development organisations, social or cultural movements, neighbourhood groups and other actors exist that can be classified as grassroots. Such organisations have different membership bases, distinct institutional and legal structures, and diverse (if not conflicting) aims and objectives. This morass of organisations is sometimes referred to as 'civil society' implying an arena that is distinct from the state and the market (Deakin 2001), but even this definition is fraught with difficulty because of the indeterminate boundaries between civil society, the state and markets.

'Innovation' is an even more elusive term, carrying very broad meanings pertaining to 'the introduction of novelty' and 'change made' in the constitution or composition of an entity, as well as more narrow meanings alluding to political change and the creation and introduction of new products and services in markets. The latin root *innovare* comes from 'in' meaning *into* and 'novus' which means *new*. In this sense, innovation simply means renewal or change. From the OED we also get the meaning of change *made*, i.e. renewal through action. Innovating therefore also implies agency and the renewal of an object or a system in order that it may suit a or new purpose or context, or at least fulfil its existing purpose in a different way. The thing undergoing change can literally be *anything*. This is reflected in the number of fields where innovation is considered a worthwhile dynamic to study, e.g. economics, design and technology, engineering, business and entrepreneurship, sociology, anthropology and organisation and management studies. As such, innovation studies (concerning its processes, sources, diffusion and measurement) is found across social, cultural, technological, and economic disciplines.

Putting the two words together, it seems that a layman's definition of 'grassroots innovations' would refer to civilian or community (loosely civil society) groups that develop new ways of doing things. Adding the suffix grassroots innovations *for sustainable consumption* points to civil society groups that develop new ways of 'living with lower impact' (see section 2.1). Although this definition is still broad, it specifies where to look for the grassroots innovations and what type of activities they are engaging in. It is also in keeping with the idea that grassroots innovations are about changes in social practices, processes and networks, as much as it is about (use of) technologies. In this sense, grassroots innovations appears to be about new ways of thinking, expressing, learning, skill-sharing, designing, organising, connecting and creating. In short, new ways of *doing*. Providing alternative ways of doing create new possibilities for living differently and changing *how* and *what* we consume.

As an emerging academic field concerned with 'civil society groups that develop new ways of living with lower impact', grassroots innovations speaks to, and draw on, a wide range of separate and interrelated literatures on civil society, innovation and sustainable consumption that treat the actors and projects concerned differently and provide contrasting answers to the questions of how, for whom, and why? Figure 2 below illustrate the diversity of lenses² through which academics have explored different aspects of 1) the grassroots; 2) innovation; and 3) consumption. This is not an exhaustive list and is only intended as a way of showing how the field of grassroots innovations sit within overlapping but distinct literatures³. Although some of these lenses branch out into (sub-)literatures, I have retained the broader headline for the sake of simplicity; each lens I have identified does not carry equal weight or volume. I have given one example reference for each lens.

2 I use the word 'lens' in recognition that this table encompass theories, concepts, disciplines, and practices which are not necessarily comparable nor mutually exclusive. However, they do offer distinctive ways in which the topic of civil society groups developing new ways of low impact living can be approached.

3 The figure was created on the background of my literature review and developed in discussion with colleagues.

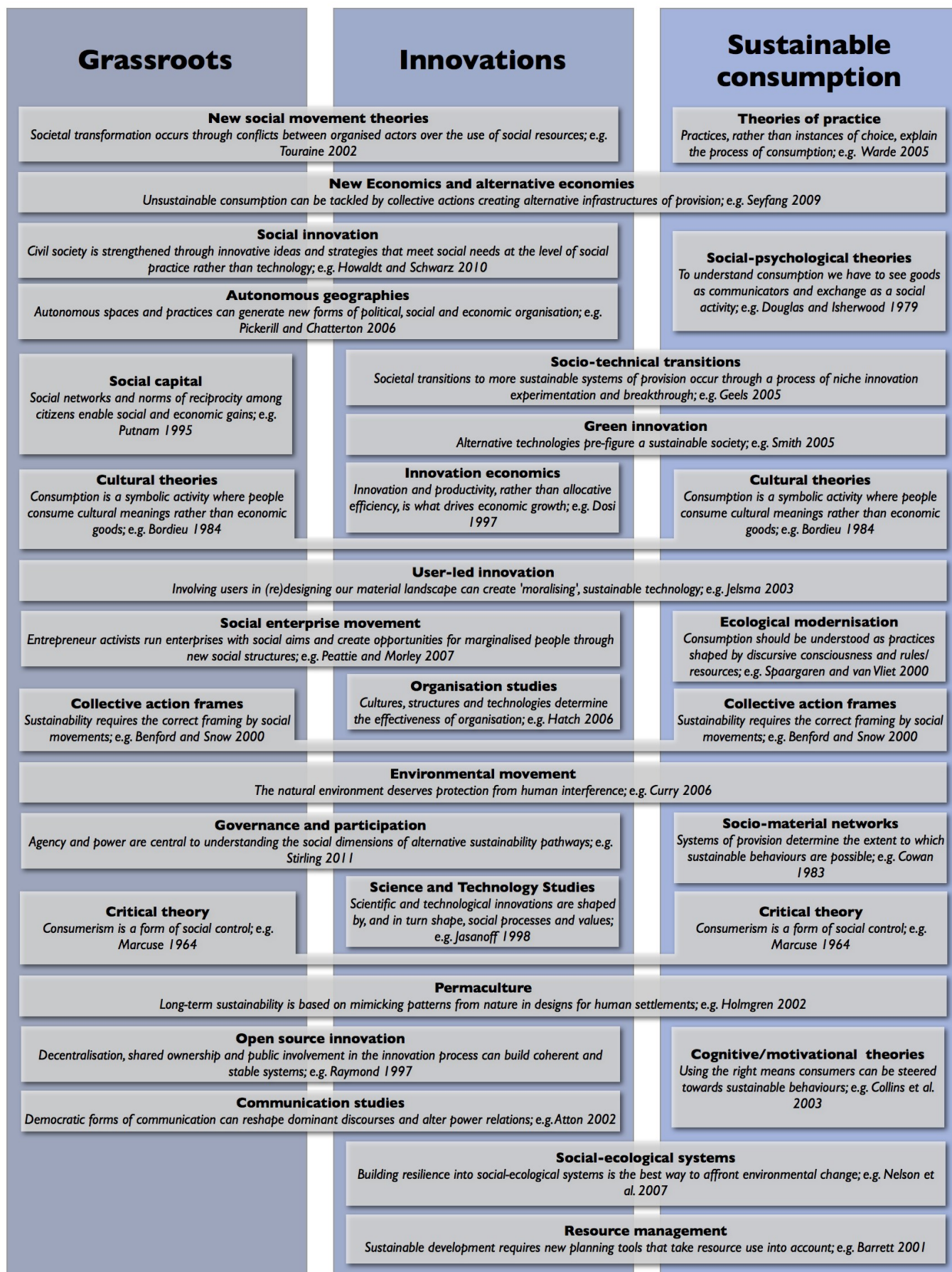


Figure 2. Different lenses studying 1) grassroots; 2) innovations; and 3) sustainable consumption

Figure 2 illustrates the diversity of literatures that study some aspect of grassroots innovations, as well as the variety of approaches that are taken within these studies. It is interesting that grassroots innovations as a term seems to accommodate very different, even opposing, theories. The literatures I have drawn together here span both the macro and the micro. For example, where critical theory seeks to understand social change in the context of the 'social and natural totality of human life'⁴, cognitive theories tend to be concerned with the processes underlying behaviour change at the level of the individual. While all these literatures concern themselves with different aspects of the same broad subject, they are clearly not always compatible and should not be seen as part of the same canon. A more pertinent observation to make is that grassroots innovations by nature seems to be an interdisciplinary field of study, and that it is important to clarify basic assumptions and theoretical positions. Figure 2 also comprises a number of interesting, opposing foundational assumptions which any researcher needs to beware of. For example, the literatures embrace divergent:

- perceptions of the current state of affairs (e.g. impending collapse vs. continued human progress);
- views of nature (e.g. environment has inherent value vs. nature as human resource);
- understandings of sustainability (e.g. technocentric vs. ecocentric);
- perceptions of required societal change (complete systemic change vs. institutional reform).

If ontological and epistemological differences are conciliated, there is clearly a large and substantive body of academic literature with relevance to studying grassroots innovations. Each lens can offer deeper shades of meaning to grassroots innovations and shed light on the various dynamics grassroots innovations is interested in.

4.3 Current research on grassroots innovations

Returning to Seyfang and Smith's (2007) research agenda on the grassroots, they take the lenses of New Economics and socio-technical transitions as their starting point for "understand[ing] conditions for the germination of innovative processes at the grassroots, and the conditions for successful diffusion" (p. 599). However, this is not prescriptive and later developments in the research on grassroots innovations have seen the research agenda embrace other theories, notably social practice theory (see e.g. Hargreaves et al. 2011), new social movement theories (see e.g. Seyfang and Haxeltine forthcoming), and the literature on social-ecological systems (see e.g. Haxeltine and Seyfang 2009). Within the research group around Seyfang and Smith, the original agenda has been pursued in different projects investigating areas such as community energy, complementary currencies and sustainable housing. Recent work on energy transitions (Seyfang et al. 2010, Hielscher et al. 2011, Smith forthcoming), civil society movements as green niches (Seyfang and Haxeltine forthcoming), complementary currencies and sustainable consumption (Longhurst and Seyfang 2011), and community action for sustainable housing (Seyfang 2010) is examining questions about how green niches develop and diffuse, how social movements can be adequately conceptualised, how cultural factors affect participation in grassroots innovations and how other theories could complement transitions theory.

To briefly summarise the findings across this emerging field, the new literature on grassroots innovations has found that: 1) conceptualising grassroots innovations as niches requires deeper theoretical understanding of internal niche dynamics and diffusion processes; and 2) transitions theory and the MLP are too simplistic to provide this level of detail. To start with the latter point, as a heuristic providing a top-down systems perspective on transitions, the MLP fails to capture the complexity of niche dynamics. Some of the management oriented transitions literature can aid understanding of generalised learning processes, but fails to explain the processes of diffusion (Smith 2011). Transitions theory here seems ill-equipped to analyse processes of social change due to its rather mechanistic view of niches and focus on technological innovations (Haxeltine and Seyfang 2009). This points to a lack of theoretical insight into the relation between 'located' projects and abstracted niche identities (Hielscher et al. 2011), as well as problems around scale when delineating and operationalising the niche and regime concepts (Longhurst and Seyfang 2011). With regard to the first point on internal niche dynamics, the literature has identified a need to further investigate the role of culture in driving participation in and growth of grassroots innovations (Seyfang et al. 2010) because key questions around identity, belonging and purpose are crucial for the success or failure of social innovations (Seyfang and Haxeltine forthcoming). Constructing a framework that adequately accounts for socio-psychological, cultural and political conditions is important as context is critical for niche diffusion (Seyfang 2010). Further, paying attention to the social and cultural practices within niches is necessary because many civil society groups are not only reacting to socio-technical lock-in but rather working to alter practices that

4 This phrase was taken from the unpublished text "A History of the Doctrine of Social Change" by Herbert Marcuse and Franz Neumann, part of which is cited in Douglas Kellner's foreword to the second edition of Marcuse's "One-Dimensional Man" published by Beacon Press, 1991.

cut across different regimes (Hargreaves et al. 2011).

There is also an increasing amount of research on civil society projects outside these projects. As an indicator of the kind of topics and disciplines that connect with the grassroots innovations research agenda, Figure 3 organises articles that reference the 2007 paper by Seyfang and Smith according to research area. The article is cited 22 times on Web of Science and 68 times on Google Scholar. Filtering these citations to include only those which engage directly with grassroots innovations, are written by authors outside the grassroots innovations research group and are not using transitions theory, the figure identifies four main research areas where researchers engage with grassroots innovations⁵: social movements, social innovation, public/community engagement, and development.

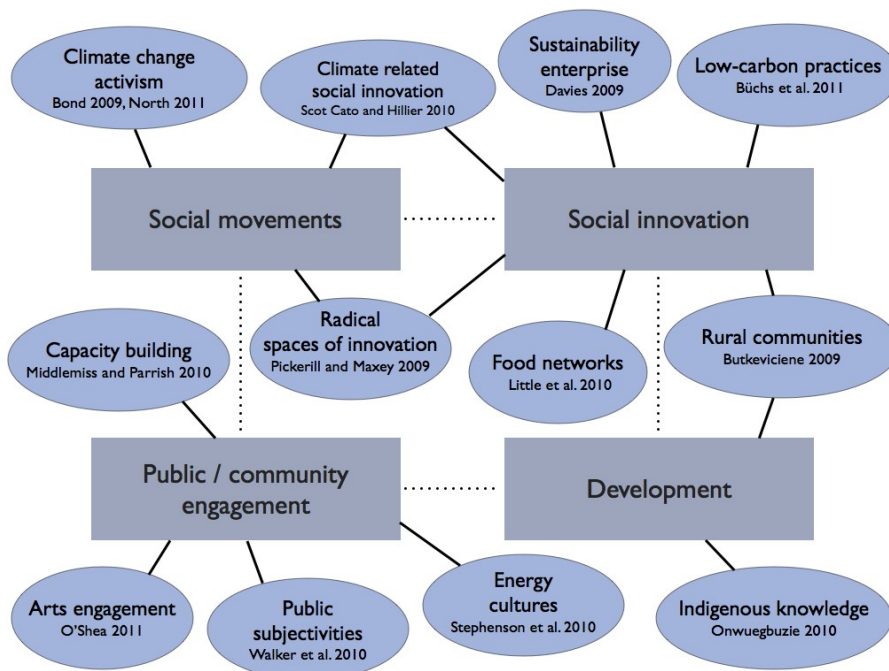


Figure 3. Articles, organised by research area, that cite Seyfang and Smith 2007

Many of the articles cut across these categories, some are empirical case studies and others are theoretical. Interestingly, many of the case studies examine transition towns, a case that the grassroots innovations literature also use in several studies. But the range of research that utilise, or at least acknowledge, the idea of grassroots innovation is broad and includes such diverse topics as indigenous knowledge, public engagement through art, rural community development, and climate change activism. There are of course other studies which do not cite the grassroots innovations research agenda directly but apply similar concepts and frameworks to researching civil society groups and innovation. Examples include Monaghan's (2009) study of body disposal practices, and Bergman et al.'s (2010) conceptual paper on bottom-up, social innovation for addressing climate change, which categorise innovation according to its focus ranging from new technologies aimed at increasing energy efficiency (e.g. renewable energy) to social innovations aimed at reducing demand (e.g. car sharing), see Figure 4.

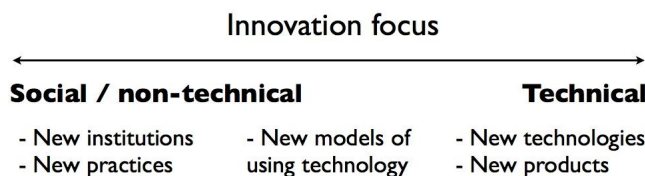


Figure 4. Types of grassroots innovations arranged according to innovation focus. Based on Bergman et al. 2010

5 The figure is not an exhaustive list of articles, some authors cited Seyfang and Smith (2007) in more than one article and I could not gain access to two articles. However, as a representation of research areas that engage with grassroots innovations, and as an indicator of the new directions the research agenda is moving in, I think the four main research areas capture the range of articles well.

There have also been developments within transition theory that are directly relevant to grassroots innovations although not framed within this research agenda. For example, in examining learning processes at the local level of two different biogas projects, Raven et al. (2008) explain the co-evolution of projects and contexts as a process of variation in 'affordances' (range of applications) and expectations, selection of sites and technologies, and negotiation of expectations (see Figure 5). Their conclusion is that generic concepts and technologies translate into local variation which in turn contributes to producing global rules and lessons. In this perspective, social learning occurs where the two processes of variation and selection intersect – aligning expectations and affordances between different actors and stakeholders leads to new competences and institutions.

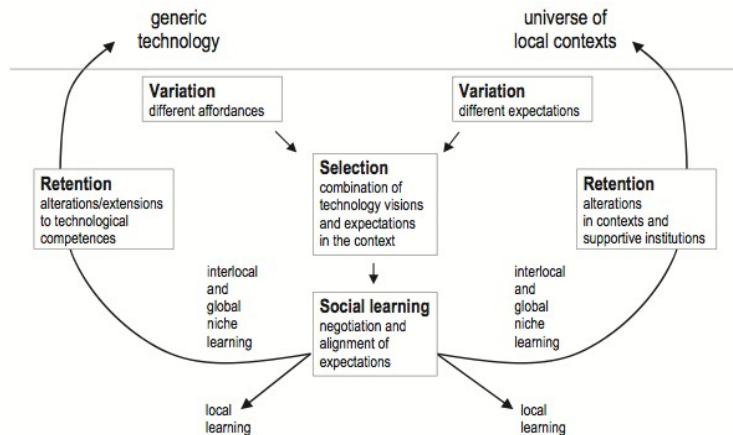


Figure 5. Variation, selection and retention. From Raven et al. (2008)

Elzen et al. (2008) investigate the dynamics between niches and regime through the concept of anchoring in a study of glasshouse horticulture. Recognising that although niche and regime level can be distinguished analytically, they are not 'real' (experienced) entities to actors involved in a transition process. They present a 'flat' view of the MLP which captures different dynamics between niche and regime. Figure 6 depicts niches (N) as bordering and overlapping – in the form of 'market niches' (MN) – with a regime. Landscape factors (LF) interact with niches and the regime to create tensions (T) and opportunities (O).

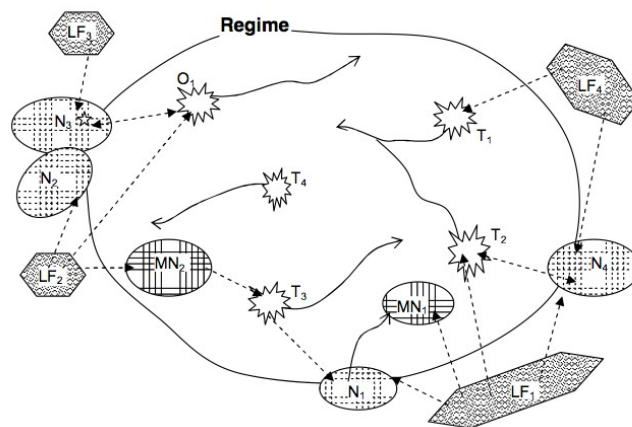


Figure 6. Multi-level processes recast. From Elzen et al. (2008)

Interestingly, they found that during a process of a transition it is very hard to distinguish between developments that lead to incremental and radical changes in system innovation, suggesting that it is not possible to tell whether what starts as a system innovation with transition ambitions will actually lead to more-than incremental change. And, investigating the difference between social entrepreneurship and standard business models, Witkamp et al. (2011) argues that conceptualising interactions between niche and regime also needs to account for shared and conflicting values. This allows for a more detailed examination of this interaction and is, the authors argue, a better way to anticipate the development of future niche-regime interactions than analysing broader landscape developments which are usually best understood ex-ante.

4.4 Grassroots related research

In addition to this literature, there is of course a vast literature on social change, communities, civil society or-

ganisations, innovation, and 'green' technologies with relevance to grassroots innovations which it is not possible to survey here. However, it is worth briefly pointing to some examples of other research that is related to the grassroots innovation agenda because it can aid in answering questions of both what the grassroots *consist of* and what the grassroots are *doing* as well as it can enrich the theoretical framework.

Research on civil society groups developing new ways of living with lower impact is currently being developed across a range of different academic fields, in think tanks, by civil society groups and in government. Some of these literatures are indicated in Figure 2 above, which maps out the different lenses that look at some aspect of grassroots innovations, while others go unmentioned. It is clear that there is a surging interest in studying civil society groups, and that the role of civil society in the transformation of sustainabilities is increasingly acknowledged. This new research is also mapping what kind of activities grassroots innovations are actually doing. For example, analysis of the 355 applicants to NESTA's 'Big Green Challenge' found nine broad types of community proposals for low carbon innovation (see Table 1).

| Type | Focus | Characteristics |
|------------------|---|---|
| Community | Geographical communities as a whole | - The aim of converting a geographical community to a lower carbon zone - Targeting all or most people within that bounded area - A varied set of reduction measures and activities |
| Local projects | Projects within a geographical community | - Geographically bounded area - Focus on a single subset of activities or reduction measures |
| Youth schemes | Children in education and as household members | - Proposals which focus on children and young people through formal institutions - Often as a way of reaching a wider community |
| Public buildings | Buildings that have meaning for its community | - Carbon reduction in one or more buildings that are important within their community setting either: - because they have intrinsic historic or cultural significance, or - because of the way in which they are used by the public |
| Enterprises | Not-for-profit social enterprises | - A product or service to sell - Strong focus on the business model and the core product, as well as the social benefit - 'Commercial' element of the proposal |
| Services | Finance, advice, tools, network support, training provision | - Offering a product or service that helps people to reduce their carbon emissions, either financially, by advising, by networking with others, or by providing products that help assist behavioural changes - Products and services are provided free of charge to the target audience |
| Sectoral | Target audience defined by common interest | - Working with a specific sector or common interest group rather than a geographically bound community (although some are also located within a single village, town or work space) |
| Inventions | Products rather than projects | - A clearly identified product - Proposals are in the 'idea' or 'research and development' stage |
| Original idea | New ideas which do not fit any of the other categories | - Diverse goals that cut across other categories, or - Different ideas which do not fit into any of the previous categories |

Table 1. Example of different types of grassroots innovations. *Based on Steward et al. 2009*

The analysis shows that although grassroots activities are often based in or around local geographical communities, they often transcend 'the local' and are difficult to pin down in terms of characteristics and objectives. Within each of these stylised type of activities, a whole host of specific actions are undertaken. Scott's (2010) survey of the different types of actions carried out across 222 civil society organisations involved with climate change, illustrate the range of actions among civil society groups (and the difficulty of typifying civil society activities).

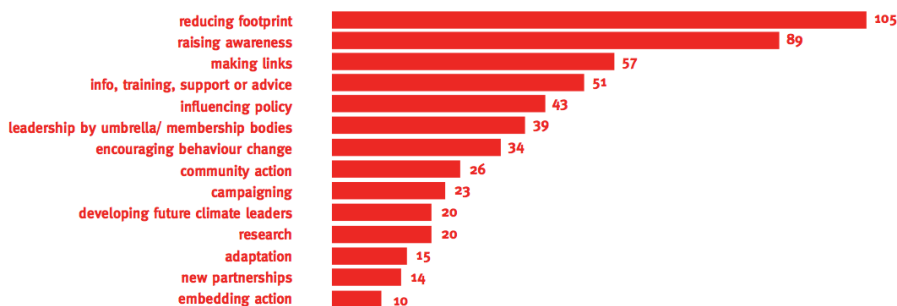


Figure 7. Examples climate change related activities in civil society organisations. *From Scott 2010*

There is also a growing literature on new forms of civil society action and organisation which is enabled through new ways of communicating and the development of Web 2.0 platforms. A new 'making and doing' culture, which focuses on the creative possibilities in *making*, is building new bridges between individuals and communities with the potential for transforming both systems of provision and self-identities

(Gauntlett 2011). In a similar vein, research on new forms of 'creative activism' is showing that novel projects which work to demonstrate what is made possible by thinking and acting differently, rather than mobilising against something, are providing new ways of empowering change (Britton 2010). Many of these projects work through by-passing existing infrastructure rather than directly engaging with it. Examples of this type of grassroots innovation include 'craftivism', the open source movement, new forms of recycling, direct action, digital media activism and skill-sharing. This is relevant both to analysis of internal niche processes and to conceptualising the niche-regime relationship.

The idea of a transition is itself taken up by a range of civil society organisations. Here, transition is employed as a counter-narrative to prevailing ideas of growth and development (Hopkins 2008), and as a framework for working towards this alternative vision (e.g. Narberhaus et al. 2011). The 'Great Transition' narrative, frames sustainability as a question of systemic change around a set of alternative values and visions (see Raskin et al. 2002). Re-valuing what is important to society collectively, the Great Transition calls for a redistribution of income, assets and time in order to fundamentally adjust the balance in power between citizens, state and market (Spratt et al. 2010). This narrative aims to draw together civil society organisations in working towards a common goal. In line with this thinking, there is an increased focus among civil society actors on working with cultural values (Crompton 2010) and coherent framing of environmental issues (Lakoff 2010). This has also seen a new self-understanding among civil society actors as leaders for change (Hale 2010). The role of visions and narratives is something transitions theory acknowledges as important but has not yet tackled comprehensively, and this seems particularly important to grassroots innovations where actors often identify themselves as different to incumbent regimes on the basis of alternative visions.

These snapshots of different kinds of civil society activities and projects suggest that new forms of grassroots innovations are developing, and shows that a considerable amount of time and energy is directed towards 'second order learning' processes such as creating new links between actors, network support, training provision, and forging partnerships. This is of special interest to grassroots innovations and the empirically informed understanding of the diffusion of sustainability visions, ideas, and initiatives.

4.5 Taking research on grassroots innovations forward

To summarise the previous sections, grassroots innovations is an emerging field within sustainability studies that is concerned with understanding the formation, stabilisation and diffusion of novel, bottom-up sustainability experiments. The actors are typically civil society networks of activists and organisations, and the focus of the sustainability experiment is often socially focussed innovation and the learning processes connected with change processes. First findings from the research agenda indicate that transitions theory alone is not sufficient to uncover the dynamics of grassroots innovations and that further theoretical developments are required to understand internal niche dynamics and diffusion processes. There is a broad array of theoretical lenses available which research on grassroots innovations can draw on, as well as there is a range of studies on civil society actors which can assist in understanding diffusion processes. Scanning the type of grassroots innovations that have developed in recent years, it also seems that novel forms of grassroots innovations, which use new forms of communication and employ narratives strategically, are emerging. Lessons from these new types of innovation could enrich the framework of grassroots innovations and deepen comprehension of the complexities underlying niche diffusion.

Grassroots innovations research is currently grappling with how to bridge transitions theory with other theoretical frameworks. This review of the literature has identified a need to integrate explanations of cultural context, the role of visions, and socio-psychological factors into analyses of grassroots innovations. Viewing grassroots innovations as alternative sites of innovation also requires conceptualising the ways in which grassroots innovations provide alternative visions and practices that support the transition sustainability. Transitions theory recognises the importance of how sustainability problems are framed in relation to how (and what kind of) solutions are imagined. Given the ambiguous nature of the concept of sustainability, it can be framed both as an 'inside' discourse legitimising regime norms and institutions and as an 'outside' discourse empowering niche visions and expectations (Stirling forthcoming). Focusing on social learning rather than technical solutions, grassroots innovations are seen as catalysts of 'new' knowledge and learning processes. As different types of alternative knowledge (to the regime) are embodied in different kinds of sustainable consumption practices, grassroots innovations can be conceptualised as sources of transformative knowledges and cultures.

Grassroots innovations operate at a level that many people can identify with and relate to, whether this 'locale' is local or global. In the words of Hale (2010): "Individual action on the scale necessary will only emerge through collective decisions in the networks and communities with which people have strong personal affiliations, and which can give them both the motive and opportunity to act" (p. 263). This study will investigate empirical cases of grassroots innovations that embed alternative sustainability visions and concepts in such networks by examining the role of narratives and cultural context in social learning processes and niche diffusion.