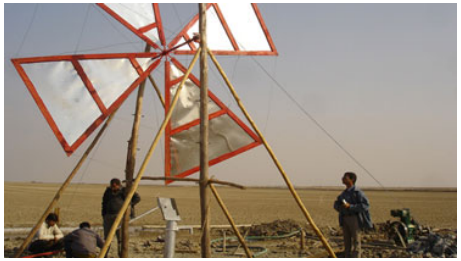
Grassroots innovation for sustainable development



Adrian Smith, Elisa Around, Sabine Hielscher
(SPRU, University of Sussex, UK)

Mariano Fressoli, Hernán Thomas
(IESCT, Universidad Nacional de Quilmes, Argentina)

Dinesh Abrol
(NISTADS, New Delhi, India)

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www.steps-centre.org

The presentation is divided into three parts

The first part

[Introduce grassroots innovation
[Shared characteristics amidst diversity

The second part

[Three perspectives on grassroots innovation
[Three dilemmas
[An example – Brighton Energy Co-operative

The third part

[Policies and intermediaries
[Grassroots innovation and knowledge production

Sources:

[Three projects: Experiments in Alternative Technology; Community Innovation in Sustainable Energy; Grassroots Innovation Movements in Historical and Comparative Perspective

www.grassrootsinnovations.org

Grassroots innovation – some examples

[Car clubs

[Wind turbines

[Refrigeration (*zeer pots*)

[Mobile laundering

[Community currencies

[Solar home systems

[Irrigation systems

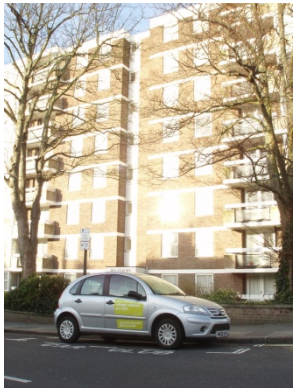
[Cycle rickshaw gear-trains

[Eco-housing neighbourhoods

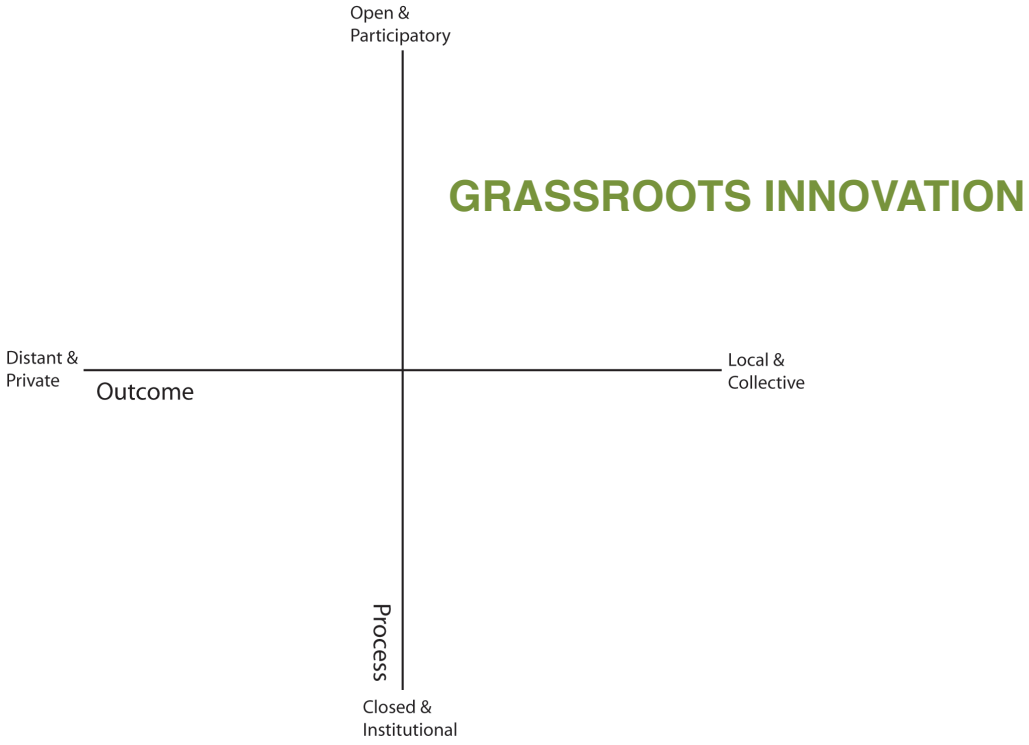
[Rainwater harvesting

[Urban agro-ecology

[Green FabLabs



Grassroots innovation for sustainability



Source: Walker and Devine-Wright (2008)

[Networks of activists and community 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

[Neglected by innovation policy – which is based in rent-seeking firms developing technologies

Perspectives on grassroots innovation

[The local ingenuity perspective - people innovating for themselves and their communities

[Intermediaries document, nurture and spread these innovations, e.g. Honey Bee Network / Grassroots Innovation Centres

[(Richards, 1985; Kaplinsky, 2010; Gupta et al, 2003; Bhadurai and Kumar, 2010)

[The local empowerment perspective – inclusive innovation as tool or catalyst for local development / empowerment

[Intermediaries bring innovations from elsewhere and include local communities decisively in the development process, e.g. Social Technologies Networks

[(Seyfang, 2009; Dagnino, 2009; Abrol, 2005; Oosterlaken, 2009)

[A structural critique perspective – grassroots innovation fails to attend to relations of economic and political power

[Attempting the impossible makes the structural impediments visible and useful alliances more evident

[(Dickson, 1974; Rybczynski, 1980)

Each perspective suggests a dilemma for grassroots innovation

[Local ingenuity - Attending to local specificities whilst simultaneously seeking wide-scale diffusion;

[Local empowerment - Being appropriate to existing situations that one ultimately seeks to transform;

[Structural critique - Working with project-based solutions to goals (of social justice) that require changes in economic and political power

[These are common to grassroots innovations historically and comparatively

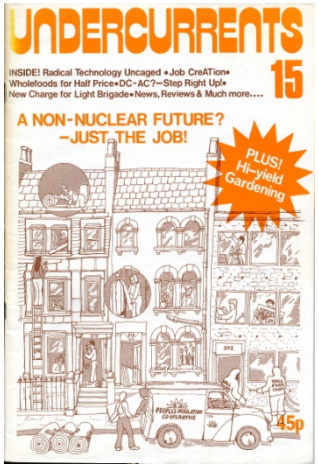


Illustration: A Co-op Solar PV project in the UK

BRIGHTON ENERGY CO-OPERATIVE

[Community-based energy services project based in Brighton –cooperative model inspirational (as seen in Denmark) and around 9 others in UK so far ...

[Project was initiated in 2009 with future income from solar PV split between co-op members and low-carbon projects in Brighton & Hove

[After a long negotiations the group secured four sites for large solar arrays

[Group organised three public meetings: Received start-up support from local people - a social investment needed to keep project going

[Project put 'on hold' just before share launch – government reduced Feed in Tariff scheme – £200k share offer re-launched 16 May 2012, first installation begun (87kW array – 3 more in pipe-line)

[Meanwhile, took advantage government grants for household demand reduction assessments

[Decentralised solar technology unusual locally, but becoming standardised: innovation rested in the way community ownership is organised and underpins decentralised sustainable energy services

How do our dilemmas manifest in this case?

Dilemma 1: How do locally appropriate features make it difficult to replicate / spread the project?

[Local visibility important – trust and credibility

[Early social investors

[Gaining access to roofs – negotiating skills

[Transferable technical knowledge cf. tacit community development

How do our dilemmas manifest in this case?

Dilemma 2: How has the project had to fit into local situation? Which transforming aspirations were realised?

[Scale-down ambitions - small-scale sites

[Adapt to local opportunities – energy demand reduction projects

[Part of emerging local energy lobby – campaign for community turbine offshore and engaging in national debates

How do our dilemmas manifest in this case?

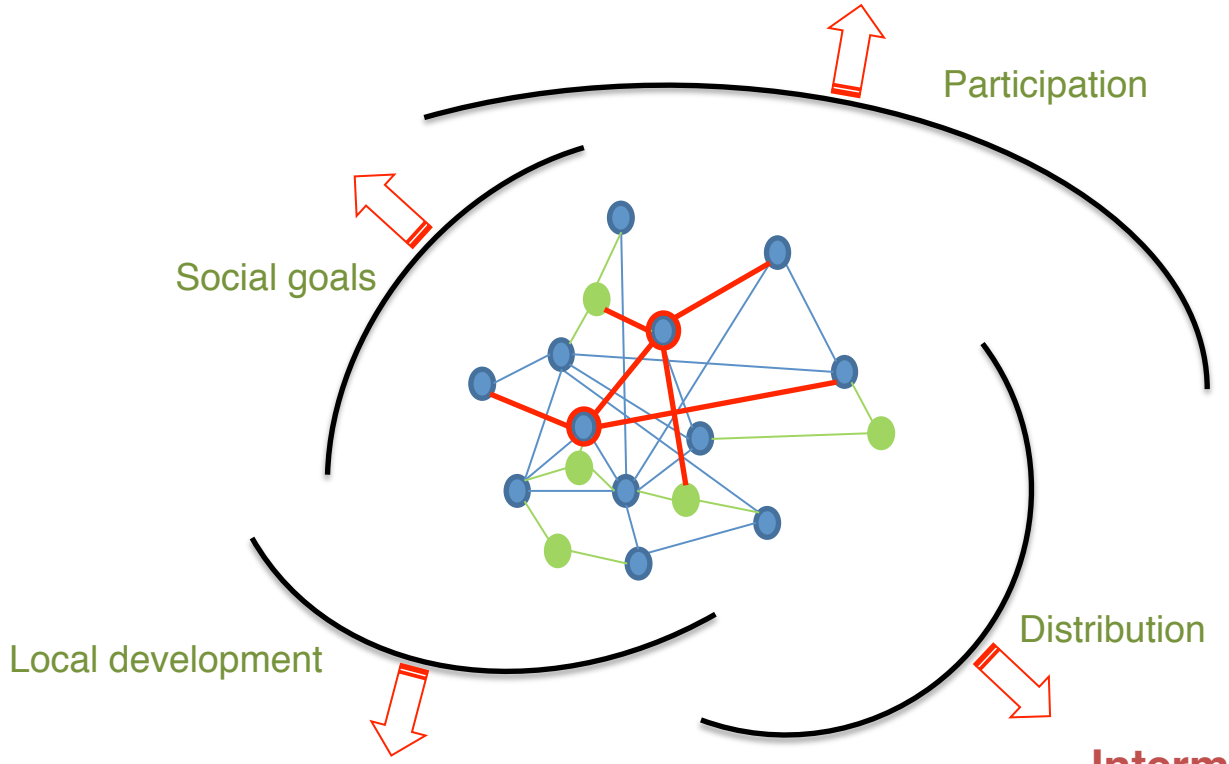
Dilemma 3: What structuring processes are beyond the agency of the project?

[Roof (land) ownership

[Uncertainty and dependency on policy context

[National campaigns for energy co-operatives

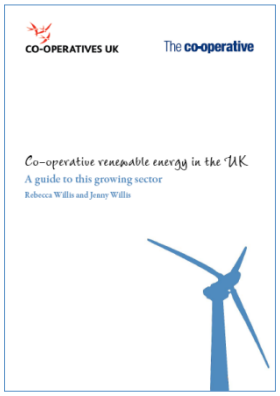
Supporting grassroots innovation: policies and intermediaries



Intermediary organisations

RTS
REDE DE TECNOLOGIA SOCIAL

[funding
[supporting
[networking
[partnering
[lobbying
[activism



low carbon communities

Grassroots innovation and knowledge production

Perspective on grassroots innovation	Forms of knowledge emphasised
Local ingenuity Coping for absent or unsatisfactory provision through existing market and state processes	Ethnographic - Needs and aspirations unrealised by markets and states - Livelihood conditions and responses - Meaningful sustainability improvements - Augmentation opportunities for bottom-up solutions
Local empowerment Pioneering new sustainability economies and societies	Instrumental - Socio-technical practices that work locally - Capabilities and resources required - Production and maintenance requirements - Advocate and participant perspectives – materiality of radical sustainability discourses
Critical intervention Makes manifest the need for political programmes for structural change	Critical - Institutional and infrastructure misfit (and their reform) - Economic (re-)structures, lack of capital - Political context (opposing powers, allies and mobilisation) - Identifying where wider alliances are needed
Source of diversity Providing diversity in debates and engagement with other forms of sustainable innovation (Smith, 2007) Hybridisation – inside-moving-out; outside-moving-in (Bell, 1979)	Plural - Spaces for socio-technical experimentation and learning - Sources of adaptable ideas and resources - Engaging with formal knowledge institutes (science) - Resources, criteria and power

Summarising ...

Grassroots innovations are **locally inclusive** in both the **process** and **outcomes** of innovation;

A **local ingenuity** perspective contrasts with a **local empowerment** perspective, and both are subject to **structural critique**;

Experience suggests **three enduring dilemmas** common to many grassroots innovation initiatives (specifics-scaling / fit-transform / projects-structures)

Need to develop **policy capabilities** for **understanding** and **supporting** grassroots innovations: harnessing the full plurality of this resource;

The **spaces** for grassroots innovators are shaped by wider economic and political processes – this requires **alliances** with wider movements

Both cases involve social and technological

Grassroots innovators need considerable agency in order to align the material, institutional and discursive elements necessary for a ‘working socio-technical configuration’:

Business/organisational models

Social acceptability

Committed and resourceful participants

Capabilities and skills

Etc.

Appropriate knowledge

Social values

Risk strategies

Source: RTS

Infrastructure

Key technologies

Idealists and entrepreneurs

Distribution networks

Markets

Institutions (norms and rules)

Critical perspectives

Prevailing innovation systems and modes of provision (socio-technical regimes) lock-out grassroots activity due to a variety of interdependent path-dependencies:

1. Capabilities
2. Economics
3. Vested interests
4. Politics and power
5. Infrastructure
6. Institutions
7. Technological and user cultures

Grassroots projects fail to attend to the mix of social and technological, material and discursive processes that reinforce one another and exclude people from dominant developments

BUT

a. these regimes are under pressure too (e.g. environmental change, social pressure, demography, development ideologies, internal dynamics and contradictions);

b. instabilities provide opportunities for grassroots?

c. simply trying to do grassroots innovation reveals these structures

Illustration: social **housing in Villa Paranacito**, Argentina

A small social housing project in Villa Paranacito Municipality – Entre Rios Province, Argentina

[Project was initiated in 2008 and accomplished in 2010 – driven mainly by a team from CEVE

[Aim – inclusive production of social housing in a very small town in Entre Rios

[Innovation with local inputs (local wood, new construction technique, local production circuits)

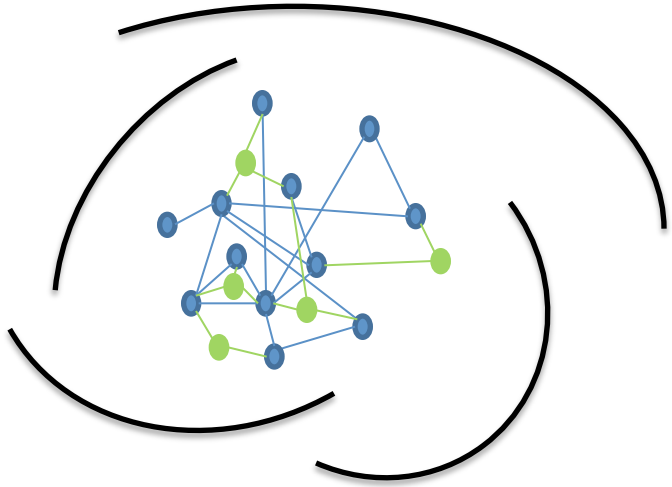
[Organisation and skills – trades, users, municipality, forestry, technical college

[Outcome – the process was more important than the house design itself

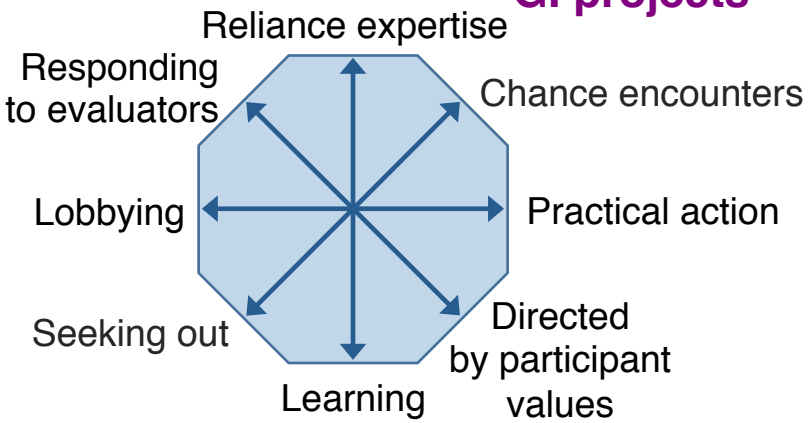
[Limited funding – difficult to redirect national funds destined for larger, brick-and-block developers

Discussion: strategic choices and learning how to live with grassroots dilemmas?

Negotiating the possibilities for grassroots innovation

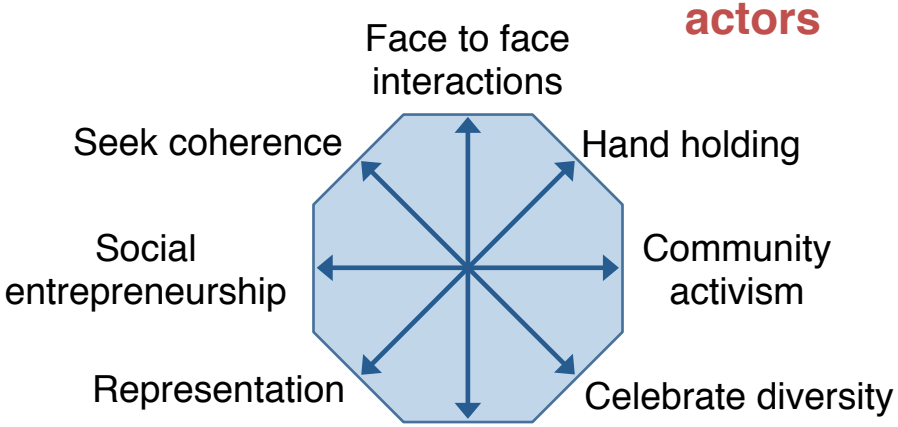


GI projects



Learning to live with the dilemmas

Intermediary actors



Support the learning and negotiation process

Grassroots innovation practitioner claims and insights

- some local communities provide settings that allow grassroots experimentation, and that can sometimes replicate elsewhere, scale-up or translate into mainstream forms

- innovations often comprise novel organisational forms, resourcing models, and underpinning values, that facilitate the use of greener technologies

- some communities champion fringe causes and approaches, which provides a diverse reservoir of ideas when similar issues become publicly salient

- collective action at the local scale can help overcome problems associated with greening individual consumption choices (free rider, prisoner's dilemma, insufficient agency over choice sets)

- grassroots innovators struggle to survive - serial grant-funding; shifting funder priorities; volunteer burnout and turnover - which undermines any ability to be strategic

- many initiatives are technology takers – poor feed-back into developing more appropriate hardware

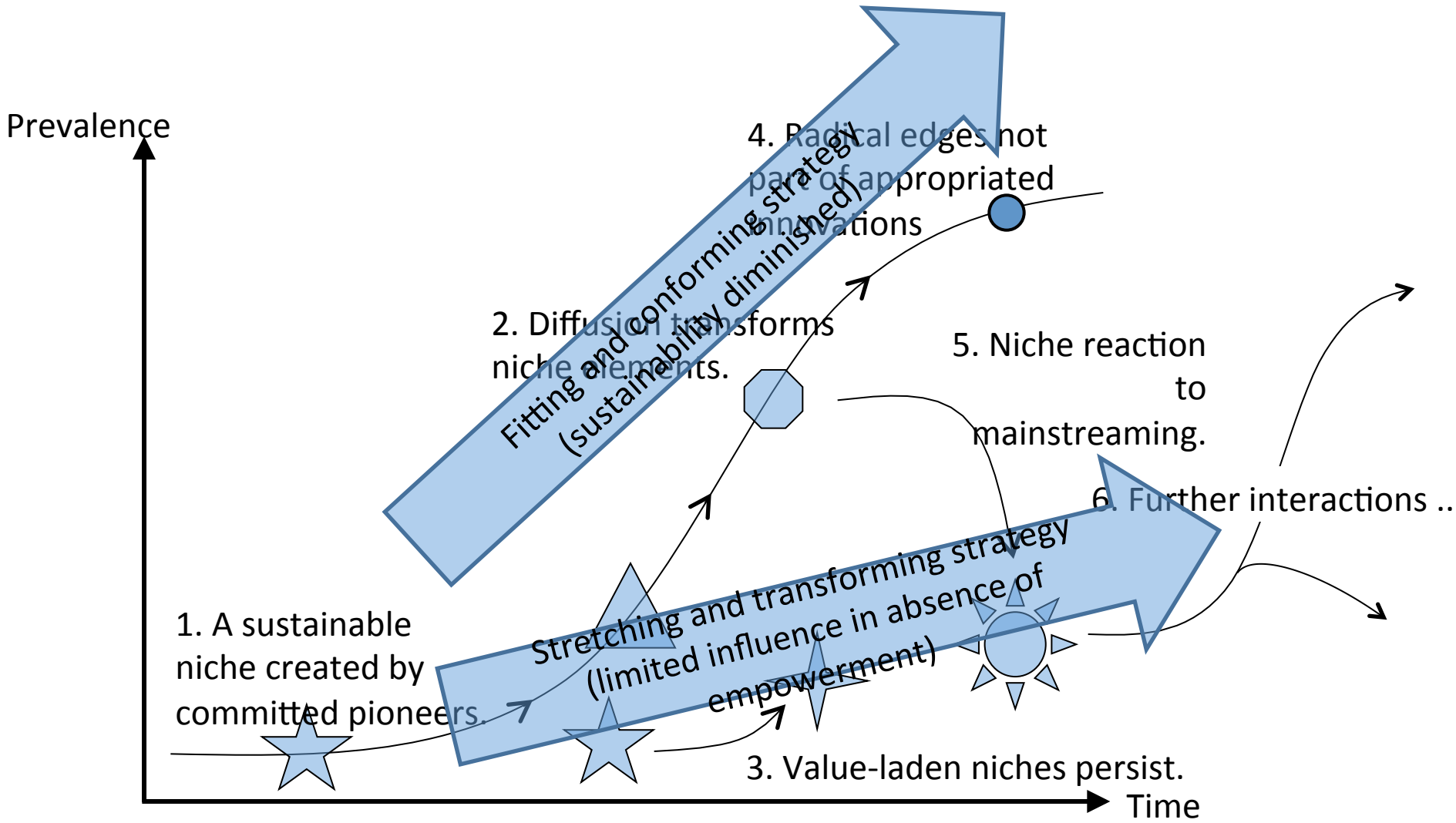
- local roots and radical routes can make scaling-up and translation into mainstream difficult

- difficulties and frustration is not uncommon, and so learning from failure needs to be built in, as much as learning from successes: something difficult, since risk averse funders and policy-makers prefer not to dwell and highlight 'beacons' instead

- significant change often arises through responses to social and economic forces way beyond the immediate local community

- networks of similar innovators might help secure a broader niche identity and interest, and thereby lobby for higher-level changes, e.g. policy institutions, utility strategies, infrastructure planning; but this social movement / political role requires effective intermediaries working between local initiatives

Some issues for grassroots innovators

- Idealists, pragmatists, and entrepreneurs constantly negotiate the meaning, substance and contexts of grassroots innovation
- (Niche) spaces take time to develop, alter with changes in context, and fragment through growth
- Grassroots innovators have to exploit landscape- and regime-opportunities that are often beyond their agency
- Actors draw different lessons and see their interests differently in the same niche development
- Incumbent political economies often prevail, so grassroots innovators need strategies for empowerment – the ability to transform their contexts favourably
- Political strategies for empowering grassroots innovators require links with, and be seen to exemplify, wider social movements

Niche development dilemmas