

# COMMUNITY RESILIENCE TO CLIMATE CHANGE: AN EVIDENCE REVIEW

The concept of community resilience to climate change in the UK lacks clear meanings and associated activities. This review explores this complex and contested field to build the evidence base and support the development of community resilience.

## Key points

- UK policy on community resilience focuses on direct shocks due to climate change. It emphasises emergency planning and the community's role in relation to other institutions, particularly for managing flood risk. Other policy areas relate to indirect shocks and stresses, without being framed as resilience.
- Frameworks for resilience that consider adapting and transforming living conditions are necessary for a shift to sustainable low-carbon living.
- More local community action takes place on energy and food than on flooding, with little action on heatwaves or water scarcity.
- Limited evaluation of community actions on climate change resilience hinders the ability to learn and develop existing initiatives. However, social, institutional, economic, infrastructure and community capacities are crucial for developing community resilience. Understanding existing capacities and building on local interests can increase success.
- The localism agenda – plus the removal of local authority targets for climate change adaptation and mitigation, and severe budget cuts – means that local authorities are unlikely to prioritise building community resilience to climate change. The risk is also that communities are expected to take responsibility for action without sufficiently considering existing vulnerabilities. However, some communities are taking action to effect positive change.
- Resilience as 'bounce-back' in the context of shocks is not enough for long-term climate change management, particularly if high levels of vulnerabilities exist locally. Joined-up policy on community resilience is needed, plus a cross-government approach that moves beyond emergency planning, is proactive, and clarifies stakeholders' roles, particularly local authorities.

## The research

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# BACKGROUND

'Community resilience' is a contested, little-used concept in the context of local action on climate change. However, it is useful for examining how far diverse activities may help communities to address the consequences of climate change. It can be summarised as:

Communities' ability to reduce exposure, prepare for, cope with, recover better from, adapt and transform as needed to the direct and indirect effects of climate change, where these can be both shocks and stresses.

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Direct impacts include increased flooding and heatwaves arising from global warming. Indirect effects include the knock-on consequences, such as increased food prices due to shortages where extreme weather causes crop failure. Shocks are short-term events with immediate impacts, such as floods, while stresses endure longer, such as housing market impacts from changes in local flood risk and insurance pricing.

Proactive approaches emphasise adaptation and transformation to respond to climate change; reactive approaches focus on resistance and 'bounce-back' to the status quo. Proactive approaches are needed to build long-term resilience to the consequences of climate change.

## Use of the concept of community resilience

While popular in some academic fields, including disaster management and development, and within policy (e.g. the Department for Environment, Food and Rural Affairs (Defra) Flood Resilience Community Pathfinders scheme), the concept of resilience has not been a core driver for community action on climate change. The terms 'sustainability' or 'self-sufficiency' are more often used. If 'resilience' is used, climate change may not be the main focus, apart from examples such as the Transition movement for adaptation to peak oil and climate change.

## Framing community resilience at policy level

Current UK policy on community resilience focuses on direct shocks, both related and unrelated to climate change. This leads to an emphasis on emergency planning and the community's role in relation to other institutions. It is a predominantly reactive approach and emphasises communities taking responsibility for actions that some may regard as the state's role.

Other policy areas are directed towards indirect shocks and stresses that may result from climate change, but are framed as climate change mitigation or adaptation rather than community resilience (e.g. the Low Carbon Communities programme). Work on climate adaptation is primarily through Defra's National Adaptation Programme. It focuses on building resilience in general and indicates that communities have a key role, but is less clear on what this requires in practice.

## Local actions supporting community resilience

Community action on climate change in the UK is diverse, but patchy and fragmented. Community groups and projects vary in size, formality and development stage. Groups may address more than one concern, such as flood risk management and energy efficiency, and the number of initiatives is not static.

There is limited evidence on community actions to address water scarcity and heatwaves. More evidence exists around energy efficiency and generation (5,000 initiatives), food growing (5,406 initiatives) and flood risk management (221 initiatives), with some overlaps in activities. This may be because food and energy are concerns where people have the most direct experience, and responses

are more formally organised. In addition, community food-growing and energy initiatives are often motivated by concerns other than climate change, encouraging wider community involvement.

## Core components of community resilience

The critical capacities and resources needed to develop community resilience are:

- social (demographic characteristics and skills);
- institutional (formal and informal arrangements and experience to manage direct or indirect climate change consequences);
- infrastructure (to address climate change consequences, e.g. local renewable energy, space for growing food or flood stores);
- economic (variables indicating economic capacity, e.g. employment, local economy);
- community capital (existing social networks and relationships).

(Derived from Cutter *et al* (2010) 'Disaster resilience indicators for benchmarking baseline conditions', *Journal of Homeland Security and Emergency Management*, Vol. 7, No. 1, pp. 1–22)

Evidence from practice provides some support for this framework, although evaluations enabling comparative analysis across highly diverse initiatives are limited. Pre-existing capacities play an important role in enabling initiatives to be carried out. The limited evidence points to community capital and institutional capacity being at the core of resilience-building at local level.

## Different stakeholders' roles

Effective governance of community action needs to be decentralised, flexible, in touch with local realities and linked into wider governance networks. Intermediary organisations and partnership/multi-agency working that develops links and involves committed, confident, proactive stakeholders with a shared agenda can offer and develop community resilience capacities. A joined-up approach between grassroots and top-down interventions can build longer-term community resilience and address the needs of communities more vulnerable to climate change.

## Framework for developing community resilience

The following key components could form a framework to develop community resilience to climate change and move towards a low-carbon future:

- **Understanding existing capacities/vulnerabilities within local areas** – vital for developing resilience to climate change while avoiding reinforcing existing vulnerabilities. Specific knowledge and skills to address the consequences of climate change and develop low-carbon living are needed; these should build on existing capacities and link with the experience of local citizens.
- **Engaging and empowering citizens** – vital for local actions to succeed. This is a difficult area, with top-down interventions sometimes leading to communities being engaged instrumentally, as delivery agents for government policy, which is unlikely to lead to success. Some community-led actions will remain outside the mainstream, but provide useful challenges to the status quo.
- **Collaborative governance** – formal and informal governance structures are needed for actions to succeed. Links between local groups, local authorities and intermediary organisations can network into wider structures. Hence formal structures can provide lasting change and learning from local activity. For example, a residents' flood action group seeking to develop capacities to cope with flooding would receive local authority help, including supportive measures in wider flood resilience planning. However, achieving this is challenging given severe public sector cuts and the removal of local authority targets for climate change adaptation and mitigation.
- **Catalysts for action** include:
  - **key people** from inside or outside communities or local institutions;
  - **funding opportunities** – programmes providing funding opportunities for community groups and local government have generated actions and interventions;

- **direct experiences or threats** – experiencing a flood or the threat of fracking can unite a community, which can then lead to resilience building.
- **Vision of the future** – for a step change in responses to climate change. A clear vision or direction is needed at both local and national levels, together with a policy framework to facilitate action. The UK Government has a role to play in setting that vision in policy terms. The Transition movement also provides an alternative community-led vision of a society that adapts to peak oil and climate change. However, even with 400 groups across the country, this remains a minority perspective.

## Conclusion

Government departments, practitioners and academics in the UK use the concept of resilience to climate change in different ways. As such, the concept remains contested. However, the way it is defined is central to where action is directed and the focus of local actions. In practice it tends to provide a framing device rather than being used to assess project success or develop interventions. The value of taking a resilience approach to climate change is in considering different actions in relation to each other to provide a more joined-up picture of countrywide action on climate change.

## Policy implications

- Policy on community resilience to climate change needs to be joined up. A cross-government approach that moves beyond emergency planning, includes a proactive focus and clarifies the roles of different stakeholders needs developing. There is an opportunity to build resilience in the context of mitigation or indirect shocks and stresses relating to climate change (e.g. the Government's Community Energy strategy) as well as more direct impacts like flooding.
- To be effective, governance of community action to build resilience to climate change requires a clear vision from central government of the role of local authorities as enablers of community action on climate change, alongside the voluntary sector and members of local communities.
- Central and local government both have a role in developing a strategic approach for action on resilience to climate change that addresses vulnerability and builds on community capacities.

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## About the project

The review used a systematic evidence-review methodology, screening and classifying studies to identify 108 documents for detailed analysis, combined with input by experts and a workshop with key stakeholders.

## FOR FURTHER INFORMATION

This summary is part of JRF's research and development programme. The views are those of the authors and not necessarily those of JRF.

The main report, **Community resilience to climate change: an evidence review** by Clare Twigger-Ross, Katya Brooks, Liza Papadopoulou, Paula Orr, Rolands Sadauskis, Alexia Coke, Neil Simcock, Andrew Stirling and Gordon Walker is available as a free download at: [www.jrf.org.uk](http://www.jrf.org.uk)

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