

# Education in the community

## Learning to live with environmental change

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*Given the likely disruptions ahead resulting from oil and climate change, a resilient community – a community that is self-reliant for the greatest possible number of its needs – will be infinitely better prepared than existing communities with their total dependence on heavily globalised systems for food, energy, transportation, health and housing (Brangwyn and Hopkins, 2008: 10).*

We need to consider new ways of reducing our communities' dependence on fossil fuels and make them more resilient in the face of a gradually warming world. These are the changes that are usually encompassed by the idea of education for more sustainable living. And this is demanding enough. But it is also necessary to realise that it is increasingly likely that more rapid and dramatic changes might descend on the places we live and work – transformations that may be unpredictable. We need to recognise that earth systems – at different scales – could be jolted into new states as a result of climate change, and we should be thinking more about how best to equip and educate ourselves for these shocks and surprises. Gearing our communities up to endure the changes we can foresee might also pay dividends when it comes to events we cannot anticipate.

Questions about how best to respond to environmental change are moving in from the radical fringes to the mainstream and the everyday. Increasingly, local communities of various sizes – villages, towns, cities – are recognising that they may be better placed, and more highly motivated, than national governments to make the necessary changes. The Transition Network is just one of many initiatives. Others include the Cities for Climate Protection Campaign, the Climate Alliance of European Cities, the Local Climate Solutions for Africa Congress, the C40 Cities Climate Leadership Group and the US Mayors Climate Protection Agreement. Alternative food movements, such as the Cittaslow (Slow City) and fair trade networks, also have significant environmental dimensions, while pre-existing twin town or sister city partnerships are beginning to retool themselves into collaborations over climate change and energy descent. Across the world, with little fuss or fanfare, numerous rather ordinary towns and neighbourhoods are working up initiatives of their own.

### Learning to respond to a changing world

There are three messages we might take from these multifaceted, place-based initiatives: lessons about responding to environmental change and energy descent that are also, more generally, lessons about learning.

### Inevitable change

The weight of scientific evidence gathering over recent decades points towards significant human-induced climate change resulting from current and historic consumption of fossil fuels. A group of 140 nations at the 2009 UN Framework Convention on Climate Change in Copenhagen came to an agreement that global mean temperatures should not exceed a 2°C (35.6°F) increase on pre-industrial temperatures, a limit beyond which 'dangerous' and 'irreversible' climate change is believed to lie. This figure, condemned as too high by the most vulnerable nation states, is linked with an upper threshold on global atmospheric carbon dioxide concentrations of around 450 parts per million (ppm) – as of 2011, the level was approximately 391 ppm. Studies suggest this would require net global emissions to peak before 2020, and thereafter decline substantially. As net emissions are not only still increasing, but actually accelerating, meeting this target is looking more and more unlikely. But even if the global community succeeds in stabilising carbon emissions, because water takes longer to warm or cool than air, there will be a period of at least several decades when the oceans will continue to warm and expand. This means that the planet is committed to both global warming and sea level rise in the future – no matter what we do.

The peak oil hypothesis, meanwhile, is based on the claim that because global oil reserves are finite, there will be a point at which approximately half the accessible reserves have been depleted. Beyond this point, the era of relatively cheap or 'easy' oil will give way to progressively increasing costs as oil becomes more difficult to extract. Some energy analysts believe this 'peak' was passed around 2004-05, or even as early as the late 1990s. Others estimate it will not occur until the 2020s or 2030s. But whenever peak oil passes, the inescapable implication is that fossil-fuel-dependent societies will need to change the way they fuel themselves – a process known as 'energy descent'. As in the case of climate change, this is no longer a matter of choice. Nation states, regions and towns now find themselves compelled to respond to major transformations for which they are only a small part of the cause.

## 1. Effective responses to environmental change are situated or embedded in particular places.

Even though the big challenges communities face may be transnational or global in scale, there is growing recognition that cities, towns and villages must try to evolve responses in ways that take maximum advantage of local knowledge and skills, local resources and local environmental conditions. This is partly a matter of making the most of what is close at hand, and a means of linking environmental adjustment to the fostering of strong, self-reliant communities. It is also about raising the likelihood of 'buy-in' to strategies for transformation: a challenge that policy-makers at the national level find difficult to meet, even when they do have the will. As urban theorists Mike Hodson and Simon Marvin observe:

*City and local governments are often unencumbered with the 'paralysis' afflicting national governments in responding to resource security and climate change issues, and ... they are generally closer to the lives of those on 'the ground' (2009: 196).*

However, 'situating' or 'embedding' change does not necessarily mean staying local. Most people who are engaged in place-based transition initiatives recognise the necessity of transforming larger-scale infrastructures and institutions. They also know that even big

infrastructural change needs to begin somewhere. There is a growing field of research exploring the ways in which organisational and technological infrastructures change. From looking at historical examples, in such areas as energy supply and transport, researchers point out that successful structural changes tend not to start out from 'top-down' imposition. Rather, they most often occur as a result of successful local experiments taking off, being adopted elsewhere and then gradually linking up. This leads us to the next point.

## 2. Local initiatives for responding to environmental change are increasingly networked.

Place-based projects are building and strengthening linkages with like-minded communities locally, nationally and, increasingly, transnationally. This means that, although most people live and work more or less locally, learning communities are increasingly geographically dispersed and inter-connected. When this is done with care, it does not contradict the principle of local embedding or situatedness. This is not about one size fitting all, or about imposing models or templates on others. It is about sharing inspirations, experiences, ideas, strategies and techniques for change. It is about making them available so that other communities can select from them, try them out, and adapt them to local needs and circumstances – and then add their own insights to the circulating mix.

However, this is more than a matter of communication and information-sharing. In an increasingly unstable world, some projects will fail or fall short. Some communities – like Lyttelton after the Christchurch earthquake of February 2010 – will find themselves in need of physical support. Networks set up to share information or ideas can also be 'thickened' so that they become avenues for offering material assistance in times of hardship: something we might see a lot more of once global climate change and peak oil really start to bite.

## 3. The process of place-based response and transition is experimental.

Many people who are involved in environmental initiatives are well aware that because individual places are exposed to planet-scaled uncertainties, what can be achieved locally is always a matter of trial and error, of flexibility and improvisation. As the Transition Network puts it:

*Although you may start out developing your Transition Initiative with a clear idea of where it will go, it will inevitably go elsewhere. If you try and hold on to a rigid vision, it will begin to sap your energy and appear to stall. Your role is not to come up with all the answers, but to act as a catalyst for the community to design their own transition (Brangwyn and Hopkins, 2008: 27).*

What is an effective response in one place may be ineffective in another, and what works at one time may prove inadequate at a later moment. But it is precisely because experiments in place-making have a situated or 'niche' quality that they may pursue possibilities that would seem intemperate at the national scale. Social studies of new transition movements have noted that one of the values of smaller-scale experiments is that they may allow for failure to be accommodated in the learning process:

### Learning from crisis

Lyttelton, the port town of Christchurch in New Zealand's South Island, nestles in the valley of an extinct volcanic cone long-ago flooded by the sea. This is a town that has been quietly trying to transform itself for some time – strengthening its local cultural and economic life, easing away from reliance on fossil fuels, preparing itself for climate change. When the Transition Town movement began to go global in the late 2000s, Lyttelton was one of the first international members to join up; Lyttelton, in many important respects, was already tooled up and 'transitioning' itself well before the movement took off.

On the summer afternoon of 22 February 2010, Margaret Jefferies, an NGO leader involved in the 'transitioning' process, looked back from the deck of a ferry and watched as her town began to sway and tumble. A seismic shudder, one of thousands in recent years, was rocking the Christchurch region. At 6.3 on the Richter scale, and relatively shallow at 5 kilometres down, this quake was especially violent. Buildings toppled across the city of Christchurch with considerable loss to life. Half the homes and buildings in Lyttelton suffered severe structural damage.

But Lyttelton's transitional initiatives were to prove their worth in the weeks and months that followed the disaster. Community spirit and the local economy were dented but not defeated. The same local infrastructures that had been gradually worked up to help transform the town turned out to offer a versatile scaffolding for relief and reconstruction. The community began to rebuild itself. A short film was made, documenting the town's recovery. The international Transition Network offered support – but also watched and learned.

*Niche-based approaches demand an interactive policy style mature enough to recognise the value in acknowledging and learning from failure as well as success. Elements of niche practice that do not 'work' can be just as informative for sustainable developments as those aspects that operate successfully (Seyfang and Smith, 2007: 590).*

It is important to keep in mind that some places are better equipped than others to deal with failure. It is also important to remember that, as environmental instabilities and energy descent become more intense, the shortfalls and breakdowns of place-based projects are likely to become more frequent. At some point, increasing numbers of communities may face environmental changes so extreme as to exceed local tolerance levels. This is when strong, established and well-distributed support networks might come to play a key role.

There is a final lesson we might learn from the irruption of practical place-based responses to global environmental change and energy descent. By way of the escalating sense of global uncertainty, and the growing understanding that societal change occurs through trial and error, ordinary life itself is coming to be experienced as a process of learning by doing. In this regard, what is considered to be 'education' is becoming increasingly difficult to distinguish from everyday practice and know-how. In many ways, this returns us to certain characteristics of many traditional communities – who must respond, day by day, year by year, generation by generation, to variable environmental conditions.

## References

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