

Scott, Eion, Kerr, Jennifer (Authors and Presenters), Taylor, Rhys (Co-author) Trustee (Eion) and Coordinators (Jennifer and Rhys) for the Sustainable Living Education Trust.

Address for correspondence: Eion Scott, Auckland City Council, Private Bag 92516, Wellesley St, Auckland 1141. Ph 09 353 9048, Fax 09 353 9184, email eion.scott@aucklandcity.govt.nz.

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Resilient Communities – a new resource

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Abstract

Resilient Communities is a new topic added this year to the highly regarded, council supported Sustainable Living course, which has been running since 2001. The resilience topic aims to show how individuals and communities can adapt to meet the related challenges of civil emergencies in the short term and more fundamental changes to the climate and way of life in the longer term.

This paper outlines how Sustainable Living has broadened the focus of its adult education programmes, and why it has chosen community resilience as a new theme. It looks at where the topic fits in the overall strategy for Civil Defence awareness and community transition programmes. And it traces the development, testing and evaluation of the course's pilot workshops.

Finally, it discusses the market for sustainability education in New Zealand – who is the course targeting and will it help offset the barriers to course attendance (the latest being the cut in government funding for community education). Are new generations of New Zealanders more open to learning about sustainability when it includes a vision of a reinvented future?

Introduction

Four years ago, Rhys Taylor presented a paper to this conference on the early years of the Sustainable Living community education programme (Taylor and Allen 2006). The programme was developed in New Zealand collaboratively by city and regional government, initially championed by Marlborough District Council, and now with over 25 councils and government departments subscribing to the programme. Two part time coordinators manage it, under the direction of an independent registered charity, the Sustainable Living Education Trust¹.

Sustainable Living topics include water, energy, travel, gardening and organic food growing, shopping, waste minimisation, and eco-building, delivered as single subject seminars or more often with all topics integrated as a weekly evening class of one school term duration.

The programme uses resources developed nationally, with input from the local council and tutors to run the course in a specific area. The repeated sessions, discussions and shared experience are designed to result in learning and behaviour change, consistent with the prerequisites for integrated planning and management for resilience (Mamula-Seadon, 2009). Finnis (2004) found that community education programmes effectively increased preparedness and fostered a sense of community through empowering participants.

¹ The Trust and its work is described at: www.sustainableliving.org.nz

This year a ninth topic, Resilient Communities, has been added to the series with the help of funding from the Ministry for the Environment's Sustainable Management Fund. The impetus for doing this was two-fold.

Firstly, there was a need to refresh the course to maintain interest and enthusiasm from councils, tutors and participants, and potentially engage new market segments. The last new topic, building, was added in 2008 and had been valuable in attracting more participants to the course, and in particular more men.

Secondly, in 2009 high school based night classes lost government funding (through the Tertiary Education Commission). This meant it was more important than ever to provide new, relevant courses attractive to customers willing to pay the higher fees now required. There was also an opportunity to adapt the course for operation in partnership with tertiary education providers by registering as a New Zealand Qualification Authority approved course.²

The choice of resilience as a topic came about because of a desire to extend the Sustainable Living course programme across a wider range of council information campaigns. Discussion with partner councils, including the Resilience Unit at Environment Canterbury, confirmed interest in the new direction and staff at several councils offered peer review.

What is resilience?

As noted above, developing community resilience underpins the practice of community education. Definitions of sustainability also emphasise resilience as an important principle (Mazmanian and Kraft, 1999). This principle fits nicely with the civil defence emergency management key tenet of community resilience (National Civil Defence Emergency Management Strategy 2007).

Resilience implies ability to bounce back to a former level of functioning, or even "to grow in the face of threats to survival" (Reich 2006) which in the medical setting implies stress-adaptation in order to thrive (Smith et al 2008). Concepts of community resilience are "related to theories of social capital which stress the importance of social networks, reciprocity and interpersonal trust. These allow individuals and groups to cope and then to accomplish greater things than they could by their isolated efforts". (Patterson et al 2008). The community and its ties of social capital may be the overlooked resource in otherwise household-focused emergency planning for resilience and recovery (Murphy 2007). Resilience is a systems concept, the ability of individual people through to whole economies to hold together and maintain their ability to function in the face of change and shocks from the outside (Hopkins 2009)

Reich and co-authors (2009, p6.) argue for resilience definitions that go beyond the absence of problems or a bounce back to previous states, considering "not just risk but also the capacity, thoughtfulness, planning and a forward-looking orientation that includes attainable goals and a realistic vision for the community as a whole." It is in this future focused way that the Transition Town social movement, originating in Ireland and England, but also operating here in New Zealand, looks forward to "local sustainable communities beyond oil dependency" (Hopkins 2009)

In *Hatched*, (Mortimer, Gordon, Frame, 2010) an argument is developed that societies will not change without the clear cooperation, and indeed leadership, of individuals. It describes people as citizen consumers, who have complex behavioural mechanisms influenced by values and norms. People need to learn from doing and interacting with others, rather than from information only. "And at a fundamental level society will need to reactivate the concept of citizenship – of acting for the common good versus acting as the individual consumer."

² However, funding for tertiary short courses has now also been reduced, leaving many short course providers in limbo.

Three core principles of resilience, viewed from social sciences and in particular psychology, are *control, coherence and connectedness* (Reich 2006). From both environmental sustainability and emergency management perspectives, resilience increases when people have ability to better control supply of key services such as energy and water; have a clear plan of action in emergencies with preparation of food stocks, tools, etc; and are aware that others in the neighbourhood, with whom they can connect, are similarly prepared with complementary skills and supplies. Emergencies might be short, such as storm or snowfall leading to power outage, or potentially long, in the case of geopolitical interruption to oil availability or huge price rises in response to global competition for finite stocks. Hopkins (2009) argues that "in our overdue efforts to drastically cut carbon emissions, we must also give equal importance to the rebuilding of resilience."

What does 'Resilient Communities' comprise?

The topic comprises a mix of information and interactive learning. It suggests actions to mitigate and cope with the effects of climate change: reducing water demand, safe sanitation/chemical use and healthy homes, energy efficiency in travel and heating, encouraging year round garden crops and food storage (preserves, bottling, bulk dry stocks). It looks to the future of more expensive fossil fuel based transport and electricity, but initially within the context of more immediate disruption to energy and fuel availability, due to natural disasters like earthquakes, floods, eruptions and tsunamis, or civil emergencies.

It incorporates emergency management and civil defence recovery stage objectives but does not duplicate most of the short-term actions recommended in the Get Ready, Get Thru campaign. Learners are referred to existing local information leaflets/web sources from Civil Defence.

So why do the topic if parts of it are covered elsewhere?

Global warming/climate change is an abstract concept for many, until experienced first hand through its real consequences, such as New Zealand western floods, eastern droughts, storm or snow damage (e.g. to power transmission lines) or disruption to supplies of goods or services sourced internationally (e.g. oil). Household and community preparation for such events of high significance, but previously low frequency, is *ad hoc* and incomplete.

Local government has civil defence/emergency management responsibilities (specified by the Civil Defence Emergency Management Act 2002), to plan and lead, and to recruit and train coordinators, but these functions are kept separate from environmental/sustainability education, not least reflecting the different time scale of their focus, but also because the staff and NGOs involved are usually professionally and financially separate.

The Get Ready Get Thru media campaign (<http://www.getthru.govt.nz>) focuses on actions to prepare people for short term, immediate stress situations (injury, water interruptions, power cuts, flooded roads, temporary food shortages, etc), so this is not duplicated in Resilient Communities. Instead, those principles are used to focus people's attention on preparation for longer-term resilience and recovery periods in a resource constrained, warmer world. The aim is to build capacity for community resilience. These learners can be the early adopters, modelling the changes required and be ready to lead in an emergency.

Sustainable Living's distinctive new content covers how the sustainable option can also be the resilient option, presented as another good reason to adopt sustainability and an additional motivator of appropriate action. It shows how the household relies upon and contributes to the wider community, which is a perspective lacking from much of the existing individual and household

focussed environmental content. It encourages consideration and discussion of future challenges from climate change and resource scarcity, and resilience and recovery in the face of these. The supporting materials guide action.

Tools or technology that assist preparedness are reviewed, for example, water purification systems, waste composting equipment, hand wound dynamo torches, solar radios, PV electric battery chargers, camping cookers, solar ovens, gardening and food preserving equipment, etc.

Community dimensions include encouraging involvement in community gardens and neighbourhood scale composting, car sharing and community transport.

Where does this topic fit?

How the topic will be delivered will vary, but it is expected to be either a freestanding session of two to three hours or the last (or first) topic in a course that looks at practical environmental sustainability actions at home.

The Sustainable Living tutor may enlist help or guest speakers from local community groups such as Transition Towns (<http://www.transitiontowns.org.nz>) as well as Civil Defence educators, approaching it from their different starting points. (Liaison is sought with local civil defence/emergency management staff when tutors begin to run this topic.)

The facilitated class will provide a supportive setting to enable people already considering sustainability to include this new element, learning alongside others from their neighbourhood. This face-to-face education in a community context directly helps to build the social linkages needed for resilience.

The Sustainable Living programme is a ready-made delivery vehicle for public community education, already focussed on practical sustainability choices/actions, to which a community resilience element can be cost effectively added.

The aim is to demonstrate how methods chosen for their lower environmental impact are often low cost, more health conscious and more resilient to natural disasters and global economic shocks. These include alternatives to key public utilities that are most likely to be affected in high stress/civil emergencies: mains electricity, piped water, piped sewage, road transport and municipal solid waste removal.



Piloting the topic

The module has been tested on three occasions. The first was as a free introductory workshop preceding a Sustainable Living course, at Waiheke High School's Community Education Centre, Auckland.

Participants swap cards representing assets and skills to gather community resilience in the face of resource shortages

The workshop lasted two hours and included discussions and interactive exercises as well as some brief slide presentations. The former included

introductory exercises assessing participants' preparedness for Civil Defence emergency; brainstorming the most likely emergency situations to affect the island; and a card game where people negotiated assets and skill sets in order to gather community resilience in the face of dwindling oil supplies.

Presentations provided background data on the impacts of Civil Defence emergencies on the region; predicted changes to weather because of climate change; and the impacts of peak cheap oil on transport, food and common household items.

The course handouts included a fruit bottling and preserving demonstration, Civil Defence checklists and a commitment sheet to encourage participants to pledge their involvement in household actions plus community groups such as Transition Towns, Neighbourhood Support, or by further learning such as taking a Sustainable Living course. Of the 10 participants in the first workshop, five went on to take the full course and several others who attended the full course heard about it through publicity about the free workshop (which date they were unable to attend). The course was evaluated highly by attendees, prompting the local Community Board to extend support for Sustainable Living courses on Waiheke in future (Waiheke Community Board Memo 2010).

The second pilot occurred at the end of June in Mt Eden, Auckland, at a privately run centre for the Chinese community. It was a free stand-alone session. Over half the participants had already been on a Sustainable Living Course. While many of the 17 attendees were Chinese New Zealanders, close to half the group were New Zealanders from European and American extraction. The two Waiheke course tutors were present and able to compare the way the workshops were run.



The Web of Resilience teaches the group that people are interconnected and reliant on each other.

The workshop included several of the exercises carried out at Waiheke, and added a Web of Resilience game where the group gathered in a circle and tossed a ball of string to another person on the opposite side of the circle, holding the end and in so doing creating a network of interconnecting threads. A book was laid on the middle of the

web and people one by one let go of their threads until the book finally lost balance and fell. This exercise is well known in Transition Towns groups (Hopkins 2009), and demonstrates how connected and dependent on each other people are. Nobody has all the skills and resources necessary to survive alone in any possible future.

In a more practical demonstration, participants sampled four containers of water purified by different means after a presentation on making potable water from rain, dew and groundwater supplies.

A third pilot was held in Christchurch in mid July. Again, the 14 participants responded with enthusiasm, rated the session highly in written feedback and left with checklists, to complete at

home, that compare potential actions for their value in both environmental sustainability and emergency preparedness. Following this trial, the material will be distributed to subscribing councils and independent Sustainable Living tutors across New Zealand as part of the tutor materials annual CD.

Peer review of the topic has been obtained from staff or tutors at Auckland City Council, Hutt City Council and Environment Canterbury.

Course Materials

Course materials include:

- Facilitator guide
- PowerPoint slides
- Are you prepared for any emergency? warm up quiz
- Card game - meet the neighbours
- Issues handout (this part emailable in advance)
- Action guide and checklists
- Wild foods handout
- Commitments handout

Evaluating the topic

Fourteen people at the second pilot, and another 14 at the third, completed a two-page feedback questionnaire. Feedback was very positive. Almost everybody found the material interesting and a comfortable mixture of the new and familiar. They also found it accessible, varied and practical with the right amount of content, and that it encouraged participation and motivated action with useful visual aids. Facilitation, inclusiveness and pace setting by the experienced Sustainable Living tutors was well received. There is sufficient content for between two and three hours.

Feedback included:

- Brought message of interdependence and connectedness home.
- It opens up a new area for the community to think about and shows people there is a way through a disaster/flood, etc.
- Liked the practical focus. Very valuable, thanks.
- Gave a great overview.
- Awesome afternoon - will discuss with flatmates and get an emergency kit together.

Ideas for additional information to be added to the module included:

- More inspiring success stories, case studies.
- More examples of other communities and how they respond.
- Keeping chickens at home (rules and regulations).
- Rainwater harvesting (not covered at Christchurch, but is in the tutor materials).

Actions people intend to take as a result of the session included:

- Be a better, more focused, more caring, more prepared person, knowing how important it is to make a good community for a better world.
- Join more community groups.
- Join the TimeBank.
- Find community gardens.
- Learn more about seed sprouting.
- Plant fruit trees.

- Get ready for emergency, improve emergency kit.
- Community networking.
- Publish information in the community newsletter.

How does the course contribute to community preparedness?

While it is too early to determine the impact of the Resilient Communities pilots, surveys of past Sustainable Living course participants indicate that significant changes are made following the course. Changes reported by a survey of course completers for the 2008-9 year are included in the appendix.

Who is it aimed at?

The market is loosely defined as willing learners about sustainability at home and in their local community. An unpublished research paper prepared for the Sustainable Living Education Trust (Trinh 2009) compared the motivations for people enrolling in Sustainable Living with those in comparable programmes in the UK (Global Action Plan's EcoTeams) and Australia (LivingSmart³).

“Three key motivational factors were identified as reasons for joining EcoTeams: (1) getting to know others in the community with similar 'green' values; (2) provisions of trustworthy information on how to reduce environmental impact; and (3) prior 'green' intentions. An interview sample of EcoTeam participants found that most had prior 'green' intentions even if they were not living 'green' lifestyles, and the course helped to convert intentions to actions.

“Reasons for enrolling in LivingSmart courses included a desire to learn how to become more sustainable, share with fellow participants and develop a sense of community. Here in New Zealand, Sustainable Living course participants reported their reasons for enrolling in a specific course. These include becoming better informed, that the course was held at a convenient location and time, and the course provided an opportunity to make new friends and or to assist with work or career plans.”

An earlier paper (McDonald and Taylor 2008) noted that those who completed the Sustainable Living course reported that they did so because they had met, and remained in touch with, interesting people with whom they had shared valuable experience. Contact with others helps to verify and normalise behaviour change, and this social proof impact gets stronger with repeated contact, as provided in a convivial course (Swim et al 2009, Cornforth 2009, Sunstein and Thaler, 2008.) The human need for such social interaction appears to be a strong driver for New Zealanders taking sustainability themed evening classes.

Conclusion: A new definition of sustainability

The above responses would suggest that New Zealanders are influenced by social concerns alongside individual survival. The objective of encouraging self-reliance, or at least sustainability at a household level, may not be as immediate a concern here as it is in countries hit harder by the global economic recession, social unrest, perceptible environmental damage and crippling energy costs.

Motivation may be driven more by a feeling of loss of community cohesiveness, for example experienced by some post-WWII Baby Boomers and children of the war years, who look back on

³ Living Smart was documented at <http://www.livingsmart.org.au/about.htm>

the kinder, slower, more neighbourly and less consumerist times they experienced when growing up.

More recent generations are less visible in Sustainable Living classes, although there does seem to be an awakening of interest from today's university students, and this was reflected in attendance at all three workshops reported here. This is a hopeful sign that the craving for material satisfaction may be starting to wane, and the desire for social connection and relevance, plus care for the Planet, is finding fertile ground.

What better way to assuage guilt about consumerism, and substitute with social connection, than to imagine a future where people are forced to make a virtue of doing well with less? To learn such new skills (home brewing anyone?), to grow their own fresh food and to swap their excess produce for goods and services that others in the community are skilled in providing. And it is possible to have fun doing so.

While initial responses to the pilot courses are encouraging, it is too early to tell if this topic will be successful in engaging people over and above the general appeal of sustainable living.

The experience of the Sustainable Living programme does suggest that New Zealanders are looking beyond the immediate concerns of sustainability of lifestyles to the wider question of how resilient their households are to growing pressures on day-to-day survival.

The Christchurch Earthquake has most recently brought these issues into sharp focus and fertilised the landscape for social marketing/behaviour change organisations offering these sorts of courses. If you are not prepared for an earthquake, as many people caught in that event found, how will you, your family and your community cope if the dire predictions around peak oil and climate change are proven true? Is it time for a new popular definition of sustainability, and is it resilience to a fundamental change in our way of life?

Appendix

Changes reported by more than 50% of sample of Sustainable Living course participants

The community education courses do have an impact. Here are the most frequently reported behaviour and consumer changes since completing Sustainable Living courses (reported by more than 50% of respondents) in a sample survey of course completers for 2008-9 year. Most of these increase the household's resilience to shortages of water, electrical power, food stocks or oil-fuelled transport; some reduce their demand on public utilities that may be interrupted or overloaded in emergencies. Many increase their capacity to help disadvantaged neighbours and in some cases to meet neighbours (e.g. garden produce bartering, shared transport).

Heating efficiency

- Installed thermal insulation, ceiling or floor - increased comfort

Electrical power demand reduction

- Turned off unused TV/computer/appliances and lights
- Installed several low-energy CFL replacement bulbs
- Line-dried clothes outside in preference to using a tumble-dryer

Garden productivity

- Increased size of productive gardens, reduced lawn
- Increased range/type of fruit/vegetable plants grown
- Not watering grass - allowed lawn to yellow in summer
- Used mulches in summer/autumn to save water

- Avoided using toxic pesticides/herbicides, encouraged natural pest bio-controls
- Started making compost and/or using EM Bokashi

Water-saving measures

- Turned off tap while brushing teeth etc
- Fitted dual-flush or other water-saving device in toilet cistern
- Shorter showers, fewer baths

Water pollution sources reduced

- Used bicarbonate of soda and white vinegar as cleaning materials
- Taken surplus chemicals e.g. oil, paint, to Council Depot
- Didn't wash car at all, or if washed not when on road

More extensive reuse/recycling

Recycled and/or reused: newspapers and white office paper, glass jars, bottles etc., reduced advertising flyers (by using a 'No circulars' sticker at letterbox), cardboard boxes, cans (steel/aluminium), plastic containers, textiles and old clothing, whiteware, motor oil and solvents, woody garden prunings.

Shopping decisions

Most respondents adopted the following strategies (preferences) when going shopping: lowest cost/special prices, least packaging, recyclable/re-useable packaging, NZ-made or grown in preference to imports, buying organic and free-range produce, making a list before buying, taking re-useable bags rather than accepting shop's plastic shopping bags.

Travel and transport

Since the Sustainable Living course, the majority of respondents have changed their behaviour and organise travel in advance, get more lifts with others, and walk or cycle instead of using the car for shorter local trips.

Other changes reported by less than 50% of sample of Sustainable Living course participants

Subsequent to the course, the respondents have made a number of other changes. For example:

- Purchased free-range products (e.g. eggs, pork)
- Bought and used pressure cookers, for reduced power demand.
- Used watering cans for vegetable garden watering
- Installed rainwater collection barrels, fed from down pipes, for the garden
- Deliberately chosen not to have a lawn
- Built a raised vegetable garden
- Only washed clothes when there was a full load
- Used Ecostore bulk laundry or cleaning products
- Used Bokashi buckets' fluid to clean out drains
- Caught the first cold run of water when running the hot water tap (or shower) and used this on the vegetable garden
- Washed dishes only once a day
- Shared bath water
- Washed vegetables after peeling, not before
- Shopped locally e.g. Farmers Market or butcher not supermarket, to reduce travel and packaging
- Taken own re-useable containers to the butchers to avoid plastic bags
- Re-used jars for preserving surplus garden produce

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