Case Studies ('initiatives') Illustrating Contraction and Convergence

EQUITY AND LIMITS IN THEORY AND PRACTICE

CONVERGE DELIVERABLE 33

CONVERGE

grEEndependent Institute

SEVENTH FRAMEWORK PROGRAMME

Cite as: Vadovics E, Milton S. and the CONVERGE Project Team. 2012. Case Studies ('initiatives') Illustrating Contraction and Convergence. Equity within Limits in Theory and Practice. CONVERGE Deliverable 33. GreenDependent Institute, Hungary. Available from: http://www.convergeproject.org

The CONVERGE Project Team consists of:
Edina Vadovics, Kristóf Vadovics, Simon Milton, Orsolya Antal, Benigna Boza-Kiss (GreenDependent Institute, Hungary; Edina Vadovics and Simon Milton lead authors of this deliverable)
Matthew Fortnam, Sarah Cornell (University of Bristol, UK)
Bálint Balázs, György Pataki, Mária Tarnai (Szent István University, Hungary)
Kristin Vala Ragnarsdottir, Sigrun Maria Kristinsdottir, Brynhildur Davidsdottir, Helga Ögmundardóttir (University of Iceland)
Harald Sverdrup, Deniz Koca (Lund University, Sweden)
Edith Callaghan, David Cook, Josefin Nyström (The Natural Step International, Sweden)
Cletus Babu, Charles Amirthan Christy, Naga Nagarajan (SCAD, India)
Alice-Marie Archer, Jenneth Parker, Ian Roderick (The Schumacher Institute, UK)

Parts of this deliverable were reviewed by Benigna Boza-Kiss (Chapters 2. and 3.) and József Szlezák (Chapters 1., 2. and 3.)

We are grateful to András Oláh (Climate Ticket), Tracey Wheatley and Gabriella Schneider (Climate-Friendly Wekerle), Michael Gentry (GAP UK), Krisztina Budai (Greenways Hungary), Jane Straker (Fownhope CRAG), Dr. Vandana Shiva (Navdanya) dr. Sándor Fülöp (Ombudsman for Future Generations), Kate Raworth (OXFAM), Gábor Nagy (Pilis LETS) Kristóf Bajnok, Márta and István Kaszap (The Bokor Movement) for their review of and comments on the initiative descriptions in Chapter 3.2.

English language proofreading by Simon Milton

Design and editing by Farm (www.farm.co.hu)

CONVERGE is a European Commission FP7 Research Project: *Rethinking globalisation in the light of Contraction and CONVERGEnce.*

For further information on this deliverable contact Edina Vadovics at edina@greendependent.org
For further information on the CONVERGE project contact Alice-Marie Archer at info@schumacherinstitute.org.uk or visit www.convergeproject.org

Key words: Strong Sustainability; Contraction and Convergence; Initiatives; Case studies; Resource, Ecosystem and Planetary Limits; Intra and Intergenerational Equity; Justice; Just Sustainability

Case Studies ('initiatives') Illustrating Contraction and Convergence

EQUITY AND LIMITS IN THEORY AND PRACTICE

CONVERGE DELIVERABLE 33

Table of Contents

Recommendation

SCAD takes this opportunity to congratulate and thank everyone who is involved in the preparation of the CONVERGE initiative e-book for the use of the wider public. We, SCAD, as part of the CONVERGE team want to ensure CONVERGE reaches the public in our region and the whole country. SCAD initiates various environmental and community engagements to create a just society in the region. Providing equal opportunities for every member of society is ensured through SCAD sustainable development initiatives.

To mitigate climate change and other environment-related problems in a rapidly growing country like India is a herculean task. The growth of the country is decided by various factors and the issue needs to be addressed globally.

"Climate change is a global challenge to which global solutions are required"

With the support of The Converging World Charity UK and the Schumacher Institute Bristol, and other charities and development agencies in UK and Europe, SCAD initiates various sustainable energy and development programmes.

We strongly believe that equity-based models such as Contraction and Convergence™ can play a vital role in helping to manage global environmental problems. Contraction and Convergence™ means that every country should bring its per capita emissions to a level which is equal to all other countries. It is intended to form the basis of an international agreement which will reduce carbon dioxide emissions to avoid dangerous climate change, carbon dioxide being the gas that is primarily responsible for changes in the greenhouse on Earth. We also strongly believe that a lot of initiatives need to be done on stabilizing atmospheric CO_2 concentrations at 350 parts per million by volume.

We also agree with the importance of the following words:

"No one owns the atmosphere, yet we all need it. So we can assume that we all have an equal right to its services – an equal right to pollute on the basis of the minimum cuts in total carbon dioxide pollution needed to stabilize the climate."

Taking this into consideration, SCAD wants to help create more equitable models for managing the benefits and costs of resources that are in line with what we know about planetary limits – which will ensure a safe living environment for the community, ensure women's rights, reduce food miles by growing local food through kitchen gardens, includes afforestation programmes to cope up with the climate adaptation methods, water harvesting to overcome desertification and sustainable energy initiatives to ensure less carbon is emitted.

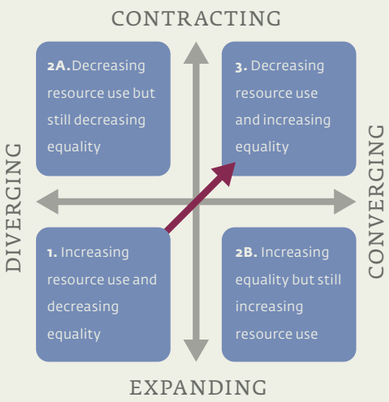
We are sure that the CONVERGE team is documenting community initiatives like this into CONVERGE deliverables which can be used by the wider public. We are extremely happy that we are part of the team and also members from the developing country to make ***Convergence*** into a model for a future sustainable world.

Thanking you,

Dr. S. Cletus Babu
Chairman , SCAD group of Institution

Foreword

I am delighted to see this e-book of case initiatives appear as part of the CONVERGE project. It is not only an excellent sample of what is happening but it gives us an opportunity to present many of the ideas, arguments and questions that make up research into ***Convergence***. It is necessary to present examples of organisations and their work, to listen to their stories and to interpret their objectives because otherwise we are dealing only with abstract ideas. This ebook brings these stories to life, they are chosen because they represent good examples of practice in the fields of environment and social justice.



It is the dual concepts of equality and planetary limits that lie at the heart of what we mean by ***Convergence***. Our research is exploring ideas for policies and processes that combine living within the limits of Earth's resources with a desire for greater and greater equality of provision of decent livelihoods from those resources. Equality is not only within the nation state but across nations; it has many scales – from a small community through city regions to the whole world.

We have developed a simple model that we call the Four Quadrants formed by the intersection of a vertical dimension that represent expansion (without regard to limits) in a downwards direction and contraction upwards, with a horizontal dimension that represents growing inequality to the left and growing equality to the right. The bottom left quadrant represents where most human activity occurs today, with a continuing expansion of our impact on the planet coupled with increasing levels of inequality among people. There are many organisations throughout the world, like the ones in these case studies, that work in either the bottom right quadrant seeking to improve justice or they work in the top left seeking to reduce our impact on the planet. But ***Convergence*** is placed in the top right where we combine these two approaches either by taking on new responsibilities or by forming alliances with others.

It may be uncomfortable for some organisations to appreciate that one or other of the dimensions of ***Convergence*** are not as strong as they could be. As a board member of Low Carbon South West in the UK (see the case initiative), I am aware that we seldom consider issues of equality; our mission is to promote and develop the region as a great place for environmental technologies. We want to attract new investment and to improve the ability of companies to compete in this new green industry. If I put on my 'convergence' hat then I recognise that we are placed reasonably well on the limits/contraction scale, we measure our efforts in terms of living within planetary boundaries or within the limits of resources but we do not mention equality or justice. We should not, however, consider this a failure. The ***Convergence*** framework presents an opportunity to extend and strengthen what we do.

These case initiatives make the ideas of our convergence research come alive. They have prompted us to form a Convergence Alliance, a network of organisations and individuals who will connect and help each other to fill out their work to get into that top right quadrant.

Ian Roderick
Project co-ordinator

Glossary of important terms used

Contraction and Convergence™

'Contraction and Convergence™' is a science-based, global climate policy framework which has been proposed to the UN since 1990 by the Global Commons Institute[1] as one way to manage and reduce anthropogenic carbon dioxide through a burden-sharing approach.

Convergence

'***Convergence***' is a rights-based framework based on the principle that every global citizen has the right to a fair share of the Earth's biocapacity and access to fundamental human rights. It advocates socio-ecological justice, calling for wealth, well-being and consumption to converge across and within nations to a level that the biosphere can support. ***Convergence*** aims to enshrine intragenerational equity in the sustainability discourse. Pontin & Roderick (2007) state that ***Convergence*** is not about creating one homogeneous culture; it is about allowing diversity while advocating universal concepts of human rights. ***Convergence*** is not restricted to the global scale, it can occur at regional, national and local levels as well. Any framework for ***Convergence*** requires participation and equitable sharing of benefits and costs[2].

Limits/Contraction

Limits/contraction is used within this document to mean progress, development or movement towards ensuring that resource as well as ecosystem or planetary limits or boundaries are observed and respected.

Equity/Convergence

Equity/convergence is used in this document to mean progress, development or movement towards more equal sharing of both the benefits (e.g. food, fuel, clean air) and burdens (e.g. responsibilities to reduce carbon dioxide emissions, adverse impacts) of resource use, and thus relates to normative concepts such as justice and rights[3].

1 http://www.gci.org.uk/

2 Fortnam M, Cornell S, Parker J. and the CONVERGE Project Team. 2010. Convergence: how can it be part of the pathway to sustainability? CONVERGE Discussion Paper 1. Department of Earth Sciences, University of Bristol. D11 of the CONVERGE Project.

3 It is recognized that there is a difference in meaning between "Equity "and "Equality". Through the book we generally use the term 'equity' (broadly to mean 'fair processes,' rather than 'equal outcomes'). A basic explanation of the differences in the concepts is described at http://laradavid.blogspot.hu/2008/07/difference-between-equity-and-equality.html (last accessed July 30th 2012) and a more comprehensive discussion of the concepts at http://ftp.iza.org/dp2284.pdf (last accessed Sept. 18th 2012).

chapter 1 Introduction

The CONVERGE Project and CONVERGE Initiatives

1.1. The CONVERGE Project

The CONVERGE project is an interdisciplinary research project funded by the 7th Framework Programme of the European Union with 9 partners across 5 countries, including partners from industrialised nations such as Sweden, the UK and Iceland, transition economies such as Hungary and rapidly industrialising nations such as India. The project is still ongoing and this document presents a review and analysis of the initiatives studied. Further development of some of the themes and the analytical frameworks used is expected in the synthesis phase of the project – to be completed at the end of 2013.

The CONVERGE research project is inspired by and owes a great deal to the concept of 'Contraction and Convergence' (C&C™), an atmospheric carbon reduction framework developed by Aubrey Meyer and the Global Commons Institute (see e.g. Meyer 2000 and further details in Chapter 1.3.) that partially informed the Kyoto process. The CONVERGE project explores the implications of extending an equity-based per-capita carbon resource allocation regime to other resources and services. The CONVERGE project is researching how materials and services are consumed and distributed in the wider earth system to promote more sustainable ways of living. CONVERGE re-thinks globalisation by proposing – specifically in relation to consumption and distribution of materials and services – ways of promoting more sustainable ways of living and being part of a foundation for a new resource-sharing architecture based on the idea of Earth as a global commons – or 'Environmental Space'[1].

The CONVERGE project explores whether, and to what extent, equity and human rights based approaches to sustainability have been developed in theory, policy and practice. This document focuses on practice.

The original idea and originality of C&C™ is to link the scientifically-validated need to reduce (i.e. to contract) atmospheric carbon dioxide with the concept of a rights/justice-based approach to resources and the benefits of resources (to converge). The CONVERGE project takes this joined up way of thinking to be a pragmatic and equitable method for progressing in reducing carbon emissions, as well as, potentially, use and sharing of other resources. However, for this approach to be implemented means dealing with significant challenges, not only concerning current consumption patterns and the distribution of global economic wealth but also to international policy making and the behavioural norms and expectations of individuals in both industrialized and industrializing nations. Nonetheless, moving towards equity-based solutions for addressing growing global 'sink' problems (such as air and water pollution or climate change) and global 'source' problems (e.g. scarcity of resources, such as water, metals, hydrocarbons, etc.) is of

1 *See Bührs (2008) for more on environmental space.*

paramount importance if the vision contained in documents such as The Universal Declaration on Human Rights[1] – and the principles embedded in internationally-recognised sustainability policy documents such as the Brundtland Report[2] – are to be realised. The combined message from increasing amounts of science-based evidence strongly suggests that a paradigm shift in the management (conservation, consumption and distribution) of natural resources is required to ensure that the human development of the last few centuries is continued at a global level.

> ***Convergence*** (for Sustainability)
> ***Convergence*** is a rights-based framework based on the principle that every global citizen has the right to a fair share of the Earth's biocapacity and access to fundamental human rights. It advocates socio-ecological justice, calling for wealth, well-being and consumption to converge across and within nations to a level that the biosphere can support. ***Convergence*** aims to enshrine intragenerational equity in the sustainability discourse. Pontin & Roderick (2007) state that ***Convergence*** is not about creating one homogeneous culture; it is about allowing diversity while advocating universal concepts of human rights. ***Convergence*** is not restricted to the global scale, it can occur at regional, national and local levels as well. Any framework for ***Convergence*** requires participation and equitable sharing of benefits and costs.
> (definition of ***Convergence*** from Fortnam et al. 2010)

Thus, the CONVERGE project explores challenging ideas – about how to address major current disparities in access to the benefits of natural resources by exploring a justice-based approach to allocating the benefits of goods and services and resources needed for technological development and maintenance. The project is designed to find ways of behaving and relating that reduce consumption of materials while at the same time providing sustainable livelihoods more equally across populations and nations.

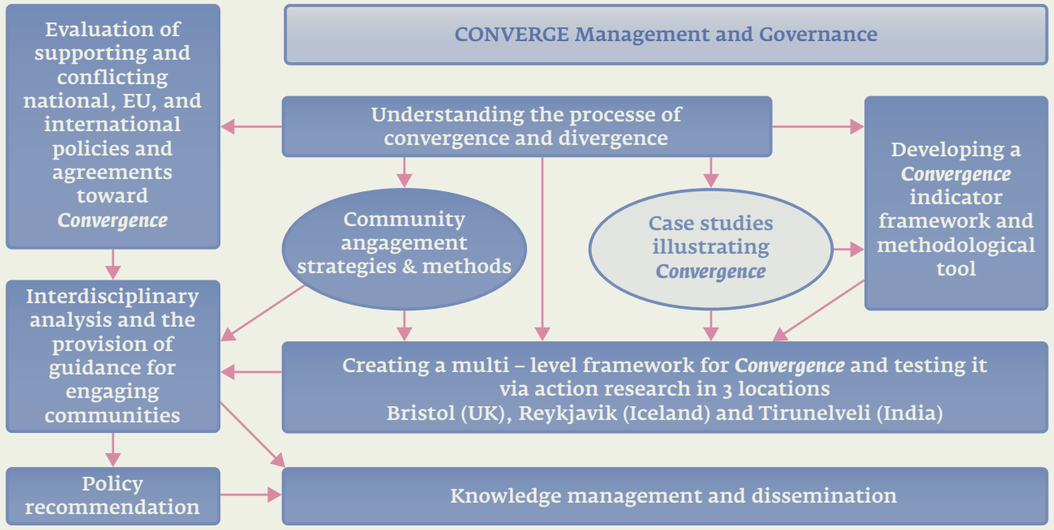


Figure 2: The original work plan in the CONVERGE project
(the part highlighted is the work presented in this document)

1 http://www.un.org/en/documents/udhr/ (last accessed September 2012)
2 http://www.un-documents.net/wced-ocf.htm (last accessed September 2012)

In the CONVERGE project we examine processes of globalisation by developing our understanding of ***Convergence*** beyond emissions-trading across wider social, economic and ecological dimensions of sustainability. The research is based on systems approaches to bring together social, scientific, economic and cultural dimensions in order to create coherent solutions to complex problems. The key to the success of our work is an interdisciplinary approach and working with stakeholders from civil society, government and business. We seek to explore convergent sustainability relationships across different scales from local, national, global-regional to global and have researched current examples of ***Convergence*** in communities as well as policies and indicators moving towards sustainability. In the project we also develop a ***Convergence*** mapping system that will provide guidance and could serve as a tool for various communities concerning how they could move towards more ***Convergence***. The work in CONVERGE and the interaction between the different areas of the work is depicted in Figure 2.

1.2. Case Studies ('Initiatives') Illustrating Limits/ Contraction and Equity/ Convergence: introducing the methodology

In the current document the main focus is on introducing the initiatives that were studied in detail in the CONVERGE project, and presenting some of the lessons learnt from studying them.

In this part of the work our aim was to identify, through literature research and empirical questioning, communities of different sizes (beginning from initiatives by small groups of people through activities by whole settlements and regions to more global cases) making progress towards ***Convergence*** in different parts of the world. These initiatives are primarily based in project partner countries (i.e. Hungary, Iceland, India, Sweden, and the UK), thus covering different regions of Europe, as well as communities in India. An attempt was also made to include initiatives from other countries.

At this point it is important to emphasize that the aim in this work was not to assemble a representative database of initiatives, but to illustrate the diversity of existing approaches to ***Convergence*** which are helping to move to a more converged world living within its means. Thus, apart from making an effort to find initiatives in industrialised and industrialising regions as well as countries in transition, the focus was on finding initiatives that are policy led (top-down) as well as ones that are more grassroots (bottom-up). Furthermore, as for the primary focus or theme of initiatives is concerned, we wanted to illustrate that examples can be found from various domains: there are those that have a focus on carbon and/or are global climate change-related but there are also those that focus on other resources (e.g. water, agriculture and food) through themes such as education and faith, etc. (a more detailed description of the initiatives that were studied can be found in Chapter 3.1.).

The summary of the process and the methodology for our data collection process is described in Figure 3[1]. The methodological approach for the collection case (or in our case, initiative) study follows the recommendations of Yin (1994) in terms of structure.

1 *A more detailed description including the various initiatives lists and data collection templates can be found in Deliverables 31 and 32 of the CONVERGE project. Alternatively, please contact the authors of this document.*

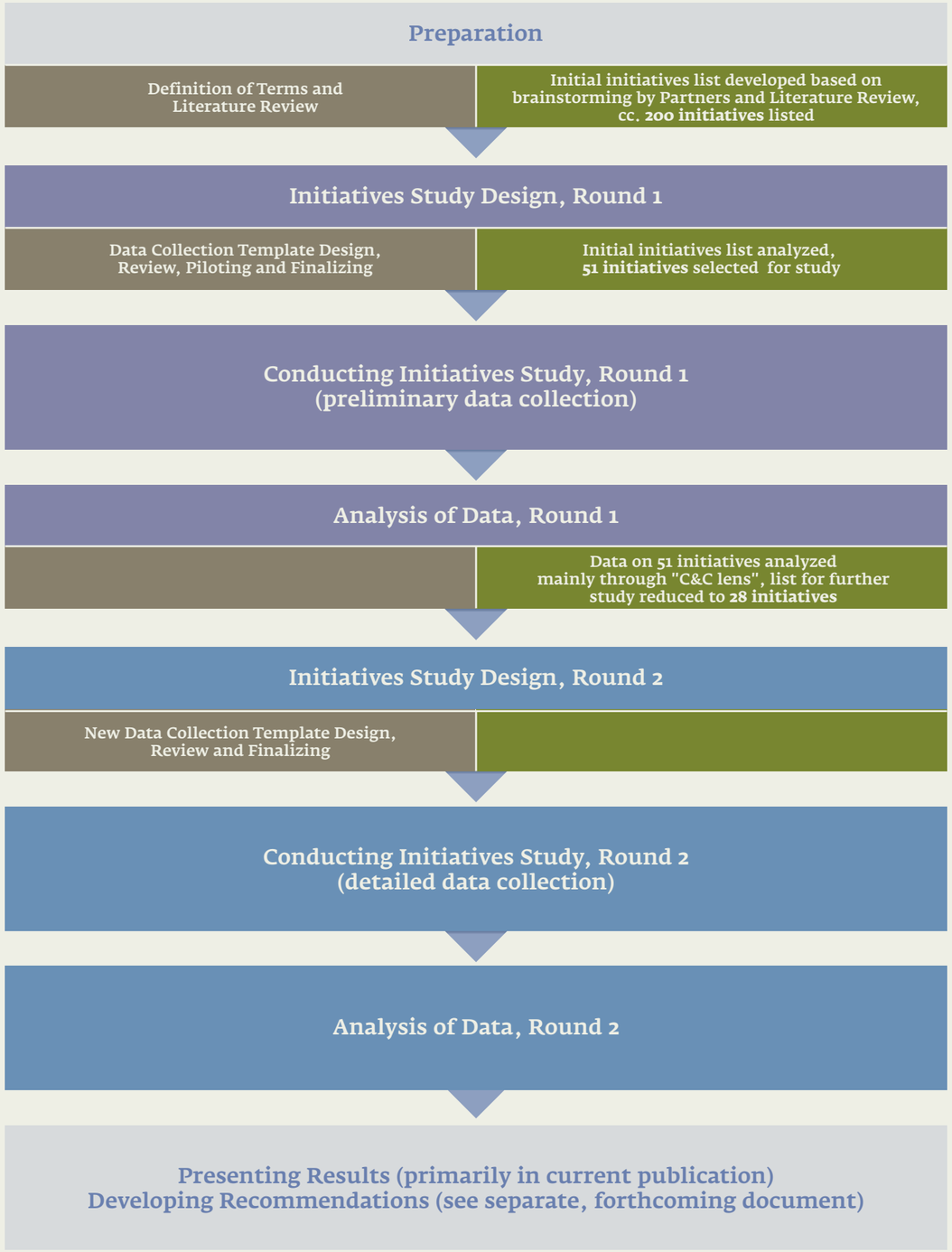


Figure 3: Summary of the methodology used in the initiatives selection and data collection process

Due to the nature of the research, it was recognised that different forms of data (both qualitative and quantitative) would be needed in order to comprehensively document and analyse the initiatives from the desired perspective. In addition to collecting quantitative data about the initiatives (location, nature of beneficiaries and participants, organisational structure, presence of limits/contraction and equity/convergence related aims, indicators, etc.) it was necessary for more qualitative data to be collected (for example, determining how the initiative matches ***Convergence*** criteria, evolution of the initiative, participant and researcher observations on hindering and facilitating factors, etc.). As a result, it was decided that a semi-structured survey format would be an appropriate data collection device which suited the skill set and time availability of researchers. A standardised Initiatives Data Collection Template was therefore constructed.

Data was collected by CONVERGE consortium members through a diversity of investigative techniques including field work, unstructured and semi-structured interviews and document reviews. Detailed instructions were provided to each partner researcher about the data collection protocol for the survey although, owing to the diversity of availability of information on the initiatives and resource availability, it was left to the discretion and ability of individual researchers to decide whether a document review was deemed adequate or whether face-to-face interviews or field visits were required. It was stressed that multiple credible sources of evidence would support greater validity.

As can be seen from Figure 3, two cycles of data collection and analysis were conducted, during which the level of detail of the data collection was increased and at the same time the number of initiatives studied were reduced.

In Round 1 of the process, data was collected about 51 initiatives that were selected from the initial draft list of about 200 initiatives. The selection process involved extensively revising the draft list bearing in mind ***Convergence*** related factors as well as the importance of illustrating diversity. At this stage, some initiatives were even added to the list where it appeared that there was a lack of initiatives from a certain region, or certain types of initiatives were missing (e.g. policy-based, community-based, non-carbon centred).

Following the data collection stage, the data was analysed with the aim of selecting about half of the initiatives for further study. As a first step in this selection process, initiatives with no obvious ***Convergence*** elements were removed from the list. As a second step, an evaluation methodology was created based most importantly on limits/contraction and equity/convergence criteria, but also on the potential impact (for dissemination as well as up-scaling or spreading the idea) of the initiatives. Thus, initiatives were evaluated from three main aspects:

1. How they deal with the issue of limits/contraction (if and how they recognise resource, ecosystem, and planetary limits; if limits/contraction targets and indicators exist);
2. If and how they address equity/convergence; and
3. Potential impact.

In drawing up the final list of 28 initiatives for more detailed study, apart from the criteria just mentioned, several other factors were considered due to the fact that the objective of studying the initiatives was dissemination and awareness raising just as much as research:

- Is the range of initiatives representative for the purposes and scope of the project? Here, it was considered whether
  - all project partner countries are represented and thus both "old" and "new" Europe is covered;
  - there are examples from both industrialized and industrializing countries;
  - there are grass-roots and community (bottom-up) as well as policy level (top-down) initiatives; and whether
  - the themes covered by the initiatives selected are sufficiently varied.
- Is the initiative replicable?
- Is further data readily/easily available?

In Round 2 of the process, data was collected using a revised data collection template. The main aim of revising the template was to allow for the collection of detailed data in relation to ***Convergence*** elements, potential barriers and challenges to the success of the initiatives as well as the potential for replicability and up-scaling. Just as in Round 1, both qualitative and quantitative data were collected. The main results and outcomes of this work are presented in Chapters 2, 3, 4 and 5.

1.3. A very brief review of literature: the background

'Convergence' has been a subject of study in economics literature since the mid-1980's in terms of trends in distribution of world per capita income and productivity (Abramovitz 1986, Baumol 1986, Sutcliffe 2005). However, the concept of Contraction and Convergence™ to which we refer in this document and the CONVERGE project originated with Aubrey Meyer and The Global Commons Institute (GCI). Contraction and Convergence™ (C&C™) is a global climate policy framework which has been proposed to the UN since 1990 by the Global Commons Institute as one way to manage and reduce anthropogenic carbon dioxide through a burden-sharing approach (Meyer 2000). C&C™ proposes combining recognition of planetary limits with an equity approach to distribution in the following format: (a) Establishing a full-term contraction budget (a 'cap') for global emissions consistent with stabilising atmospheric concentrations of greenhouse gases (GHGs) at a pre-agreed concentration maximum deemed to be safe by the UNFCCC[1], and: (b) The international sharing of this budget as a pre-distribution of entitlements that result from a negotiable rate of linear convergence to equal shares per person globally by an agreed date[2]. The framework would be given flesh and blood through the setting of interim carbon reduction targets, drawing up of national de-carbonization strategies and a carbon trading scheme to allow a degree of flexibility

1 *United Nations Framework Convention on Climate Change, http://unfccc.int/2860.php*
2 *The C&C™ proposal therefore appears to be congruent with ideas about the ethical and instrumental need for recognition of a 'Global Commons'. A critical perspective of the Commons approach by Massimi De Angelis is presented at http://turbulence.org.uk/turbulence-5/capitalist-commons/ (last accessed September 6th 2012)*

to account for national differences in carbon intensity. That the C&C™ concept has gained substantial traction and recognition since the foundation of the Global Commons Institute in 1990 in the national and international policymaking and decision-making arena can be recognised in the following quotation from the executive secretary of the pre-eminent international climate change treaty, The United Nations Framework Convention on Climate Change: *"Achieving the goal of the climate treaty [to stabilize Greenhouse gas emissions] inevitably requires Contraction & Convergence"* (Waller Hunter, UNFCCC Executive Secretary, in GCI[1], p.1). C&C™ has been both implicitly and explicitly credited with influencing both the Kyoto Protocol and its successor. The principle of C&C™ has been formally recognised in European Parliament resolutions (European Parliament 1998) and is supported by numerous policy makers, academics, NGOs and lay people.

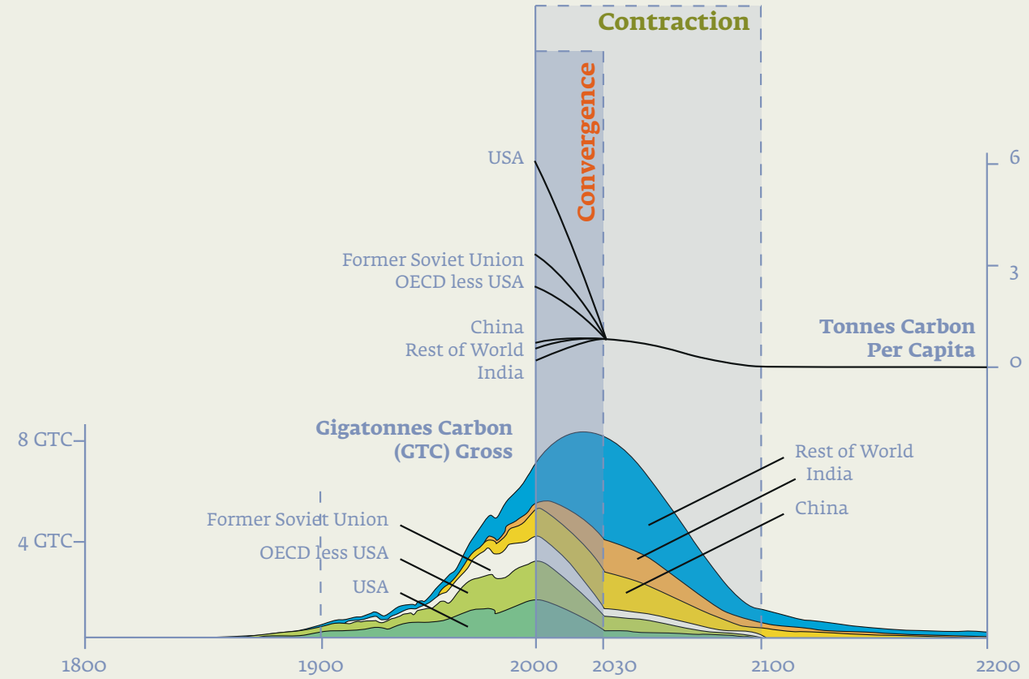


Figure 4: Contraction and Convergence by 2030[2]

One of the advantages of the C&C™ proposal is the recognition that any effective and sustainable response to slowing the rise in carbon dioxide levels in the atmosphere inevitably requires addressing the issue of equity – who should reduce carbon emissions and by how much? C&C™ effectively slices the Gordian knot of allocating responsibility for cutting carbon dioxide emissions by proposing a global per capita allocation solution (a so-called 'strong equity' approach) which also takes account of the issue of the 'historical responsibility' of

1 *http://www.gci.org.uk/Documents/RSA_C&C_G8_Quotes.pdf (last accessed June 6th 2012)*
2 *Source: http://www.gci.org.uk/contconv/cc.html (last accessed June 6th 2012)*

industrialised nations through its proposal for negotiated rate of convergence. Many scientists and policymakers have come to consider this approach to be not only the most equitable but also the most pragmatic approach to managing climate change when compared to other carbon reduction regimes: according to Böhringer and Welsch (2004; see also Berk and den Elzen 2001) who examined the implications on economic welfare of various approaches to emissions reduction *"a Converge approach to emissions trading stands out for offering the developing countries substantial incentives for participation in the international greenhouse gas abatement effort without imposing excessive burdens on industrialised countries"* (p. 21.), and is therefore the most acceptable arrangement.

Despite this positive review, criticisms and contrasting views of the viability of the C&C™ approach are easy to find, and generally concern procedural issues (i.e. concerns with implementation) although substantive criticism also exist[1]. Allocation of carbon emission entitlements/the nature of burden-sharing or differentiation of future commitments tends to be highly controversial. The results of adopting a strong equality (per capita) approach to emission rights with a short time frame for emission contractions could induce deep structural changes to the global economy, which in some arenas has caused doubts about how realistic it is for a C&C™ approach to be accepted in the timeframe needed to prevent substantial climate-change induced damage (Aldy 2005).

The diversity of negotiating positions over the emission rights of nation states was formally documented in article 3.1 of the UNFCCC, which states that developed and developing countries have *"common but differentiated responsibilities"* (Article 3.1) and is reflected in the much lamented failure to agree on internationally binding carbon contraction goals at the Copenhagen Summit in 2009[2]. The C&C™ approach thus runs counter to current policymaking efforts which have tended to focus on an 'increasing participation/ graduation' approach to meeting carbon targets by simply extending the current carbon regimes to encompass more countries based on ad hoc criteria or pre-defined rules. A fuller comparison of the Contraction and Convergence™ approach contrasted with greenhouse gas

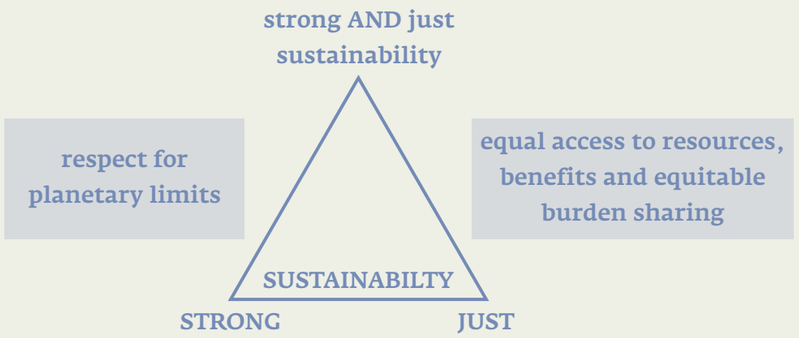


Figure 5: Framework and rationale for the CONVERGE project research

1 *Further discussion of the C&C™ approach can be found in Deliverable 11 of the CONVERGE project (see Fortnam et al. 2010).*
2 *http://unfccc.int/meetings/copenhagen_dec_2009/meeting/6295.php (last accessed June 6th 2012)*

development rights is provided by Kraus (2009). A further criticism that has been levelled at C&C™ is that per capita based allocation rights might promote national pro-population growth policies. As a solution to this, Meyer (2000) suggests a cut off year after which population growth is no longer factored in to carbon allowances.

Despite the above criticisms, the potentially severe impacts of climate change (IPCC 2007) and the resounding lack of success of alternative approaches to decreasing carbon emissions continue to make the C&C™ approach attractive. Furthermore, the need to recognise planetary and ecosystem limits and ensure more equal access to resources and the benefits they provide (as well as to more equally share burdens) has become more pronounced[1]. The C&C™ proposition suggests a way to meet these needs.

To summarize, the CONVERGE project focus on equity and equality based approaches to managing resources derives partly from the carbon reduction framework called 'Contraction and Convergence' (C&C™), as described above. Our most important objective (as shown in Figure 5) is to link the scientifically-validated need to reduce (i.e. to contract) resource use with a justice-based approach to apportioning the responsibility for doing so (to converge).

This focus is further strengthened by the need expressed in the literature[2] – especially in the run up preparations for the Rio+20 UN Conference on Sustainable Development – to re-couple environmental goals with the goals of proponents of human development, or, in other words, to move towards a more equitable world in which humanity observes planetary limits. Although the need for this to happen was outlined in the report of the Brundtland Commission in 1987:

"Environment and development are not separate challenges; they are inexorably linked. Development cannot subsist upon a deteriorating environmental resource base; the environment cannot be protected when growth leaves out of account the costs of environmental destruction. These problems cannot be treated separately by fragmented institutions and policies. They are linked in a complex system of cause and effect."[3]

the theory and practice of these two very important fields of study have often, but not always, developed separately, as shown in Figure 6.

The CONVERGE project explores whether, and if so, in what form equity-based resource allocation regimes – or more broadly, human rights-based approaches to sustainability – exist in literature, policy and practice. In the current publication, the focus and emphasis is on practice. In Chapter 2 we introduce a mapping system developed in CONVERGE to assist in determining to what extent the initiatives studied by us – and, indeed, any other initiatives – observe the principles of addressing ecological limits/contraction and equity/convergence. Following this, in Chapter 3 all the initiatives researched in CONVERGE are introduced, and with the help of the mapping system we show where each of them is currently situated on

1 *See, for example, Bührs 2008, Kitzes et al. 2008, Jackson 2009, 2011, AtKisson 2012, Melamed et al 2012 Raworth 2012, UNDP 2012*
2 *ibid*
3 *http://www.un-documents.net/ocf-01.htm (last accessed July 25th 2012)*

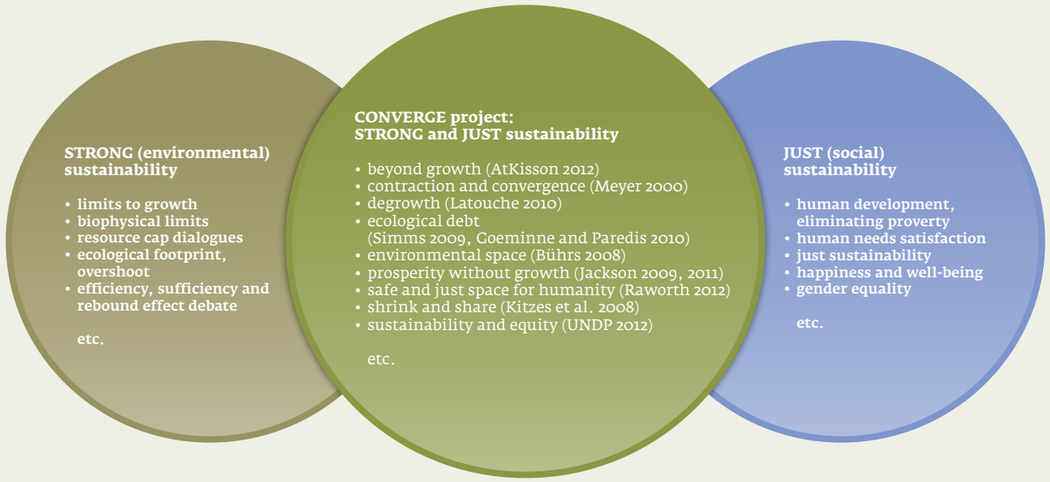


Figure 6: The CONVERGE project aims to connect strong environmental sustainability with just sustainability

the limits/contraction and equity/convergence scales. Finally, in Chapters 4 and 5 the results and outcomes of our data analysis are presented, and some general conclusions are drawn.

References

1. Abramovitz M. 1986. Catching Up, Forging Ahead and Falling Behind. Journal of Economic History. 46: 385–406.
2. Aldy J. 2005. Per Capita Carbon Dioxide Emissions Convergence or Divergence? Discussion Paper, Resources for the Future. 1616 P St. NW Washington, DC, 20036 202-328-5000.
3. AtKisson A. 2012. Life Beyond Growth. Alternatives and Complements to GDP-Measured Growth as a Framing Concept for Social Progress. 2012 Annual Survey Report of the Institute for Studies in Happiness, Economy, and Society – ISHES (Tokyo, Japan). Available from: http://alanatkisson.wordpress.com/2012/02/29/life-beyond-growth/ (last accessed July 31st 2012)
4. Baumol WJ. 1986. Productivity Growth, Convergence and Welfare: What the Long-Run Data Show. American Economic Review. 76: 1072–1085.
5. Berk M, den Elzen M. 2001. Options for differentiation of future commitments in climate policy: how to realise timely participation to meet stringent climate goals? Climate Policy. 1: 465–480.
6. Böhringer C, Welsch H. 2004. Contraction and Convergence of carbon emissions: an intertemporal multi-region CGE analysis. Journal of Policy Modelling. 26: 21–39.
7. Bührs T. 2008. Institutionalising Environmental Space at the Global Level. Forum on Public Policy. Available from: http://forumonpublicpolicy.com/summer08papers/archivesummer08/buhrs.pdf (last accessed September 2012)
8. European Parliament. 1998. Resolution on climate change in the run-up to Buenos Aires. B4-0802/98.
9. Fortnam M, Cornell S, Parker J. and the CONVERGE Project Team. 2010. Convergence: how can it be part of the pathway to sustainability? CONVERGE Discussion Paper 1. (CONVERGE Project Deliverable 11). Department of Earth Science, University of Bristol, UK. Available from: http://www.convergeproject.org

10. Goeminne G, Paredis E. 2010. The concept of ecological debt: some steps towards an enriched sustainability paradigm. Environment, Development and Sustainability. 12:691–712.
11. IPCC. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge: Cambridge University Press. Available from: http://www.ipcc.ch
12. Jackson T. 2009. Prosperity without growth. Economics for a finite planet. UK Sustainable Development Commission. p. 133. Available from: http://www.sd-commission.org.uk/data/files/publications/prosperity_without_growth_report.pdf (last accessed September 2012)
13. Jackson T. 2011. Societal transformations for a sustainable economy. Natural Resources Forum. 35(2011), 155–164.
14. Kitzes J, Wackernagel M, Loh J, Peller A, Goldfinger S, Cheng D, and Tea K. 2008. Shrink and share: humanity's present and future Ecological Footprint. Philosophical Transactions of the Royal Society B. 363(1491), 467–475.
15. Kraus K. 2009. Contraction & Convergence and Greenhouse Development Rights: A critical comparison between two salient climate-ethical concepts. Diploma thesis at the Ernst Moritz Arndt University Greifswald.
16. Latouche S. 2010. Farewell to Growth. Polity Press, UK. 180 p.
17. Melamed C, Scott A. and Mitchell T. 2012. Separated at birth, reunited in Rio? A roadmap to bring environment and development back together. Background note. Overseas Development Institute, UK. Available from: http://www.odi.org.uk/resources/docs/7656.pdf (last accessed July 2012)
18. Meyer A. 2000. Contraction and Convergence: The Global Solution to Climate Change. Schumacher Briefings 5, Green Books, Schumacher Society. 96 p.
19. Pontin J. and Roderick I. 2007. Converging World: Connecting Communities in Global Change. Schumacher Briefing 13. Green Books, Totnes, UK. 96 p.
20. Raworth K. 2012. A Safe and Just Space for Humanity. Can we live within the doughnut? Oxfam Discussion Paper, February 2012. Available from: http://www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf (last accessed July 20th 2012)
21. Royal Government of Bhutan. 2012. Time for a Sustainable Economic Paradigm. (Input for the Draft Outcome Document of Rio+20). Available from: http://www.uncsd2012.org/rio20/content/documents/690Bhutan.pdf (last accessed September 18th 2012)
22. Simms A. 2009. Ecological Debt. Global Warming and the Wealth of Nations. 2nd ed. Pluto Press. 336 p.
23. Sutcliffe B. 2005. A converging or diverging world? UN Department of Economics and Social Affairs, Working Paper 2. http://www.un.org/esa/desa/papers/2005/wp2_2005.pdf (last accessed September 2012)
24. UNDP. 2011. Human Development Report 2011. Sustainability and Equity: A Better Future for All. United Nations Development Programme. Available from: http://hdr.undp.org/en/reports/global/hdr2011/download/ (last accessed September 2012)
25. Yin R. 1994. Case study research: Design and methods. 2nd ed. Thousand Oaks, CA: Sage Publishing. 200 p.

chapter 2 Evaluating *Convergence*

In the CONVERGE project

- Limits/Contraction is used to mean progress, development or movement towards ensuring that resource as well as ecosystem or planetary limits or boundaries are observed and respected; while
- Equity/Convergence is used to mean progress, development or movement towards more equal sharing of both the benefits (e.g. food, fuel, clean air) and burdens (e.g. responsibilities to reduce carbon dioxide emissions, adverse impacts) of resource use, and thus relates to normative concepts such as justice and rights.

2.1. The mapping system developed in the CONVERGE project

In the following, the details of the mapping system are provided (please refer to Chapter 1.2 for details about the process of data collection and mapping).

Limits/Contraction[1]

-1: Mention of resource, ecosystem or planetary limits or boundaries in core mission statement or in prominent, contemporary textual, or programmatic material BUT no obvious mechanism for, or attempts to, reduce consumption of resources or reduce pollution. Initiative activities may even contribute to increases in resource consumption/pollution.

0: No mention of resource, ecosystem or planetary limits or boundaries in core mission statement or in prominent, contemporary textual or programmatic material. The initiative's main goals are not related to reducing consumption of resources or of reducing pollution in any obvious way.

1: Implicit. No explicit mention of resource, ecosystem or planetary limits or boundaries in mission statement. May have limited mentions of limits and resource issues in associated prominent, contemporary textual, policy or programmatic material. However, despite the lack of formal references to limits, the initiative is involved in activities to reduce resource consumption and/or decrease pollution.

2: Explicit. Resource, ecosystem or planetary limits or boundaries are mentioned in core mission statement or/and in prominent, contemporary textual or programmatic material and the initiative is clearly engaged in attempts to reduce consumption and/or reduce pollution. Specific quantitative reduction targets or goals may or may not be defined.

3: Explicit + Targets/Indicators. Core mission statement/prominent, contemporary textual or programmatic material relates to resource, ecosystem or planetary limits or boundaries and reducing consumption. Specific limits are identified and/or specific contraction targets are detailed. There are transparent and accountable methods for contracting resource use and tracking results (e.g. use of indicators).

1 *The Limits/Contraction element of the mapping system was adapted using material from Vadovics 2009.*

4: Explicit + Targets that are defined based on available (scientific) information about resource, ecosystem or planetary limits or boundaries. Clear efforts are being made to connect limits-related science with practice. Transparent and accountable methods for contracting resource use and tracking the results (e.g. use of indicators) are in place.

Equity/Convergence[1]

-1: Mention of 'equity' or 'justice' in core mission statement or in prominent, contemporary textual, or programmatic material BUT no indication of activities relating to promoting equity or justice. Initiative activities may even contribute to increasing inequality/hindering justice.

0: No mention of 'equity' or 'justice' in core mission statement or in prominent, contemporary textual, or programmatic material. No evidence of an equity/justice/re-distributional focus to the initiative's activities.

1: Implicit. No explicit mention of 'equity' or 'justice' in core mission statement or in prominent, contemporary textual, or programmatic material. The initiative's activities involve attempts to address the issue of justice/equity.

2: No mention of 'equity' or 'justice' in core mission statement. Limited mention (once or twice) in prominent, contemporary textual, or programmatic material. The initiative's activities involve attempts to address the issue of justice/equity.

3: 'Equity' or 'justice' mentioned and reference given to either intergenerational or intragenerational equity in core mission statement. Limited mention (once or twice) in prominent, contemporary textual, or programmatic material. The initiative's activities have a focus on addressing the issue of justice/equity.

4: Core mission statement relates to both intra- and intergenerational equity and justice and/or 'justice' and 'equity' occur in same sentence in prominent, contemporary textual, or programmatic material. The initiative's activities have a focus on the issue of justice/equity.

The methodology for mapping included a document review and examination of the actual activities of the initiative. In some cases, interviews were also concluded with initiative owners and/or participants (see more details about the methodology used in Chapter 1.2).[2]

2.2. Important considerations to bear in mind in relation to the mapping system

When looking at the results of the initiative mapping it is tempting to rank the initiatives using the 'scores' awarded them. However, it is important to remember that scores are not intended to be used for ranking but are rather given for descriptive purposes – to determine where a certain initiative stands in relation to its limits/contraction and equity/convergence activities at a certain point in time. It is not the case, therefore, that we believe that any of the initiatives are in any sense 'better' than others; all of them are valuable in their own right. Apart from being used for descriptive purposes, the results of mapping could also be

1 *The Equity/Convergence element of the mapping system was adapted using materials from Agyeman J. et. al. 2003 and Roderick with Jones 2008.*

2 *Please note that the limits/contraction and equity/ convergence mapping system is not appropriate for evaluating the overall environmental or social performance of organizations.*

used to identify and evaluate different developmental paths for an initiative, as mentioned in the Foreword by Ian Roderick.

The mapping system can also indicate where different initiatives may be complementary – with some partnerships in place a ***Convergence*** approach could be facilitated. However, one key outcome of this evaluation process is the recommendation that all initiatives for sustainability should place themselves in the bigger ***Convergence*** picture. One way for initiatives to discover complementary features and cooperate would be to participate in the proposed Convergence Alliance (see Chapter 5.3.) which is a more united sustainability movement that also recognises the value in diversity in initiatives.

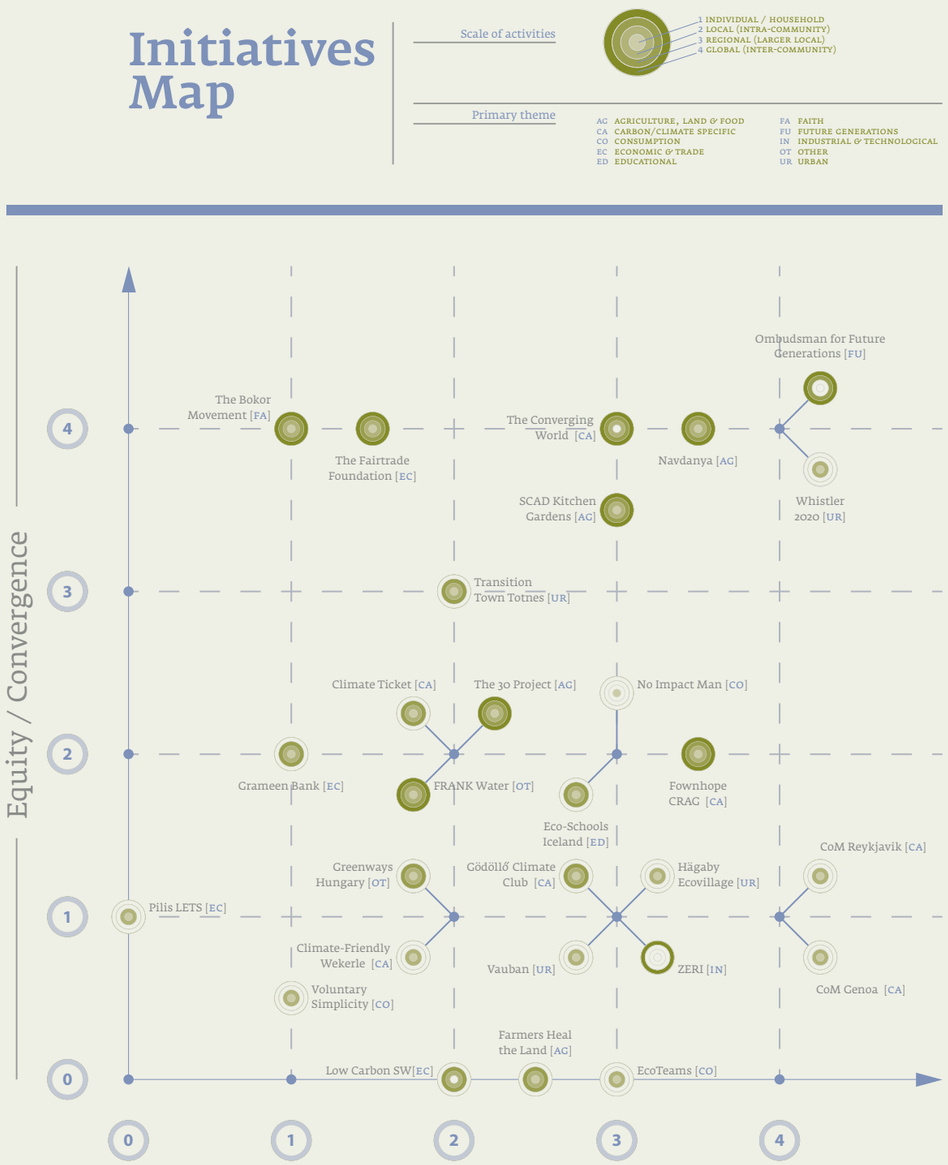
It must be noted that, for some initiatives, it could be argued that the score awarded is lower than would be suggested by looking at the activities of the initiative alone. However, as can be seen by looking at the mapping criteria, when determining where along the scale an initiative was placed, a strong focus was placed on whether limits/contraction and equity/convergence are explicitly mentioned in the documents of the initiative. For example, The 30 Project – which, in its activities, places strong focus on both limits/contraction activities and has a strong equity/convergence perspective but does not express this focus in its core documentation – scores lower than those initiatives that explicitly do address both issues in theirs. We made an effort to counterbalance this by putting emphasis on the activities of the initiatives as well (e.g. see the description for score 2 under equity/convergence). However, initiatives cannot receive more than 2 on the equity/convergence scale if their core documents do not explicitly mention intergenerational and/or intragenerational equity.

Furthermore, it needs to be mentioned that two very different types of initiatives were examined during our research. In our catalogue of initiatives we identify "type or category" and "specific" initiatives. By type or category we mean initiatives like ZERI, the EcoSchools Iceland or EcoTeams that are each associated with specific sub-initiatives: ZERI's 'specific' projects include a brewery project and a reforestation project, for example, and in the case of the EcoSchools Iceland and EcoTeams initiatives, the individual schools and teams are specific sub initiatives of the overall programme. These specific projects could be evaluated on their own for both limits/contraction activities and their equity/convergence perspective, and it is possible that such an evaluation would result in scores being awarded that are different to those received by the "type" of initiative. In fact, in some cases the scores awarded to specific initiatives in this book which belong to the same "type" are the same (see e.g. the Covenant of Mayors Cities of Genoa and Reykjavík) – but they can also be different (see e.g. the Climate-Friendly Wekerle and Transition Town Totnes initiatives).

Finally, it should be mentioned that initiatives evolve and develop with time and this may result in the need for a review of their activities and a reconsideration of their main aims. If some of them were later re-mapped, their scores could also change. The mapping results shown in this publication were determined and awarded based on research carried out between September 2010 and July 2012.

References

1. Agyeman J, Bullard RD. and Evans B. 2003. Just Sustainabilities. Development in an Unequal World. The MIT Press, US. 367 p.
2. Roderick I. with Jones N. 2008. The Converging World. In: Blewitt J. ed. Community, Empowerment and Sustainable Development. The Converging World Series. Green Books Ltd., UK. 204 p.
3. Vadovics E. 2009. Understanding and enhancing the contribution of low-carbon communities to more sustainable lifestyles. Thesis Prospectus. Budapest, Hungary: Central European University.



chapter 3 Catalogue of Initiatives

3.1. Introduction

In the catalogue of initiatives presented here, you will find short written overviews of 28 sustainability–related initiatives. Details are provided in the same format for each initiative – a general Overview of the initiative is provided, followed by a section on The Perceived Problem that the initiative is designed to address. We then describe the mechanisms used by the initiative to address the problem it identifies (Solution and Process). An analytical section then follows in which the initiative documentation and its activities are appraised and described in terms of Limits/Contraction and Equity/Convergence elements (please refer also to Chapter 2. for details and information on the mapping methodology). A description of the Status and Impact of the initiative at the time of writing is then provided, followed by a References and Further Reading section in which you will find links to some material provided by the initiative itself and also references to material that the authors of this book think could be interesting background, comparative or explanatory reading.

When compiling the list of initiatives to be included in this ebook, the aim of the authors was not to assemble a statistically representative sample of one type of initiative or another – or a geographically representative sample. We rather selected initiatives that were interesting from the perspective of case study research from a CONVERGE project perspective (the process for initiative selection is described in more detail in Chapter 1.2). The aim was to identify a diverse 'ecology of initiatives' in terms of their goals, size, administrative structure, beneficiaries and participants and ages to serve to illustrate what the concepts of limits/contraction and equity/convergence mean in theory and in practice. Some of the initiatives have as their goal reducing the use of resources; others have a focus on promoting equity. Some address both issues simultaneously and are therefore good examples of coupling of contraction (reduction in resource use and respecting planetary limits) and convergence (promotion of equity) processes (see Chapters 4.1., 4.2. and 4.6. for more details on this).

The geographical origins of the initiatives are diverse and include Europe, India, The United States and Canada (more than 10 countries in total). The countries represented include fully industrialised nations (such as the UK, Germany and Sweden), countries in transition (such as Hungary) and also emerging economies such as India and Bangladesh. We have included some initiatives which span national and

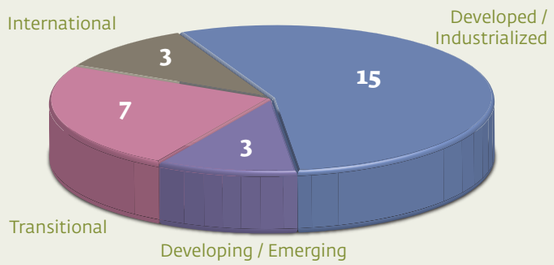


Figure 8: Division of initiatives by country type

international borders (such as the ZERI network and The Voluntary Simplicity movement).

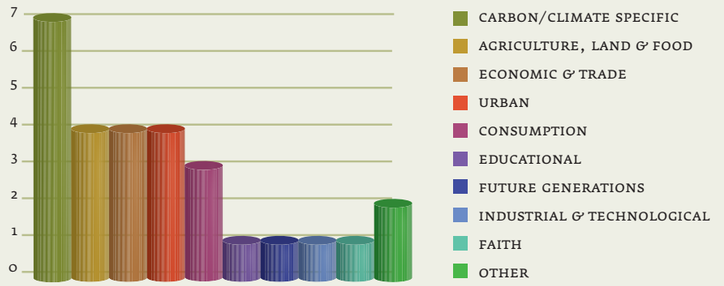


Figure 9: The primary theme of initiatives

The initiatives are very different in nature. In terms of primary 'theme', there are a number of initiatives which have as their focus reducing carbon emissions at a range of scales (from a local climate club with less than 20 regular members to a major EU-initiated urban carbon reduction movement – The Covenant of Mayors initiative – with over 4000 mayoral signatories). We have included three initiatives which work towards reducing a range of resources at the individual, household or community level (we label these 'Consumption' themed initiatives). Also described in the catalogue are a number of initiatives whose primary mechanism for promoting sustainability is trading or undertaking some form of economic activity (The Fairtrade Foundation and The Grameen Bank, for example). Other thematic areas that the initiatives work in include residential eco-development, education, faith-based activities, industry and technology, agriculture, land and food and the representation of future generations through advocacy and lobbying.

We identify differences in the level/scale at which the initiatives are designed to operate and their different nature of operation. Some initiatives act as umbrella-type networks which provide support and direction for members (EcoTeams, for example, or The Covenant of Mayors, or the UNDP-supported ZERI network that seeks to find holistic, science-driven solutions to some of the world's challenges across the globe). Other initiatives are more similar to social movements[1] (the small, diverse but growing number of people that are attracted to the principles of Voluntary Simplicity, for example – or the transition town movement). Some initiatives are more clearly context or regionally specific and/or single issue than others. Fownhope CRAG in the UK is a very small initiative with a primary focus on reducing the carbon footprints of its members, primarily through a variety of personal, household and community scale activities[2]. Gödöllő's Climate Club has a similar function to the Fownhope CRAG but is located in a country in transition – Hungary. In comparison, Navdanya in India is a major NGO with thousands of members which works across a range of themes and scales which are specific to the challenges that India faces – from challenging patents on plants to preserving biodiversity and promoting local democracy and educating farmers about organic agriculture.

Some initiatives are engaged in activities across individual/household, local, regional, national and global scales (e.g. The Fairtrade Foundation, whose engagement with Fairtrade

1 *For more information and details about this topic please see Deliverable 30 (Community Engagements and Social Movements for Convergence) in the CONVERGE project. Available from: http://www.convergeproject.org*
2 *Although they also promote sustainable solutions in other industrializing countries – see the initiative description for more details.*

involves buyers in the developed world, participation in a national/ international distribution network and labelling scheme for Fairtrade products and related on-the-ground monitoring, purchasing and support activities in producer countries). Others are community-based (such as the Hågaby Ecovillage in Sweden and the settlement of Vauban in Germany, which address the common challenges of how to promote more local, community-based sustainable ways of travelling and living). Voluntary Simplicity relates to the individual activities of adherents to downsize their lives and minimise their impact on the world.

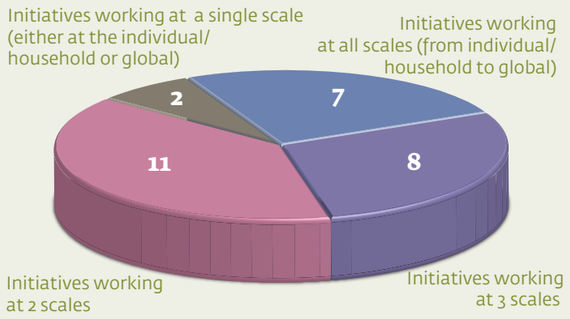


Figure 10: Initiatives operate at different scales simultaneously

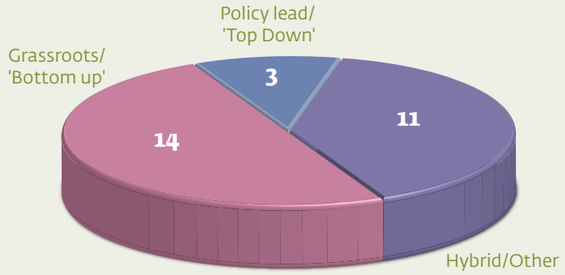


Figure 11: Initiatives by type of governance structure

As befits their scale and goals, the organisational nature and governance of the initiatives are varied. Some are community-based (grassroots) organisations with little formal structure and involve a great deal of volunteer work. A few initiatives are major NGOs with a significant number of paid full-time staff, and there are some initiatives which are in between these two (Low Carbon South West and Transition Town Totnes, for example). One or two initiatives resemble social movements in their network-based organisational structure. We have also included some policy-driven initiatives (one supported by the EU, one by the central Hungarian government and the other by the Tatabánya local government in Hungary).

In terms of maturity of the initiatives, there is great diversity. The Bokor Movement dates back almost 70 years. Grameen Bank is already in its 36th year, and some of the work on the Hågaby Ecovillage started almost 25 years ago. However, the FRANK Water initiative only started in 2005 and the Covenant of Mayors initiative in 2010; both can already point to considerable successes.

Even though the initiatives presented in Chapter 4.2. show great diversity, we hope that the Reader will be able to use the concepts of limits/contraction and equity/convergence used by the CONVERGE project to identify a common thread running through them all. Each initiative can be seen as a piece of the puzzle which contributes to a clearer picture of what a 'Converging World' looks like.

3.2. The Inititatives

Climate Ticket (Tatabánya, Hungary)

Overview

In 2008 the Municipality of Tatabánya and the First Hungarian Carbon Offsetting Institute Ltd. decided to set up a consortium and a system that helped people and organizations to offset their emissions at the local level through green investments. The project received support from the Environment and Energy Operational Programme in Hungary through EU funding. Carbon offsetting exists as a means to enable actors to do something about residual carbon footprints. The climate-ticket system works by helping businesses and individuals to assess the size of their carbon footprints and to pay for them as well as providing investment in projects in the Tatabánya Region. All of the proposed investment projects have numerous co-benefits such as improving the quality of life and well-being of local communities.

Context: The Perceived Problem

The climate ticket project was initiated in order to raise awareness of climate change issues in the city and region of Tatabánya in Hungary for all stakeholders (general population, enterprises and companies, educational institutions, public authorities, etc.), to establish links between climate change and everyday (and organizational) activities and to create a sense of responsibility for emissions through offering offsetting opportunities that at the same time have a positive impact on the standard of living in the region.

Initiative Solution and Process

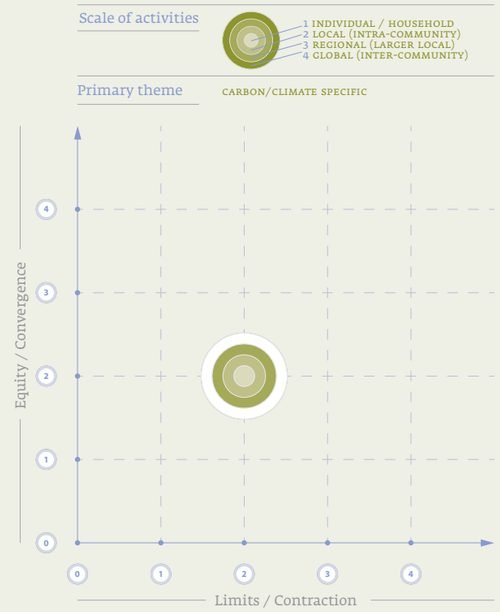
The idea of the "climate ticket" is to raise the awareness of the general public (including individuals and businesses) that their lifestyle has an impact on their environment. The carbon-calculator that has been created within the project allows users to calculate their CO_2 emissions. Once they know the amount of CO_2 emissions their lifestyle is responsible for, they can voluntarily offer to offset these emissions by contributing financially to a local sustainability project. To offset 100 kg of CO_2 emission would cost one climate ticket with a value of 1000 HUF (about 4 EUR). Contributions may be offered to any of at least one 100 local projects, including tree-planting, composting, building bicycle paths, selective waste collection, environmental projects at educational institutions, etc. It is also possible to support green investment in residential buildings (acceptance of these projects is considered upon presenting appropriate documentation). The contribution should be paid at the municipality offices. When the investment is completed, the contributors receive a certificate.

Convergence Elements

LIMITS/CONTRACTION:
The project builds on the notion that CO_2 emissions are currently above acceptable limits. In addition, promotional materials used by the initiative highlight the need to go further than reducing carbon emissions and make sure that other environmental impacts are reduced, too.

Individuals and businesses that recognize their carbon emission-related responsibilities are encouraged to specifically invest in green projects within the local and regional community. To facilitate this process, projects to be invested in are offered throughout the region, and their offset value is calculated.

EQUITY/CONVERGENCE:
In terms of awareness raising about carbon footprints and facilitating offsetting this initiative is a clear attempt at burden sharing at the individual, local and regional levels. At the same time, the core documents of the initiative do not mention equity or justice.



Current Status and Impact

The climate ticket initiative was supported by EU funds in 2008–2010. The local municipality has plans to continue with the project as the climate ticket idea appears to be popular among local people and organizations.

The initiative could easily be repeated elsewhere with some investment of resources. There have been plans to replicate it in other cities and regions in Hungary. However, there is no proof of this happening so far (June 2012).

References and Further Reading:

I. Initiative website: http://www.noco2.hu/
II. Greenfo/MTI. 2010. Klímajegy Tatabányán [Climate ticket in Tatabánya]. Available from: http://www.greenfo.hu/hirek/hirek_item.php?hir=23345/ (last accessed July 31st 2011)
III. Tatabánya Municipality. 2009. Klímajegy is segíti a helyi környezetvédelmet [Climate ticket also helps local environment protection]. Date 3 September 2009.
IV. Video message from Ethan Berkowitz governor candidate in Alaska to the Tatabánya Climate Ticket initiative. Available from: http://www.youtube.com/watch?v=WiQc17kB1io (last accessed September 2012)

Climate-Friendly Wekerle (Budapest, Hungary)

Overview

The Climate-Friendly Wekerle initiative is the first transition initiative in Hungary and is located in a Budapest residential area called the Wekerle estate. As the design of the estate was influenced by the British garden city movement of the late 19th century, Wekerle offers the environment of a small town in the metropolis; a friendly, green area that offers a basis for thriving community life. The initiative was started by a group from the largest local NGO (Wekerle Társaskör Egyesület). Their aim is to inspire local residents to shift towards a more sustainable way of living and to make the local community the foundation of this process. They wish to build on local resources, needs and ideas while adapting the transition model to their ambitions.[1]

Context: The Perceived Problem

The Climate-Friendly Wekerle Initiative was born with the aim of finding and developing community-based solutions to the challenges posed by global climate change and the phenomenon of 'peak oil'. Through their community initiative they also aim to show and prove that a higher level of well-being does not necessarily require a larger habitat-related footprint and thus a high ecological impact.

Initiative Solution and Process

The long-term objective of this initiative is to reduce the food and energy dependency of the Wekerle estate by reducing consumption and by setting up infrastructure for community composting, an organic box scheme, 'edible gardens' and a local food market. They also aim to localize services, reduce waste, support direct trade with nearby (within 50 km radius) producers and to promote cycling and modes of community transport. The whole process is designed to be realized with the cooperation of the local community and be based on active citizen participation in decision-making.

The project is intentionally positive, encouraging and solutions-oriented, even though members of the initiative are aware of the severity of the challenges they face. At the moment (2011/12) they are working on catching peoples' imagination through community events and "clubs" such as Green Saturdays, Energy Brigades, Gardening and Knitting Circles, and flea markets.

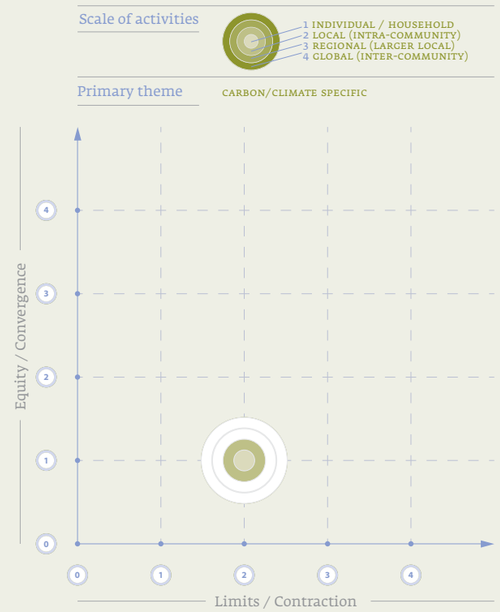
Convergence Elements

Limits/Contraction:

The long-term aim of Climate-Friendly Wekerle is to reduce consumption and environmental

1 *As another example of a transition initiative, see Transition Town Totnes introduced on pages 89–91.*

impact. At the moment, they are mostly engaged in carbon footprint reduction initiatives such as their own Energy Brigades programme which assists people to insulate their homes, or EnergyNeighbourhoods. Thus, a lot of effort has been made towards reduction but concrete reduction targets or carbon quotas have not yet been established.



Equity/Convergence:

The group experiments with the techniques of participatory democracy, operates with a low level of hierarchy and all members have an equal say in discussions over strategic and/or operational issues. The core group of Climate-Friendly Wekerle has also initiated community planning events in the estate to involve local residents in the renewal and design of public spaces.

The overall aim of the initiative is to improve local resilience and self-sufficiency, which includes strengthening the connection between producers and consumers. Thus, the initiative has an influence at the individual, local and regional level. At the moment, apart from the recognition of global challenges (climate change and peak oil), there is no active focus on global equity and environmental justice issues.

Current Status and Impact

Apart from being active locally, Climate-Friendly Wekerle is a member of several networks of similar communities in Hungary (Alliance of Climate-Friendly Municipalities and KLIKK – or Climate-friendly Small Communities – as well as a member of the international Transition Network). Furthermore, they participate at several festivals, events, networks and take other opportunities to share their experiences with other communities in Hungary. Their impact has grown and they are hoping that their experiences may inspire others in Hungary – just like Transition Town Totnes inspired other transition initiatives in the UK.

References and Further Reading:

I. Initiative website: http://www.wekerle.hu/zold_hajtas
II. Blogs related to the initiative: http://atalakulowekerle.blogspot.com/ and http://energiahatekonywekerle.blog.hu/
III. Climate-Friendly Wekerle: introduction to the initiative at the Transition Towns Network website: http://www.transitionnetwork.org/initiatives/klimabar-t-wekerle (last accessed July 2012)
IV. Vadovics E, Antal O. 2011. Klímabarát háztartásoktól a klímabarát közösségekig – útmutató szervezőknek [From Low-carbon Households to Low-carbon Communities – a Guide for Organizers]. GreenDependent Sustainable Solutions Association, HU. 104 p. Available from: http://kislabnyom.hu/

Data collection assisted by Szent István University

Covenant of Mayors Genoa (Italy)

Overview

The Covenant of Mayors (CoM) is a "mainstream European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories". Genoa was one of the first cities in Italy to join the CoM programme (on February 10th, 2009) and its Sustainable Energy Action Plan (SEAP) was officially accepted by the CoM on 5th August, 2010. The municipality of Genoa pledges to reduce CO2 emissions by over 23% by 2020.

Context: The Perceived Problem

In 2008 the EU Climate and Energy Package was accepted and the European Commission launched the CoM "*to endorse and support the efforts deployed by local authorities in the implementation of sustainable energy policies*".[1] It is estimated that 80% of Europe's energy consumption and CO_2 emissions are associated with urban activity[2].

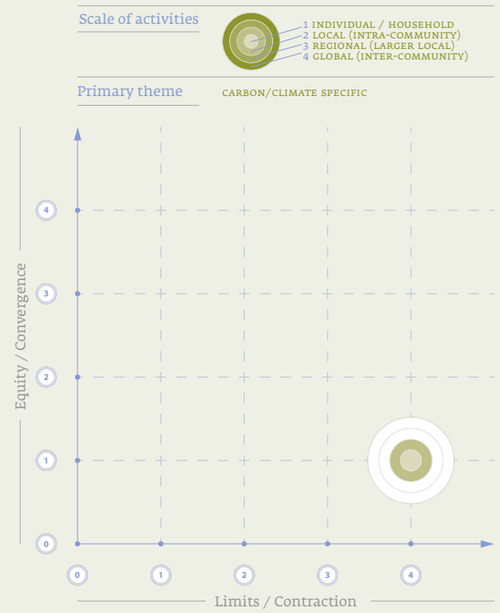
In Genoa's SEAP, a commitment to reducing CO_2 emissions by 23.7% by 2020 is made (base year: 2005) and measures related to gaining political commitment, adapting city infrastructure and involving stakeholders are addressed, along with details on monitoring and managing the SEAP. Without these measures, the SEAP reports that an additional 538.014 tonnes of CO_2e[3] will be generated annually by the municipality by 2020. The environmental burden caused by the city has increased in recent years due to poor energy efficiency levels of residential building stock and increasing demand for air conditioning and other cooling systems in the tertiary building sector as well as electrification of public transport systems.

Initiative Solution and Process

CoM signatories are required to create adequate administrative structures for making municipal carbon reductions, undertake a Baseline Emission Inventory (of energy consumption and CO_2 emissions) and present, implement and monitor results of the city SEAP. In 2010, Genoa City released its 10 point master plan for sustainable development of which the SEAP is a component. The Genoa SEAP specifies 3 primary areas for reducing emissions:

1. the residential sector – new, 'greener' building regulations, improvements of heating systems, thermal insulation of buildings and substantially increased use of renewable energy systems;
2. the tertiary sector – improving air-conditioning and climatisation systems, thermal insulation of building shells and by use of building automation technologies; and,
3. local public transport improvements, as well as promoting car-sharing and cycling. [1]

1 http://www.eumayors.eu/about/covenant-of-mayors_en.html (last accessed July 2012)
2 http://www.eumayors.eu/index_en.html (last accessed May 2012)
3 CO_2 equivalent



Convergence Elements

Limits/Contraction:

The municipality of Genoa explicitly recognises energy consumption targets that are in line with the 2007 unilateral commitment by the EU to cut Europe's CO_2 emissions by at least 20% of 1990 levels by 2020 to attempt to limit climate-change induced global average temperature rises to max. 2°C. Genoa has prepared an inventory of current energy use and CO_2 emissions and has defined its own programmes, goals, indicators and quantitative targets for reducing urban emissions and has pledged to report on progress.

Equity/Convergence:

The literature on and programmes of this initiative do not explicitly refer to equity or justice. However, proposed activities of the SEAP include ensuring that citizens and other stakeholders are "*consulted on the subject of energy sustainability as a methodology for public decision making, to reduce the distance between the municipality and citizens, to respond in a timely and appropriate manner to specific needs of local communities, to improve transparency, to provide access to correct technical information and guidance to citizens concerning the principles of public accounting and transparency*"[2]. Thus attempts are being made to ensure that the rights of Genoa's citizens are being considered procedurally in terms of participation as well as substantively in terms of the benefits of infrastructural and energy-related improvements to the city.

Current Status and Impact

CO_2 emission reduction goals and other Genovese sustainability targets and activities have considerably extended and scaled up since 2001 when the first Energy Efficiency Improvement Plan for the city was drafted. Data on emissions reductions arising as a result of implementing the measures described above have not formally been reported to the CoM as of early 2012.

1 These can be compared with the CO_2 reduction activities of the Reykjavík SEAP which are quite different; see pages 33–35.
2 http://www.urbancenter.comune.genova.it/sites/default/files/archivio/allegati/SEAP%20summary_0.pdf (last accessed July 2012)

References and Further Reading:

I. Initiative Website: http://www.eumayors.eu/index_en.html
II. CoM signatories: http://www.eumayors.eu/about/signatories_en.html
III. Bulkeley H. 2010. Cities and the Governing of Climate Change, Annual Review of Environment and Resources. 35: 229 -253.
IV. van Staden M, Musco F. editors. 2010. Local Governments and Climate Change. Sustainable Energy Planning and Implementation in Small and Medium Sized Communities. Series: Advances in Global Change Research. Vol. 39. 1st edition.

Covenant of Mayors Reykjavík (Iceland)

Overview

The Covenant of Mayors (CoM) is a "*mainstream European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories. CoM signatories aim to meet and exceed the EU's 20% CO_2 reduction objective by 2020*".[1] The mayor of Reykjavik signed the adhesion form to the CoM initiative on May 20th, 2010 and Reykjavik's Sustainable Energy Action Plan (SEAP) was published on the CoM registry on June 2011.

Context: The Perceived Problem

In 2008 the EU Climate and Energy Package was accepted and the European Commission launched the Covenant of Mayors initiative "*to endorse and support the efforts deployed by local authorities in the implementation of sustainable energy policies*". Municipalities must play a key role in mitigating carbon emissions – it is estimated that 80% of Europe's energy consumption and CO_2 emissions are associated with urban activity[ibid]. Based on current trends, it is estimated that Reykjavik would be responsible for an increase in greenhouse gas emissions from the 307 thousand tonnes of CO_2e[2] emitted in 2007 to 404 thousand tonnes of CO_2e by 2020, partly due to the increasing number of private vehicles[3]. Other significant sources of emissions are public transportation and energy use in households – although the city makes significant use of geothermal energy and hydrothermal power. Reykjavik's SEAP describes plans to reduce emissions to 267 thousand tonnes of CO_2e (from 2.6 to 2.1 tonnes per resident).The overall CO_2 emission reduction target is 22%.

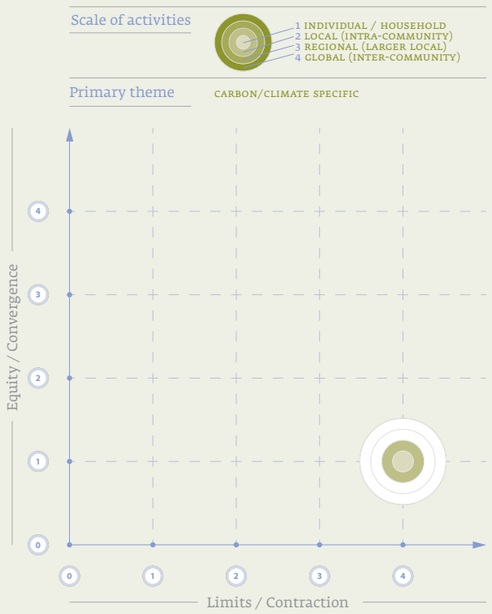
Initiative Solution and Process

Signatories of the CoM are required to create adequate administrative structures for making municipal carbon reductions, undertake a Baseline Emission Inventory (of energy consumption and CO_2 emissions) and present, implement and monitor results of the SEAP. The Reykjavik SEAP describes a raft of planned measures which focus on transport-related emissions, but also include 7 primary themes. Areas of focus include increasing the number of cycle paths, renewing the municipal vehicle fleet and an increase in use of methane as a vehicular fuel source, limiting sprawl, public awareness-raising measures and waste management programmes[4].

1 *http://www.eumayors.eu/index_en.html (last accessed May 2012)*
2 *CO2 equivalent*
3 *Between 1990 and 2007 the number of private automobiles in Reykjavik increased by 70%*
4 *These goals can be compared with those in the Genoa SEAP- for more information, see pages 30–32.*

Convergence Elements

LIMITS/CONTRACTION:
As a signatory to the CoM, the municipality of Reykjavik explicitly recognises limits and goals in line with the 2007 unilateral commitment by the EU to cut Europe's emissions by at least 20% of 1990 levels by 2020 to attempt to limit climate-change induced global average temperature rises to max. 2°C. Through the Department of Environment and Transport, Reykjavik has prepared an inventory of current energy use and CO_2 emissions and has defined its own programmes, goals, indicators and quantitative targets for reducing urban emissions and has pledged to report on progress.



EQUITY/CONVERGENCE:
The literature on and programmes of this initiative do not explicitly refer to equity or social justice. However, there is some focus on procedures for increasing stakeholder involvement in the sub projects of the initiative: the CoM recognises that reducing "*emissions will be achievable only if local stakeholders, citizens and their groupings share responsibility*" thereby "*allowing citizens to benefit directly from the opportunities and advantages offered by a more intelligent use of energy...*".[1] One of the 7 primary themes of the Reykjavik SEAP is awareness-raising activities; city employees and schoolchildren are specified as being targets. In this sense, the rights of Reykjavik's citizens are being considered procedurally in terms of consultation, transparency and accountability of the SEAP implementation process and substantively in terms of the benefits of infrastructural and energy-related improvements to the city.

Current Status and Impact

Data on tangible emissions reductions has not formally been reported yet (as of early 2012). However, a budget for staff and other costs is in place for assisting coordination of the 7 year plan outlined in the SEAP.

Regarding the CoM umbrella initiative, 1206 other *SEAPs* have been submitted and/or accepted as of 2012 and the CoM has become a more important tool for EU policy makers than was imagined at its inauguration, with significantly more city signatories than initially predicted.

1 *http://www.eumayors.eu/about/signatories_en.html?city_id=18426-seap (last accessed June 2012)*

References and Further Reading:

I. Initiative website: http://www.eumayors.eu/index_en.html
II. List of Covenant of Mayors signatories: http://www.eumayors.eu/about/signatories_en.html?city_id=184
III. Bulkeley H. 2010. Cities and the Governing of Climate Change, Annual Review of Environment and Resources. 35: 229 -253.
IV. van Staden M, Musco F. editors. 2010. Local Governments and Climate Change. Sustainable Energy Planning and Implementation in Small and Medium Sized Communities. Series: Advances in Global Change Research. Vol. 39. 1st edition.

Data collection assisted by The University of Iceland

EcoSchools Iceland

Overview

EcoSchools (ES) in Iceland promote the theme of sustainable development in schools through environmental education as part of an international ES programme. The initiative is run by The Foundation for Environmental Education (FEE), a non-governmental and non-profit organisation which uses a network of country representatives to implement its 5 global environmental education programmes[1]. The initiative originated in 1992 as a response to some of the needs identified at the UN Conference on Environment and Development (UNCED) and the ES programme started in 4 countries (Denmark, Germany, Greece and United Kingdom) in 1994 and in Iceland in 2001 with support from the European Community.

Context: The Perceived Problem

UNCED identified the need for a transformation of attitudes and behaviours towards the environment partly through the promotion of environmental education. UNCED specifically referred to the need to involve young people in finding solutions to environmental and sustainable development issues at a local level[2].

Initiative Solution and Process

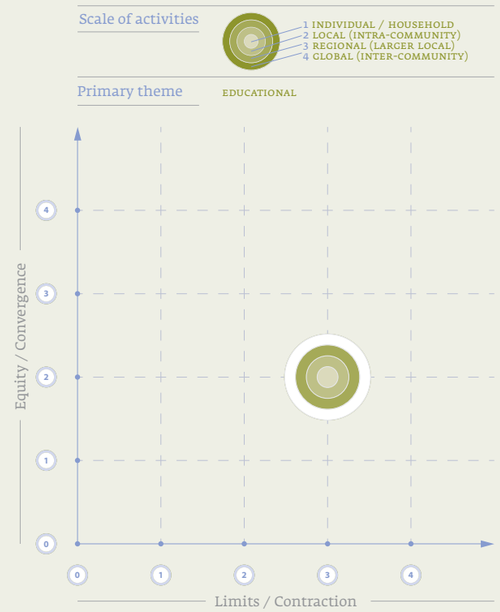
By adopting the principles of 'Local Agenda 21' (a 'wide-ranging blueprint for action to achieve sustainable development' defined during the UNCED meeting) schools are encouraged to 'think global, but act local'. The ES programme is based on the ISO 14001 environmental management system specifications concerning the definition and implementation of environmental policies, programmes and objectives. The ES initiative has a number of themes that schools can decide to work with (Energy, Water, Biodiversity, School grounds, Healthy living, Transport, Litter, Waste and Global citizenship) and students/pupils play a central role in choosing the themes they work with, leading an 'eco-committee', defining an 'eco-policy' and checking the environmental performance of the school and implementing various environmental programmes. The ES programme is designed to promote environmental awareness in a way that is connected to the usual curriculum subjects. Governance is provided by the FEE and the Icelandic Landvernd NGO; the latter acts as a local overseer and distributes (or takes away) the green flag award for environmental excellence.

1 *Blue Flag, EcoSchools, Young Reporters for the Environment, Learning about Forests and Green Key*
2 *The international EcoTeams initiative also takes a community-based, participant centred approach to dealing with sustainability issues – see pages 40–41.*

Convergence Elements

Limits/Contraction:

Documentation and literature about EcoSchools does not generally refer to specific resource or planetary limits and schools are given considerable freedom in fulfilling their environmental goals. However, after selecting their chosen topical working area, schools usually ensure that specific environment-related activities are paired with associated timeframes, responsibilities, financial costing and monitoring and verification procedures. Some suggested ways of quantifying contraction decreases are measuring the school's ecological footprint, taking meter readings and calculating energy bill savings, direct measurements of waste collected for recycling, using before, during and after photographs and lists and using questionnaires and surveys to canvass opinions/record data.



Equity/Convergence:

The initiative is not specifically focused on equity or social justice issues. However, the ES programme is designed to work in a democratic and participatory manner in order to promote the active participation of pupils as citizens and decision-makers at schools. ES is designed to increase the environmental awareness of pupils and staff and a range of other school network stakeholders to facilitate integration of the local community around a sustainability theme, as well as linking schools nationally and internationally.

Current Status and Impact

As of November 2009, 167 of Iceland's schools have participated in the ES initiative[1]. Ninety of them fly the green flag, and the other 77 are working on the seven steps they need to fulfil before they can be awarded certification and a flag. The Icelandic ES program has grown faster than anyone expected and is becoming increasingly popular among high schools. No funding has been put into advertising the program, so it is clear that its popularity derives from word-of-mouth discussions between teachers and students and a great deal of volunteer work. This program is currently the only official environment training program within the Icelandic school system. However, funding is severely limited.

Internationally, since the inception of ES in 1994 and its rollout in 4 countries, it has expanded to work in 53 countries around the world (more than 40,000 schools and 11 million students). 14,208 Green Flags were awarded between 2009 and 2011, and the programme is continually expanding in scope and range of activities. Quantified data about successes of

1 *Data from the Icelandic Ministry of Education, 2009.*

the programme in reducing carbon emissions have been reported – figures range from 15-40% reductions for ES participants in the UK[1].

References and Further Reading:

I. Initiative website: EcoSchools in Iceland: http://www.landvernd.is/Default.aspx
II. International EcoSchools Website [Internet]. Available from: http://www.eco-schools.org/
III. Foundation for Environmental Education [Internet]. Available from: http://www.fee-international.org/en
IV. Palmer J. 1998. Environmental Education in the 21st Century: Theory, Practice, Progress and Promise. Routledge. 304 p.
V. Rickinson M. 2001. Learners and Learning in Environmental Education: A critical review of the evidence. Environmental Education Research. 7(3). Available from: http://www.cemus.uu.se/dokument/asc2010/Mark%20Rickinson.pdf (last accessed September 2012)

Data collection assisted by The University of Iceland

1 *http://www.keepbritaintidy.org/ecoschools/*

EcoSchool activities in Hungarian schools

(Sources of pictures: http://hirmagazin.sulinet.hu/ and http://www.zoldenergetika.hu/)

EcoTeams (UK and the Netherlands)

Overview

This initiative is a local, community-based volunteer initiative in which small groups work together to decrease their environmental footprints. The EcoTeams concept was initiated by a charity – Global Action Plan (GAP) – which is an organisation set up to address issues connected with climate change (from environmental education and volunteering to sustainable businesses and schools).

Context: The Perceived Problem

People often feel that while there is a great amount of information available to them about environmental problems, there are a lack of clear guidelines about how to implement this information into their everyday life and routines. Furthermore, it is often difficult to take the first steps towards more sustainable living by oneself due to various social and infrastructural barriers[1]. As a solution to these challenges, EcoTeams were conceived as a methodological approach which could help households take practical action towards more sustainable living and reduce their environmental impacts at the household level.

Initiative Solution and Process

The EcoTeams initiative was started in the early 1990s in the Netherlands and is by now a tried and tested community engagement programme. It works with communities, businesses, schools and charities using the logic that when people act together they can support one another, and more significant and meaningful change takes place. The EcoTeams programme brings together groups of 4–6 households from the same community and engages them in a regular series of facilitated discussions about the environmental impacts of everyday living for a period of 4–5 months while they simultaneously follow a step-by-step process of manageable sustainable living type activities. This way individual participants can reduce their individual footprints through easy, practical and individualized activities, while at the same time developing friendships and their neighbourhood.

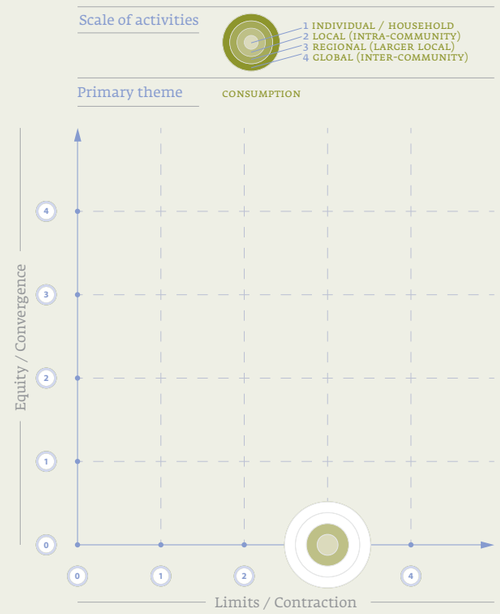
Convergence Elements

Limits/Contraction:

Documentation and literature about EcoTeams do not refer to specific resource or planetary limits, but the topics covered in EcoTeams include water, energy, waste, transport and shopping. Participants weigh their rubbish and recycling, and monitor their energy use over the course of the programme.

1 *See more about this on pages 50–53 under the Gödöllő Climate Club, and also in: Heiskanen E, Johnson M, Robinson S, Vadovics E, Saastamoinen M. 2009. Low-carbon communities as a context for individual behavioural change. Energy Policy, doi:10.1016/j.enpol.2009.07.002.*

EcoTeams have proven to be very successful at reducing consumption of the targeted resources *(contraction)* as well as helping households to sustain the behaviour changes achieved during the project. Studies indicate that the behaviour changes arising from the programme were maintained over a longer period (2 years); moreover, quite a few participating households have improved their environmental performance even further.



Equity/Convergence:

EcoTeams create a sense of community that provides both support and social pressure for participants to change and maintain environmentally friendly behaviours. However, this initiative, although it has a very strong social dimension and motivates change at the individual (and to a certain extent the local community level) does not include convergence dimensions such as specific redistribution mechanisms as described in the CONVERGE project (see Chapter 2.).

Current Status and Impact

The program has had great success and has already spread to 20 countries (as of 2011), engaging thousands of households.

References and Further Reading:

I. Initiative website:
For EcoTeams in the UK: http://www.globalactionplan.org.uk
For EcoTeams outside of the UK: http://www.globalactionplan.com
II. Global Action Plan. 2008. EcoTeams Evaluation Report. Global Action Plan. 39 p.
III. Nye M. and Burgess J. 2008. Promoting durable change in household waste and energy use behaviour. Research report. School of Environmental Sciences – University of East Anglia. 128 p. Available from: http://www.esrc.ac.uk/my-esrc/grants/RES-545-28-5001/outputs/read/dd28d95c-72b9-48de-916a-5ba1af52ad39 (last accessed June 30th 2012)
IV. Harland P. and Staats HND. 1997. Effectiveness of The EcoTeam Program in the Netherlands: A Long Term View. Leiden: Centre for Energy and Environmental Research, Leiden University. 7 p. Available from: http://domo.cust.pdc.nl/9307000/d/q07.pdf (last accessed June 30th 2012)
V. Rabkin SJ with Gershon D. 2006. Changing the World One Household at a Time: Portland`s 30 day program to lose 5000 lbs. In: Moser S. and Dilling L. editors. Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change, Cambridge University Press. 14 p. Available from: http://www.empowermentinstitute.net/files/LowCarbDiet_article.pdf (last accessed September 2012)

Bændur græða landið (Farmers Heal the Land, Iceland)

Overview

Icelandic 'Bændur græða landið' (BGL) ('Farmers Heal the Land') is a soil conservation initiative in which an estimated 20% of Iceland's sheep farmers (and some other land users) currently participate. The Soil Conservation Society of Iceland (SCS) provides consultation, funding and leadership to these land users to combat 'catastrophic' levels of soil erosion that have lead to losses of up to 60% of Iceland's original vegetation and have decimated natural ecosystems.

Context: The Perceived Problem

Estimates from the SCS of Iceland suggest that historical deforestation of the island, climatic and volcanic events and agricultural practices have lead to huge losses of productive land and natural ecosystems – an estimated 96% of original tree cover has been lost since the island was settled. Thousands of km² of Iceland is now effectively desert and/or has greatly reduced productive and carbon retention capacity. An estimated 1.8 billion tonnes of carbon have been released into the atmosphere as a result of ecosystem degradation since the first settlers arrived.

Initiative Solution and Process

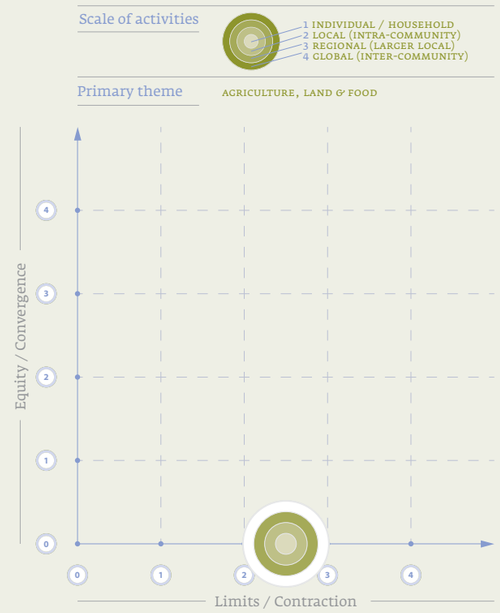
The SCS fights soil erosion in Iceland through re-vegetation projects, sand dune stabilisation and the building of stone and timber walls. Their goals are to encourage *'increased land-user responsibilities and an ethic of land stewardship'*. The BGL initiative currently involves around 650 farmers who are co-funded and trained by SCS to re-vegetate degraded land and halt erosion on their own farms, in part through sowing seeds and the use of fertilisers (the purchase of which is 85% funded by the SCS).Farmers join on a voluntary basis but benefit by significantly improving the quality of their land. The SCS plays an enabling role through raising awareness of the issue, providing education and part-financing of the re-vegetation materials and maintains communications, verifies, maps and publicises the results of restoration work.

Convergence Elements

Limits/Contraction:

The aim of the initiative is to improve the quality of degraded land and halt soil erosion in acknowledgement of the fact that tolerable limits to land degradation have been reached. Specific re-vegetation targets and indicators at local and regional levels are used by the SCS to track success. Re-vegetation efforts are currently ongoing on approximately 6000 hectares of land, meaning that approximately one quarter of the land area of Iceland is covered by the scope of the project. Besides the direct benefits which accrue from of soil conservation efforts, the project is seen as being increasingly important as an effective way

of organically sequestering carbon dioxide which can assist Iceland to meet its climate-related goals.



Equity/Convergence:

The initiative literature does not explicitly refer to 'equity' or 'justice' and the initiative primarily deals with resource management – soil – issues at a regional level. However, one goal of the SCS is to decentralise the decision-making and implementation of the conservation efforts. Representatives from SCS agencies make personal visits to every participating farm once a year and there are plans to increase the frequency of visits. The goal is that dialogue between farmers and the SCS becomes an increasingly important factor in the project.

Current Status and Impact

The amount of fertiliser and number of seeds annually distributed by SCS has increased almost year-on-year since the initiative started in 1990 and this initiative is now a component of Iceland's Long-term Soil Conservation Strategy, 2003–2014. The Icelandic government (in its Climate Change Strategy for 2007–2050 document) states that it considers wetland restoration to be one option for reducing Greenhouse gas emissions. Such restoration works may be modelled on the ongoing cooperatively managed soil restoration efforts of Bændur græða landið.

References and Further Reading:

I. Initiative website: http://www.land.is/
II. Soil Conservation Society (Revegetation and Landcare in Iceland) [Internet]. Available from: http://www.land.is/index.php?option=com_content&view=article&id=136itemid85/
III. Arnalds A. 2005. Approaches to landcare — a century of soil conservation in Iceland. Land Degradation and Development. 16: 113–125.
IV. Arnalds A. 2011. Farmers heal the land: a social licence for agriculture in Iceland. In: Williams J, Martin P, editors. Defending the social licence of farming: issues, challenges and new directions for agriculture. CSIRO Publishing, Collingwood, Australia. p. 83–92.
V. UN Division for Sustainable Development. 2008. Report: CSD 16 – Iceland's national report: Desertification, drought and land care: http://www.un.org/esa/agenda21/natlinfo/countr/iceland/land_drought_desertification.pdf (last accessed September 2012)

Data collection assisted by The University of Iceland

Fownhope CRAG (Fownhope Carbon Reduction Action Group, UK)

Overview

Fownhope CRAG is a small, voluntary, grassroots carbon rationing action group[1] set up in 2007 in the village of Fownhope in the West Midlands, UK, with the primary goal of reducing the annual carbon footprint of its members.

Context: The Perceived Problem

Fownhope CRAG is part of the broader CRAG network and explicitly recognises the risks posed by raised levels of atmospheric carbon dioxide. Members support the goal of reducing their personal carbon footprints to a sustainable and equitable level. They support the goal of working to cap levels of atmospheric carbon dioxide at 350 parts per million (ppm).

Initiative Solution and Process

Individual Fownhope CRAG members measure their progress and attempt to reduce their carbon footprints. Members of the CRAG decide themselves about all issues, including but not limited to the following:

- the methodology for measuring their footprints (based on the general CRAG calculator they developed their own calculator);
- setting of reduction targets;
- the nature of community events they participate in and support (e.g. tree-planting events).

The working procedure and decisions of Fownhope CRAG are clearly documented in their meeting minutes which are publicly available on their website.

Convergence Elements

Limits/Contraction:

The primary aim of the initiative is to contract the carbon footprint of the CRAG members in all areas of household consumption, not only those related directly to energy. However, members of the CRAG also *"support each other in reducing those footprints, sharing skills and knowledge in lower carbon living and promoting awareness and practical action in the wider community"*[2].

1 *Members of Fownhope CRAG decided to use "reduction" instead of "rationing" in the name of their group.*
2 *http://www.fownhopecrag.org.uk/ (last accessed December 5th 2011)*

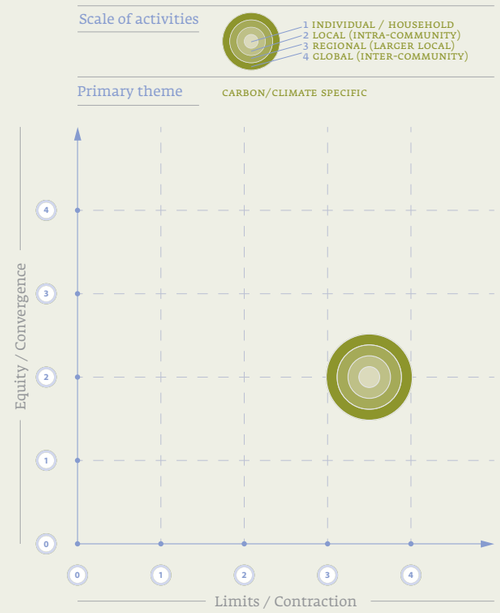
Practical actions they have been involved in include planting 350 trees around the village of Fownhope, participation in the now annual h.Energy[1] events and actively promoting the use of renewable energy in their locality.

Equity/Convergence:

As the quote below indicates, CRAGs were started because people realized that carbon emissions needed to be contracted in the richer part of the world as well as 'converged' – made more equitable worldwide:

"We believe that the impacts of climate change demand a serious programme of greenhouse gas emissions reduction, and we urge governments to adopt a universal and equitable framework to achieve this.

In CRAGs, we are implementing this approach at a community level. We form local groups to support and encourage one another in reducing our carbon footprints towards a sustainable and equitable level. We measure our progress against our carbon allowances."[2]



This belief is evident in the way Fownhope CRAG operates as well as in the actions its members implement:

- everything in the CRAG is decided on in a participatory manner;
- the CRAG participates in and initiates local community events and activities to share knowledge and information;
- members of the CRAG also voluntarily supported a tree-planting project in the Gambia, which concerns planting the Jathropa tree to combat climate change-induced desertification as well as to produce a renewable form of heating oil. This planting project, although currently (autumn 2012) being reconsidered – alternative projects are being sought -, illustrates how responsible citizens in a rich country can voluntarily support a community in a poorer country as well as showing how equity may be promoted through voluntary support for environmentally appropriate projects which offer additional socio-economic benefits.

1 *See more details at http://www.herefordshirenewleaf.org.uk/what-henergy*
2 *http://www.carbonrationing.org.uk/ (last accessed December 5th 2011)*

Current Status and Impact

The scope of the CRAG has widened from the original focus on carbon reduction and CRAG members have become involved in a number of related projects and feasibility studies into sustainability activities such as provision of locally sourced alternative energy (biomass[1], solar, and hydro), decreasing food miles and wider sustainability goals. Fownhope CRAG is also involved with the Hereford in Transition Alliance, which is a loose association of groups within the county who have similar aims. The Alliance includes Transition Town groups, car share clubs, a public transport pressure group, etc. Representatives meet regularly and the group has representation on some city and country committees, which includes both Councillors & Council Officials as well as business representatives.

Fownhope CRAG has also established links with a climate club in Central Europe[2] and shares knowledge and experiences with them. There is renewed media interest in and publicity for the Fownhope CRAG initiative in the region.

References and Further Reading:

I. Initiative website: http://www.fownhopecrag.org.uk
II. Video about Fownhope CRAG: http://vimeo.com/16432704
III. Andrews J. 2008 Nov. Setting up a group to cut carbon together. The Ecologist. Available from: http://www.theecologist.org/how_to_make_a_difference/climate_change_and_energy/360287/setting_up_a_group_to_cut_carbon_together.html (last accessed September 2012)
IV. Fawcett T, Bottrill C, Boardman B, Lye G. 2007. Trialling personal carbon allowances. UK Energy Research Centre. 58 p. Available from: http://www.eci.ox.ac.uk/research/energy/downloads/fawcett-pca07.pdf (last accessed June 2012)
V. Howell R. 2009. The Experience of Carbon Rationing Action Groups: Implications for a Personal Carbon Allowances Policy. Final Report. Environmental Change Institute, Oxford University Centre for the Environment. 40 p. Available from: http://www.eci.ox.ac.uk/publications/downloads/howell09crags.pdf (last accessed June 2012)
VI. Seyfang G, Lorenzoni I, Nye M. 2007. Personal Carbon Trading: notional concept or workable proposition? Exploring theoretical, ideological and practical underpinnings. CSERGE Working Paper EDM 07–03. Available from: http://www.uea.ac.uk/env/cserge/pub/wp/edm/edm_2007_03.htm (last accessed June 2012)

1 *The biomass project has grown into a separate project and a community co-operative; see more at http://www.sharenergy.coop/woolhope/*
2 *Gödöllő Climate Club, see more on pages 50–53.*

FRANK Water (UK)

Overview

The UK-based FRANK Water initiative was founded by Katie Alcott after she visited India and contracted dysentery after drinking dirty water. She realised that profits from the sale of 'ethical' bottled water in the UK could be used to fund new clean water facilities for villages in need in India and as a result set up a not-for-profit social enterprise and related charity in 2005 to serve these aims.

Context: The Perceived Problem

Despite successes in reaching one of the Millennium Development Goals of reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation before 2015, the World Health Organisation estimates that around 3.575 million people die each year from water-related diseases, usually due to a lack of access to sanitation facilities/clean water for hygienic use and unsafe drinking water. Not only is the burden of disease due to lack of clean water very high, but millions of women and children across the developing world spend hours every day collecting water from often unsafe sources.

Initiative Solution and Process

FRANK water raises money to fund clean water projects through 'FRANK Water Products', a not-for-profit social enterprise which donates 100% of the profits made from selling bottled water, bottle refills and water containers in the UK to the charity 'FRANK Water Projects'. This charity uses this money to fund fee-based, community-owned and run clean water projects (which typically use ultra violet and reverse osmosis technology water filtration systems), mainly in India. FRANK Water has funded around 70 such projects so far which have benefitted hundreds of thousands of rural Indians.

Convergence Elements

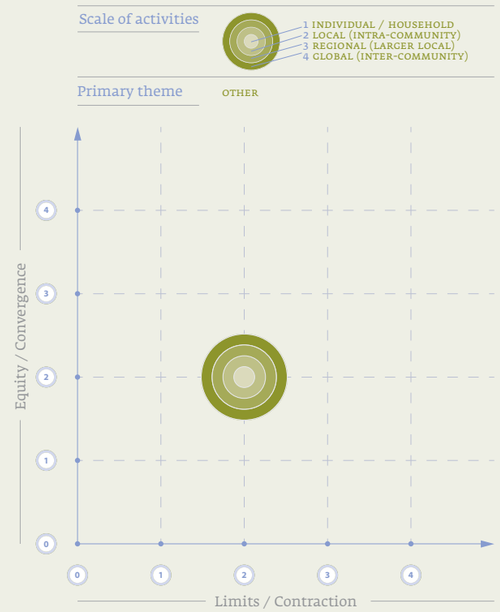
Limits/Contraction:

Although FRANK Water generates its revenue from selling bottled water and water refills in the UK, it is highly aware of the need for contraction of resource use.

> "*FRANK Water recognises the paradoxes of water consumption in the Northern Hemisphere and the injustice of lack of clean water in developing nations*".
>
> "*FRANK Water does not seek to increase the sale of bottled water – but FRANK Water is pragmatic – it recognises that a bottled water market exists and probably will do for some time; so we simply ask – if you drink bottled water already please choose FRANK Water and with a small gesture help make a big difference*". pp. 2–3., [1]

1 *http://www.frankwater.com/wp-content/uploads/2010/12/FRANK-Water-Philosophy.pdf (last accessed September 2012)*

FRANK uses a local spring source for their water, does not ship water over long distances (they refuse to export water abroad), has primarily local customers (within 150 miles of the spring source) encourages the reuse and recycling of bottles, promotes the restoration, replacement and repair of public drinking fountains and, primarily, encourages the refilling of water bottles at public events it has a presence at through their 'Free Fill' activities. Thus FRANK actively encourages reducing sales of bottled water but desires to be the preferred 'ethical' choice if water must be purchased.



Equity/Convergence:

While intra and intergenerational equity are not both specifically referred to in initiative literature, FRANK's work in using the profits it makes from buyers of water in the UK to fund human development-related projects in 'developing' countries is a clear example of equity/convergence principles being implemented at the global scale using the mechanism of a social enterprise/charity[1]. Water projects that FRANK funds are "*community owned and run, with a priority on community ownership, education and longevity. Each project is managed and operated by local villagers and an affordable user fee model is implemented to ensure sustainability and achieve maximum community uptake well into the future*"[2].

Current Status and Impact

FRANK Water has so far funded about 70 projects which have benefitted approximately 400 000 people, mainly in the state of Andhra Pradesh, in Southeast India. They have recently started piloting a school clean water project in Ghana.

References and Further Reading:

I. Initiative website: http://www.frankwater.com
II. The FRANK Water Eco-Policy (2010–2011): http://www.frankwater.com/wp-content/uploads/2010/12/FRANK-Water-Philosophy.pdf (last accessed September 2012)
III. Oppenheim L. 2010. An interview with FRANK Water's founder, Katie Alcott: http://www.treehugger.com/green-food/katie-alcott-of-frank-water-on-being-an-insider-rebel-within-the-bottled-water-industry-interview.html (last accessed June 2012)
IV. 2010. A Radio WOMAD audio Interview with Katie Alcott, founder of FRANK Water: http://www.youtube.com/watch?v=EEMoGTiq1tc (last accessed June 2012)

Data collection assisted by University of Bristol

1 *The direct donations that FRANK Water gives can be compared with The Fairtrade Foundation's direct trading approach as both are designed to promote social justice (see The Fairtrade Foundation on pages 81–83.).*
2 *http://www.frankwater.com/what-we-do/ (last accessed May 10th 2012)*

Gödöllő Climate Club (Hungary)

Overview

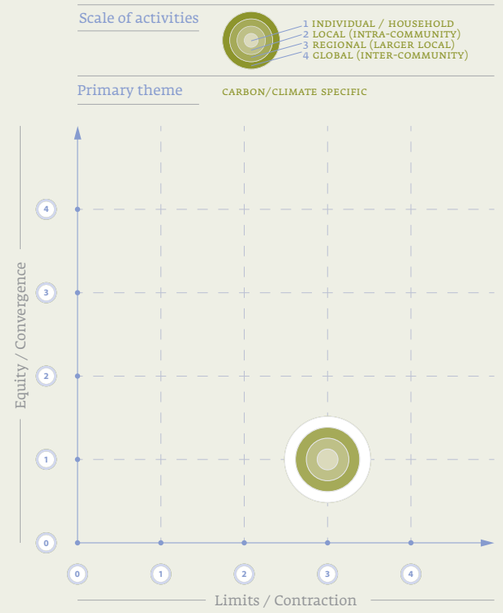
The Gödöllő Climate Club is a small, voluntary, grassroots group initiated in 2009 by GreenDependent Association in the town of Gödöllő in Central Hungary, with the primary goal of reducing the carbon footprint of its members. The club was initiated as a pilot project within a European Union FP7 research project called Changing Behaviour which investigated how to induce long-term behaviour change related to energy use. The pilot project proved to be successful as the club has been meeting ever since, attracting an increasing number of people.

Context: The Perceived Problem

The Climate Club was established in order to raise awareness of climate change issues in households, establish links between climate change and household consumption and create a sense of responsibility for consumption and lifestyle-related emissions in households. In the European Union households are on average responsible for 26.5% of energy use; however, the figure for Hungary is higher. Here, the share of households in total energy consumption is 34%[1], and 30%[2] of CO_2 emissions are attributed to them.

Capacities	Description	Barrier to behaviour change	How the Gödöllő Climate Club can help overcome barrier
Personal	Individuals` understanding of the issue, their willingness and ability to act, their values skills and enthusiasm	Lack of knowledge and understanding, lack of willingness and skills, helplessness	Sharing and creating knowledge Providing advice, skills, motivation and encouragement Members can see that 'others are doing their bit' Assurance that being "green" is normal
Infrastructural	Facilities and structures enabling sustainable living available in the community	Current socio-technical infrastructures	Creating knowledge network on the carbon intensity of lifestyles and the low-carbon solutions available in the community Limited impact on 'hard' infrastructure at the moment
Organizational	Values held by formal organizations in the community	Social conventions, helplessness	Challenging existing institutions Changing taken-for-granted beliefs about modern life and creating a supportive environment for problematizing current lifestyles
Cultural	Legitimacy of sustainability and low-carbon living in the community	Social dilemmas, helplessness	Creating a community of individuals prepared to change their lifestyle and promote these changes to others and by doing so creating legitimacy for sustainable and low-carbon values and living

Table 1: Ways in which small groups can help overcome barriers to behaviour change[(V)]



As the findings of the above-mentioned research project about motivating behaviour change related to energy use pointed towards the importance of small groups, when initiating the club, GreenDependent decided to experiment with an informal group format using the inspiring examples of and lessons learnt from EcoTeams[3], CRAGs[4] and transition towns[5]. The table below summarizes how small groups, and, in particular the climate club, can help overcome barriers to behaviour change.[(V)]

Initiative Solution and Process

The Gödöllő Climate Club meets every month and members discuss climate change and energy-related issues, ideas and concerns in an informal setting while drinking fairtrade tea and eating homemade cakes. Club members keep track of their consumption and emissions with the help of a carbon calculator developed by GreenDependent and tested by club members. They also calculate the footprints of club events and occasionally plant fruit trees in a local community garden to offset the emissions.

More recently, club members have decided to become more active in the local community in order to raise awareness of what they do, attract more members, and motivate community level change towards more climate-friendly living.

Convergence Elements

Limits/Contraction:

The primary aim of the initiative is to *contract* or reduce the carbon footprint of the climate club members. However, members also support each other in reducing one another's footprints, sharing skills and knowledge in lower carbon living and promoting awareness and practical action in the wider community through organizing and participating in community events in the town of Gödöllő in Hungary. The overall aim is to contract (i.e. have smaller and

1 *Data for the EU is from http://www.eea.europa.eu/data-and-maps/figures/final-energy-consumption-by-sector-5 (last accessed June 2012), and for Hungary from the Hungarian Central Statistical Office, based on data for 2010 (http://www.ksh.hu/docs/hun/eurostat_tablak/tabl/tsdpc320.html, last accessed September 2012)*
2 *Source: Novikova A. and Ürge-Vorsatz D. 2008. Szén-dioxid kibocsátás-csökkentési lehetőségek és költségeik a magyarországi lakossági szektorban. Ministry of Environment and Water, Budapest*
3 *See more about EcoTeams on pages 40–41.*
4 *See more about Fownhope CRAG on pages 44–47.*
5 *See more about transition towns at http://www.transitionnetwork.org/ and transition examples on pages 28–29 and pages 89–91 (from Hungary and the UK, respectively).*

sustainable carbon footprints) not only in households but also for the community as a whole, but for the time being no specific contraction targets have been set.

EQUITY/CONVERGENCE:
The reduction of the carbon footprint is not only about reducing one's own impact but also about sharing the resources available to humanity with others, both at the local and global level. As Gödöllő, the home town of the club, has a twin town in Indonesia, some of the club members have the more long-term goal of establishing a link with the community there.

Convergence in the club is also happening in terms of collecting and sharing information, and exchanging certain goods and services (e.g. plants and seeds; car-sharing between members). Decisions are made in a participatory way, taking into account everyone's opinions and ideas.

Current Status and Impact

About 15–25 people participate at each meeting of the club, but the number of people on the mailing list is a lot higher (cc. 200). Most members regularly review their footprints and report on successes and difficulties, providing support and ideas for one another.

The climate club is now a part of an informal network of similar initiatives in Hungary (called KLIKK or Climate-friendly Small Communities; other members include Climate-Friendly Wekerle[1], the first official transition initiative in Hungary, and Transition Kecskemét). The climate club also has a twin club in the UK: the Fownhope Carbon Reduction Action Group[2]. Both of these contacts have played a great role in establishing and strengthening club identity as well as inspiring further action.

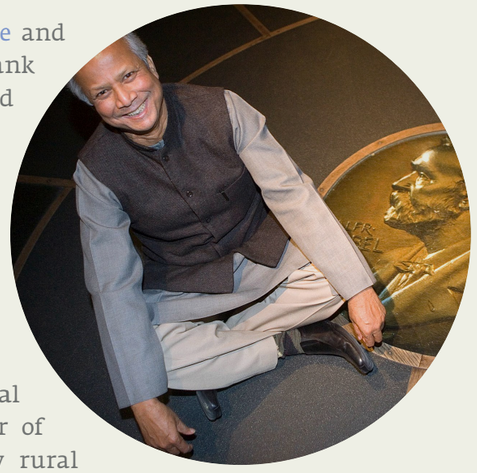
References and Further Reading:

I. Initiative website: http://www.klimaklub.greendependent.org
II. Information on the climate club on the Changing Behaviour website: http://www.energychange.info/six-best-practice-pilots (last accessed September 2012)
III. Vadovics E, Antal O. 2011. Klímabarát háztartásoktól a klímabarát közösségekig. Útmutató szervezőknek. [From Low-Carbon Households to Low-Carbon Communities. A Guider for Organizers] GreenDependent Fenntartható Megoldások Egyesülete, Hungary. 104 p. Available from: http://kislabnyom.hu/ (last accessed June 2012)
IV. Almássy T, Farkas M, Kovács B, Wheatley T. 2011. KLIKK – Klímabarát hálózatok és kisközösségek. [KLIKK – Climate-friendly networks and communities]. Független Ökológiai Központ Alapítvány, Hungary. 32 p. Available from: http://lmv.hu/files/klikk_kiadvany.pdf (last accessed June 2012)
V. Vadovics E, Heiskanen E. 2010. Understanding and enhancing the contribution of low-carbon communities to more sustainable lifestyles: the case of the Gödöllő Climate Club in Hungary. Poster presented at the ERSCP-EMSU conference in Delft, Holland, 26–29 October 2010. http://www.klimaklub.greendependent.org/kutatasi_eredmenyek/ClimateClub_poster%20presentation_ERSCP-EMSU%20conf_2010Delft.pdf (last accessed June 2012)

1 *See more about Climate-Friendly Wekerle on pages 28–29.*
2 *See more about Fownhope CRAG on pages 44–47.*

The Grameen Bank (India)

Overview



The Bangladeshi-based Grameen Bank is a microfinance and community development organisation (established as a bank in 1983) set up to target the rural poor – it was founded with the primary goal of alleviating poverty through providing micro loans to individuals excluded from using traditional banking services. The initiative was originally started by Muhammad Yunus who lent his own personal money to poor householders in the rural Bangladeshi village of Jobra in 1976.

Context: The Perceived Problem

The founder, Muhammad Yunus, from his own personal experience and professional background as a professor of Economics at Chittagong College, realised that many rural Bangladeshi's were only able to gain access to loans to support their micro businesses at very high interest rates. He understood that this lack of capital was a significant reason why entire families were locked into poverty and a serious impediment to regional economic development. In order to circumvent this problem, over a period of decades Muhammad Yunus formalised the microcredit model and gained significant institutional support for it.

Initiative Solution and Process

Grameen bank provides zero collateral micro-loans to the low-income demographic, primarily rural Bangladeshis (usually women – who make up 97% of the current loan portfolio). Loans are typically in the order of 100–1000 Taki (a few dollars to tens of dollars) and lenders are supported through peer pressure to abide by the principles of solidarity lending and a set of values known as the Sixteen Decisions (which include prescriptions about environmental protection and promoting social justice). The recovery rate of loans is high – over 97% (as of 2010) – and the lending model is considered to be highly successful from both a business and a socio-economic development perspective.

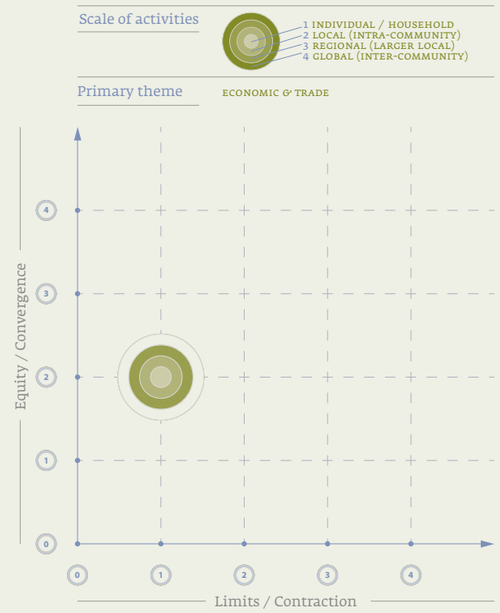
Convergence Elements

Limits/Contraction:

The primary aim of the initiative is socio-economic empowerment. Escaping from poverty may mean that the ecological footprints of Grameen borrowers increase rather than decrease. The CONVERGE project understands that 'equity within planetary limits' requires a decrease in the environmental footprints of some citizens but corresponding growth in others. The literature of the initiative does not specifically refer to ecosystem limits but the 16 Decisions which each Grameen borrower pledges to abide by do cover environment-related issues (such as limiting family size, keeping the environment clean and the use of disease-limiting sanitation facilities).

Equity/Convergence:

Although intra and intergenerational equity are not specifically referred to in the initiative literature, Grameen has equity/convergence as its heart, seeing credit *"as a human right"*. The initiative explicitly seeks to empower the low income fraction of the population it works with according to the principles and practice of social justice. The principle of social justice is also embedded horizontally through the initiative in the 16 Decisions, where borrowers pledge to work with each other in a democratic and ethical manner towards common goals.



Current Status and Impact

The Grameen Bank has been extremely successful and has grown considerably over the last 3 decades.
Loans have been made to 8.04 million individuals (Feb 2010) and in 2007 the bank had a staff of over 24,000 employees. Grameen Bank is now a major, incorporated, profit-making financial institution with support from the central bank of Bangladesh and other private investors. Numerous profit-making and non-profit spinoff businesses have been created (Grameen family of Organisations) and Grameen Bank has become large enough to have come to the attention of national policymakers in Bangladesh. Many microcredit organisations have been founded internationally (e.g. Bank for the Poor in Hungary and Grameen America) on similar lines, with varying degrees of success[1].

References and Further Reading:

I. Initiative website: http://www.grameen.com/ or http://www.grameen-info.org/
II. Brau J. 2004. Microfinance: A Comprehensive Review of the Existing Literature. Journal of Entrepreneurial Finance and Business Ventures. 9(1): 1–26.
III. Holcombe SH. 1995. Managing to empower: the Grameen Bank's experience of poverty alleviation. Zed Books. 208 p.
IV. MIT world video about Grameen Bank: Muhammad Yunus describes the theory and practice of micro-finance: http://video.mit.edu/watch/muhammad-yunus-ending-global-poverty-9957/ (last accessed September 2012)

1 *See also the SCAD initiative in India in this book – along with its agriculture-related activities it also employs microfinance schemes (in women's self help groups): http://www.scad.org.in/what-we-do/community-organisation/empowering-women/ (last accessed September 2012).*

Greenways Hungary

Overview

The Greenways initiative exists to create multi-functional de-motorised ways[1] (or 'natural corridors') that combine sustainable tourism, conservation of natural and cultural heritage, promotion of alternative lifestyles, local economic development and mobilisation of local communities. The European Greenway concept can be dated back to 1990 when a group of Czech-Americans began to promote the idea of a Vienna-Prague Greenway. Since then, the initiative has spread across the CEE region and has been active in Hungary since around 2000. Initially, the Hungarian Greenways program was coordinated by the Hungarian Environmental Partnership Foundation but later shifted to the Greenways Methodology Association (GMA) as an independent umbrella non-governmental organization. Greenways can follow green corridors, historical and trade routes, natural paths or tow paths, etc. They are maintained where possible by local communities and thus contribute to sustainable rural development by helping locals re-discover their surroundings and their local knowledge and abilities and by facilitating a more environmentally friendly way to travel.

Context: The Perceived Problem

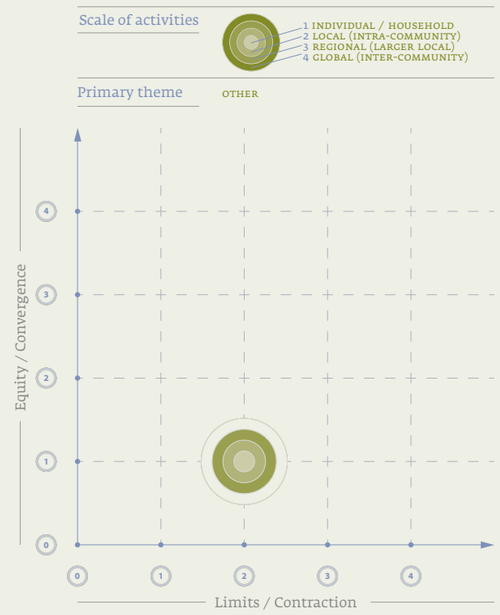
Greenways offer an environmentally-friendly alternative to carbon intensive forms of motorised travel and provide multiple spinoff benefits for the environment, local communities and the tourists who use them Greenways are implemented in line with a shared set of criteria which include supporting and mobilizing local communities, conserving natural and cultural heritage, using local resources, promoting non-motorized transport (cycling, walking, horse-riding, etc.) and environmentally-friendly tourism.

Initiative Solution and Process

Different criteria exist for the different types of Greenways ('long-distance', 'urban' or 'local') but all Greenways should be signposted trails with information about the Greenway concept available in the form of leaflets/maps/guidebooks, web sites and information systems along the trails. Greenways should meet safety criteria for cyclists and pedestrians and be continuously managed by a designated Greenways coordinator. They should be integrated with public transport systems where possible. Long distance Greenways are specifically geared towards sustainable tourism (especially cycle tourism) and criteria include the existence of designated rest stops, availability of local food and a low-traffic environment. Hungarian routes include the Greenways of Duna-Ipoly, Pilis, Drégelypalánk, Zsámbék, Cserhát, Kiskunmajsa and Sopron as well as some short urban routes (e.g. in the town of Vác).

1 *See also pages 92–93. for a description of the largely car-free settlement of Vauban in Germany.*

Convergence Elements



Limits/Contraction:

While the initiative literature does not specifically reference planetary or resource limits, the primary goal of this initiative is to promote the existence of communication routes reserved exclusively for non-motorised, low-carbon journeys. In doing so Greenways facilitates more sustainable ways of travelling, places the focus on local resource consumption and raises awareness of the cultural and environmental values of the region. The Greenways concept offers travellers a way to travel in a less resource intense, locally integrated and environmentally benign manner.

Equity/Convergence:

Although working towards 'justice' and 'equity' are not stated to be specific goals of the Hungarian initiative, the Greenways approach lays stress on supporting and mobilizing local communities through encouraging local enterprises (such as local hostelry), creating local jobs and revenue streams and supporting traditional vocations. International Greenways help facilitate communication and cooperation between countries, regions, towns, villages and their inhabitants. They have the additional benefit of supporting active and healthy lifestyles for a diversity of user groups.

Current Status and Impact

The Hungarian Greenways programme is now facilitated by a new organisation (The Greenways Methodology Association) which is helping to disseminate and facilitate the Greenways concept. It is part of The European Greenways Association (EGWA) which consists of 35 national level organizations committed to creating and promoting Greenways. EGWA works with European institutions to develop and contribute to EU policies related to sustainable development, nature conservation, regional development and employment promotion. EGWA is also involved in organizing and promoting European Mobility Week.

References and Further Reading:

I. Initiative website: http://www.okotars.hu/en and http://zoldutak.hu
II. The European Greenways Association [Internet]. Available from: http://www.aevv-egwa.org

Hågaby Ecovillage (Sweden)

Overview

Hågaby is a small village of about 350 people located approximately four kilometres from Uppsala in Sweden. Hågaby village inhabitants and planners have taken a complex, holistic, sustainability-minded approach to development and redevelopment since 1995 which takes into consideration how to reduce the use of a range of resources (particularly energy and water) in the village to a minimum. There is a parallel focus paid to social sustainability through the intelligent provision of local community services, infrastructure and small enterprises. For these reasons, Hågaby is seen as a model urban sustainability project[1].

Context: The Perceived Problem

There are now, for the first time in recorded history, more people living in cities than in rural areas and this demographic shift towards urbanisation continues.[2] It is becoming increasingly clear that human development will be compromised unless modern settlements become more resilient and sustainable. This requires major decreases in the per capita consumption of resources needed to satisfy living requirements. The need to accomplish these goals for economic, environmental and social reasons was recognised by Hågaby planners and residents prior to reconstruction works in the village which were carried out in the mid 1990s.

Initiative Solution and Process

Extensive rebuilding of Hågaby village took place from 1995 onwards, which included the construction of 99 environmentally-adapted apartments, a neighbourhood centre and a school in addition to renovation of the pre-existing 14 detached houses/farms. The extensively renewed and newly-built parts of the village utilise a variety of environmentally friendly technologies. Public spaces and mobility infrastructure are designed to be community friendly. Residents of Hågaby co-operate in a local forum/community council to discuss issues such as car-sharing, local food, etc.

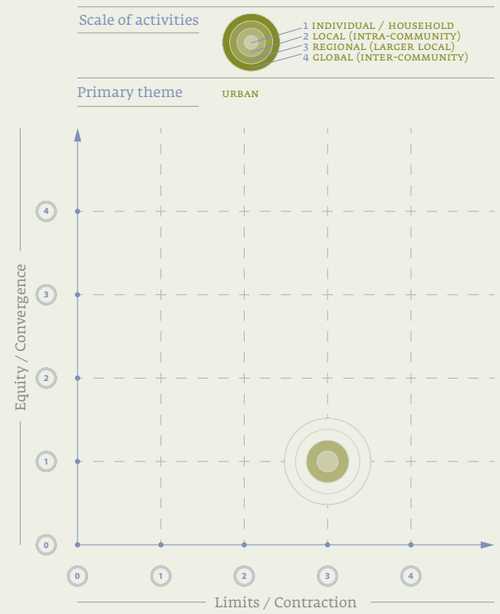
Convergence Elements

Limits/Contraction:

Documentation and literature about Hågaby does not generally refer to specific planetary or resource limits. However, contraction of resource use was a major goal for planners and residents of Hågaby. Heat consumption was reduced by 30% in the rebuilt homes through use of efficient insulation and building techniques, 1000m² of solar panels have been erected

1 *See for comparison the 'car-free' settlement of Vauban in Germany on pages 92–93 and the town of Whistler in Canada on pages 94–96.*
2 *http://www.unfpa.org/pds/urbanization.htm (last accessed July 2012)*

in the town centre (supplemented by efficient district heating), energy efficient appliances are used in all homes along with water-saving devices (e.g. low flush toilets, water-saving taps, low water consumption toilets), some sections of the village are connected to a municipal sewage sludge treatment and recovery plant which is used to supply fertiliser, there is a communal composting facility, selective collection of recyclables (glass, metals, batteries), a culture of re-use, repair and sharing and a shop which stocks a range of local and environmentally-friendly products.



Equity/Convergence:

A review of documents does not uncover any mention of equity or justice in core mission statement or in prominent, contemporary textual or programmatic materials about Hågaby, and the activities of the village have only a local direct impact. However, it is clear that social sustainability was a major element of the planning process for the village and remains a priority for residents. Hågaby has local schools, day-care, community shops, a resident's forum, a community centre and resident's room, car and tool sharing schemes and communal gardens. Resident satisfaction is high, living costs are lower than the Swedish average and a large proportion (30%) of the population are young/children.

Current Status and Impact

Although Hågaby is now considered to be a model sustainability project and has been the subject of international research projects, there are no plans to expand the area and turnover of residents is very low, meaning relatively few people experience the benefits of the village. However, its role as a model development is serving as an example to other developers and residents around the world.

References and Further Reading:

I. Berg PG. 2004. Sustainability resources in Swedish townscape neighbourhoods. Results from the model project Hågaby and comparisons with three common residential areas. Journal of Landscape and Urban Planning 68(1): 29–52.
II. 4 part Youtube Documentary Film about Hågaby. 2001. Produced by André Maslennikov, AM Reportage AB for the SUPERBS project (with financing from the Interreg European Union Programme). Available from http://www.youtube.com/watch?v=rH6_hXf7uyg (last accessed September 2012)

Data collection assisted by The Natural Step International

Low Carbon South West (UK)

Overview

The UK-based Low Carbon South West (LCSW) started life in 2007 as Bristol Environmental Technologies Sector Initiative (BETS). It is now a partnership that includes the city council, academia and the business community with involvement of a few civil society organisations as well. The intention of the initiative is to create a powerful trade association to serve the south west of England and to act as a model for the rest of the UK. LCSW promotes the 'low carbon' concept through its network of environmental technology companies and other organisational members[1].

Context: The Perceived Problem

LCSW originally developed in recognition of the environmental benefits that the environmental technologies sector could provide to the south west of the UK – in particular in reducing the carbon footprint. LCSW recognises that the benefits of low-carbon products and services, while making a positive impact, needed to be amplified across the region/nationally in order for them to make a real impact. LCSW identifies the fact that better communication and knowledge-sharing between low-carbon actors (businesses, consumers, civil society and academia) is particularly needed to facilitate changes towards more sustainable modes of consumption and production.

Initiative Solution and Process

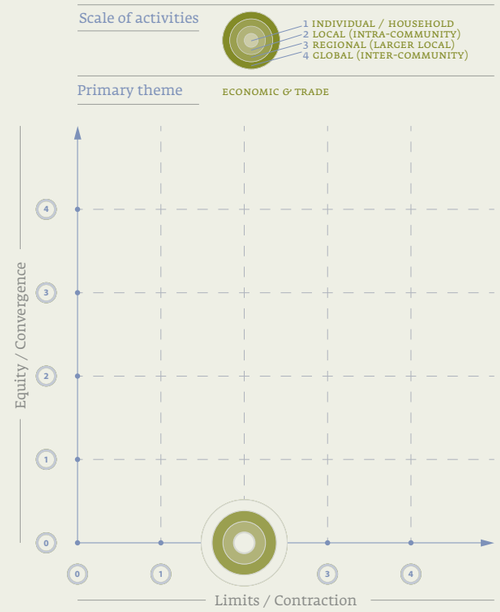
Through the formation of a trade association LCSW is able to promote the growth of the environmental technologies and services sector (which includes representatives from the fields of waste, food production, transportation and digital technologies) in the South West of the UK. LCSW has a membership structure which facilitates the building of networks and knowledge-sharing. Member organisations (typically businesses) that work in the low carbon/environmental technology sector are assisted to develop their businesses at a local, regional and national level through events such as Low Carbon Business Breakfasts, discounted attendance at the UK Environmental Trade Show (organised by LCSW), sustainable construction training events and investor forums. LCSW members can also promote their products and services to other members and non-members through the network via the LCSW website and mailing opportunities. The focus is on knowledge-sharing through creation of a powerful low carbon network.

1 *Other carbon-focused initiatives in this book include the Climate Ticket project (pp. 26–27), Climate-Friendly Wekerle (pp. 28–29), Fownhope CRAG (pp. 44–47), Gödöllő Climate Club (pp. 50–53), The Converging World (pp. 84–85), Transition Town Totnes (pp. 89–91) and the Covenant of Mayors initiatives (Genoa and Reykjavík, see pages 30–35.).*

Convergence Elements

Limits/Contraction:

The primary goal of this initiative is to reduce the environmental footprint of the region over the long term[1], and more specifically, the carbon footprint. The initiative explicitly recognises planetary and resource limits – particularly, atmospheric carbon dioxide – and its primary goals is to facilitate its reduction. LCSW does not use specific contraction targets or indicators (only a record of membership in LCSW membership is kept).



Equity/Convergence:

The initiative, which takes an 'efficiency' approach to reducing environmental footprint, has a focus on limits/contraction rather than equity/convergence, and equity and justice are not explicitly referred to in initiative documents. However, LCSW desires to extend the network of members to include other parts of the world where the business and sustainability advantages of environmental technologies may be high (such as China and India). Some linking also occurs with European cities such as Bordeaux and Hannover. However, while the network is growing in the UK, no substantial international presence has yet been established.

Current Status and Impact

LCSW has grown as an organisation – it now has 3 full time members of staff. The network it manages is also continually growing – from a few hundred members when it started out as BETS (Bristol's Environmental Technology Sector) to at least 2500 network members now (however, not all of these are fully paid up members and LCSW is struggling to create a viable self sustaining financial model). LCSW plans to organise a major environmental trade show for 2012, following on from a successful 2011 event.

References and Further Reading:

I. Initiative website: http://www.lowcarbonsouthwest.co.uk/
II. YouTube video about The UK Environmental Trade Show. 2011. Available from: http://www.youtube.com/watch?v=-oXAvcUhzoU (last accessed September 2012)

1 *However, LCSW also attracts investment to the region and aims to generate new business and employment for the South West (i.e. contribute to economic growth). The longer term perspective is used to explain how a short term increase in emissions (more low carbon business, more employees, more energy efficient houses, etc.) may lead to long term greening of the region.*

Navdanya (India)

Overview

Navdanya is a network of seed keepers, organic producers and pro-democracy actors spread across 16 states in India which was founded about 25 years ago by Dr. Vandana Shiva. The mission of the organization is to *"to promote peace and harmony, justice and sustainability... through the conservation, renewal and rejuvenation of the gifts of biodiversity we have received from nature and our ancestors, and to defend these gifts as commons"*[1]. Navdanya's activities include setting up community seed banks, promoting the conservation of biodiversity and trying to *"improve the wellbeing of small and marginalized rural producers through biodiverse organic farming and fair trade"*[ibid]. It also takes a proactive stance against GMO crops, seed freedom and supports women's and community rights. Generally, Navdanya's mission is to promote more democratic, localised ways of producing and consuming food.

Context: The Perceived Problem

Navdanya believes that the sovereignty of local food production is at risk, which threatens the well being of small and marginalized rural producers in India and beyond. Navdanya's complex approach to communities, the environment and agriculture is a reaction to the ecological and social problems it believes are inherent in industrialised, corporately-owned agribusiness – the use of large amounts of fertilisers and herbicides/pesticides, monocultural growing patterns, the existence of genetic property rights for seeds, losses of biodiversity, impacts on the climate and the broader damage to democracy caused by the loss of personal and community-based ownership of the means of producing food ('food sovereignty').

Initiative Solution and Process

Navdanya is a large organisation and network which operates in at least 4 different areas:

1. Saving seeds (e.g. setting up community seed banks);
2. Encouraging organic farming and participation in Fair trade schemes (it has a learning centre, Bija Vidyapeeth (Earth University/School of the Seed) on its biodiversity conservation and organic farm in Doon Valley, Uttarakhand, North India);
3. Awareness-raising/legal action about GMOs (e.g. challenging plant patents); and,
4. Encouraging local food sovereignty and protecting biological heritage through its community-based living democracy (Jaiv Panchayat) and Diverse Women for Diversity movement.

1 *http://www.navdanya.org/about-us/mission (last accessed July 2012)*

Convergence Elements

Limits/Contraction:

Nadvanya has a clear focus on limits/contraction and explicitly recognises some of the planetary and resource limits (e.g. atmospheric carbon dioxide). It is working directly to address these concerns through its work with organic farming, seed and soil conservation and climate-related activities as well as through promoting behavioural changes through awareness raising and education.

Equity/Convergence:

Convergence is at the heart of this initiative which takes an integrated approach to dealing with social justice and environmental issues. Navdanya's philosophy recognises the co-dependency of ecology and society and their activities and descriptive materials refer explicitly to the need to promote intragenerational and intergenerational equity through their approach to managing natural resources. Navdanya promotes social justice at many scales – from educating poor rural farmers to engaging in 'make trade fairer'[1] and anti GMO campaigns.

Current Status and Impact

Navdanya has grown considerably in terms of numbers of active participants and scope of activities since it was set up in 1984 as part of a research programme (the Research Foundation for science, Technology and Ecology) founded by world-renowned scientist and environmentalist Dr. Vandana Shiva. 70,000 farmers are now active members and it has tens of thousands of supporters of its other thematic areas of work. An estimated 500 thousand farmers have been trained by Navdanya and it has its own educational centre/s and organic farms. Navdanya is active in several states and has established 54 community seed banks. It also now has the largest direct marketed fair trade organic distribution network in India.

References and Further Reading:

I. Initiative website: http://www.navdanya.org/
II. An overview of Navdanya's activities: http://www.navdanya.org/attachments/Navdanya.pdf (last accessed September 2012)
III. Vandana Shiva's blog [Internet]. Available from: http://www.vandanashiva.org

1 *On the same topic, see also The Fairtrade Foundation in this book (pp. 81–83).*

No Impact Man (US)

Overview

An American citizen, Colin Beavan, tried to completely eliminate his (and his family's) net personal impact on the environment for 1 year, starting from the end of 2006. The No Impact project and associated activities were based out of his home in an apartment in the centre of New York City. He documented his efforts to achieve his goals on a blog which gained considerable media attention. A book and film followed and spinoff No Impact initiatives such as the 'no-impact project' and 'no-impact week' were started.

Context: The Perceived Problem

Colin Beavan, in his own words, decided to lower his personal environmental footprint because *"waiting for the senators and the CEOs to change the way we treat the world is taking too long"*[1]. Beavan recognised that the environmental footprints of American (and other richer nations) exceed the sustainable supply of resources and identified a need for personal action to be taken to remedy the problem. In his book and blog he researches and addresses a range of environmental (and related social) problems and identifies, in particular, a culture of materialism and conspicuous consumption as being to blame[2].

Initiative Solution and Process

Beavan's approach was to take the responsibility to reduce his family's footprint into his own hands. He researched environmental themes and addressed his family's areas of impact (energy, waste, water, transportation, etc.) one by one. His ultimate goal was to avoid doing any 'net harm' to the environment over the course of one year. As Beavan believed that it was impossible to cause no environmental impact through restricting consumption and waste production alone, he attempted to offset his families' societal ecological debt by undertaking action with positive environmental impacts (e.g. volunteering work and taking part in a reforestation project).

Convergence Elements

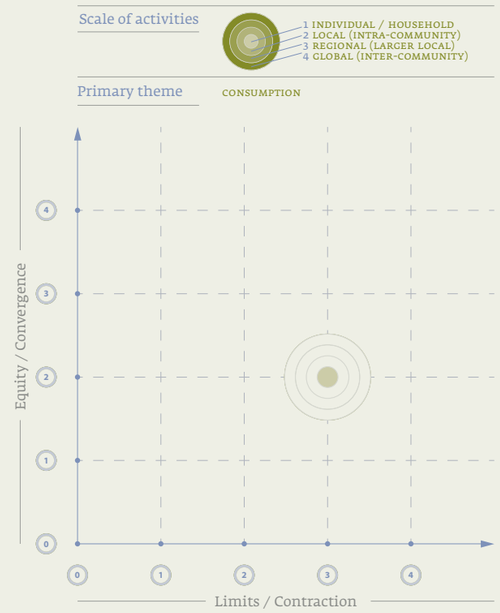
Limits/Contraction:

Beavan explicitly recognises identifies various planetary and resource limits in his writing and activities and has identified concrete targets, goals and indicators for personally reducing consumption of a full spectrum of resources. The primary aim of the initiative was to reduce the environmental footprint of the Beavan family to zero through addressing the use of energy, waste, water, food, transportation, services, etc.

1 *http://noimpactman.typepad.com/blog/2007/02/the_no_impact_e.html (last accessed May 10th 2012)*
2 *Similar reasons are behind some people's decisions to engage in moving towards Voluntary Simplicity – see pages 86–87.*

Equity/Convergence:

Although intra and intergenerational equity are not specified as being the focus of the initiative, No Impact Man frequently refers to the social impacts of resource consumption and social justice issues (such as access to resources and burden sharing). He defines himself as being *"engaged in the quest for a way of life that is both good for our habitat and for people*[1]*"*. At first No Impact Man's activities related primarily to making individual lifestyle changes, but in much of the writing in his blog (and later, book[III]) Beavan became increasingly aware of the explicit macro-level link between environmental sustainability and human development.



Current Status and Impact

The No Impact Man blog and project were highly popular and numerous interviews with the media about the project were conducted during and after the project year. A No Impact Man book describing the project in more detail was published in 2009, and a film documentary was also released internationally in 2009. The individual/ family project ended in 2007 but due to the success of the initiative the No Impact Project (based on an NGO) was also founded in 2009. The NGO coordinates No Impact Week (for individuals, universities, schools and communities) which is a chance for individuals and associations to spend a week examining and reducing their own consumption of resources. No Impact Project offers free environmental education curricula and materials to accompany this. Many thousands of school children have been part of this challenge. Beavan's blog 'NoImpactMan.com' was named one of the world's top 15 environmental websites by Time Magazine and Beavan regularly appears on television and radio to promote the project and related ideas. He has also recently decided to run for congress in the United States House of Representatives on a green ticket.[2]

References and Further Reading:

I. Initiative website: http://noimpactman.typepad.com/ and http://noimpactproject.org/
II. No Impact Man film trailer: http://www.youtube.com/watch?v=Z9Ctt7FGFBo and http://www.imdb.com/title/tt1280011/ (last accessed September 2012)
III. Beavan C. 2009. No Impact Man. Saving the Planet One Family at a Time. Farrar, Straus and Girou. US. 288 p.

1 *http://noimpactman.typepad.com/ (last accessed May 10th 2012).*
2 *http://www.theatlantic.com/politics/archive/2012/11/no-impact-man-runs-for-office/265321/ (last accessed November 2012)*

Ombudsman for Future Generations (Hungary)

Overview

To a large extent as a result of advocacy and lobbying from a Hungarian non-profit organization called Védegylet (Protect the Future), and strong support from the then president of the country, László Sólyom, the office of the parliamentary commissioner for future generations was established in Hungary in 2007 when the Hungarian Parliament adopted an amendment to the bill of the 1993 Act on the Parliamentary Commissioner for Civil Rights (the 'Ombudsman Act'). The first ombudsman was elected in May 2008 and his office of about 40 people was fully set up by December 2008.

However, the status of the Ombudsman for Future Generations changed as of 1st January 2012 as a result of the 2011.CXI. Act on the commissioner for fundamental rights (see details below). In the following description we describe the situation as it was till 31 December 2011.

Context: The Perceived Problem

The Hungarian NGO Protect the Future started its advocacy work to establish a high-level office for protecting the rights of future generations in 2000 as a solution to the absolute lack of representation and protection of the rights of future generations in Hungarian policy making.

Initiative Solution and Process

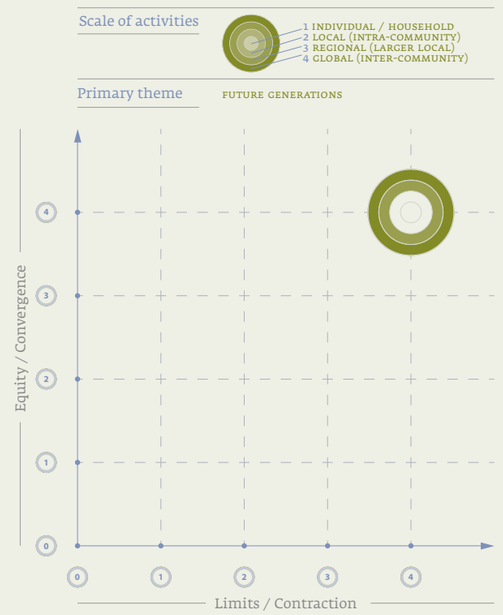
The primary task of the Ombudsman is to act as a kind of independent watchdog (i.e. a parliamentary body that is independent from the Government, with no administrative power but with full access to any administrative information) to handle constitutional complaints which relate to the constitutional rights of all Hungarians to environmental protection and a healthy environment. The second task is parliamentary advocacy of public concerns. Thirdly, the office of Ombudsman is able to conceive and conduct research and studies on topics that are of potential importance to future generations, which may include sustainability-related issues. In summary, the Future Generations Ombudsman's tasks are: investigation, policy advocacy, strategy-making and research on matters of inter-generational interest[1].

Convergence Elements

Limits/Contraction:

The Ombudsman for Future Generations annual report for 2010 explicitly recognizes ecological limits: *"By today it is clear that our present lifestyle is not sustainable – the size of resource-reserves, their respective rate of renewal and reproduction cannot keep pace with the current ever increasing production and consumption demands. This leads to the depletion of resources, the deterioration of ecosystem services, launching a series of fatal social and economic processes".*(III, p.9.)

The office also initiated research into the development of ecological capital in Hungary. And although the report does not provide concrete contraction targets (indirectly, however, its major program "sustainable local communities" involves activities connected to 'smaller scale' production and consumption), it, and the activities of the office in general, actively promote the concept of resource limits and targets. They actively promoted the concept of "green minimums", or environmental limits that were calculated based on scientifically available data and should not be transgressed in any situations(II. pp. 232 and 237.).



In order to "be the change that they want to see in the world", employees of the Future Generations Ombudsman's office monitored their environmental, social and economic performance. For example, they run a green office programme, and proposed an energy efficiency plan for the office be implemented that would result in the reduction of their own CO_2 emissions.(II, III)

Equity/Convergence:

This initiative is explicitly focused around the principle of promoting intergenerational equity (with a specific focus on environment and sustainability) and is thus an unusual and landmark example of the intergenerational equity principle being formalised through a legal structure awarded with state-supported rights, resources and responsibilities.

Indicators have also been used to monitor the performance of the office, and several of these are related to convergence (e.g. the number of complaints dealt with, the number of legal proceedings initiated, the number of events held and initiated on the topic, the number of research projects commissioned to promote and investigate issues related to future generations, etc.).[1]

Current Status

As stated above, according to a new law, the ombudsman's office for future generations ceased to exist from 1st January 2012. Instead, it became part of the commissioner for

1 http://jno.hu/en/?o-menu=intro *(last accessed Dec. 5th 2011)*

1 *See further details in references II. and III.*

fundamental rights' office. The former ombudsman for future generations is now the deputy commissioner for protecting the rights of future generations and has a reduced staff of 4 people.

Impact

The office has had a limited impact in Hungary in so far as managing to assert influence in establishing legislation to protect the rights of future generations is concerned. However, it is a very young position and office (only 4 years "old" – and by 2012 its status had changed, as detailed above). It has nonetheless managed to investigate a great number of cases and initiate lots of activities. Among other things, the involvement of the ombudsman contributed to the following achievements([II, III]):

- Preserving the gene-bank of Érd;
- Rejecting privatization of Hungarian public water utilities;
- Stopping the development of a large golf-course and housing estate on high quality cropland;
- Avoiding the violation of the rights to public participation in decision-making numerous times;
- Making known the distribution of income from the sale of Kyoto-related emission quotas to the Hungarian general public; and
- Stopping construction of a large military radar station next to a residential area in Hungary.

At the international level, Hungary has served as a good example according to C. Pearce[1] at the World Futures Council, which is leading a campaign[2] for better representation of future generations at all levels in the run up to the Rio+20 summit in 2012. The Council's proposal for "Ombudspersons for Future Generations" is partly included in the Zero Draft of the conference's outcome document.

Furthermore, some countries (for example, in the UK the Environmental Law Association[3]) have conducted studies into how the Hungarian example could serve as a model for them.

References and Further Reading:

I. Initiative website:
Archived (showing the situation until 31st December 2011): http://jno.hu/en/
Current: http://www.obh.hu/index.htm

II. Fülöp S. 2011. Beszámoló a jövő nemzedékek országgyűlési biztosának 2010. évi tevékenységéről. [Report of the Hungarian Parliamentary Commissioner for Future Generations]. 350 p. Available from: http://beszamolo2010.jno.hu/JNO_beszamolo_2010.pdf (last accessed April 25th 2012)

1 *http://levego.hu/kapcsolodo_anyagok/a_magyar_zold_ombudsman_volt_vilagszerte_a_peldakep?utm_source=newsletter (last accessed April 25th 2012)*
2 *See more details at http://www.futurejustice.org/index.php/voices/ (last accessed July 2012)*
3 *http://www.fdsd.org/wordpress/wp-content/uploads/UKELA-magazine-piece.pdf (last accessed April 25th 2012)*

III. Fülöp S. 2011. Comprehensive Summary of the Report of the Hungarian Parliamentary Commissioner for Future Generations 2010. 45 p. Available from: http://jno.hu/report2010/jno_report_2010.pdf (last accessed April 25th 2012)

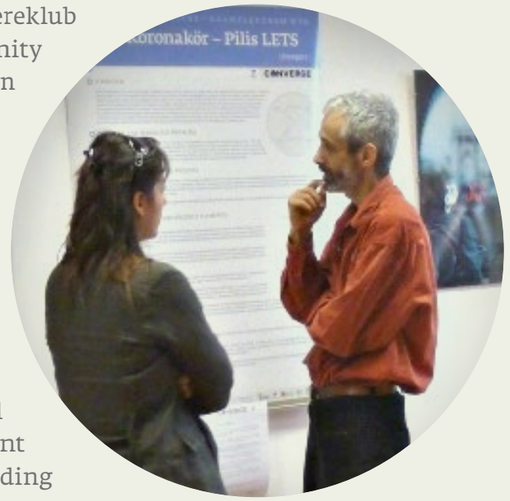
IV. History of the process of establishing the Office: http://www.vedegylet.hu/modules.php?name=Content&pa=showpage&pid=6 (last accessed April 25th 2012)

V. Science and Environmental Health Network. 2008. Models for protecting the environment for future generations. International Human Rights Clinic, Harvard Law School. 46 p. Available from: http://www.sehn.org/pdf/Models_for_Protecting_the_Environment_for_Future_Generations.pdf (last accessed April 25th 2012)

Pilisi Koronakör (Pilis LETS, Hungary)

Overview

Pilisi Koronakör is a Local Exchange Trading System (LETS) created in 2008 using the support of the NGO Korona Csereklub Association. It is a self-established informal community which is designed to connect locals who have certain needs with other locals who have the knowledge/time/capacity to carry out the work/provide the product or service to satisfy these needs. It is backed by an online tool (which includes a database) in which participants can enter what they can give away (both services and products) and what virtual value they estimate their offers to be worth. Other participants can choose to receive/accept these benefits.



The initiative has the potential to increase local employment and facilitate the provision of non-existent or restricted services to all members, while also building social capital.

Context: The Perceived Problem

The most important aim of Pilisi Koronakör is to increase local resilience – especially economic and social – and the self-sufficiency of the local community in response to global challenges such as the economic downturn and a scarcity of resources – most importantly food, land and fossil fuel. As, in the current socio-economic system, those who do not have money cannot survive and be successful, Pilisi Koronakör offers a system in which those who have skills, talents and diligence but lack money can also participate, as well as contribute to the well-being of their communities.

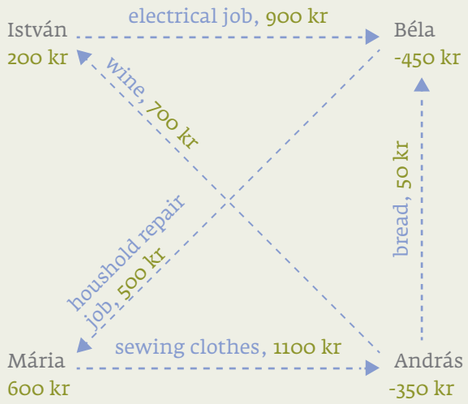


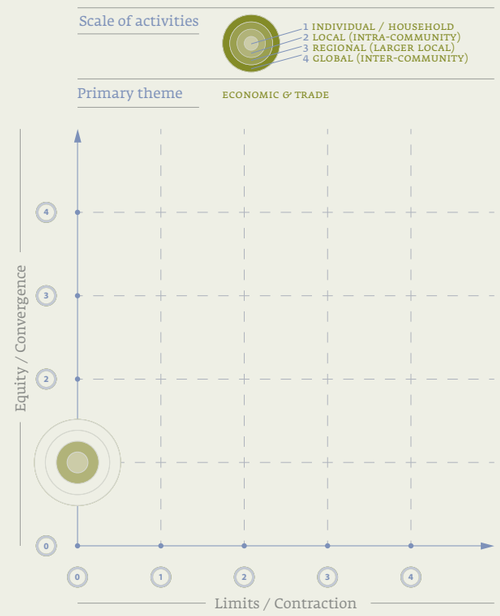
Figure 12: A schematic diagram of transactions in the Pilis LETS

Initiative Solution and Process

Pilisi Koronakör is a local alternative currency initiative – an informal one that works as a club but has an online presence (using an online database which is used to match supply with demand as well as to keep track of members' "korona"[1] balance). It is only possible to enter the community following the recommendation of two existing members (lacking this, only conditional membership is

1 *"Korona" is the name of the local virtual currency (in Hungary from 1892–1925 the official currency was also known as the "korona" (eng: 'Crown')).*

allowed) in order to ensure that trust is maintained between members. The way transactions are carried out in the system is depicted in the figure. When work is carried out or a product purchased, the online system registers the respective value as a credit ('income') for the "offerer" and a debit ('cost') to the "purchaser", thereby maintaining the total sum of online virtual credits. The total sum of the online credits of all participants is always zero.



Convergence Elements

Limits/Contraction:

Pilisi Koronakör is not primarily about motivating individuals and communities to observe planetary and resource limits and/or to lower ecological footprints. There is no mention of ecosystem or planetary limits in their core mission statement or in their prominent, contemporary materials, even though the establishment of the initiative was partly motivated by global resource scarcity challenges.

Furthermore, in this system one can easily "buy" products and/or services that could be considered surplus to the basic demands of daily living. There are no explicit requirements about the quality, environmental-friendliness, healthiness, etc. of offered services and goods – the main provisions are simply that they are local and offered by members of the local community.

Equity/Convergence:

Local currency initiatives can contribute to increasing social equity and to encouraging fairer trade to a great extent. They can also help strengthen the local economy and the social capital which exists in the community.

Participating in a LETS and using a local currency requires individuals to behave 'differently' (in terms of both selling and purchasing behaviours) and to make a conscious effort to participate in community-centred activity. Also, since LETS encourage person-to-person relationships, feedback can be given directly to those offering services/products.

Although there is no mention of *equity* or *justice* in the core mission statement of Pilisi Koronakör, promoting equity and providing more equal opportunities (employment, easier access to goods and services) for all are obviously the centre of activity. Through encouraging

and actively promoting local self-sufficiency in providing food as well as education and social services, the initiative helps create a more sustainable and resilient local community.

Current Status and Impact

The founders of Pilisi Koronakör actively encourage other similar clubs to come into being. They also help networking activities for LETS operating in different regions and communities.

When the Pilisi Koronakör was created there were already hundreds of similar LETS around the world. In June 2009, it was reported that the example of the Pilis Koronakör had been reproduced in 7 Hungarian regions. The Pannon, Őrség, Heves, Hajdú, Kunság, and Békés LETS have now been created and one LETS community outside Hungary (Romania) specifically claims to have been inspired by Pilisi Koronakör[IV].

The initiative has very high potential for replicability (being relatively easy to start and operate) and there are proven examples of LETS being multiplied in localities in many countries[III].

The Pilisi Koronakör itself has also grown, although exact information is unavailable.

References and Further Reading:

I. Initiative website: http://www.koronakor.hu/pilis.php
II. Nagy G. (a founder) Blog. Available at http://nagygaabor.blogspot.com/
III. Overview information on LETS: http://en.wikipedia.org/wiki/Local_exchange_trading_system (last accessed July 2012)
IV. Hargita Csereklub [Internet]. Available from http://boldogsagsokszog.blogter.hu/341224/a_hargita_csereklub

SCAD Kitchen Gardens and Fruit Tree Afforestation (Tamil Nadu, India)

Overview

SCAD (Social Change and Development) is a non-profit organization based in Tamil Nadu, India. Their mission is to support people and communities so that they can be lifted out of poverty.

Tree plantation and establishing kitchen gardens, both of which started in 2008, are among the most important of SCAD's programmes as they are seen to be successful both at fighting the effects of climate change as well as improving the health and nutrition of rural communities. Trees have the potential to satisfy basic needs such as food, fuel, fodder, medicine and provide income as well as safeguarding ecosystems from harmful effects. Trees can improve the soil and improve water retention and fertility, provide shade, and, when planted in numbers, reduce local temperatures and increase the probability of rain. Once they are established, trees are easy to maintain, can withstand most weather conditions and have a long productive life. Thus, by planting more trees and creating organic kitchen gardens, the social and economic conditions in rural communities can also be improved in the long run.

Context: The Perceived Problem

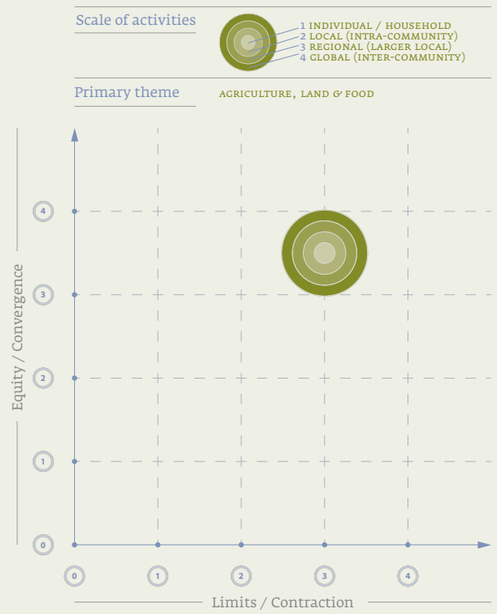
Tamil Nadu, where SCAD operates, is located in Southern India. In Tamil Nadu, 35 million live only on approximately 1$ a day, so both poverty and the satisfaction of basic needs and the effects of climate change (specifically, desertification), pose serious challenges. The people of Tamil Nadu experience the effects of climate change as prolonged droughts, erratic monsoons and resulting fears about food security. Food prices are constantly increasing. SCAD, with input from UNCCD and European partners[1], set out to find a sustainable solution to fight these challenges and decided upon the establishment of organic kitchen gardens and the planting of fruit trees, both with the involvement of the local community.

Initiative Solution and Process

SCAD trains villagers – with the help of women's self-help groups – about organic vegetable growing and composting. Apart from gardening, people also learn how to conserve their precious resources through harvesting and using grey water. Every year thousands of packets of seeds, purchased by SCAD, are sold for small amounts of money, and those who cannot afford to pay for them are given some for free.

1 *See more details at http://desertification.wordpress.com/2008/06/29/india-kitchen-gardens-and-fruit-tree-afforestation-to-combat-drought-desertification-and-poverty-scad/ (last accessed April 25th 2012)*

Similarly to gardening, SCAD also trains people (both individual householders and farmers) prior to distributing trees – which are grown in SCAD's own nurseries– to them. Tree planting is organized with the help of self-help group members, youth groups, students, teachers and elected village leaders who are motivated to take an active part in local development using a participatory approach. Their contribution in terms of providing labour, knowledge and skills is essential in order to ensure community ownership and responsibility-taking for managing the trees that are planted.



Convergence Elements

Limits/Contraction:

In this initiative there is a clear and explicit recognition of ecosystem limits, and a very clear effort to actively protect and maintain resources. SCAD's organic kitchen gardens and tree planting projects are an excellent example of a poor yet developing region choosing to take a sustainable development path. SCAD uses indicators to monitor their efforts (for example, they keep track of the number of trees planted and the amount of CO_2 sequestered), and also the extent to which food miles are reduced through the establishment of kitchen gardens.

Equity/Convergence:

SCAD works towards justice and equity at the individual, local and regional levels through ensuring that the basic needs of people and communities are met. Their vision is to "*make society a better place where all people are treated with dignity and respect, affording everybody equal opportunities, rights and recognition*"[1]. Using a participatory approach, both kitchen gardens and the planting of local trees offer long-term opportunities for lifting people out of poverty and increasing the resilience and self-sufficiency of their communities. SCAD uses indicators to measure the success of their activities (in this specific case, indicator examples include the income earned from kitchen gardens, whether a minimum of 300 grams of vegetable per day are consumed, the results of health check-ups on women and children, etc.).

Current Status and Impact

SCAD works in and with about 500 villages in the districts of Tirunelveli, Tuticorin and Kanyakumari in Tamil Nadu. Every year, an average of 100,000 indigenous trees is planted and about 50,000 packets of seeds are sown. Every year more than 5,000 mini vegetable seed kits are distributed, mostly to women using the help of women's self-help groups, and

1 *http://www.scad.org.in/about-us/vision-and-mission/ (last accessed April 25th 2012)*

demand for these is constantly growing[1]. As a result, childhood malnutrition is decreasing and families can afford to eat nutritious food – as well as even selling some to provide an income.

References and Further Reading:

I. Initiative website: http://www.scad.org.in
II. Initiative website with participant stories: http://www.scad.org.in/what-we-do/health/kitchen-gardens/ (last accessed July 2012)
III. Short videos on SCAD projects such as kitchen gardens, tree planting, and more. http://www.youtube.com/user/SCADcharity (last accessed July 2012)

1 *http://www.youtube.com/watch?v=v8F7_ix_iAQ (last accessed April 25th 2012)*

The 30 Project (US)

Overview

The 30 Project, launched in 2010, started as an initiative of the FEED Foundation, a non-profit organization in the US. It has now developed into a separate organization; a think and do tank designed to initiate change in global food systems.

The initiators of the project believe that by taking a 30–year look back into the past it is possible to understand how we got to where we are now – basically, with a world of 1 billion obese people and 1 billion hungry, with small-scale farming having become very expensive, unhealthy food very cheap, and progress towards sustainable agriculture in developing countries very slow. They also believe that by taking a look 30–years into the future, we can envision a global food system that provides healthy, affordable food for people on a global scale.(I)

The 30 Project's mission is to be "the table" that brings the best people together to work towards creating a truly healthy and sustainable global food system[1].

Context: The Perceived Problem

In the past 30 years, our food system has changed significantly. Today, there is more hunger, more obesity and less healthy and sustainable agricultural production than ever before. Through externalization of environmental and social costs, unhealthy food has become very cheap; while agricultural development has stagnated, both obesity and hunger have become significant issues.

Initiative Solution and Process

In order to improve this situation and offer practical solutions, the 30 Project is designed to initiate a long-term, systemic change in global as well as local food systems, through:

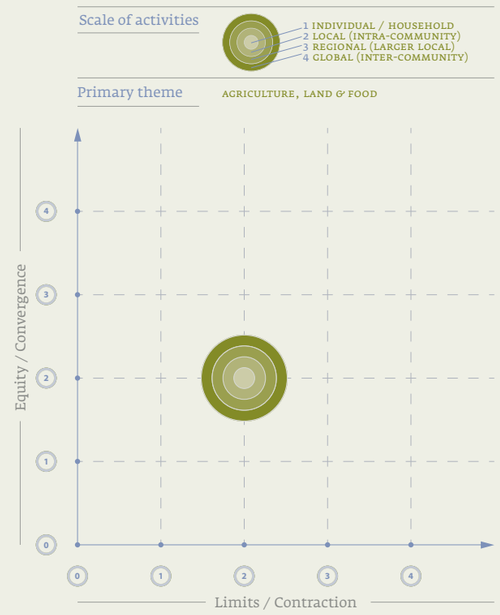
1. aligning international and domestic activism;
2. developing sustainable food system goals and creating strategies to achieve them;
3. connecting a coalition of 30 key organisations to work together on systemic change.

As one of the means to achieve these aims, the 30 Project organizes, and encourages people to organize dinners – because what and how we decide to eat is a "vote" in that it has an influence on what and how is produced.

30 Project dinners are not only about eating but also about connecting environmental, social and economic challenges and finding systemic solutions to them, and also initiating

1 *http://www.30project.org/what (last accessed April 25th 2012)*

positive change wherever the dinner is held (e.g. at a dinner in San Francisco the 30 Project and its partners built a greenhouse for the purposes of food growing and education as well as for hosting future dinners[1]).



Convergence Elements

Limits/Contraction:

When describing the challenges of the food system today, the 30 Project clearly recognizes resource and planetary limits, and resulting interconnected environmental and social problems. At the moment, however, no specific contraction targets have been set.

Equity/Convergence:

The 30 Project aims to implement change at all levels in the food system beginning from the individual through the local and regional to the global. Through connecting the problem of obesity to that of hunger and the unsustainable nature of the whole food system, the project wants to find a way to converge the food system to sustainability.

Although it is obviously implied in their aims *"we can envision a global food system that provides healthy, affordable food for people around the world."*[2] The 30 Project mission does not explicitly mention equity and justice in its core documents.

Current Status and Impact

The 30 Project is a relatively new initiative with limited impact up to date (June 2012). However, the idea could easily be implemented all over the world, and thus the impact multiplied.

References and Further Reading:

I. Initiative website: http://www.30project.org/ and http://www.changedinner.org/
II. A TED talk about the initiative: http://www.ted.com/talks/lang/eng/ellen_gustafson_obesity_hunger_1_global_food_issue.html (last accessed September 2012)
III. USA Today. 2011. Conquering Hunger. Special insert, April 15, 2011. Available from: http://doc.mediaplanet.com/all_projects/6841.pdf (last accessed April 10th 2012)
IV. Good. 2011. The 30 Project: Have Dinner, Change the World. February 18, 2011. Available from: http://www.good.is/post/the-30-project-have-dinner-change-the-world (last accessed April 10th 2012)

Data collection assisted by Lund University

1 *http://www.30project.org/30-project-dinners.asp?d=228 (last accessed April 25th 2012)*
2 *http://www.30project.org/what (last accessed April 25th 2012)*

The Bokor Movement (Hungary)

Overview

Bokor *(in English: Bush)* is a faith and community-based movement in Hungary. The Bokor Movement is organically built up of small groups of about 12 people who regularly meet in their small groups but members also participate in regional and national group meetings with people who share similar convictions. The small group meetings take place once or twice a month, and are centred around bible study (typically New Testament) but may include other issues such as personal/relationship dilemmas, current events, environmental issues, etc. There are no formal membership criteria although many members are churchgoers (Roman Catholic). Three basic principles are supported by the group: giving, serving and non-violence.

Context: The Perceived Problem

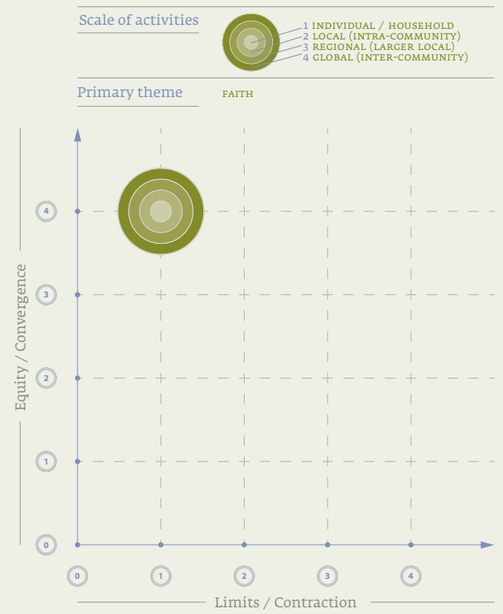
The Bokor (Bush) Movement was started within the Roman Catholic Church in the 1940s, under the Socialist/Communist regime by a Piarist priest, György Bulányi. The most important aim of the initiative was to preserve the Christian faith, its values and lifestyle during the Communist dictatorship. The Movement was considered to be a radical branch within the Catholic Church (although it was open to non-Catholics) with three main focus areas based on the teachings of Christianity, which the members of the Movement try to put into practice in their everyday lives:

- giving and sharing (giving until there is no one poorer than themselves; giving not only from what is superfluous to needs but also from what is needed – which means aiding the poor locally as well as in developing countries);
- serving – or voluntary "smallness" (not taking power or taking office = equality); and
- non-violence (members agree to disavow the use of force, based either on action or verbally, which also means objecting to compulsory military service and, if necessary, going to prison for it).

Initiative Solution and Process

Bokor aims at building a better, more just society (e.g. through sharing of all resources and alleviation of poverty) through individual behavioural change along the lines of that described and preached by Jesus in the Gospels of the New Testament. Individual behavioural change is facilitated through the regular group meetings and group support. This is key to how Bokor works.

The founder, György Bulányi believed that the larger and global community could be transformed through individual behaviour change. Thus the focus is in fact on transformation of a larger community while the mechanism/process focuses on the individual level.



Convergence Elements

Limits/Contraction:

It is said in the Bible that humans have stewardship/dominion over the Earth (a question of translation). The Bokor members interviewed for the project interpreted this to mean that humans should take care of the environment. In Bokor's most important texts no specific mention is made to resource or planetary limits although reference is made to the moral imperative to protect God's creation.

However, the Bokor principles of 'giving' and 'sharing' fit not only with an equity/convergence perspective but also a limits/contraction perspective as their interpretation places the emphasis on voluntary simplicity[1] and giving to those poorer than themselves. Bokor members regularly give, and not only of their possessions which are superfluous but also from whatever they have. Furthermore, Bokor members believe that individual happiness and life satisfaction is gained through putting one's religious beliefs into practice, and in doing this they gain well-being and happiness through non material, low consumption means; essentially, 'voluntary simplicity'.

Equity/Convergence:

Based on the teachings of the Bible, Bokor members believe that people should share their resources and possessions with those in need that are poorer than themselves, not only in their own community and country but also with people in the developing world. Thus, members of the Bokor Movement have been voluntarily sending donations to an initiative in India (The Gujarat Education Society run by a Jesuit priest, Cedric Prakash) since Communist times. The aim of the donation has been to help educate poor children so that they can become educated leaders of their villages. Members of Bokor and representatives from the Indian initiative have maintained regular contact.

Current Status and Impact

The initiative has somewhat regressed over the years, partly due to the political changes that took place in Hungary in 1990. Some members of the movement have lost their initial focus and motivation and a number of people have left the movement (there are about 1500–

1 *See more about Voluntary Simplicity on pages 86–87.*

2000 members today, but no membership records are kept). Despite this, the initial aims of the movement have not changed at all.

While some of the small groups manage and distribute their donations locally, members of the Bokor Movement also established two foundations that take care of the donations of individual members and groups. One of them manages donations in Hungary and the other one takes care of donations destined for developing countries; now India as well as South America (Peru and Argentina) where one of the Bokor members is engaged in community development work.

References and Further Reading:

I. Initiative website: http://www.bokorportal.hu/
II. About the founder, György Bulányi (Hun): http://www.bulanyi.hu/
III. Hazai Rászorulók Alapítvány: foundation which manages donations in Hungary [Internet]. Available from: http://www.bokoralap.hu/bhra_index.html
IV. Harmadik Világ Alapítvány: foundation which manages donations for developing countries [Internet]. Available from: http://www.bokoralap.hu/hva_index.html

The Fairtrade Foundation / Fairtrade (UK / International)

Overview

'Fair trade'[1] is a market-based movement that is designed to help producers (typically based in 'developing' countries) to obtain 'fair' market payments for their produce and has been around for more than 40 years. The Fairtrade Foundation, a major proponent of fair trade, is a UK-based organisation and member of the international certification body Fairtrade Labelling Organisations International (FLO). It was established by CAFOD, Christian Aid, Oxfam, Traidcraft, the World Development Movement and the National Federation of Women's Institutes in 1992. The Fairtrade Foundation licenses the use of the FAIRTRADE mark in the UK for products that meet the internationally-recognised standards of the FLO.

Context: The Perceived Problem

The origins of the modern development-focused fair trade movement are usually dated back to the 1960s[2]. The need to use trade and aid measures effectively to improve living standards in the developing world ("Trade not Aid") was popularised in 1968 when it was promoted by the United Nations Conference on Trade and Development (UNCTAD). Problems with trade that producers and producer nations suffer from include the fact that they may rely on a small number of low value-added primary goods as their main exports which makes them very vulnerable to price fluctuations and the increasing capital costs of purchasing manufactured goods. 'Unfair' trade thus refers to the dominant purchasing power and practices of buyers in industrialized nations which may increase the hardships of agricultural workers in the developing world, leaving them locked into poverty.

Initiative Solution and Process

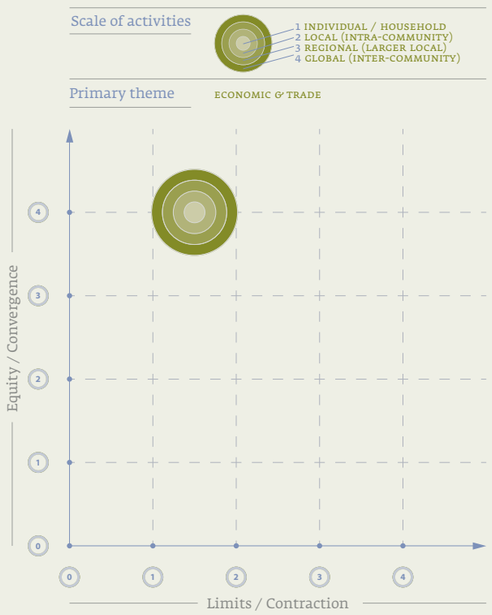
The Fairtrade Foundation identifies their four key areas of activity as being the following:

1. Providing an independent certification of the trade chain, licensing use of the FAIRTRADE Mark as a consumer guarantee on products;
2. Facilitate the market to grow demand for Fairtrade and enable producers to sell to traders and retailers;
3. Working with their partners to support producer organisations and their networks;

1 *'Fair trade' is used to refer to the general concept of trading more fairly, while 'Fairtrade' (in one word) refers specifically to the work of The Fairtrade Foundation and the original Fairtrade Labelling Organisation (which in 2004 split into 2 separate organisations: FLO International (for setting Fairtrade standards and providing producer business support) and FLO-CERT (which inspects and certifies producer organisations and audits traders).*
2 *See, for example: http://www.european-fair-trade-association.org/efta/Doc/History.pdf (last accessed September 5th 2012).*

4. Raising public awareness of the need for Fairtrade and the importance of the FAIRTRADE Mark.[1]

Buying Fairtrade labelled products gives the buyer a guarantee that the exporting firms which represent producers are receiving a guaranteed 'fair or minimum price' which enables producers to cover the costs of production and ensures a decent standard of living. A 'premium' is also paid which is often invested in social or economic development projects (e.g. building schools, clinics or clean water infrastructure) depending on the wishes of the producers. The stable trading relationships formed between buyers and Fairtrade-certified producers are also seen to be an important benefit of the Fairtrade scheme[2].



Convergence Elements

Limits/Contraction:

Fairtrade documents do not generally refer to specific planetary or resource limits and a majority of Fairtrade products are transported long distances from their countries of origin. However, the majority of Fairtrade products are transported by ship[3] and in many cases the environmental impacts of the transportation phase have been assessed to be minor when the total life-cycle impact of the product is examined[4]. Additionally, the set of environmental management criteria that FLO uses with its producers of Fairtrade products includes diverse topics such as organisational responsibility for environmental issues, pest management and pesticides (FLO issues a list of banned chemicals), soil and water conditions and use, fertiliser use, waste handling, GMOs, biodiversity, energy use and greenhouse gasses.

Equity/Convergence:

The Fairtrade Foundation has a clear focus on intragenerational justice through their work which is designed to empower producers and farming communities in the developing world in a way that traditional trading relationships may not. The Fairtrade scheme effectively facilitates more equitable exchanges of resources at the global scale.

1 *http://www.fairtrade.org.uk/what_is_fairtrade/fairtrade_foundation.aspx ("What we do") (last accessed September 5th 2012)*
2 *This supportive trading relationship can be compared, for example, with social enterprise FRANK Water's attempts to alleviate health problems in non-industrialised countries through trading activities. Here, the beneficiaries are not producers, but recipients of donations/ investments. See pages 48–49.*
3 *The Fairtrade Foundation estimates the proportion as being 90%. See: http://www.fairtrade.org.uk/includes/documents/cm_docs/2009/c/climate_change_leaflet_final_atrwork.pdf (last accessed September 5th 2012)*
4 *http://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/pp_fairtrade_food-miles_2011.pdf (last accessed September 5th 2012)*

"Our vision is of a world in which justice and sustainable development are at the heart of trade structures and practices so that everyone, through their work, can maintain a decent and dignified livelihood and develop their full potential."[1]

Current Status and Impact

The Fairtrade Foundation has seen major growth since its foundation in 1992 and the first Fairtrade Mark product (Green and Black's Maya Gold Chocolate) was certified in 1994. There are now more than 3,000 Fairtrade-labelled food and non-food products. The Fairtrade mark is used by numerous major brands (Cadbury's, Starbucks and Tesco's, for example) and Fairtrade labelled products worth 1319 million pounds were sold in the UK alone in 2011[2].

References and Further Reading:

I. Initiative website: http://www.fairtrade.org.uk/
II. Gendron C, Bisaillon V, Rance A. 2009. The Institutionalization of Fair Trade: More than Just a Degraded Form of Social Action. Journal of Business Ethics, Supplement 1. 86:63–79.
III. Renard M. 2003. Fairtrade: quality, market and conventions. Journal of Rural Studies. 19(1): 87–96.
IV. Nicholls A, Opal C. 2005. Fair Trade: Market-Driven Ethical Consumption. Sage Publications Ltd. 288 p.

1 *http://www.fairtrade.org.uk/what_is_fairtrade/fairtrade_foundation.aspx (last accessed September 5th 2012)*
2 *http://www.fairtrade.org.uk/what_is_fairtrade/facts_and_figures.aspx (last accessed September 5th 2012)*

The Converging World (UK)

Overview

The Converging World (TCW) is a UK-based charity set up in 2006 by John Pontin & Ian Roderick which seeks donations and loans from communities and individuals in the developed world to invest in verified renewable energy projects in developing countries. Profits made from these investments are channelled into initiatives that fund clean, sustainable and low carbon economic development.

Context: The Perceived Problem

The primary issue which is addressed by the initiative is that human development is being hindered by socio-economic problems caused in part by a lack of equity between nations and individuals. The Converging World explicitly seeks to alleviate such socio-economic development issues in the 'developing' world (such as lack of access to food, clean water, energy and education) through creation of redistribution mechanisms which provide assistance from communities in the developed world.

Initiative Solution and Process

Donations and other support to poorer countries are provided by individuals and organisations in the UK who are actively engaged in reducing their carbon footprints and other environmental impacts. These organisations reduce their emissions and make donations to TCW. These funds are channelled into clean energy projects in the developing world and some of the profits derived from these projects are re-invested in further similar initiatives.

TCW works with three simple principles:

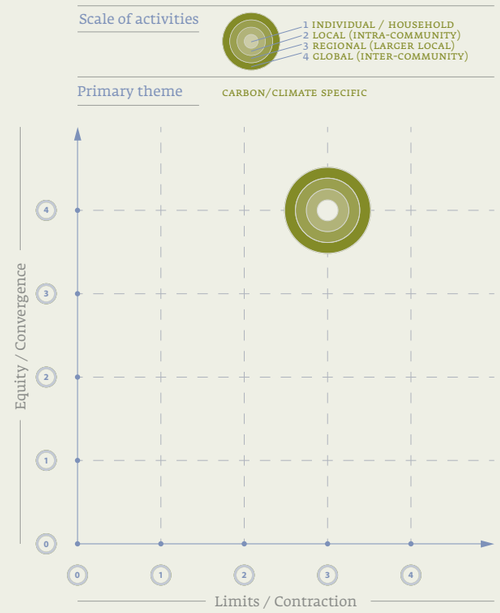
- Implement more renewable energy (e.g. support the building of wind farms in India);
- Support communities to adapt to climate change
  (some of the revenue from the renewable energy projects, which is donated to the community in the host country to support adaptation to climate change and help to break the poverty cycle);
- Reduce CO_2 emissions
  (TCW works in the UK to raise awareness about the current day impacts of climate change and helps people lower their own emissions).

The reallocation of funds from richer to poorer countries helps to facilitate access to energy and to break the cycle of impoverishment.

Convergence Elements

Limits/Contraction:

While no specific contraction targets are proposed by this initiative for its activities, the explicit focus on reducing emissions in developed countries and providing access to green sources of energy in developing countries shows the focus of the initiative on contracting the carbon footprints of developed nations and greening the carbon footprint of developing nations through use of a redistributory mechanism. The CONVERGE project understands that 'equity within planetary limits' requires a decrease in the environmental footprints of some citizens and corresponding growth of others, in the most sustainable way possible.



Equity/Convergence:

The Converging World initiative explicitly supports the idea of 'convergence': "*The Converging World's contribution is to enable and fund community activity in the developing world and in the UK that will help move us towards a point at which everyone has access to the resources they need, within the limits of our planet's capacity.*"[1] TCW thus has an explicit focus on increasing social equity (empowering individuals through access to environmentally-friendly energy sources of energy) as a means of promoting a more sustainable mode of development. Through awareness raising of their work in the developing world and soliciting donations from businesses and individuals in the UK, they contribute to closing the equity gap.

Current Status and Impact

The Converging World currently operates two turbines in Tamil Nadu, which together produce over 8 million units (kilowatt hours) of electricity every year which is sold into the regional electricity grid.

References and Further Reading:

I. Initiative website: http://www.theconvergingworld.org/
II. Short movies about the initiative: http://dev.theconvergingworld.org/video (last accessed September 2012)
III. Pontin J. and Roderick I. 2007. Converging World – Connecting Communities in Global Change. Schumacher Briefing Series. The Schumacher Society, UK. 80 p.

Data collection assisted by The Schumacher Institute

1 *http://www.theconvergingworld.org/Vision (last accessed December 5th 2011)*

The Voluntary Simplicity Movement (Global)

Overview

Voluntary simplicity (or simple living) is a lifestyle characterized by consuming only that which is required to sustain life. Its adherents may choose simple living for a variety of personal reasons, such as spirituality or faith, health, increase in 'quality time' for family and friends, reducing their personal ecological footprint, stress reduction, personal aesthetics or frugality. There are some who cite agreement with socio-political theories and concepts (which are often broadly aligned with an 'anti-consumerist' perspective). These can include conservation, degrowth, social justice, ethnic diversity and sustainable development.[1]

Voluntary Simplicity may be defined as being "*the degree to which an individual selects a life-style intended to maximize his/her direct control over daily activities and to minimize his/her consumption and dependency.*"(II, p. 244.)

Context: The Perceived Problem

The adherents of voluntary simplicity typically aim to free themselves from the demands of a materialist society. They value personal independence (and sometimes community development) over material growth/consumption, which, they believe often stands in the way of individual and human development and satisfaction. Voluntary simplicity is usually not seen to be about living in poverty, but more about making an active choice to identify what is "enough" or sufficient for a person.

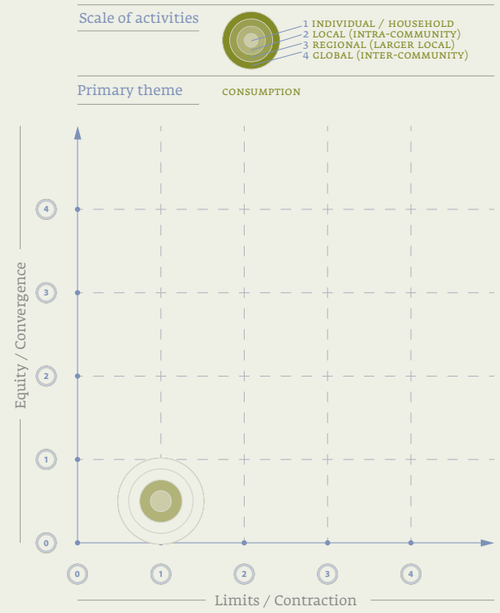
Initiative Solution and Process

There is no particular solution and process that can be described here. Those who choose a life of voluntary simplicity (or in other words, choose to downshift), do so in a variety of ways[2]. They may:

- decide to work less and thus have less income;
- select a more satisfying, but often less-well paid job;
- decide to move to a smaller home or to a rural area;
- take up gardening or car-free living;
- decide to do more voluntary work and become more active in their communities;
- make deliberate efforts to reduce, re-use, recycle and repair goods rather than purchasing new ones.[3]

1 *http://en.wikipedia.org/wiki/Simple_living (last accessed April 20th 2012)*
2 *See also The Bokor Movement introduced on pages 78–80.*
3 *See more details in references II. and III.*

What is common about these choices is that they involve people seeking to lead a life where they consume fewer material goods but perceive the quality of life to be higher.



Convergence Elements

Limits/Contraction:

There is a very clear contraction element in the Voluntary Simplicity movement. On the whole, people following a simpler lifestyle first and foremost decide to lower their consumption and to purchase only what is necessary for them. This is a generally implicit recognition of planetary and resource limits, with no contraction targets specified (though, as noted above, individual variations in reasons for choosing to follow a voluntarily simple lifestyle exist).

Equity/Convergence:

According to Barton(II), five basic values underlie the Voluntary Simplicity lifestyle: material simplicity, self-determination, ecological awareness, human scale, and personal growth. Material simplicity is having non-consumption-oriented patterns of use; Self-determination is a desire to assume greater control over destiny; Ecological awareness is recognition of the interdependency of people and resources; Human scale is a desire for smaller-scale institutions and technology; Personal growth is a desire to explore and develop the inner life. Thus, even if not explicitly, some followers of the Voluntary Simplicity movement recognize the interdependence of different countries, and thus the responsibility of the richer to the poorer.

Furthermore, recent research on the simple living movement(III) has found that people who choose to live simply at the same time are also likely to get involved in their local communities in various ways.

Current Status and Impact

Certain authors argue that voluntary simplicity could, or indeed, should, be part of the solution for overcoming the challenges posed by the global ecological crisis:

"Since voluntary simplicity as a way of life generally implies "choosing to live on less", the mainstreaming of its ethos into the global consumer class is an absolutely necessary part of any effective response to the ecological crisis."(III)

The number of people choosing voluntary simplicity in some form and *"stepping off the treadmill"* is constantly and steadily growing; not only in the US and UK, but worldwide(VIII).

According to various studies, about 25% of the population is downshifting in the US, UK and Australia[III]. The reasons for doing so are often more to do with economic and social factors than environmental, which points to the need to connect these factors. The growing phenomena of 'post-materialism/post consumption' which researchers have identified in Europe has similarities to the Voluntary Simplicity movement [VI].

References and Further Reading:

I. Initiative website: no specific website is available, but Wikipedia provides a summary site: http://en.wikipedia.org/wiki/Simple_living
Alternatively, visit the website of the Simplicity Institute: http://simplicityinstitute.org/
II. Leonard-Barton D. 1981. Voluntary Simplicity Lifestyles and Energy Conservation. Journal of Consumer Research. 8:243–252.
III. Alexander S. and Ussher S. 2011. The Voluntary Simplicity Movement: A Multi-National Survey Analysis in Theoretical Context. The Simplicity Institute. Melbourne Australia. 22 p. Available from: http://simplicityinstitute.org/pub/The-Voluntary-Simplicity-Movement.pdf (last accessed September 2012)
IV. Hamilton C. 2003. Downshifting in Britain. A sea-change in the pursuit of happiness. The Australia Institute. 42 p. Available from: http://www.tai.org.au/file.php?file=DP58.pdf (last accessed September 2012)
V. Johnston TC and Burton JB. 2003. Voluntary Simplicity: Definitions and Dimensions. Academy of Marketing Studies Journal. 7(1):19–36.
VI. Inglehart R. 2008. Changing Values Among Western Publics from 1970–2006. Western European Politics. 31(1/2):130–46. Available from: http://www.worldvaluessurvey.org/wvs/articles/folder_published/publication_559/files/values_1970-2006.pdf (discussing the incremental rise of post-consumerist values, last accessed July 2012)
VII. Alexander S. 2011. Property Beyond Growth – Toward a politics of voluntary simplicity. PhD Dissertation submitted to the University of Melbourne. 298 p. Available from: http://simplicityinstitute.org/wp-content/uploads/2011/04/Property-Beyond-Growth1.pdf (last accessed July 2012)
VIII. Pierce LB. 2000. Choosing Simplicity: Real People Finding Peace and Fulfillment in a Complex World. Gallagher Press. 348 p. (Based on The Pierce Simplicity Study)

Transition Town Totnes (UK)

Overview

Transition Towns is an environmental and social movement (born in Totnes in 2006) which aims to make communities more resilient to the major global threats of peak oil, climate change and economic crisis. Transition is defined as an iterative process. There are two central aspects to the Transition Initiative[II]:

- Re-localization: meeting core needs locally (food, building materials, energy, etc.), which can, at the same time, be of great support to the local economy;
- Building resilience through reducing vulnerability to dependence on oil and reducing carbon emissions.

Transition Town Totnes, in their own words, *"exists for the people of Totnes and District to help create thriving, healthy, caring local communities where people's ways of life take into account the needs of future generations as well as the present ones".*[1]

Context: The Perceived Problem

The transition movement started in response to the challenges of peak oil and climate change[2]. Transition Town Totnes (TTT) tries to find and facilitate community solutions to these challenges. It is a community-led movement (its organizational form is now that of a charity) that has the goals of strengthening the local economy as well as preparing it for a resource-scarce future.

Initiative Solution and Process

Transition is an iterative process and has been influenced and inspired by a variety of ideas and methods (e.g. the leaderless organization approach, the science of 'resilience' and research on happiness, ecopsychology (for details see II.). One of the most important features of the transition process is that it should be community-led, and communities should be invited and enabled to find and develop solutions (ways of living, businesses, infrastructure, etc.) more suited to a low-carbon and resilient world.

TTT does not claim to have all the answers but instead wishes to inspire people that positive change is possible and they themselves should take responsibility for creating it. Thus, creating a common positive vision of a future low-carbon and resilient Totnes is

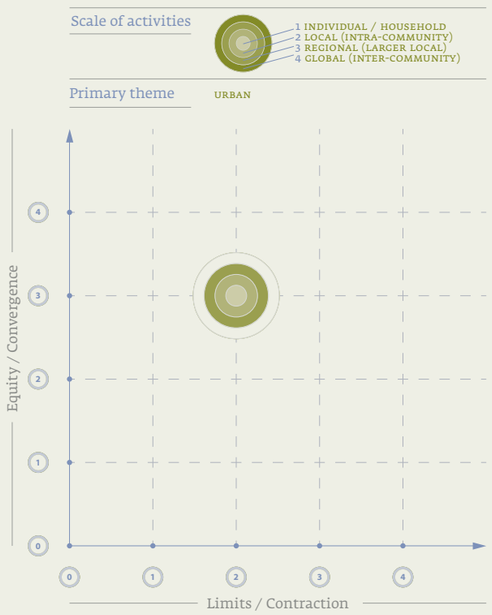
1 *http://www.transitiontowntotnes.org/about/who-we-are/aims/ (last accessed April 26th 2012)*
2 *Hopkins R. 2008. The Transition Handbook. From oil dependency to local resilience. Green Books Ltd., London, UK. 240 p.*

vital. Once the vision is there, members of the community can work towards achieving it – and the role of Transition is to facilitate this process.[1]

Convergence Elements

Limits/Contraction:

The Totnes and District Energy Decent Action Plan advocates Meyer's Contraction and Convergence™ framework[2] to manage the global carbon budget. Furthermore, in order to build resilience and to prepare for a decrease in availability of oil, TTT actively encourages contraction, i.e. the use of resources, and has implemented various programmes to promote this (e.g. helping households reduce their energy consumption – Transition Streets). However, although they advocate measuring progress, TTT does not appear to have defined specific contraction targets yet.



Equity/Convergence:

TTT aims to be inclusive and participatory in nature and provides an opportunity for everyone to get involved. At the same time, it was found(V) that it is typically the "educated middle-class" that become engaged and it is more difficult to involve the less advantaged. As a result, there is now a move to engage lower income households and communities more actively.

TTT operates at the local and regional level, and although they mention future generations in their mission statement, they limit the term to Totnes: "*Sustainable development of Totnes and environs means development that meets the needs of the present citizens of Totnes and environs without compromising the ability of future generations of Totnes and environs to meet their own needs.*"[3]

Current Status and Impact

TTT was the first transition town and is really where the whole transition town movement started. It has inspired and engaged communities across the globe, with close to 500 transition initiatives in existence to date (April 2012)[4]. A social justice and equity perspective appears to be becoming a gradually stronger element of the movement (see, for example, Transition Town Stroud which includes "Learning from the South" among its processes(IV)).

1 *Another transition initiative from Hungary (Climate-Friendly Wekerle) is introduced on pages 28–29.*
2 *Meyer A. 2000. Contraction and Convergence: The Global Solution to Climate Change. Schumacher Briefings 5, Green Books, Schumacher Society, UK. 96 p.*
3 *http://www.transitiontowntotnes.org/about/who-we-are/aims/ (last accessed April 26th 2012)*
4 *http://www.transitionnetwork.org/initiatives/by-number (last accessed April 26th 2012)*

References and Further Reading:

I. Initiative website: http://www.transitiontowntotnes.org/
II. Banks S, Whitty C, Gillmore H. and Hopkins R. 2011. So What Does Transition Town Totnes Actually Do? The Story So Far... 2006–2010. 60 p. Available from: http://transitionculture.org/wp-content/uploads/Transition-Town-Totnes-Ashden-report-final4.pdf (last accessed June 2012)
III. Hopkins R. 2010. Localisation and Resilience at the Local Level: The Case of Transition Town Totnes (Devon, UK). PhD thesis, University of Plymouth, UK. Available from: http://transitionculture.org/2010/11/09/now-available-localisation-and-resilience-at-the-local-level-the-case-of-transition-town-totnes-devon-uk/ (last accessed June 2012)
IV. Scott-Cato M. and Hillier J. 2010. How could we study climate-related social innovation? Applying Deleuzean philosophy to Transition Towns. Environmental Politics. 19(6).
V. Richardson J. 2011. Assessing the potential health impacts of a Transition Town Initiative: A health impact assessment of Totnes Transition Together and Transition Streets. Plymouth University. Available from: http://transitionculture.org/wp-content/uploads/TTT_HIA_ShortReport1-1.pdf (last accessed June 2012)

Data collection assisted by The Schumacher Institute and the University of Bristol

Vauban (Freiburg, Germany)

Overview

Vauban is a settlement of approximately 5,000 inhabitants located 4 km south of the university town of Freiburg in Germany. It was built from the mid 1990's onwards as a sustainable model district on the site of a former French military base. Integrating sustainability concerns into housing, energy, transportation and leisure infrastructure ('smart planning') were and still are primary development principles and are combined with active efforts to engage residents in a collaborative and participatory approach to urban development.

Context: The Perceived Problem

The goal in building Vauban was the construction of a low-carbon, environmentally friendly settlement with a minimum of car use, in contrast to the energy intensive, car heavy residential suburbs which are typical of most of Europe. The settlement was partly developed by environmentally conscious individuals who were involved in the strong anti-nuclear movement in Germany in the 1970's and 80's who became involved in setting up the Forum Vauban. This citizen-led organisation began promoting the idea of a sustainable urban settlement to the city government as a green, resident-friendly alternative to traditional housing arrangements.

Initiative Solution and Process

Vauban takes an integrated planning approach to meet ecological, social, economical and cultural requirements. Vauban's houses are built to low energy/passive or energy plus standards, car use is discouraged through various means, power is provided through a district woodchip-fired co-generation plant and is complemented with solar collectors, the use of public transport and bikes is heavily facilitated and the urban infrastructure has been designed with a view to maximising the social interaction of residents through smart provision of public space, a mix of types of buildings and businesses and hosting and infrastructure for various cultural activities. [1]

Convergence Elements

Limits/Contraction:

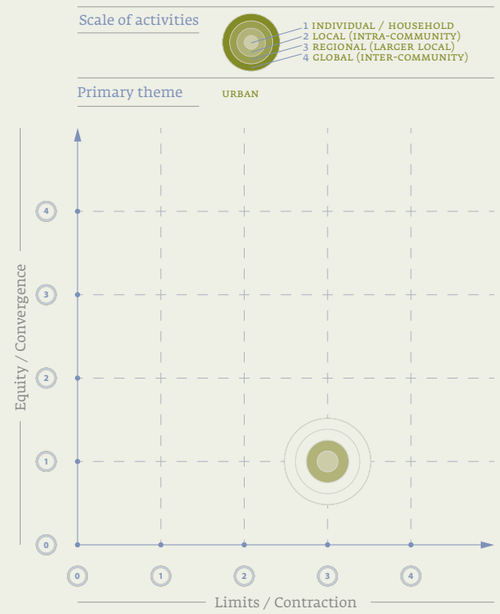
While initiative documents do not focus on planetary and resource limits, the concept of contraction is heavily featured in the planning of the district. Not only is energy use per resident significantly reduced compared to conventional settlements but water use is also minimised through the use of rainwater collection systems, low-water consumption

1 *The approach taken to minimizing the environmental impact of a housing settlement may be compared with the eco-village of Hägaby in Sweden, described in this book on pages 58–59.*

household appliances and grey water treatment. Sewage is treated to yield biogas and recycling is encouraged and facilitated and car-share schemes operate to reduce car ownership. Businesses are interspersed throughout the district to minimise the need for travelling.

Equity/Convergence:

References to inter and intragenerational equity are not generally found in the initiative literature but the smart planning approach has enabled more equitable access to mobility on a local scale through provision of free/public mobility infrastructure (bike lanes, trams, trains, etc.). There is also a strong focus on community development. Most of the individual housing plots were sold to Baugruppen (co-housing groups) whose bids were assessed against criteria favouring families with children, older people and Freiburg residents to create a balanced social mix. Social interaction is promoted in public areas and the whole process of planning Vauban's development derives from an, on the whole, successful collaborative effort between the grassroots Forum Vauban group, planners, architects and the city council. Vauban has about 5,000 residents and resident satisfaction is very high.



Current Status and Impact

Significant savings of a range of resources have been recorded as a result of the smart planning approach. Additionally, the impact of Vauban continues to spread beyond the locality as it is increasingly seen as an interesting case study for sustainable planning and urban development. For example, the settlement of Vauban was recognised as being an "environmental hero" in an article published by the Time magazine in 2009[1].

References and Further Reading:

I. Initiative website: http://www.vauban.de
II. Rosenthal E. 2009 May 11. In German Suburb, Life Goes On Without Cars. New York Times Article. Available from: http://www.nytimes.com/2009/05/12/science/earth/12suburb.html?_r=1&pagewanted=all (last accessed September 2012)
III. Melia S. 2007. Road to Sustainability. Transport and Car Free Living in Freiburg. Bristol Faculty of the Built Environment. Available from: http://carfree.com/papers/freiburg.pdf (last accessed Sept 2012)
IV. City of Freiburg im Breisgau. Sustainability Office. 2011. Green city of Freiburg. Approaches to Sustainability. 24 p. Available from: http://www.fwtm.freiburg.de/servlet/PB/show/1199617_l2/GreenCity.pdf (last accessed September 2012)

1 *http://www.time.com/time/specials/packages/article/0,28804,1924149_1924154_1924430,00.html (last accessed May 2012)*

Whistler 2020 (Canada)

Overview

Whistler is a Canadian resort town famous for skiing and outdoor activities located in the southern Pacific Ranges of the Coast Mountains in British Columbia, Canada. The initiative is hosted by the Municipality of Whistler, but many partners from within the community are also involved, one of which is a non-profit organization called The Centre for Sustainability Whistler. These actors were responsible for drawing up a shared vision and plan called Whistler 2020 which takes a scientific, systems and sustainability-based approach to identifying a sustainable future Whistler. This is a very large, complex initiative with many off-shoots that has grown from a community "visioning" process that took place in Whistler in 1997. It is partly based on the Natural Step Framework for Sustainability.

Context: The Perceived Problem

Whistler 2020 signatories note that *"we are living in a critical time, where global supply of natural resources and eco-system services are declining dramatically, while demand for these resources is escalating"*[1]. The originators of Whistler 2020 identify the need to implement integrated solutions that provide multiple benefits (environmental, social, and economic) for the community of Whistler and at a global level[2].

Initiative Solution and Process

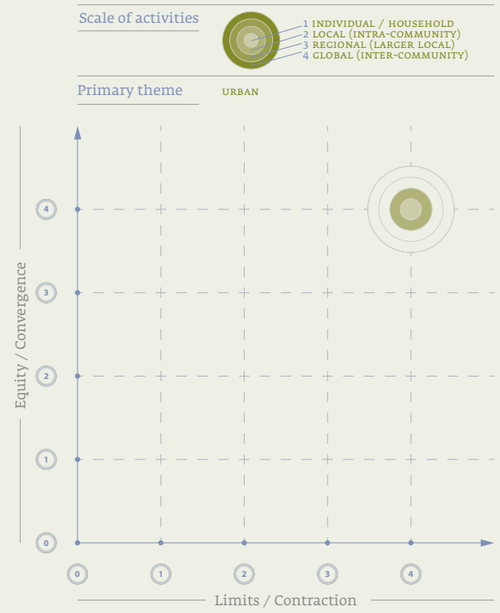
The Whistler 2020 plan embodies a sustainability approach to planning and is built on the resort community's previous five-year vision. It was developed in four phases over three years of consultation and community collaboration before being adopted in 2005. It is a complex and holistic planning document with 5 Priority Areas around which 17 strategic areas of action have been identified (Arts, Culture & Heritage; Built Environment; Economic; Energy; Finance; Food; Health & Social; Learning; Materials & Solid Waste; Natural Areas; Partnerships; Recreation & Leisure; Resident Affordability; Resident Housing; Transportation; Visitor Experience and Water). There are activities and indicators associated with each of the Priority and Strategic areas which are used to facilitate tracking of performance and community-lead task forces to assist in implementation.

1 *http://www.whistler2020.ca/whistler/site/genericPage.acds?context=1967862&instanceid=1967863 (last accessed May 11th 2012)*
2 *See also the other multiple-foci settlement level sustainability initiatives described in this book: Transition Town Totnes in the UK (see pp. 89–91.), Climate-friendly Wekerle in Hungary (see pp. 28–29.) and Hågaby Ecovillage in Sweden (see pp. 58–59.)*

Convergence Elements

Limits/Contraction:

The aim of the initiative is integrated planning for sustainability. Whistler 2020 explicitly recognises the limits of ecosystems through its acceptance of the Natural Step principles and has comprehensive concrete strategies, goals, targets, task forces and indicators in place to track and reduce resource use. These include an integrated Energy, Air Quality & Greenhouse Gas Management Plan and strategy documents for 5 key environmental areas (built environment, materials and solid waste, water, energy, transportation and natural areas). Whistler also has a community task force which convenes every year to prioritize strategic action for achieving the environmental vision set out in the Whistler 2020 document, as well as an 'IShift Business' and 'IShift Citizen' programme for encouraging and assisting participants to engage in various activities to reduce their footprints.



Equity/Convergence:

Whistler 2020 documents recognise the need for social justice and inter and intragenerational equity. Priority areas of the 2020 plan include 'enriching community life' (for example, avoiding urban sprawl and carbon emissions through providing local resident housing) and making efforts to ensure social sustainability through strategy areas/activities such as improving resident health, arts, culture and heritage facilities, recording resident and visitor satisfaction and increasing affordability and learning opportunities for residents.

Current Status and Impact

Whistler documents state that *"at a time when many other resorts are struggling due to factors such as affordability challenges, increasing scarcity and costs of natural resources, Whistler is ahead of the curve"* [in terms of supply of affordable housing, local purchasing, minimizing resource needs and pollution and maintaining a vibrant local businesses environment][1]. However, a review of published data reveals that meeting some of the targets defined in the Whistler 2020 strategy document (e.g. reaching environmental goals such as decreasing the amount of materials and water used by the community) is proving challenging. New activities are being designed to address these challenges. Additionally, Whistler is working with an increasing number of partnering organisations.

1 *http://www.partnershipsbc.ca/pdf/Appendix1Whistler2020.pdf (last accessed May 11th 2012)*

References and Further Reading:

I. Initiative website: http://www.whistler2020.ca/
II. Resort Municipality of Whistler. 2007. Whistler 2020. Moving Toward a Sustainable Future. 66 p. Available from: http://www.whistler2020.ca/fp/aspen/public/getFile.asp?field_name=FILE&instanceid=1970594&context=1930511&AsAttachment=1 (last accessed September 2012)
III. Dale A, Ling C, Newman L. 2008. Does Place Matter? Sustainable Community Development in Three Canadian Communities. Ethics, Place & Environment: A Journal of Philosophy & Geography. 11(3):267–281.
IV. Gill AM and Williams PW. 2011. Rethinking resort growth: understanding evolving governance strategies in Whistler, British Columbia. Journal of Sustainable Tourism. 19(4–5):629–648.

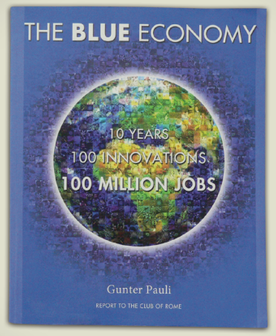
Data collection assisted by The Natural Step International

ZERI (International)

Overview

ZERI (Zero Emissions Research and Initiatives) was set up Gunter Pauli and a network of other researchers, scientists and practitioners in 1994 in collaboration with the United Nations Development Programme (UNDP). It claims to be *"looking for solutions to the principal challenges of the world"*[1] using a holistic perspective which deals with all elements of sustainability. *"The common vision shared by the members of the ZERI family is to view waste as resource and to seek solutions using nature's design principles as inspiration"*[ibid].

Context: The Perceived Problem



ZERI identifies poverty as being an issue which can be addressed only by understanding the interconnected nature of local and global issues. ZERI believes that a narrow technological approach to addressing poverty issues in an open market is unlikely to be successful and that current notions of leadership are based on power and control and outdated mindsets which do not consider the holistic nature of sustainability challenges. ZERI specifically identifies the generation of waste as being the source of many problems and works to create synergistic solutions that provide benefits from designing waste out of the industrial system.

Initiative Solution and Process

The ZERI perspective is that the total elimination of waste (Zero Emissions) is the ultimate solution to a range of problems and represents a logical development from a former focus on increasing the efficiency of resource use. Complete use of raw materials can create industries and generate jobs and provide sustainable livelihoods for people. ZERI projects (of which there are around 50) initiated by the ZERI network are very varied in nature (they range from pure industrial projects to community-based initiatives, to business related enterprises and government and bilateral and UN aided co-operation). Project design criteria are that the projects must solve multiple (economic, social and environmental) solutions simultaneously. The emphasis is on science-based projects which are practical, affordable, informative and adapted to the local context.

Convergence Elements

Limits/Contraction:

While resource or planetary limits are not explicitly referred to in primary ZERI documents, ZERI's focus is contracting resource use through employing a 'closed-loop' type perspective to dealing with waste. All of the individual projects ZERI undertakes are focused on reducing,

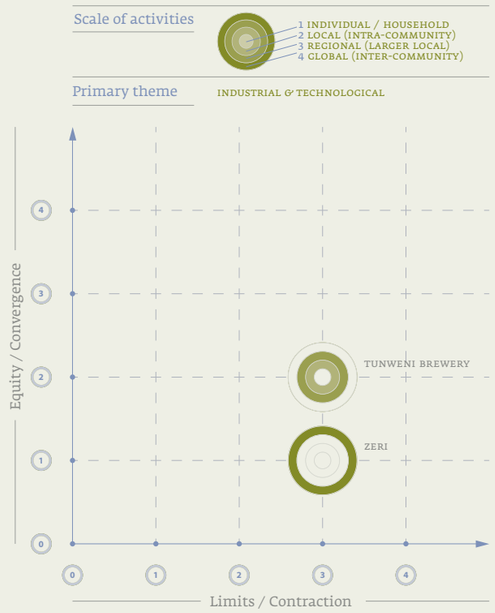
1 http://www.zeri.org/ZERI/About_ZERI.html (last accessed March 15th 2012)

eliminating or transforming waste in order to save resources and create social benefits.

EQUITY/CONVERGENCE:
Social justice and equity are not explicitly referred to in initiative documents but there is a clear focus on using holistic, multiple-problem solving approaches to reducing poverty and promoting social sustainability. Each ZERI project is designed to meet multiple social criteria (such as provision of jobs, poverty reduction, provision of affordable housing, food, clean water or energy, etc).

An example of a ZERI project – The Tunweni Sorghum Brewery

The Tunweni Sorghum Brewery in Namibia is one of the first commercial applications of the Zero Emissions Research Initiative (ZERI). 'Zero-emission' processes that have been designed into the Tunweni brewery through the collaborative efforts of the UNU/UNESCO, the ZERI Foundation and the University of Namibia mean that many of the former 'wastes' are now valuable resources.



- Industrial waste from the brewing process and human wastes are being used to produce methane gas using a biodigester.
- Wastewater from the brewery is being used as a protein, fibre and nutrient supply for an integrated fish farm fish, to produce marketable algae, oyster mushrooms, and earthworms that are sold as livestock feed supplements.[1]

The project has successfully demonstrated how common organic industrial wastes can be transformed into high value resources that can support socio-economic development (numerous additional jobs have been created due to the brewery's integrated approach) and curb environmental degradation (for example, the renewable biogas energy that is produced at the brewery is usable in domestic cooking and heating which means that dependency on firewood as a fuel source is reduced, thus curbing local deforestation). A recent UNESCO report[2] documents how similar ZERI projects in Africa are highly suitable for addressing the Millennium Development Goals of promoting food security, improving public health, reducing poverty and socioeconomically empowering women in African society.

1 *For more details see* http://www.zeri.org/ZERI/Beer.html *and* http://www.cyclifier.org/project/tunweni-beer-brewery/ *(last accessed September 2012)*
2 http://portal.unesco.org/education/en/files/49002/11509827635namibia343.pdf/namibia343.pdf *(last accessed September 2nd 2012)*

Current Status and Impact

ZERI now has at least 50 projects running all around the world, and is involved in promoting its ideas through a network of graduate schools and educational initiatives. A highly successful book based on ZERI ideas and case studies ('The Blue Economy') was published in 2010[III]. ZERI is also working at scaling up its ideas into tangible projects and making successful projects into megaprojects that work at the larger scale. Biomimicry and education have been defined as being important priorities for the next ten years, as well as generating 'smart' financing to put ZERI ideas into action. On a macro scale ZERI is also engaged in thinking about how to make the disciplines of economics and management work together to promote ZERI-type initiatives and Zero Emission thinking.

References and Further Reading:

I. Initiative website: http://www.zeri.org/ZERI/Home.html
II. ZERI case studies: http://www.zeri.org/ZERI/Case_Studies.html (last accessed September 2012)
III. Gunter P. 2010. The Blue Economy. 10 Years, 100 Innovations, 100 Million Jobs. Paradigm Publications. 308 p.
IV. Okeyo D. 2000. The application of the Zero Emissions Research and Initiatives (ZERI) concept in an integrated industry-polyculture-farm system in Namibia: The case of the Tunweni Sorghum Brewery. African Journal of Aquatic Science. 25(1):71–75.

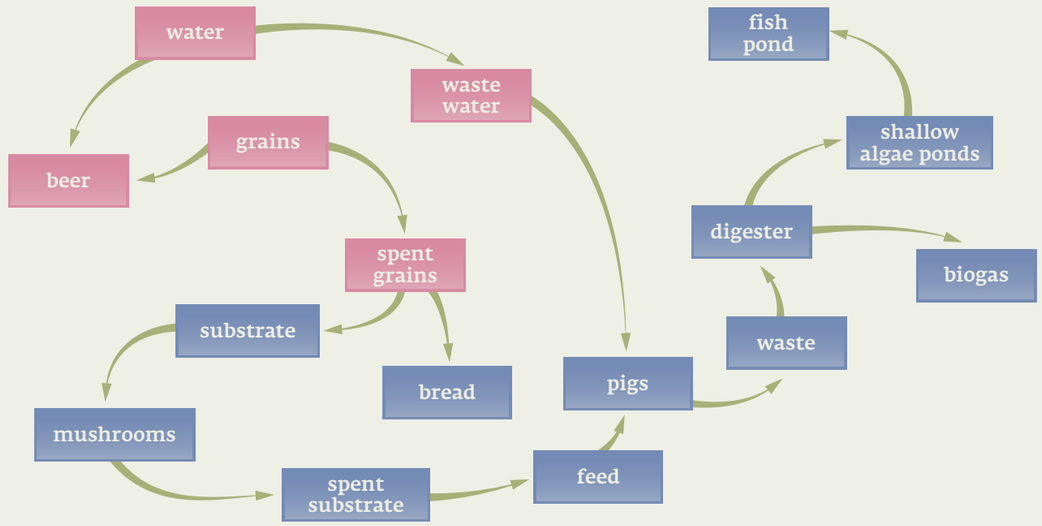


Figure 13: The flowchart diagram of The Tunweni Brewery
(colour red indicates processes in a typical brewery, and blue shows additional ZERI processes and products)
Source: http://www.zeri.org/ZERI/Beer.html

chapter 4 Themes Emerging from Analyzing the Initiatives

4.1. Living within Limits and Contraction

"By today it is clear that our present lifestyle is not sustainable – the size of resource-reserves, their respective rate of renewal and reproduction cannot keep pace with the current ever increasing production and consumption demands. This leads to the depletion of resources, the deterioration of ecosystem services, launching a series of fatal social and economic processes." Ombudsman for Future Generations[1]

Motivation for contraction

Although they all have a contraction element and exhibit at least an implicit awareness of the need to contract resource use at the global level so that humanity can succeed in living within planetary limits, the initiatives in our non-representative sample have different motivations for their contraction efforts:

- Some of them promote contraction and one-planet-living because of concern for a global environmental or social problem (e.g. carbon themed initiatives out of concern for global climate change and peak fossil fuels or ZERI because of the widespread wasting of resources which is often coupled with concerns about depletion of resources).
- Other initiatives motivate individuals and communities to contract (and share) out of moral, ethical or faith-based considerations. Initiatives in our database that belong to this category are the international Voluntary Simplicity Movement, The Bokor Movement in Hungary or the Grameen Bank in Bangladesh.
- Finally, there are initiatives that combine these two: for example The Converging World initiative in the UK or Navdanya in India. These initiatives typically score high on both the limits/contraction and equity/convergence scales (see more on the scales in Chapter 2.)

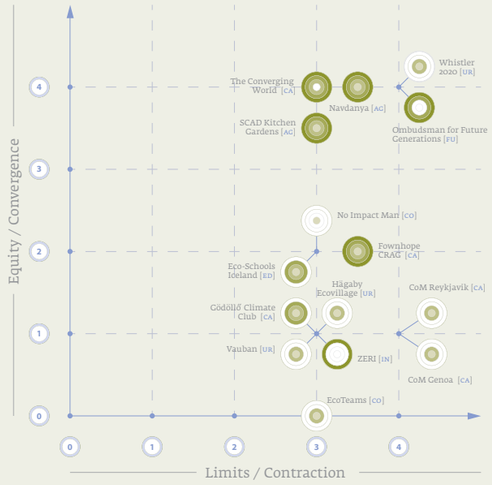


Figure 14: Initiatives that exhibit the most limits/contraction features in the CONVERGE database

1 *See pg. 9. of the annual report for 2010 of the Office (available from http://jno.hu/report2010/jno_report_2010.pdf, last accessed July 2012)*

In this chapter the focus is mainly on initiatives that were indeed started to motivate and assist in contracting the resource use of individuals and communities, or to ensure that policy making and implementation includes an awareness of resource as well as planetary limits. Initiatives of this kind in our database are, for example, the No Impact Man, Fownhope CRAG, EcoTeams, the Covenant of Mayors cities of Genoa and Reykjavík, and the Ombudsman for Future Generations.

Diverse initiatives with quantitative reduction targets

More than half of the initiatives (15 out of the 28 studied in detail) that were researched have concrete quantitative resource reduction targets of some kind, and have also procedures in place to track the progress made towards achieving these reduction targets. This means that in the mapping system these initiatives score 3 or higher on the limits/contraction scale (see Chapter 2. for details).

These initiatives are very diverse:

- Geographically – some of them are in developed countries (e.g. the Covenant of Mayors cities of Genoa and Reykjavík, EcoSchools Iceland, Fownhope CRAG in the UK or Hägaby Ecovillage in Sweden), others are in countries with transitional economies (e.g. the Gödöllő Climate Club or the Ombudsman for Future Generations in Hungary) and still others are in emerging economies (e.g. Navdanya or SCAD Kitchen Gardens in India);
- Organisationally – some are policy mandated and work predominantly from the top-down (e.g. the Covenant of Mayors, or the Ombudsman for Future Generations) while others are grassroots, community-based and work more from the bottom-up (e.g. The Bokor Movement, the Gödöllő Climate Club or the Fownhope CRAG). Additionally, a great number of them could be categorized as being hybrid as they use a mixture of top-down and bottom-up processes and governance structures (e.g. the international Zero Emissions Research and Initiatives, or the Vauban largely car-free development);
- In terms of goals – as for their primary theme or focus, they can also be placed into a variety of categories: some of them have a focus on one specific resource (typically carbon), on land use and food production, or on education and consumption processes in general (see Figure 15); and
- In terms of scales – they also operate at different scales starting at the individual and household level (e.g. the No Impact Man) through the local (e.g. Vauban) and regional to the global level (see The Converging World, for example). It should be noted that most of the initiatives

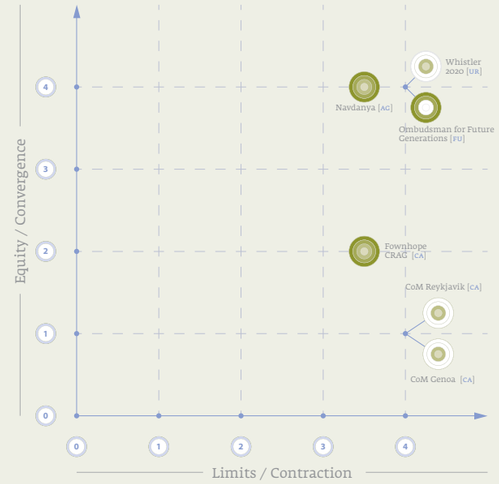


Figure 15: Initiatives that have reduction targets based on available (scientific) information

that were studied operate at several scales simultaneously. For example, members of the Fownhope Carbon Reduction Action Group (CRAG) measure and work on reducing their household carbon footprint while also engaging in community awareness raising projects and even donate money to an African community to contribute to climate change adaptation there.

Six of the initiatives studied have reduction targets that were defined based on available (scientific) information about relevant resource limits. Three of these initiatives are in the group which has carbon as its primary theme: Fownhope CRAG and the Covenant of Mayors cities of Genoa and Reykjavík, while the other three each belong to a different category: the Ombudsman for Future Generations in Hungary, Navdanya in India (agriculture, land & food), and finally Whistler 2020, an urban initiative in Canada. This indicates that both voluntary, community-based and policy mandated initiatives can be found in this limits/contraction category.

Which resources are being contracted?

If we analyze which resources the 15 initiatives that exhibit the most limits/contraction features aim at reducing, we find that 7 of them mention primarily carbon (CO_2 and/or fossil fuels). However, many of them track water use as well (for example, the Gödöllő Climate Club in Hungary includes the use of water in its carbon calculator, and both the Hägaby Ecovillage development and the SCAD Kitchen Gardens initiatives mention the reduction of usage of water and utilizing rain and grey water as important objectives).

	FOWNHOPE CRAG	SCAD KITCHEN GARDENS AND FRUIT TREE AFFORESTATION
Contraction target	• Contract carbon footprint (aim is by 10% annually, but it is a voluntary target) • In the longer run contract to sustainable per capita allowance	• Reduce carbon dioxide emissions into the atmosphere
Target based on available (scientific) information about planetary resource limit	• Yes, according to the CRAG movement, the sustainable per capita allowance would be 0.5 ton / capita / yr with current population levels and technology .	• No
Indicator	• Carbon footprint	• Number of trees supplied • Number of trees planted • Survival rate for planted trees • Amount of CO2 absorbed by planted trees
Process used to measure progress	• Annual carbon footprint calculation using Fownhope CRAG's own calculator developed based on the general CRAG calculator .	• Annual calculation and monitoring of indicators
Do they use other indicators?	• Yes, related mostly to specific projects	• Yes, various types
Examples	• No. of trees planted in 350 trees project	• No. of seed packets distributed • Amount of vegetables harvested • Min. 300 grams of vegetable and 85g fruit intake for a minimum period of 6 months • 25% reduction in malnourishment in target villages in the next 5 years

Table 2: Examples for limits/contraction targets and monitoring processes

At the same time, 8 of the 15 initiatives which received a score 3 or higher on the limits/contraction scale describe the need to reduce resource use in general, meaning the use of all resources. Naturally, when selecting indicators to use, they provide and require further details. Those initiatives that work with individuals and communities typically have

indicators which relate to the use of energy and water, transport and the amount of waste generated and CO2 emitted. The Ombudsman for Future Generations is an interesting initiative from this perspective as the office commissioned a study in Hungary to evaluate the state and availability of natural capital in the country, and then lobbied for the use of the resulting information and data in policy making and implementation.

Types of reduction objectives and targets

As for the quantified (reduction) objectives and targets, they partly relate to:

- the amount of resources used and/or consumed or which should be used and consumed (e.g. kWh/m² for dwellings in the case of the Vauban car-free development),
- the amount of waste or emissions that are actually produced as well as the amount of materials and resources that could be reused or the amount of emissions that could be avoided (e.g. tons of CO2/person/year emitted, number of trees planted and thus the amount of CO2 emissions avoided/ amount of water recycled); and
- the level of reductions required by a concrete date in time (e.g. a greater than 20% reduction in CO2 emissions by 2020 is required for Covenant of Mayors cities).

At the same time, in the case of a number of initiatives, quantified objectives and targets also relate to awareness raising and education in relation to limits/contraction. For example, SCAD in its kitchen gardens initiative monitors the number of households that receive packets of seeds, The Converging World the number of communities they have started working with, or the Ombudsman for Future Generations the number of events they held to promote the concept of contraction and ecological limits as well as the number of policy briefs they have prepared relating to the topic.

It is also interesting to note that some of the target and objective indicators that initiatives use are different – some are outcome indicators (e.g. what CO2 emission reduction was achieved by a certain date compared to the amount emitted at the start of the initiative), some are process indicators (e.g. the number of people involved in and/or impacted by the initiative or the number of community events that were held). Still other targets can be best monitored by using management type indicators (e.g. the amount of financial resources needed to achieve a certain level of reduction in CO2 emissions).

Furthermore, initiatives tend to have permanent objectives and targets relating to their mission, but often also adopt more temporary ones to monitor the progress and success of their specific projects. For example, in the case of Fownhope CRAG the permanent objective is the reduction of carbon footprint of CRAG member households (that are calculated annually to monitor progress), and a temporary one relates to specific projects, e.g. the planting of 350 trees in their village in 2009.

Processes to monitor achievement of reduction objectives

The processes put in place to monitor and observe the achievement of targets are varied. Individuals and communities voluntary set up tools and processes to measure progress and

evaluate periodically. For example, the Fownhope CRAG and the Gödöllő Climate Club have their own carbon calculators. EcoTeams use various measurement and calculations tools developed by the organization coordinating the work of the groups set up in different places. Other processes are more policy mandated and require a high level of visibility, public participation and regular reporting about target attainment and trends – such as with the case of the Covenant of Mayors cities of Genoa and Reykjavík, the town of Whistler or the Vauban car-free development in Germany.

Evolution in terms of contraction

It is interesting to observe that in terms of contraction and living within resource and planetary limits some of the initiatives have evolved. Their evolution has followed different paths, mirroring the growing awareness and available scientific information about environmental challenges as well as the increasing consciousness of individuals and communities which are participating in the initiatives.

- One of the paths that initiatives evolve along is that as they progress, the scope of limits/contraction activities becomes greater – in that initiatives realize the need to focus on more resources than they originally did. For example, Navdanya in India first focused mainly on the loss of biodiversity and soil, but later included carbon / fossil fuels as well. Or, as is suggested by its name, the Gödöllő Climate Club was set up to concentrate on contracting the consumption and emission of carbon of members but more recently began focusing on addressing the issue of waste generation as well, and there is great deal of attention paid to organic gardening and self-sufficiency.

Members of the Gödöllő Climate Club visit the local waste plant

- Another path is when the initiative evolves in size either through having a growing number of members and/or initiating more projects with slightly altered but similar aims very much related to its original focus. Examples of this kind of evolution in our database include The Converging World which works with an increasing number of communities, or Fownhope CRAG: *"Besides monitoring our carbon usage we have also become involved in a number of related projects [..]. We're interested in alternative energy, decreasing our food miles, [...]"*[1]
- Still another path is when initiative members realize that they need to work at more scales simultaneously. For example, members of the Fownhope CRAG realised that apart from focusing on their own household carbon footprint they also needed to get involved in related awareness raising in their community. Furthermore, they also recognized the importance and inevitability of working at the global level if they were to successfully reduce and offset their carbon emissions and thus established contact with an African community in the Gambia to assist in fighting climate change induced desertification there.

1 http://www.fownhopecrag.org.uk/ *(last accessed May 30th 2012)*

Naturally, initiatives may evolve and develop along several paths simultaneously. For example, about the same time members of the Gödöllő Climate Club realized they needed to focus on waste issues as well as carbon related ones, they also recognized the need for more involvement in local awareness raising and community activities.

Motivating systemic change

Finally, to conclude this chapter, it is important to mention that initiatives help motivate systemic change that moves towards recognition of planetary boundaries in different ways. First of all, by having reduction targets and calculating where individuals or communities stand in relation to these reduction targets they create new types of accounting and incentivising structures – they or their communities can be proud because they have managed to reduce their consumption and resource use and have moved towards living within planetary boundaries.

Secondly, they help to create new consumption and production systems which enable individuals and communities to contract and live within resource and planetary limits. For example, Hågaby Ecovillage and Vauban both help create, maintain and continuously develop residential districts that enable more sustainable lifestyles. The structures and methods developed by ZERI make production processes more sustainable, resource efficient and in tune with the principle of living within resource and planetary limits.

Thirdly, initiatives also provide examples of how the policy making and implementation system could be made more aware of the need to contract and live within limits. The Ombudsman for Future Generations in Hungary is an example of how this could be done at the national level, and the examples of Whistler and the Covenant of Mayors cities of Genoa and Reykjavík illustrate how this can be implemented at the settlement level.

4.2. Equity and Convergence

"What gets called "environmentalism" is often associated with saving future generations from catastrophe; it's important to remember that many in the current generation are already suffering from present-day environmental and social catastrophes." No Impact Man[1]

Good (and diverse) examples of equity/convergence

In our research, the highest scores for equity/convergence-related activities (see information about the limits/contraction and equity/convergence mapping system in Chapter 2.), meaning that both the documents and the activities of the initiatives pay attention to the principles and promotion of both intragenerational and intergenerational equity, were given to The Bokor Movement, Navdanya, the Ombudsman for Future Generations, The Converging World and Whistler 2020, all described in Chapter 3.2. of this book.

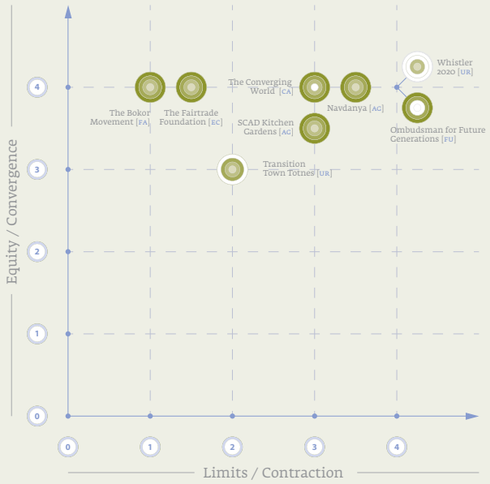


Figure 16: Initiatives that exhibit the most equity/convergence features in the CONVERGE database

The Converging World helps provide community-owned renewable energy, and The Bokor Movement, based in Hungary, finances the education of children in India – both initiatives are run by grassroots organisations which work on a voluntary, donation basis. The Ombudsman for Future Generations was a well-resourced part of the policy-making apparatus of the Hungarian state until recent times[2], responsible for representing/advocating for environmental justice, while Whistler 2020 is a community-developed and implemented sustainability planning approach for a small resort in Canada. Navdanya, meanwhile, promotes supports alternatives to mainstream, corporate agricultural practices in various ways, primarily in India.

Initiative name	Country/Region	Primary theme	Governance type	Scale of Activities*
The FairTrade Foundation	UK / Industrialized	Economy and Trade	Hybrid	1,2,3,4
Ombudsman for Future Generations	Hungary / Transition economy	Future generations	Policy / top-down (but the position grew from a grassroots initiative)	3, 4
Navdanya	India / Emerging economy	Agriculture, Land&Food	Grassroots / bottom-up	1, 2, 3, 4
The Converging World	UK / Industrialized	Carbon/Climate specific	Hybrid (TCW charity, local communities and big business)	2, 3, 4
The Bokor Movement	Hungary/Transition economy	Faith	Grassroots	1,2,3,4
Whistler 2020	Canada / Industrialized	Urban	Hybrid (local municipal government and local	1,2

* 1: individual/household, 2: local (intra-community), 3: regional (larger local), 4: global (inter-community)

Table 3: Summary of initiatives with score 4 on the equity/convergence scale

1 http://noimpactman.typepad.com/blog/2008/03/social-justice.html *(last accessed May 2012)*
2 *It is now much reduced in size and power. See pages 66–69 for details.*

These initiatives, significantly different from each other in size, scope of activities, sources of funding and governance, are each utilising different mechanisms to foster equality and justice but are all in some way explicitly working towards creating a 'fairer' world and are making a concerted and documented effort to promote members' own ideas about what is ethically 'the right thing to do' concerning how natural resources are managed.

Equity/convergence elements of initiatives

The 'right thing to do' is interpreted to be the normative element of ***Convergence*** at the initiative scale, which relates to promoting social justice and equity[1]. This can be identified in the activities and processes of these initiatives in the following forms:

- Attempts to more equally share the benefits of the consumption of resources in terms of access to the resources themselves or the services they provide. This may include the existence of a specific redistribution tool (for example, donations from members of The Bokor Movement facilitate greater access to education for children in Gujarat in India and South America and its humanitarian projects within Hungary), or The Converging World's provision of (renewable) energy to rural Indians, or Navdanya's very successful non-profit work promoting greater food security and food sovereignty for Indian farmers.
- Attempts to shoulder the costs of resource use or invest extra in order to uphold the principles of social justice and equality (sometimes known as 'burden-sharing'). For example, Gödöllő's community-based Climate Club members meet regularly to discuss how to reduce member's carbon footprints, purchasers of Fairtrade products typically pay a premium for products with greater social benefits and No Impact Man made significant lifestyle changes to reduce his and his families' environmental footprints.
- A high level of participation in decision-making about community values, infrastructural investments and activities (i.e. procedural, rather than substantive/distributional justice). For example, the town of Whistler's stakeholder-based sustainability-visioning process, or Transition Towns' open, democratic way of operating. Increasing stakeholder representation (e.g. legal support and advocacy of citizens' environmental rights such as that provided by the Ombudsman for Future Generations) can also be included in this category[2].

In practice, the processes and activities of initiatives are often complex and can include a variety of these 'convergence' elements.

Benefit sharing

Initiatives which have a clear focus on supporting equality (but which may not explicitly refer to both intra and intergenerational equity in their documentation) include The Fairtrade Foundation, FRANK Water, The Grameen Bank, The 30 Project and some of the activities of Fownhope CRAG and SCAD. These initiatives are working to make trade fairer, facilitate

1 *See Chapter 1.3. and the more detailed literature review for details.* ***Convergence*** *itself is defined by the project as being a broader concept; a complex, holistic and practical field of activities centred around decreasing resource use and increasing social justice.*
2 *Ostrom notes that the existence of collective, accountable decision making processes, representation of participant rights and a minimum level of institutional self-governance is common of sustainable management regimes (Ostrom E. 1990. Governing the commons. The evolution of institutions for collective action. Cambridge University Press, New York. 298 p.).*

access to (and ownership of) clean water infrastructure, provide better access to financial services, and alleviate poverty / provide assistance with nutrition, respectively. Fownhope CRAG has donated money to plant Jatropha trees to reduce desertification and provide a source of fuel for rural Gambians. The SCAD Kitchen Gardens initiative has provided thousands of Tamil Nadu's villagers with organic vegetables and fruit seeds at no or minimal cost. These initiatives all have an identifiable benefit sharing (redistribution) mechanism for facilitating the flow of resources from areas of wealth to areas of scarcity.

Member of Fownhope CRAG with Jathropa plant

Burden sharing

Burden sharing is a voluntary attempt to take responsibility for reducing resource use, and may include shouldering some of the costs of resource use. This is demonstrated in a number of our initiatives – at the personal level, adherents of Voluntary Simplicity seek to minimise their personal consumption in various ways for a variety of reasons (No Impact Man chose to do this for 'environmental' reasons, members of The Bokor Movement for reasons of social justice based on their faith).

Reducing consumption of resources may also be done at the level of home (EcoTeams), school (EcoSchools Iceland), town (Transition Town Totnes, Vauban, Hågaby Ecovillage) or be part of national, regional or international policy making efforts, such as the European Covenant of Mayors initiative. ZERI is an international sustainability research network with sustainability projects across the globe. Participants in Tatabánya's Climate Ticket initiative, meanwhile, give money to offset the carbon they emit to their choice of local infrastructure investment (tree planting or the building of cycle paths, for example).

Participatory justice

Transition Town Totnes (TTT) scored highly on the equity/convergence scale in the ***Convergence*** mapping system and has similarities to Whistler 2020, both initiatives being participatory planning approaches to increasing urban resilience. As with Whistler 2020, the focus of TTT is on contraction of resource use, but both initiatives make efforts to ensure that justice is done procedurally through the promotion of community-based, democratic, decentralised decision-making processes to managing the local environment. The Icelandic EcoSchools initiative also scores highly for taking a participatory, decentralised approach to goal setting and implementing of their primarily 'limits/contraction' based activities.

The Motivation for equity/convergence activities

When resources are being in some way transferred from one place to another, burdens are being assumed, or members of an initiative are involved in activities to foster a procedurally more equal society, it is interesting to ask the question 'Why?'

A number of initiatives scored less than '2' on the equity/convergence scale of the mapping system, meaning that neither their documents nor activities place emphasis on promoting equity and these initiatives do not have clearly identifiable resource re-distribution mechanisms in place nor appear to be working in a highly decentralised, democratic fashion. This is not to say that the initiatives do not consult and involve stakeholders and pay attention to the issue of equity, but it rather indicates that promoting equity is not an explicit goal of their activities.

However, it is important to recognise that for some initiatives which were awarded lower scores for equity/convergence (many of which were carbon-related — such as the Covenant of Mayors cities of Genoa and Reykjavík, Low Carbon South West and Gödöllő Climate Club, for example) the initiative's contraction activities may be driven by instrumental or normative concerns or a combination of both. For example, Gödöllő Climate Club members may be contracting resource use in order to save money and help preserve their local environment, but they may also be considering the ethical responsibility to ensure that carbon related costs are not imposed on future generations. The reasons for contracting resource use can be derived from a mix of instrumental and ethical concerns, some of which are voiced more explicitly than others. An implicit understanding of the need for equity/convergence may sometimes underlie limits/contraction activities. Further research and interviews with initiative members would be needed to uncover what drives initiative members to act in certain ways.

It is notable that the majority of the initiatives studied which have a focus on equity/convergence were founded by individual citizens who found a personal calling to help those less fortunate than themselves. Social enterprise FRANK Water was founded due to the empathetic response of Katie Alcott to help others after contracting dysentery in India from dirty drinking water. In a similar way, ostensibly wealthier customers from the 'developed' world fund The Fairtrade Foundation's activities.

Navdanya, SCAD Kitchen Gardens, and The Grameen Bank, were founded and built through the personal commitment of individuals to addressing social sustainability and redressing injustice in their home countries. The moral imperative to help those less fortunate is made very explicit by both SCAD's founder, Cletus Babu and the founder of Bokor, György Bulányi, who both sought to implement the teachings of Christ in their work.

The emergence of equity/convergence elements

While some initiatives, such as those described in the section above, were set up with the idea of putting into practice equity/convergence-type principles, other more contraction-focused initiatives, as they grew or were copied (see Chapter 4.3. on Evolution, Replication and Upscaling), integrated equity/convergence elements into their activities.

For example, many Transition Towns, which were set up with the overall goal of reducing community dependence on hydrocarbons, now evince a preference for sales of Fairtrade products, and after having become more aware of the inter-related nature of environmental and social problems, are considering how to integrate local or global social

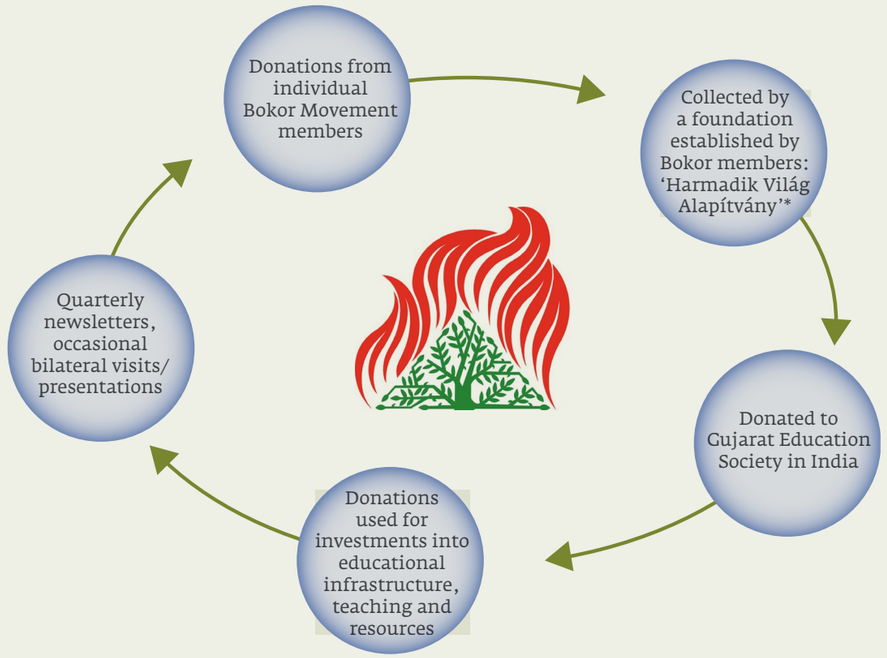


Figure 17: Bokor's virtuous cycle of donations provides for education of rural children in the state of Gujarat in India while allowing donors to express their solidarity with those less fortunate than themselves

justice concerns into their primarily contraction-based activities. The same move towards equity/convergence happened with Fownhope CRAG, which moved from an explicit focus on limits/contraction (reducing members' personal carbon footprints) to a more integrated approach to sustainability with their tree-planting activities in Africa (this started due to an awareness-raising presentation given to members of the CRAG in the UK – there were initially no obvious converge mechanisms in Fownhope CRAG[1]). In contrast, The Bokor Movement in Hungary started out with a strong 'equity' theme but in latter years has started integrating resource contraction themes into their work, while FRANK Water's efforts to deal with the limits/contraction aspects of their equity and convergence-focused activities have strengthened as time goes by.

No Impact Man, through his personal struggle to reduce his environmental footprint to zero, came to believe that social and environmental justice is a key element of sustainability and that inequality and racial discrimination can be negatively linked to the state of the environment and thus the long-term prospects of all[2]. An understanding of the linkage between environmental and social sustainability may well require a period of awareness-raising. When this link is made, the rationale for adding an equity/convergence element to a limits/contraction focused initiative (or vica-versa) becomes clearer.

1 *See Chapter 4.6. on 'cross-fertilisation' or the initiative descriptions themselves for more details on how limits/contraction or equity/convergence has come to be incorporated into some of these initiatives.*
2 *Arguments for why a fair society is a better, more sustainable society are provided in The Spirit Level (Wilkinson R, Pickett K. 2010. The Spirit Level. Why Equality is better for everyone. Penguin Books. London. 368 p.).*

Measuring equity/convergence

The limits/contraction and equity/convergence mapping system presented in Chapter 2. awards a score to the activities and documentation of each initiative studied and could be considered to be a 'meso-level' indicator with a descriptive, benchmarking type function. Some indicators of equity/convergence can also be tracked at the macro level. The UN's Millennium Development Goals[1] are an example of equity/convergence type indicators (socio-economic/ human development indicators) being used at the international level, as are national/international gini inequality coefficients[2], for example).

SCAD women's self-help groups prepare for planting

Convergence can also be examined at the 'micro' scale using initiative-level indicators. The initiative Whistler 2020, for example, uses a set of social indicators for the town of Whistler (such as resident education, satisfaction, health, diversity and mobility) to track and benchmark the success of its activities, while the SCAD Kitchen Gardens initiative keeps track of the calorific intake and malnutrition rates of the people who benefit from its fruit-tree and organic garden planting activities. Often, resource flows – essentially, records of equity/converge related activities – are recorded and tracked (for example, the amount of donations that members of The Bokor Movement collect each year for schools in Gujarat, or Navdanya's spending on educating farmers about organic farming) but evaluating the resulting range of socio-economic impacts is harder to do and may require more resources than many organisations can spare.

The systematic use of indicators to track the impacts of equity/convergence-focused activities in the initiatives studied in the CONVERGE project is rare, although larger organisations (The Fairtrade Foundation or SCAD, for example) are better equipped to manage this task.

Summary

The drive for equity/convergence at the initiative level is visible in many ways and the mechanisms for promoting equity are diverse in format, as are the drivers. The research presented in this book indicates that a rights-based approach to sustainability and an understanding of the linkage between environmental and social sustainability is very much in evidence in many of the initiatives studied. As contraction-focused initiatives evolve, it is tentatively suggested that equity/converge elements, if initially omitted, tend to become recognised, to strengthen and become more explicit as this need for coupling is recognised. More detailed research would be needed to better understand exactly what role (and with what effectiveness) individual initiatives play in the process of promoting equity/convergence.

1 *http://www.un.org/millenniumgoals/ (last accessed September 2012)*
2 *See the range of international Human Development Indicators used by the UN at: http://hdrstats.undp.org/en/tables/ (last accessed September 2012)*

4.3. Evolution

The initiatives were examined to see how they changed over time ('evolution') from a variety of perspectives[1]. Generally speaking, there has not been much change/evolution in the administrative structure or significant changes in the goals of the initiatives studied in this research project since their inception (with some exceptions – see below) but the most noticeable evolution has been in terms of size – in terms of the numbers of participants and beneficiaries and the scope of activities as the initiatives have matured. All the initiatives studied are now actively operating, and in the majority of cases are in the process of upscaling or being multiplied (see more details in Chapter 4.4.).

An example of the process of evolution of an initiative is provided with the Transition Towns movement (TT). The Transition Towns movement started off with the ideas of Rob Hopkins and his Sustainability and Permaculture course students at the Kinsale Further Education College in Cork county, Ireland, who together wrote an "Energy Descent Action Plan", which described a range of energy-reducing activities in the fields of agriculture, energy production, health, education and economics which could be taken by the small seaside town. This plan was presented and accepted by the town council who accepted it as a roadmap to sustainability (i.e. formalised the plan through integrating elements of it into the policy-setting and budgetary activities of the council). The concept of a 'transition town' was born, was then accepted and adopted for Totnes in the UK in 2006 where Rob Hopkins moved, and within five years had spread, largely through informal ways (but with great impetus from its online presence), to 400 other towns/cities and 35 countries across the world and was renamed 'Transition Initiative' to cover the broader nature of the movement[2].

As initiatives grow – often from an individual's idea or a policy initiative – and mature, and initial accomplishments are made, more energy is invested into other activities. Dissemination of information or awareness-raising about initiatives may increase (e.g. Gödöllő Climate Club is now regularly represented at community events and in local media, Low Carbon South West is working to expand its network of members and ZERI successfully published their book, 'The Blue Economy'[3] in 2010), in targeting different groups of participants or beneficiaries (SCAD and Navdanya have both expanded their activities to work with students/education and women's and men's self help groups, as well as farmers, for example) or in or in fine-tuning and consolidating of activities after gaining some initial experience. The Converging World, after its successes in getting donations for the erection of wind turbines in India, is looking at how to turn over ownership of the turbines to the community. FRANK Water's Katie Alcott, meanwhile, found that she needed to found a charity to more effectively channel funds from the FRANK Water social enterprise to Frank's clean water projects in India. Some initiatives which start off with a limits/contraction

1 *Data about changes in size, organizational form, governance, goals, equity/convergence and limits/contraction perspective, etc. were recorded.*
2 *http://www.transitionnetwork.org/ (last accessed June 2012)*
3 *Gunter P. 2010. The Blue Economy. 10 Years, 100 Innovations, 100 Million Jobs. Paradigm Publications. 308 p.*

focus find the need to incorporate equity/convergence principles and related activities into their operations – or vice-versa (see more details in Chapter 4.6.).

No Impact Man, meanwhile, finished his year of resource reduction activities in 2008 and has gone on to work with multiple spinoff projects[1]; the same path, from one individual's concept to international-level projects run by well-developed organisations, albeit on a different scale, that The Grameen Bank followed in moving from the village-level work of Mohammed Yunus in Bangladesh to the international family of Grameen organisations. A similar evolutionary path was followed by both the Transition Towns movement and the CRAG movement, both of which have witnessed rapid expansion from humble beginnings.

Relatively little change has been identified in the organisational forms/structure of the initiatives studied. Notable exceptions include Grameen (which evolved from a small research-led organisation into an incorporated bank, partly subsidised by the central bank of Bangladesh) and Navdanya, which evolved from a small research organisation into a major NGO, under the leadership of Vandana Shiva. Greenways Hungary, meanwhile, moved from being just one project of the NGO Hungarian Environmental Partnership Foundation to having its own NGO to coordinate its operations (the Greenways Methodology Association).

FRANK Water Ltd (the original trading company) faced difficulties with making charitable donations to India so it now donates 100% of its profits to a newer organisation called FRANK Water Projects for the same purpose. The Converging World initiative also found the need to develop new organisational structures to facilitate its work in the form of additional trading arms in India (the subsidiary company – CWRE India – manages the turbines they have, while the other trading arm manages new projects). Low Carbon South West and No Impact Man, both initially volunteer-based initiatives, now employ salaried workers, as does Transition Town Totnes, which evolved from a small volunteer network into a large community organisation with a number of funded projects and an in income of approximately £200,000 in April 2010[2].

As the majority of the initiatives studied have upscaled or multiplied, complexity tends to increase, even if goals remain the same – this can be seen above in the changes in the legal structure, income, compensation of members and the existence of facilitating bodies.

Grameen Bank: non-profit research org	profit-making incorporated bank
Navdanya: non-profit research org	large NGO/network
Transition Town Totnes: non-profit volunteer based network	semi-professional community development organisation
Greenways: NGO project	independent NGO
FRANK Water: trading company	trading company + charity arm
The Converging World: charity	charity to charity + trading arm (project development and management organisation)

Figure 18: Examples of changes in organisational type and governance

1 *No Impact Man book and film, and educational initiatives, etc. Please refer to the initiative description in Chapter 3.2.*
2 *http://www.transitiontowntotnes.org/content/our-structure (last accessed July 2012)*

4.4. Multiplication, Replication and Upscaling

Following the terminology used by Smith (2007) and Seyfang (2009), we use the terms 'Multiplication', 'Up-scaling' and 'Translation/transfer' to analyse and describe how the initiatives under study (and their sustainability-themed ideas, solutions, innovations or practices) evolve. Most of the initiatives studied in the CONVERGE project have been successful at motivating the involvement of participants, and, as a result, have grown in 'size' (number of participants/beneficiaries, or scope of activities) at different speeds; this we call 'upscaling'. 'Multiplication' refers to the replication of initiatives in a recognisable format to the original to another community/geographical location. Ideas from initiatives may also be 'translated/transferred' through adaptation to a local context or transfer of the niche practice to the mainstream (or vice-versa).

With perhaps the exception of The Bokor Movement (whose membership has declined since the political changes in Hungary of the 1990s)[1] and the Ombudsman for Future Generations (whose mandate and capacity have recently been significantly reduced[2]), all the initiatives studied have upscaled in some way. Of the larger, more mature initiatives (which started off as small-scale non-profit projects run by individuals on limited means), SCAD and Navdanya, both based in India, have seen enormous growth (SCAD estimates that they have helped half a million people, most of them in the last decade of their work, while Navdanya since its foundation about 25 years ago now has 54 community seed banks in operation, more than 70,000 famers as members and runs the largest direct marketed fair trade organic distribution network in India[3]). More than 5,000 residents now live in the car-free German settlement of Vauban, which was still on the drawing board in 1993, and the Bændur græða landið' ('Farmers Heal the Land') soil conservation initiative now involves approximately one in every 5 of Iceland's farmers and approximately one quarter of the land area of Iceland.

In terms of multiplication one clear success has been The Grameen Bank microcredit model in Bangladesh[4]. The Bank's offices rapidly spread across Bangladesh after Yunus' pioneering first loans to local villagers in 1983, and by 2010 had made loans to 8.04 million (primarily female) Bangladeshis and had a staff of over 20,000 employees (upscaling is also seen in how Grameen's lending activities were supported by the Bangladeshi Central Bank). The Grameen Bank's success has helped drive the emergence of microfinance and microcredit institutions across the globe over the last few decades and it now has a presence in the United States[5] and dozens of other countries (this also represents an example of how a niche practice may 'transfer' to the mainstream). SCAD, whose Kitchen Gardens and Fruit

1 *See the initiative description on pages 78–80.*
2 *The Ombudsman's office has made a public statement about these recent changes; http://jno.hu/en/?o=menu=home&doc=pr-110318 (last accessed June 6th 2012) and see also pages 66–69.*
3 *http://www.navdanya.org/ (last accessed June 6th 2012).*
4 *Some challenges have been encountered with replicating the Grameen model of banking (with the 'bank of the poor' in Hungary, for example). General information about microfinance institutions across the globe can be accessed at: http://www.themix.org (last accessed July 2012).*
5 *http://www.grameenamerica.com/our-borrowers/our-locations/grameen-america-branches.html (last accessed July 2012)*

TYPES OF GROWTH

Internal to the initiative:	External to the initiative:		
Growth in size, number of participants/ beneficiaries or complexity	Multiplication at the same scale	Upscaling	Translation of ideas to mainstream regime
Examples in the CONVERGE initiatives database are numerous , e.g.:	Examples in the CONVERGE initiatives database include:		
• SCAD Kitchen Gardens • Navdanya • Vauban • The Converging World • Transition Town Totnes • Climate-Friendly Wekerle	• Microfinance (e.g. Grameen)* • EcoTeams • EcoSchools • Transition Towns • Covenant of Mayors • CRAGs • Climate Clubs	• Microfinance – Grameen Bank* • Covenant of Mayors	• Microfinance

* Grameen – the number of instances of loans and microfinance units offering small scale loans has significantly increased (`multiplication` and `upscaling') but the concept of microfinance as a viable business model and tool for promoting Human Development has also been realised and supported, not only by Bangladeshi policymakers but in different cultural contexts and slightly different formats in countries outside Bangladesh (i.e. multiplication and translation to mainstream).

Figure 19: Types of Growth in Initiatives (developed based on authors' own ideas and Seyfang 2009)

Tree Afforestation initiative in India is introduced in Chapter 4.2. also employs microfinance schemes (in women's self help groups).[1]

The EcoTeams concept, meanwhile, started in the early 1990s in the Netherlands as a non-profit 'contraction' concept deliberately designed to be multiplicable through its methodological approach. It is by now a tried and tested community engagement programme which has spread to more than 20 countries. EcoSchools – in many ways a similar concept to EcoTeams – now works with 53 countries around the world (more than 40,000 schools and 11 million students).

Some initiatives started off in the industrialised world but have spread around the world, and now have a presence in 'developing' countries. For example, Greenways' network of nature and rural development trails originated in the US in the 1980s, came to Western Europe in the 1990's, upscaled in central Europe through the 1990s and first decade of the new millennium and the first Greenway opened in 2004 in Eastern Europe in Belarus (in contrast to Grameen, for example which has multiplied in the 'other' direction, out of Bangladesh to both industrialized and industrializing regions).

1 *See more information about the SCAD microfinance scheme at http://www.scad.org.in/what-we-do/community-organisation/empowering-women/ (last accessed September 2012).*

While Transition Towns is much less 'prescriptive' in nature than many of the initiatives studied ('Transition' being a deliberately participatory community-defined process based on agreement with a broad set of principles – in this case sustainability-related concepts) the concept of transition initiatives likewise, has rapidly (since 2006) multiplied across the globe. As of April 2012 there were close to 500 transition initiatives[1], including Climate-Friendly Wekerle in Hungary). The CRAG 'network', meanwhile is similarly 'horizontal' in nature with "no central office, no staff, no funding, and no constitution"[2]. CRAGS are basically autonomous grassroots entities which can adopt or set their own rules, similar to Climate Clubs. Both these initiatives have (with typically no policy support or formal sources of funding) spread across the world.[3]

The Covenant of Mayors initiative (CoM), meanwhile, is a European Commission policy-supported initiative which formally started on in 2009 with original estimates that around 10 cities would join. However, by the end of 2009, over 900 signatories had joined the CoM, and as of today (June 2012) there are over 4,000 signatories, of which Reykjavík and Genoa are only two examples (non-EU examples even include more recent signatories from Cyprus, Georgia, Turkey and the Ukraine). More resources have been allocated at the initiative level by the EU to deal with, and further promote the success of the CoM initiative (i.e. assist with upscaling).

Some local or national initiatives may upscale but are less likely to be multiplied outside their countries of origin in their existing formats, partly due to the nature of the group of participants and partly due to the context-specific nature of the problem or cultural setting (e.g. Iceland's Bændur græða landið, Hågaby Ecovillage or The Bokor Movement). Even these niche initiatives, however, can often serve as examples or inspiration to others (see the initiative descriptions for examples of this). However, some initiatives, due to their lack of a formal structure, their adaptability/flexibility or their focus on a multiple target problems may be well suited to multiplication outside their countries of origin (e.g climate clubs, transition towns, or ZERI-type interventions, respectively). In some cases, quite similar-in-purpose but unrelated initiatives to those studied have been identified (e.g. UK's One Water business is similar in many ways to FRANK Water).

According to analysis conducted by Andersen (2008) and Tukker (2008), transition to a more sustainable society can be identified at three levels:

- the niche level (or micro/community level) is where most of the initiatives studied in this project are placed (Climate Clubs, or CRAGs for example);
- regimes refers to the meso level where, practices, rules and expectations about various types of production and consumption are found (the Fairtrade Foundation's activities show how actors can seek to change conceptions about norms at a regime level through an initiative); and,

1 *http://www.transitionnetwork.org/initiatives/by-number (last accessed April 26th 2012)*
2 *http://www.carbonrationing.org.uk/wiki/about-crags (last accessed July 2012)*
3 *See, for example: http://crags.groupsite.com/main/summary*

- the landscape level (the macro level), consisting of the more stable factors in society that are less likely to change, or change only slowly (energy provision infrastructure, meta-values such as the sovereignty of the individual and a belief in growth, and meta-trends like individualization, globalization, etc.).

A major sustainability challenge is identifying how the increasing number of niche activities can be effectively translated across scales to impact the meso and macro level. In some cases (e.g. the Covenant of Mayors initiative which is promoted by the European Commission) policy can have a positive multiplying impact and assist by providing the resources needed to upscale the niche idea or practice. In other cases, it may be policies themselves that hinder the multiplication of initiatives[1].

1 *For more details on this topic, see the Challenges chapter of this book (Chapter 4.5.), a forthcoming CONVERGE project deliverable (Deliverable 34, Policy Recommendations for facilitating and upscaling/multiplying **Convergence** initiatives), and Deliverable 30, Community Engagements and Social Movements for **Convergence** (available from: http://www.convergeproject.org).*

4.5. Challenges

Data and information was collected on various types of challenges, some of them typically internal and others external to the initiatives. The data collection template included questions specifically related to the challenges of;

- time,
- money,
- skills,
- interpersonal issues,
- knowledge and awareness of issues related to the initiative,
- policies and legislation which impact the initiative.

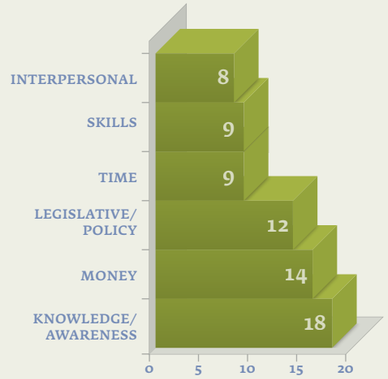


Figure 20: Challenges faced by CONVERGE initiatives

Researchers collecting the data were also free to add any other type of barrier or challenge. Something was considered to be a challenge or barrier if it had an impact on the operations and successes of the initiative in achieving its aims and objectives. Furthermore, when classifying something as a challenge, both the point of view of initiative owners and researchers were considered (see Chapter 1. on details of the data collection methodology). Figure 20 provides an overview of the challenges and information on their relative importance in our non-representative database of 28 initiatives. Numbers refer to the number of initiatives in which case it was found that the specific challenge was having an impact on its success.

As Figure 20 shows, the most important challenge was found to be the knowledge and awareness of the community or the population of issues relevant to the initiative. For example, in order for people to find important and support the work of or join the Transition Town Totnes, the Gödöllő Climate Club or the Fownhope CRAG initiatives, they need to be aware of the phenomenon of peak fossil fuel and have at least a basic understanding of global climate change. Or if people are to take part in The 30 Project dinners, they need to have some understanding of sustainability issues around food production and consumption. For these reasons for most of the initiatives studied increasing the level of awareness of issues tackled by the initiative is an important part of the activities as people need to be sensitized and feel responsible in order to seek out ways they can become engaged.

Another important challenge is related to money and the lack of funding for:

- hiring staff to devote part or full-time energy to realizing the aims and objectives of the initiative, especially when the initiative gets to a stage when volunteer time is not longer sufficient (e.g. in the case of Transition Town Totnes and Climate-Friendly Wekerle) or when a lack of staff hinders the effectiveness (Ombudsman for Future Generations) or growth / upscaling (e.g. Low Carbon South West) of initiatives;
- implementing projects – as in the case of Covenant of Mayors cities of Genoa and Reykjavík, or Baendur graeda landid (Farmers Heal the Land) and EcoSchools Iceland (in the case of the latter two the financial crisis was mentioned as a factor as it resulted in reduction of funding for the initiatives);
- investment in a creation of a new organization (e.g. in the case of Fownhope CRAG who started working on a community-owned local energy company); or
- investment in (new) infrastructure or technology (e.g. ZERI or the Covenant of Mayors cities where money is needed for climate-aware retrofitting of houses, bicycle roads and low-carbon public transportation).

Money may also be a barrier from a different perspective for initiatives that encourage people to voluntarily pay to offset their emissions (as with The Converging World and Climate Ticket initiatives).[1]

The third important category of challenges is related to policies and legislation at various levels that hinder the operation and/or development of the initiatives. Examples are varied. They are often due to the fact that initiatives promote a novel way of doing something that the current legal system cannot yet deal with or does not offer any support for (e.g. financial incentives). Types of challenges include the following:

- current system not (yet) equipped to deal with the new solution – the Pilis LETS, a local exchange and trading system in which case the existing tax and social insurance system in Hungary is not yet equipped to deal with such new ways of trading and employment.
  This is also the case with community-owned renewable energy generation facilities that members of Fownhope CRAG wish to work with, or the innovative carbon footprint reduction and offsetting structures promoted by The Converging World.
- current regulations ban new solution – Climate-Friendly Wekerle where current regulations on the protection of built heritage mean that the use of solar panels is not allowed[2]; and
- current system does not provide sufficient support – this happened in Hungary with the Ombudsman for Future Generations who has not been bestowed sufficient legal power to work effectively and to veto legislation that works against the protection of the rights of future generations. Furthermore, as described in Chapter 3.2. under the initiative description, the office was reduced from 80 to 4 employees, and as a result it was rendered impotent.

As for challenges mentioned in relation to time, the recurring issue was that, as a number of initiatives are based on the work of volunteers (e.g. Greenways Hungary, Climate-Friendly Wekerle, EcoSchools Iceland), if there are not enough volunteer hours invested, the work of the initiative may not progress very efficiently. From a different point of view, in the case

1 *On how policy could help overcome this and other challenges please refer to Deliverable 34 of the CONVERGE project (Policy Recommendations).*
2 *As of July 2012.*

of EcoTeams, the success of the initiatives is threatened if participating households do not invest a sufficient amount of time in implementing ecoteam tasks at home.

On occasion, the solution or problem addressed by the initiative becomes so topical that the initiative is suddenly faced with too many people or communities wanting to get involved in some way. This happened with Navdanya in relation to GMO-related concerns.

Those initiatives that mention skills, or rather lack of skills as a challenge most often have to deal with the fact that their participants or the intended beneficiaries (i.e. people and communities) do not have the necessary skills required to create or follow a more sustainable lifestyle. For example, No Impact Man, as well as members of the Gödöllő Climate Club, had to learn new skills to live successfully with a smaller eco/carbon footprint. SCAD in its Kitchen Gardens initiative found that people had to be taught gardening, composting, watering, etc. skills to be able to take full advantage of the seed packets distributed to them. Similarly, if someone wants to follow the path of Voluntary Simplicity, it is advantageous if he/she has a relatively high level of self-sufficiency-type skills.

Just like practical skills, participants and beneficiaries of sustainability initiatives often need new types of interpersonal skills, or have to relearn unused or partly forgotten skills in order for the initiative to work successfully. For example, members of the Pilisi Koronakör, a local exchange system, need to be able to sell and purchase products and services through personal and direct transactions, less common now in mainstream society than previously.

In other instances, the interpersonal skills related challenge is not within the initiative, but in some ways external to it. For example, when a new type of developmental strategy or new ways of working are suggested to the community by initiatives, such as in the case of Transition Towns, SCAD Kitchen Gardens or Fownhope CRAG, it might cause tension between different groups of residents. Initiative participants and promoters need to learn to be able to deal with this tension without causing rifts in the community. Initiatives also face challenges, often cultural and language-based, when they attempt to connect communities in different countries, as with the case of The Converging World where people and groups from the UK work with communities in India.

Finally, it needs to be noted that another type of challenge emerged in relation to our investigation of the limits/contraction and equity/convergence aspects of the initiatives. For certain initiatives, a certain level of tension exists between the limits/contraction and the equity/convergence aspects of sustainability. For example, FRANK Water raises money for providing access to clean water projects in developing countries through selling bottled water in a developed country. By doing this, it evidently contributes to increasing equity; however, the sale of bottled water remains an important environmental sustainability issue. The organization is aware of this tension and the challenge created by it, as evidenced in their documents:

"FRANK Water is a tap water company. Its mission is to fund sustainable tap water facilities. But paradoxically – it raises funds by selling bottled water. [...] There are lots of good reasons to NOT sell bottled water and just a few to sell it. [...]FRANK Water does not seek to have its cake and eat it – we cannot reconcile increasing profits and decreasing carbon footprint."[1]

In order to ease this tension they do several things (e.g. they refuse to export bottled water and they encourage the refilling of bottles as well as the use of drinking fountains) but, ultimately, they have not managed to find an ideal solution.

Another example is The Grameen Bank initiative which seeks to improve the living conditions of the poor in Bangladesh through providing them with microcredit (a fundamentally equity and convergence-focused initiative). Although they implicitly recognize the importance of planetary and resource limits and the need for contraction (even in relation to limiting family size), in their 16 Decisions that all borrowers need to sign up to, and in their 10 Indicators[2] no reference is included about the need to stay within planetary limits – even if it is understood that there is a real need to grow to satisfy basic human needs. In this case, cross-fertilizing their equity/convergence efforts with the concept of contraction (more specifically an awareness of planetary limits) would contribute a great deal to the long-term sustainability of the initiative (see more about this challenge in Chapter 4.6.).

1 *FRANK Water Philosophy of Business (& Eco Policy), available from: http://www.frankwater.com/wp-content/uploads/2010/12/FRANK-Water-Philosophy.pdf (last accessed June 30th 2012)*
2 *See details of the 16 Decisions and 10 Indicators at http://www.grameen-info.org (last accessed July 20th 2012)*

4.6. Cross-Fertilisation between Limits/Contraction and Equity/Convergence

"Climate chaos, climate instability, climate change are the most dramatic expressions of the human impact on planet earth. While the earth's own climate has gone through various stages of warming and cooling, the present trend towards warming, and the related destabilisation of climate systems and weather patterns is human induced and it is human beings who are already suffering the impact of intensification of drought, floods, cyclones and hurricanes, the melting of snow and ice and the aggravation of the water crisis. Tragically it is those who have contributed the least to green house gas emissions are suffering the most because of climate chaos – communities in the high Himalayas who have lost their water resources as glaciers melt and disappear, peasants in the Ganges basin whose crops have failed because of drought, coastal and island communities who face new threats of sea level rise and intensified cyclones.

Navdanya's work on climate change shows that efforts that mitigate climate change not only contribute to adaptation but also contribute to climate and ecological justice." Navdanya[1]

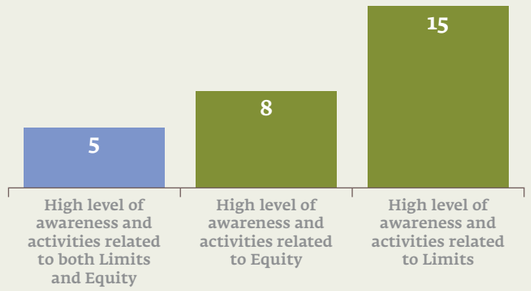


Figure 21: Number of initiatives that score 3 or more on both the limits/contraction and the equity/convergence scale

In the database of 28 initiatives it is interesting to analyze which initiatives, if any, exhibit a high level of awareness of both limits/contraction and equity/convergence. Figure 21 shows that there are 5 initiatives – as the table below indicates, rather different in their primary focus, country of origin, governance structure as well as size – that score 3 or higher on both scales.

Initiative name	Country/Region	Primary theme	Governance type	Scale of Activities*
Navdanya	India / Emerging economy	Agriculture, Land&Food	Grassroots / bottom-up	1,2,3,4
SCAD Kitchen Gardens	India / Emerging economy	Agriculture, Land&Food	Hybrid (SCAD NGO and local community)	3, 4
The Converging World	UK / Industrialized	Carbon/Climate specific	Hybrid (TCW charity, local communities and big business)	1, 2, 3, 4
Ombudsman for Future Generations	Hungary / Transition economy	Future generations	Policy / top-down (but the position was created as a result of a grassroots initiative)	2, 3, 4
Whistler 2020	Canada / Industrialized	Urban	Hybrid (local municipal government and local community)	1,2,3,4

* 1: individual/household, 2: local (intra-community), 3: regional (larger local), 4: global (inter-community)

Table 4: Summary table of initiatives which score 3 or more on the limits/contraction as well as the equity/convergence scales

In addition to these five, three more initiatives in our database exhibit a high level of awareness and activities on the equity/convergence scale. However, although they all show

1 *http://www.navdanya.org/climate-change (last accessed May 30th 2012)*

a certain level of awareness of and activities to address limits/contraction related issues, it is lower than that of equity/convergence. These initiatives include The Fairtrade Foundation, The Bokor Movement in Hungary, a faith-based initiative, and finally, Transition Town Totnes.

In the case of Transition Town Totnes, it needs to be noted that since it was founded, social justice elements have become stronger and pronounced in this initiative. On the other hand, even though it is an initiative that came into being with the explicit aim of helping the community to take on the challenge of peak oil and climate change, and there are programmes to help local people and the community to reduce their energy consumption and carbon emissions, there are no concrete and quantified reduction targets.

At the same time, we found that both The Fairtrade Foundation and The Bokor Movement have evolved in terms of contraction and to what extent the initiatives recognize the importance of planetary and resource limits. In the case of The Fairtrade Foundation the fairtrade certification include environmental criteria that are under continuous revision and development.

We can see some move towards the integration of the equity/convergence and the limits/contraction aspects in the evolution of The Bokor Movement. In this case it is interesting to note how one aspect, here equity/convergence, a very strong ethical and religious principle to share your possessions with those less fortunate then you (both within and outside your community) can facilitate the other aspect, limits/contraction. As Bokor members believe that they need to share not only their superfluous goods but also whatever they have, they naturally contract their resource use. In this case, it may be very helpful to make the limits/contraction aspect more conscious and highlight that giving and sharing may not only facilitate equity and convergence but also contracting to live within planetary limits.

Another example of this process from the socially-aware corporate world is FRANK Water which has always been aware of equity/convergence issues. However, as they are a company selling local bottled water, they have become increasingly conscious of the need to contract. Thus, to reduce plastic bottle use, they introduced a FreeFill[1] scheme which means that consumers (festival-goers) can buy special bottles that can then be refilled with water without any extra charge. As they are aware that this is still not the best solution from the point of view of environmental sustainability, in the long term, the company has the objective of phasing out the use of plastic bottles.

FRANK refill system

1 *See more at http://www.frankwater.com/freefill-2012/about/ (last accessed July 2012)*

In addition to the five initiatives that scored more than 3 on both the limits/contraction and equity/convergence scale, as is shown in Figure 21, there are ten in our database that exhibit a high level of awareness and relevant activities related to limits/contraction, but less explicit awareness of equity/convergence, which means that they do not mention equity or justice in their core mission statement. Interestingly, our research showed that only one of these ten initiatives has evolved in terms of equity/convergence: Fownhope CRAG in the sense that they broadened the horizon of their activities by concentrating on the local community as well as establishing contact with and supporting a community in the Gambia to assist in climate change adaptation there.

One process that is interesting to observe is that in the case of certain initiatives there are elements of other initiatives appearing. For example, as part of Transition Town Totnes, which is a comparatively large initiative incorporating several sub-projects, a fair-trade initiative was started. Furthermore, climate or carbon club like initiatives (similar to Fownhope CRAG and the Gödöllő Climate Club) were started within the transition initiatives in our database (Climate-Friendly Wekerle and Transition Town Totnes). This seems to suggest that the cross-fertilization of ideas between initiatives may be useful and may help them develop further.

Further research is needed with specific focus on cross-fertilization between limits/contraction and equity/convergence to determine mainly through which processes it occurs, how it can be facilitated as well as to find more examples which explicitly focus on both of these aspects of sustainability.

These factors, and facilitating cross-fertilization are especially important in the light of recent literature calling for more integration between the social and environmental aspects of sustainability (see Chapter 1.3. for more), in the knowledge that, as aptly concluded by Kate Raworth:

"Humanity's challenge in the 21st century is to eradicate poverty and achieve prosperity for all within the means of the planet's limited natural resources."[1]

1 *Raworth K. 2012. A Safe and Just Space for Humanity. Can we live within the doughnut? Oxfam Discussion Paper, February 2012. Pg. 1. Available from: http://www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf (last accessed July 20th 2012)*

References

1. Andersen MM. 2008. Review: system transition processes for realising sustainable consumption and production. In: Tukker A,Charter M, Vezzoli C, Stø E. and Andersen MM. editors. System Innovation for Sustainability 1. Perspectives on Radical Changes to Sustainable Production and Consumption. Greenleaf Publishing, UK. Chpt. 18. 320–344 p.
2. Seyfang G. 2009. Community action for sustainable housing: Building a low-carbon future. Energy Policy doi:10.1016/j.enpol.2009.10.027
3. Smith A. 2007. Translating sustainabilities between green niches and socio- technical regimes. Technology Analysis & Strategic Management. 19(4):427–450.
4. Tukker A. 2008. Conclusions: change management for sustainable consumption and production. In: Tukker A,Charter M, Vezzoli C, Stø E. and Andersen MM. editors. System Innovation for Sustainability 1. Perspectives on Radical Changes to Sustainable Production and Consumption. Greenleaf Publishing, UK. Chpt. 22. 406–443 p.

chapter 5 Summary and Conclusions

5.1. Closing Thoughts

The initiatives studied in the CONVERGE project form a very diverse group: from an incorporated bank in Bangladesh (The Grameen Bank) to a small carbon reduction action group in the UK (Fownhope CRAG) and a soil conservation initiative in Iceland. They include new and older NGOs, policy initiatives, social businesses, an international research-based initiative and a faith-based network. Still, they all explicitly or implicitly recognize the need for ***Convergence*** to enable humanity to live equitably within planetary and resource limits.

One important conclusion that emerges from studying both the literature and our diverse initiatives is that humanity needs to both contract and converge across scales. Inequality has to be overcome at all levels and in all fields, just as planetary and resource boundaries need to be respected at local, regional and global levels. Thus, promoting limits/contraction and equity/convergence is necessary at a personal level, in our households, our neighbourhoods and communities, our towns and cities, regions, countries and between groups of countries.

These processes of limits/contraction and equity/convergence need to happen in parallel with one another at the different levels and scales. This is why we find that a great many initiatives that were studied are operating at different levels simultaneously (see Figure 10 in Chapter 3.1.). For example, while working on reducing their household per capita carbon footprints, members of Fownhope CRAG in the UK became involved in community projects in their own community and region (partly to enable further reduction of their own footprints) as well as supporting a community in the Gambia.

From a different point of view, the change and innovation introduced by initiatives at a certain scale can be disseminated and be taken up at higher or lower levels. The direction of such change is often from the lower – individual, household, community or niche – level to the higher meso or landscape levels (see Chapter 4.4. for more about this topic).

A second important conclusion is that although they need to be observed universally, the principles of contraction/living within planetary and resource limits and equity/convergence will need to be communicated, as well as implemented, differently in industrialized regions, transition and emerging economies. In industrialized regions and transition economies the emphasis will mainly be placed on the importance of contracting resource use and consumption so that equity can be better promoted along with a greater focus on well-being. At the same time, in emerging economies where basic human needs are often not met (and let us remind ourselves that emerging regions can often be found within the borders of industrialized countries), the focus will often

be first on promoting equity/convergence – meaning that some growth in resource use and consumption may be required.

The initiatives introduced in this publication provide some good examples of how ***Convergence*** principles can be put into practice. The Bokor Movement, a faith-based initiative in Hungary, promotes contraction of material consumption based on religious principles. Donations – partly arising from individual contraction efforts – are used to promote equity/convergence both within and outside the country. The SCAD Kitchen Gardens and Fruit Tree Afforestation initiative in India helps to feed poor rural families by providing them with packets of seeds and teaching them to grow vegetables organically, using composting and rainwater harvesting techniques. It also plants fruit trees to combat desertification, slow land degradation and alleviate hunger. Here, basic needs are satisfied while efforts to alleviate environmental problems are made and work is undertaken in full awareness of planetary boundaries and resource limitations.

Thirdly, we would like to mention some ways in which the research described in this book could be continued and/or our research results further utilized.

We believe the limits/contraction and equity/convergence mapping system developed while the initiatives were being studied and analyzed in the CONVERGE project could be a useful tool for:

- evaluating existing initiatives, organizations and projects as well as policies in order to find ways in which they could be developed to better promote the observance of limits/contraction and promote equity/convergence;
- evaluating and improving project proposals to ensure that they observe both principles;
- raising awareness about the principles of and issues related to limits/contraction and equity/convergence; and also for,
- finding new initiatives and good practices for researching and potentially replicating them. Selecting initiatives that observe both principles would be made easier and faster with the help of such a mapping system.

Furthermore, the mapping system could be developed in various ways. One way to develop it would be including criteria to assess awareness and use of targets and indicators for the equity/convergence scale. At the moment, targets and indicators which refer to planetary and resource limits are only included in the limits/contraction scale (see the description for grade 3 and 4 in Chapter 2.1.), but as social boundaries also exist (for example, as expressed in the Millennium Development Goals), there may be a need to integrate them into the equity/convergence scale.

Finally, it has to be noted that implementing the principles of limits/contraction while promoting equity/convergence is not without its challenges as both the initiatives presented in this publication and the literature illustrate. In Chapter 4.5. on the Challenges faced by the initiatives studied in CONVERGE we described how, in the case of

the Grameen Bank in Bangladesh, working towards equity can be counter-productive in terms of respecting planetary boundaries, or in the case of FRANK Water how supporting access to clean drinking water through the sale of bottled water can undermine progress towards a higher level of contraction (as evaluated using the scoring system developed in CONVERGE). At the same time, in Chapter 4.6. examples were provided of how adhering both to the principle of limits/contraction and equity/convergence can be beneficial.

The literature provides a useful summary of how thinking along the lines of "environment" (environmental sustainability / respecting planetary boundaries) and "development" (social sustainability or working towards more equity) has traditionally been different from several perspectives: the way problems are framed, the units of analysis used, the time horizon employed for problem-solving, as well as key policy objectives (Melamed et al. 2012, and see Table 5). A different kind of analysis of the same issue is presented by Raworth (2012) who shows how aiming to achieve environmental or social objectives may be counterproductive for the other domain. For example, how policies aiming at eradicating poverty can lead to the overuse of resources, or how projects which are aimed at keeping resource use within planetary boundaries can exacerbate poverty. However, good examples of how this kind of tension can be avoided are also provided in both documents. In Table 5, an overview is provided of how the two domains can be connected and examples of initiatives included in this publication are provided to show how this is already being done in practice.

	Environment	Development	*Covergence* thinking[1]	CONVERGE project initiative examples
Nature of the problem	Scientific	Normative	Combining scientific with normative	Covenant of Mayors Cities of Genoa and Reykjavík
Unit of analysis	World	Individual	Individual well-being is not possible without ecosystem health, thus they both need to be borne in mind	SCAD Kitchen Gardens Ombudsman for Future Generations No Impact Man
Time horizon	Long-term	Short-term	Aligning short-term with long-term	Whistler 2020 Transition Town Totnes Grameen Bank
Focus of concern	Future generations	Current generations	Intrageneration and Intergenerational equity are both needed	Navdanya Ombudsman for Future Generations Transition Town Totnes
Key objectives of policy change	Not exceed maximum limits – reverse current trends	Reach and exceed min. standards – accelerate current trends	Equity within Limits – combining processes of contraction and convergence and redefining well-being	No Impact Man SCAD Kitchen Gardens ZERI
Economic policy implications	Create and regulate new markets	Insert poor people into existing markets	• "prosperity for all within planetary limits" • new economics and "beyond GDP" thinking, focus on well-being rather than growth • inclusive economic systems and businesses	Fairtrade Foundation FRANK Water Pilis LETS ZERI

Table 5: Connecting Environment and Development in ***Convergence***[2]

1 *Please note that the CONVERGE project consortium is not alone in thinking along these lines. See more on this in Chapter 1.3./Figure 6.*
2 *Adapted from Melamed et al. 2012.*

5.2. Proposals for Application and Further Research

It is our hope that the work carried out in the CONVERGE project – both in terms of research and the tools developed – can contribute to understanding the theory and practice of living within planetary limits/contraction and equity/convergence. More specifically, we support the ideas that:

- the examples presented in this publication can and should inspire others to start working and living in a way that respects planetary limits and fosters the coming in to existence of a more equitable world;
- with the help of the mapping system that has been developed, more CONVERGE type examples of initiatives could be found at all scales and in all regions – which can then also be analysed and understood more easily; and
- the mapping system could be used as a self-assessment tool for assisting initiatives as well as organizations to see where they stand in relation to addressing the issues of limits/contraction and equity/convergence (see Table 6 which contains a few examples for initiatives introduced in this publication).

	Action required to strengthen limits/contraction elements	Action required to more strongly promote equity/convergence elements
Gödöllő Climate Club	Attempt where possible to use best available science for formulating targets and indicators.	Incorporate explicit references to the need for inter and intragenerational equity into initiative documents and activities.
The 30 Project	Formulate or incorporate relevant resource-related targets and indicators to the initiative – where possible selected based on best available science.	Refer to the need to promote "justice" and "equity" across scales explicitly in core initiative documents.
Pilis LETS	As a first step, consider how planetary and resource limits are relevant to the initiative, then recognize them explicitly, and finally, define relevant targets and indicators (e.g. at an individual/local level).	Refer to "justice" and "equity" explicitly in core initiative documents. Consider how to incorporate a stronger ethical component into the initiative (e.g. offer free services/discounts for disadvantaged members).
Covenant of Mayors cities	Consider how to make the pre-existing 'contraction' elements more relevant and effective at an individual/local level (e.g.by defining carbon targets for local government employees' offices, districts or vehicle fleets).	As a first step, analyse the equity/convergence related challenges these initiatives face. Identify how to leverage contraction efforts for maximum gains in equity. Incorporate and publicise explicit references to the need for inter and intragenerational equity in initiative documents.

Table 6: Examples of how some selected initiatives introduced in this publication could move in a more strongly ***Convergence*** direction

Links to other work and outputs within the CONVERGE project

As shown in Chapter 1.1. in Figure 2, a ***Convergence*** Framework incorporating ***Convergence*** indicators is being developed by the CONVERGE project consortium. By using the mapping system as well as the ***Convergence*** Framework[1], organisations and communities should be able to move towards receiving 4 out of 4 on both scales (Equity/Convergence and Limits/Contraction), as the process described in the Framework can be used for:

- including all stakeholders in an awareness-raising process about planetary and resource limits;
- providing them with the opportunity to discuss, exchange knowledge about and understand sustainability issues and the concept of ***Convergence*** in a holistic manner;
- engaging stakeholders in a systems based thinking approach and systems analysis of the specific "problem" at hand (i.e. food security, resource depletion, etc.); and
- providing them with the chance to define relevant aspects of sustainable development and living within planetary limits/contraction and equity/convergence from their individual perspectives and circumstances.

Such a modelling process can make all participants aware of where they are doing well and suggest where they may want to focus their attention on changing in order to move up along both scales. Furthermore, this process ensures the development of relevant and key ***Convergence*** indicators in collaboration and consensus with participants. Finally, a dynamic model which interlinks these indicators could provide the information to monitor the potential progress towards future goals, which has great importance when creating new policies and assessing the effectiveness of their implementation. [2]

1 *For details of the **Convergegence** Framework see Deliverables 35 (Draft Synthesis of results of Work Packages into a multi-level framework for convergence) and 37 (A web-based resource or book reporting on the findings of WP7 for communities wishing to engage in convergence) of the CONVERGE project. Available from http://www.convergeproject.org.*

2 *For details see Deliverable 20 (Working Methodology Report for CONVERGE indicator Framework, tested with a range of stakeholder groups participating at Group Model Building workshops, including methodology report) of the CONVERGE project.*

5.3. Further Developments: the Convergence Observatory and the Convergence Alliance

The CONVERGE project could make an impact; we hope it will change the way that people see the world and how they make decisions for the future. The case examples in this e-book demonstrate that action is happening but by mapping out the direction of this action we can identify ways to connect and enhance what is being done. In simple terms where limits are the main concern we would like to encourage thinking about fairness and equity, and where the emphasis is on rights, entitlements, justice and fairness then maybe some more deliberate inclusion of the limited nature of the Earth systems and resources would draw people together and aim for a common point – Converge.

In addition to the suggestions listed above, CONVERGE could be promoted through two proposed developments[1]:

- The first is through the Convergence Observatory (CO), which will act as a research centre and campaign focus for ***Convergence*** ideas. It will develop and monitor ***Convergence*** indicators, continue investigating and developing the concepts and actively lobby in public, private and civil society sectors to raise awareness and affect policy making.
- The second is the Convergence Alliance (CA), which is a network to connect organisations and individuals, to promote the idea of dealing with limits and equity as one combined issue, to act as a mechanism to couple organisations that are more focused on one dimension, say resource, ecosystem and planetary limits, with another focused elsewhere on fairness and equity.

References

1. Melamed, CSA. and Mitchell T. 2012. Separated at birth, reunited in Rio? A roadmap to bring environment and development back together. Background note. Overseas Development Institute, UK. Available from: http://www.odi.org.uk/resources/docs/7656.pdf (last accessed July 2012)
2. Raworth K. 2012. A Safe and Just Space for Humanity. Can we live within the doughnut? Oxfam Discussion Paper, February 2012. Available from: http://www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf (last accessed July 2012)

1 *The Convergence Observatory is already active in producing policy papers and engagement based on research and monitoring. The Convergence Alliance is a space for reflection, conversation and forming links for action – it is waiting for you to join. Email info@convergeproject.org if you are interested.*

About CONVERGE Partners and Researchers

GreenDependent Institute (GDI, Hungary)

GDI is a not-for-profit research organization that was founded in 2011, as a spin-off of GreenDependent Sustainable Solutions Association (established in 2005). Its mission is to research and promote sustainable production and consumption patterns (SCP), with special focus on sustainable lifestyles. In order to fulfil its mission, GDI carries out educational, research and consulting activities, primarily at the local and national levels in Hungary, but also internationally. Its primary target groups are households, communities, the executives of local governments and policy-makers.
For more information visit http://www.greendependent.org

Edina Vadovics (M.Sc., M.Ed., M.Phil., Ph.D. candidate) is the professional director of GreenDependent. She manages GreenDependent's work in the European/International research projects, and campaigns. At the same time, she works on her Ph.D. at Central European University. Her research focuses on sustainable (low-carbon) communities and lifestyles. Earlier, she worked in corporate environmental and sustainability management, and taught related courses as an assistant professor for the University of San Francisco. She also worked as an external expert to the EEA and UNEP.

Simon Milton (M.Sc., Ph.D. candidate) is one of the founding members of GreenDependent and is employed as a researcher at GreenDependent for the CONVERGE project. He also lectures on Environmental Science, Corporate Sustainability Practice and Corporate Social Responsibility at the Corvinus University of Budapest. His research interests are focused around the normative component of sustainability, such as responsible business practices in small organisations.

Kristóf Vadovics (BA, MBA) is the financial manager of GreenDependent. He has an extensive experience in the overall management of environmental (LIFE+) and other EU funded (Interreg, IEE, FP7) projects, as well as in adult education and working with businesses. He has actively participated in the scientific and the piloting parts of FP7 research projects. He is also an active founding member of the Gödöllő Local Food Council. He has worked as a training manager, a teacher trainer and has a qualification in auditing.

Lund University (Sweden)

Lund University is ranked as one of the top 100 universities in the world and has 47,000 students. The university provides education and research in engineering, science, law, social sciences, economics and management, medicine, humanities, theology, fine art, music and drama. Faculty of engineering (LTH) is among the leading engineering faculties in Europe, with more than 7,000 undergraduates and 800 postgraduates. Applied Systems Analysis and System Dynamics (ASASD) Group at the Department of Chemical Engineering has been active in several sustainability initiatives during the past 25 years.
For more information visit http://www.lu.se, http://www.lth.se, http://www.lth.se/asasd

Prof. Harald U. Sverdrup is the head of the Applied Systems Analysis and System Dynamics (ASASD) Group at Chemical Engineering Department, Lund University. He developed the concept of "Critical loads" and worked for 25 years to implement it throughout different regions of the world. Sverdrup has pioneered the development of the PROFILE and SAFE, mechanistic models for weathering, soil chemistry, forest growth, carbon cycling and nitrogen transformations. He was a leader in the Swedish sustainability projects for forestry (SUFOR) and agriculture (FOOD-21).

Deniz Koca is an Assist. Prof. at ASASD Group at Chemical Engineering Department, Lund University. His research area centres on the complex dynamics of the interactions between nature and human systems. He has been involved in projects with the main task of analyzing, interpreting, modelling, simulating and communicating alternative scenarios of complex sustainability issues in a systematic and holistic way. He has been initiating, coordinating and facilitating education and research activities on Systems Science (i.e. Systems Thinking, Systems Analysis and System Dynamics).

Social Change and Development (SCAD, India)

Social Change and Development (SCAD) is a grass roots organisation based in Tirunelveli, Tamil Nadu in India that has benefited hundreds of thousands of people. SCAD is dedicated to empowering those who are battling against discriminatory social and economic factors. It provides training and equips the people of rural villages with the skills, knowledge and behaviors they require to become self-sufficient. However, SCAD believes that people should not become dependent on these supplies and facilities. Communities are provided with education and training so that they are capable of implementing solutions that work for them.

For more information visit http://www.scad.org.in/

Dr Cletus Babu grew up in a village in the Kanyakumari district of Tamil Nadu. After schooling Cletus studied to become a Priest. During seven years in the priesthood he was responsible for managing a number of schools but his drive to help others led him to become a social worker. Now he has a PhD in Education on providing skills training to the rural youth. Dr Cletus is the founder of Social Change and Development –SCAD one of the leading NGO in southern Tamil Nadu India involved in various rural development programmes and running various Technical and educational institutions. He believes Education and empowerment of the community alone bring development for the future India

Naga Nagarajan, a SCAD Team Leader, graduated with a degree in social work and has had a long and successful career in the field. During his 30 years in the sector he has worked for organisations such as the Institute for Rural Development, Save the Children, Oxfam and other well-known development organisations. He has a vast amount of experience in monitoring, evaluating and advising on a diverse range of projects from watershed management to women's rights.

Amirthan Christy Charles is the project manager for SCAD. He has a post graduate degree in Sociology and Chemistry and a degree in Education. He has been associated with SCAD for the past 26 years. His area of specialization is Training and communication and building international relations. He has done various works on environmental development and education for rural children.

Szent István University (SZIU, Hungary

The SZIU team members belong to the Environmental Social Science Research Group (ESSRG) at the Institute of Environmental and Landscape Management (IELM) at Szent István University, Gödöllő, Hungary and have their professional roots in various disciplines ranging from agri-environmental engineering through ecological economics to rural and environmental sociology. The team has developed special expertise on the science-policy interface and also embarks on various community outreach activities by involving students and local people as co-researchers.

For more information visit http://www.essrg.hu

Bálint Balázs: MA in Sociology and History, research fellow in the Environmental Social Science Research Group, in the Department of Environmental Economics, Institute of Environmental and Landscape Management, St. István University, Gödöllő. His main research interests are Environmental Sociology, Local and Alternative Food Systems Development and Socio-Environmental Conflicts. In the CONVERGE project he is responsible for the policy analysis work package and examples of convergence in policies moving towards sustainability.

Mária Tarnai was a member of the research team of Szent István University between 2010–2011. Ms Tarnai graduated in 2005 as an environmental economist at the Corvinus University Budapest. After graduation she spent a semester in Spain as an EVS volunteer. She started a Ph.D. at the Budapest Corvinus University School of Social Sciences. As a Ph.D. student she worked in several research projects particularly in environmental assessment and community-based sustainability initiatives. From 2008 to 2010 she worked as a community developer, since 2012 she has worked for the Hungarian Research Institute of Organic Agriculture.

The Natural Step International (TNSI, Sweden)

The Natural Step works with organisations to pioneer sustainable solutions. TNSI helps its partners to integrate sustainability principles into their core strategies, decisions, operations – and bottom line. TNSI works closely with the people inside the organisation; people who are dedicated to sustainability and the creation of a better world. TNSI's approach is collectively called the "Framework for Strategic Sustainable Development" – it is a comprehensive model for planning in complex systems. It is openly published and free for all to use. The Framework for Strategic Sustainable Development has helped hundreds of different organisations around the world integrate sustainable development into their strategic planning and create long lasting transformative change. It is constantly being used, tested, refined and developed.

For more information visit http://www.thenaturalstep.org

Dr. Edith Callaghan, an Associate Professor of Business at Acadia University, Canada, and Senior Research Advisor with The Natural Step Sweden. Dr. Callaghan has been working in the field of sustainability, and community development for many years. Pursuing her passion, she continues to facilitate learning for in effective planning and processes for strategic sustainability and community engagement.

David Cook, Executive Ambassador. David has been part of The Natural Step International team since 2005 and is based in Stockholm. David has worked with senior managers and operational teams in organisations around the world, including Dow, Nike, Skanska, Scandic, as well as many local communities and public agencies. Prior to working with The Natural Step, David was Chief Executive of a public/private partnership which planned, funded and built a new university in the UK. The project won a national award for excellence as a public/private partnership.

Josefin Nyström, Advisor. Josefin is an Advisor with The Natural Step's international team, based in Stockholm, Sweden. She primarily works with education and training programs, both sales and development of them. She has experience of volunteering for the scout movement working with sustainability and environmental questions, leading boards and inspiring youth. Josefin holds a Master's Degree in Strategic Leadership towards Sustainability from Blekinge Institute of Technology and a Bachelor's Degree in Environmental Science from Linköping University.

The Schumacher Institute (UK)

The Schumacher Centre was formed in 2008 as an independent research and education organisation to honour the work of E.F. Schumacher who was a seminal influence in the environmental movement. The Centre performs research in many areas of socio-ecosystems, it runs post-graduate courses and gets involved in practical, sustainability work in its home city of Bristol. It concentrates on interdisciplinary working and systems thinking for sustainability, particularly to develop the concept of ***Convergence*** – transforming our systems to live within limits with equity.

For more information visit http://www.schumacherinstitute.org.uk/

Alice-Marie Archer (B.Sc., M.Sc.) is a Research Fellow of the Schumacher Institute. She manages the EU FP7 funded project CONVERGE exploring process and mechanisms towards equity within biological planetary limits. Her research focus is on systems sciences for sustainability including research into how the web's collaborative potential can be harnessed strategically and practically towards sustainability. She has been awarded a Peter Kirk Scholarship for her research into the management of regional parks. Prior to working at the Schumacher Institute she was owner of eco-patisserie & chocolaterie 'Au pays des Merveilles'.

Jenneth Parker (B.A., M.Sc., D.Phil) has recently worked with the University of Bristol QUEST Earth System Science climate change team on interdisciplinary synthesis. She is a former Co-Director of the international Education for Sustainability distance learning Masters programme at London South Bank University, and has worked on the African Commonwealth Scholars programme. Among other topics, she has published on critical realist philosophy, and ethics of sustainable development, most recently for UNESCO. She is currently working on the links between critical realist frameworks and systems theory with reference to examples of interdisciplinary research for sustainability.

Ian Roderick (B.Sc., M.Sc., M.Sc., FRSA) is a former businessman, once head of economics and long range planning for Rank Xerox then co-founded a software company, which was sold in 2000. He was instrumental in creating The Schumacher Centre but he also co-founded the charity The Converging World. He is a board member of the UK Systems Society (president from 2005–2008) and a board member of Low Carbon South West.

University of Bristol (UK)

The University of Bristol is one of the most prestigious universities in the UK and draws students from more than 100 countries. This dynamic international community is dedicated to learning, discovery and enterprise. The University employs more than 1,100 academic staff and approximately 800 research staff. The student population is currently 10,500 undergraduates plus 2,500 postgraduates. The School of Earth Sciences (top RAE rated, 5*) has 30 academic staff, 50 post- doctoral fellows and 50 Ph.D. students involved in a wide range of research programmes.
For more information visit http://www.bris.ac.uk

Dr Sarah Cornell was the Science Manager for the UK Natural Environment Research Council's programme *Quantifying and Understanding the Earth System* (2004–2011). She is now at the Stockholm Resilience Centre, and serves as scientific advisor to CONVERGE. Her scientific background is in environmental chemistry. More recently, Dr Cornell has worked on research linking global change science and policy. She promotes education for sustainability, co-developing Bristol's Green Gown award-winning university course on sustainable development.

Matt Fortnam worked on a variety of research projects at the University of Bristol, including RISKBASE, a EU FP6 project on river basin management. In the past, Matt worked for UNEP's Global International Waters Assessment and was a contributing author of the Global Environment Outlook 4 report. Matt is also the founder of Ecojam, the largest sustainability network in Bristol, and a trustee of a charity, FRANK Water, which establishes drinking water projects in India. He is now studying for a Ph.D. at University College London, exploring coastal environmental governance and community resilience

University of Iceland

The University of Iceland celebrated its centennial in 2011 and the same year it was evaluated by Times Higher Education Supplement in the top 300 of all of the World´s universities. The University has 14,500 students and five schools: Engineering of Natural Sciences, Humanities, Social Sciences, Education and Health Sciences. The University has both a transdisciplinary Institute of Sustainable Development and a graduate program in Environment and Natural Resources. In 2012 the University Council adopted a Sustainability and Environment Plan that encompasses teaching, research, teaching programs and methods, daily activities, social responsibility and design and university management.
For more information visit http://english.hi.is/

Kristin Vala Ragnarsdottir (B.Sc., M.Sc., Ph.D.) is a professor of Sustainability Science at the Institutes of Sustainable Development and Earth Sciences. From 2008–2012 she was the dean of the School of Engineering and Natural Sciences. In that capacity she held training for her teaching staff in sustainability literacy, systems thinking, ethics and education for sustainability. Her research focuses on sustainability in all its widths with current emphasis on soils, natural resource availability and sustainable communities.

Helga Ögmundardóttir (B.A., M.A., Ph.D.) is a cultural anthropologist, currently doing research and teaching at the University of Iceland, at the Institute for Sustainable Development and the Department of Anthropology and Ethnology.

Sigrún María Kristinsdóttir (B.A., B.FA., M.A., Ph.D. candidate) is a professional journalist currently working on her Ph.D. in Environment and Natural Resources. Her research is on developing a methodology and framework for sustainable communities.

Brynhildur Davidsdottir (B.Sc., M.Sc., Ph.D.) is an Associate Professor in Environment and Natural Resources and director of the graduate programme. She is both a biologist and an ecological economist and an expert in energy, climate adaptation, ecosystem services and sustainability indicators.

Photo Credits/Disclaimer

The majority of the photos in this document are used with permission. Attempts have been made to trace the ownership of all other copyright material/photos contained here. Anyone who feels that any item in this document may have inadvertently breached their copyright should please contact the authors via email so that appropriate remedial action can be taken.

This document also contains links to other internet sites. These links are not intended to be endorsements of material and no information on these sites has been independently verified by the authors.