



for a living planet



well-being and the environment

achieving 'One Planet Living' and maintaining quality of life

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nef is an independent think-and-do tank that inspires and demonstrates real economic well-being.

We aim to improve quality of life by promoting innovative solutions that challenge mainstream thinking on economic, environmental and social issues. We work in partnership and put people and the planet first.



economics real wealth means well-being



environment lifestyles must become sustainable



society communities need power and influence

nef (the new economics foundation) is a registered charity founded in 1986 by the leaders of The Other Economic Summit (TOES), which forced issues such as international debt onto the agenda of the G7/G8 summit meetings. We have taken a lead in helping establish new coalitions and organisations, such as the Jubilee 2000 debt campaign; the Ethical Trading Initiative; the UK Social Investment Forum; and new ways to measure social and environmental well-being.



If everyone in the world lived as we do in Europe we would need three planets to support us. Therefore we need to reduce our impact – our ecological footprint – by two thirds to a sustainable and globally equitable level. Different countries, however, are consuming at different levels. In the USA, five planets would be needed, whilst in China although now living within the one planet level, the current rapid development will lead to a massively increased impact.

Introduction

There is increasing research around well-being and happiness. WWF (the Worldwide Fund for Nature) commissioned **nef** (the new economics foundation) to consider the relationship between well-being and the environment. We are using the term environment here in a broad sense to mean the external physical conditions we live in and experience, including the built environment.

Within this we sometimes refer to the natural environment or 'nature', which can have a particular relationship to well-being, sometimes in unique ways. (See Box 1 for a definition of well-being). The evidence in the first half of this paper focuses in particular on the importance of local environments.

There are many ways in which the environment is crucial to our wellbeing. At the most fundamental level, the ecosystem sustains and contains our society and economy. A functioning ecosystem is a prerequisite to human well-being: we see this in parts of Bangladesh where flooding wreaks havoc on people's everyday lives and livelihoods. WWF's *Living Planet Report* suggests that globally we are consuming 30 per cent more than the planet can sustain into the long term.¹

If everyone in the world lived as people do in Europe, we would need three planets to support us. Beyond this broad sense in which the environment is fundamental to our lives, there is now an emerging body of evidence that suggests that the local environment, and particularly natural environments, meets a wide range of human needs and promotes well-being. In the first part of this paper we draw together some of this evidence looking at the relationship in the broadest sense - including physical, resource and perceptual aspects to the relationship.² In the

BOX 1: What is well-being?

Some academics argue that well-being is best understood in terms of our overall happiness or satisfaction with life. But evidence shows that there is much more to life than satisfaction: people also want to be leading rich and fulfilling lives – developing their capabilities and fulfilling their potential.³

Therefore, **nef**'s model of well-being has two personal dimensions:

- People's **satisfaction with their lives**, which is generally measured by an indicator called **life satisfaction**: this captures satisfaction, pleasure and enjoyment.
- People's **personal development** for which there is not yet one standard psychological indicator the concept includes being engaged in life, curiosity, 'flow' (a state of absorption where hours pass like minutes), personal development and growth, autonomy, fulfilling potential, having a purpose in life, and the feeling that life has meaning.⁴

For people to lead truly **flourishing** lives they need to feel they are personally satisfied and developing.

second part of this paper, we turn to the question of how we can achieve 'One Planet Living' – where we all live within our environmental means – and yet maintain or increase our quality of life.

One Planet Living (OPL) is a joint initiative of BioRegional and WWF. It aims to make sustainable living easy, attractive and affordable throughout the world.



How the environment contributes to our well-being

Nature is something that people use to refresh themselves. A UK survey found that 90 per cent of people valued the countryside for relaxation, fresh air and peace.⁵

Escape, beauty and meaning

Research suggests that green space can play an important role in providing 'an escape' from high population density in cities, be this through gardens, allotments or countryside.⁶

There appears to be a universality to the experience of beauty that nature evokes within humans. For example researchers looked at the preferences of culturally varied students in Australia and Italy regarding natural and constructed landscapes. Natural landscapes were preferred overall, and specifically as places to live, work and vacation.⁷

A sense of meaning is a significant component of well-being.⁸ Nature has long provided a way of inspiring awe, meaning and sense of oneness. Staring at the ocean, or looking at the stars, or climbing a mountain provides a unique experience that cannot be replicated by non-natural phenomena. Nature's role in what we might call our 'spiritual well-being' is unique, and provides a range of benefits including making us more reflective, contributing to our personal growth, inspiring awe, and evoking a feeling of wholeness and belonging.⁹

Social ties

A pleasant local environment helps create social relationships, which research shows is one of the most important contributors to our wellbeing. For example, a study in Chicago notes that, "Results consistently indicated that natural landscaping encourages greater use of outdoor areas by residents. Spaces with trees attracted larger groups of people, as well as more mixed groups of youth and adults, than did spaces devoid of nature. In addition, more dense groupings of trees and trees that are located close to public housing buildings attracted larger groups of people. These findings suggest that natural elements, such as trees, promote increased opportunities for social interaction, monitoring of outdoor areas, and supervision of children in impoverished urban neighborhoods."10

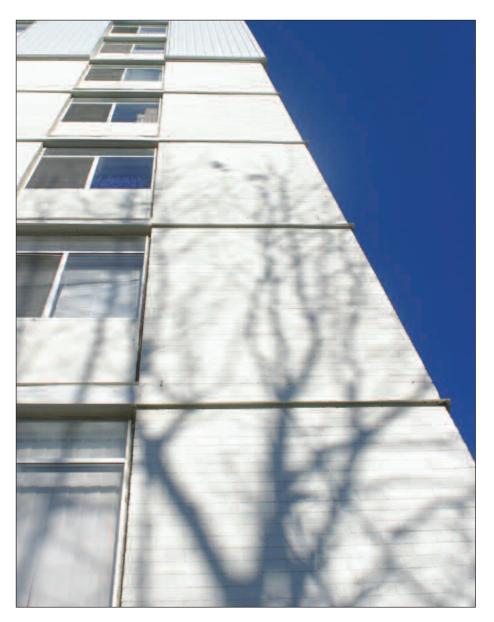
Another study noted "We found that the more vegetation in a common space, the stronger the neighborhood social ties near that space compared to residents living adjacent to relatively barren spaces, individuals living adjacent to greener common spaces had more social activities and more visitors, knew more of their neighbors, reported their neighbors were more concerned with helping and supporting one another, and had stronger feelings of belonging."¹¹ The direction of causation was clear in this study - the greenery caused the social relationships, not the other way

around. This was shown by the fact that residents in this case did not manage the landscaping. The evidence shows, therefore, that good quality local environments support stronger communities and 'social capital'.

Mental health

There are many studies that show how the natural environment can be conducive to mental health. In one study people were shown a disturbing film and then a film of either the natural environment or a built environment. Those who saw the natural environment film were found to be in a much better mood than those who saw the video of the built environment.¹²

In another study, 145 urban public housing residents in the US were randomly assigned to buildings, some of which were close to nature. "Residents living in buildings without nearby trees and grass reported more procrastination in facing their major issues and assessed their issues as more severe, less soluble and more long-standing than did their counterparts living in greener surroundings."¹³ The study supports the 'attention restoration hypothesis' that green space reduces mental fatigue. Conversely other research shows that residents living in relatively barren buildings had higher levels of mental fatigue, aggression and violence than those living in greener buildings.¹⁴ There are different



theories as to what might cause this. One argument from evolutionary theory suggests that nature is a key component of a fit human habitat.

Physical health

Physical health is a growing issue worldwide, as increasing numbers of people lead sedentary lifestyles. This is not a purely Western issue – a third of the world's obese people live in developing countries.¹⁵ Safe and pleasant local environments can play an important role in helping to promote physical health by encouraging exercise.

A study from Japan shows that access to green space and pleasant local environments has significant longevity benefits. The probability of senior citizens living for a further five years was linked to their ability to take a stroll in local parks and tree-lined streets, and their preference to continue to live in their own community.¹⁶

Environment-related health problems cause misery for many in the developing world. In Africa 25 per cent of working time lost is due to environment compared with 11 per cent in Latin America. A World Bank Group study has found that reductions in SO₂ emissions, which would cost just \$300, would save one life in Beijing.¹⁷ And World Health Organisation research shows air pollution with particulate matter claims an average of 8.6 months from the life of every person in the European Union.¹⁸

There is also evidence that natural environments can help people recover from illness. Hospital patients with views of greenery recovered more quickly, used fewer painkillers and were seen as more co-operative by hospital staff.¹⁹ Natural views are also more generally associated with a drop in blood pressure and reduction in stress levels.²⁰ Once more, the causes of this are not entirely clear, but the evidence is strong.

Economic

High quality environments tend to improve property prices. In Ohio, Boulder and Columbus, homes next to parks commanded up to 23 per cent more in price than similar properties only a street away.²¹ Similar findings emerge from the Netherlands where a view of a park raises the price of a property by 8 per cent whereas a view of an apartment block can reduce the price by 7 per cent.²²

Good quality environments can also have business benefits, both in terms of attracting business investment, and increasing trade, as people obviously prefer to shop in pleasant and safe environments. Research shows that in the US, small businesses in particular rate green and open spaces as their highest priority when choosing their location.²³

The relationship between poverty and the environment is an important one. There is evidence that the poorest citizens suffer the worst environments.²⁴ A recent study shows that withdrawing environmental resources (where environment is defined by the poor themselves) has a substantial impact on poor people's well-being.²⁵

Natural space is also increasingly recognised as an important part of regeneration in order to promote liveability: economic regeneration without thought for social and environmental factors has been shown to create places where people do not want to live. Without dealing with this, it is difficult to lift an area out of a negative cycle as those people who are economically successful move out as soon as they are able.²⁶

Degrading the environmental resources of a country can have greatly constraining effects on future economic growth. Deforestation in Cambodia led to costs of \$156 million in flooding in 2000 – the country was said to have generated just \$92 million in the forests sector 1994–2000.²⁷ It has been calculated that the net



present value lost from 1km² of degraded reef in the Philippines compared to productive reef over 25 years (at 10 per cent discount rate) is \$86,300 from sustainable fisheries, \$193,000 of foregone coastal protection and \$482,000 of lost tourism – compared to \$15,000 gained from blast fishing.²⁸ Between 1957 and 1990 China lost an area of arable land equal to all the cropland in Denmark, France, Germany and Holland due to land degradation.²⁹

Young people playing and learning

Outdoor play has significant benefits for young people, including the development of their cognitive and motor skills. Green spaces provide both fun and challenge. A study in the US shows that young people who played in areas with trees and grass rather than similar areas without trees and features played for longer, and played more creatively and more cooperatively.³⁰

There is evidence that nature has benefits for young people's education. As well as the general benefits to physical and mental health which have already been described, there is evidence that higher quality grounds in schools brings behavioural change in pupils, reduces bullying, and provides more opportunities for learning.³¹

Crime

In a wonderfully titled paper "Does vegetation reduce crime?" the researchers, who conducted a study in Chicago, conclude "...vegetation can deter crime in poor urban neighborhoods in any or all of the following ways: by increasing residents' informal surveillance of neighborhood spaces, by increasing the implied surveillance of these spaces, and by mitigating residents' mental fatigue, thereby reducing the potential for violence."³² This provides a counterexample to the common idea that foliage can increase crime as it provides cover for burglars. It is likely that the design of the space is important here.

It has already been shown that local spaces, which are pleasant, are more likely to attract residents to walk, sit, and socialise. This can have an impact on the fear of crime, which tends to be highest in relation to spaces with little sense of community presence – where few people tend to be out and about. It also may help act as a preventative to the 'broken windows syndrome' where if a broken window is not repaired, other windows will soon also be broken in a cycle of vandalism.

In Ontario, Canada, a rubbish dump, which attracted criminals and was avoided by residents, was turned into a community garden. This resulted in a 30 per cent drop in crime over the following summer. This had a positive spiral effect: as the area became safer, more people used it and the surrounding streets, thus increasing self-policing and reducing the fear of crime.³³

Local environments and well-being

Thus it is clear that our local environments, in particular natural environments, can have significant effects upon our well-being in multiple ways. Some of these effects have been unrecognised or undervalued, and this has allowed for underinvestment in public spaces or for green spaces to be given up in favour of other forms of development.

Clearly there can be tensions between personal well-being and 'One Planet Living'. For example, the desire to escape to nature may mean people drive or fly to their destination, increasing pollution. Good local environments do not necessarily mean a sustainable global environment. The second half of this paper explores whether this tension is always true and looks at ways in which it might be resolved.

The wider picture

Environmentalism and the idea of 'sustainable development' have failed to connect with, and indeed been resisted by, many people. In part this is because the ideas have been perceived to be primarily about limits on people's behaviour and consumption, and thus inherently about reducing quality of life.

In the developed world there has been a reluctance to do anything that would damage economic growth and reduce individual choice. It is sometimes argued that the environment is a luxury good in developing countries, and that the primary goal must be growing the economy in order to solve poverty, before turning to the environment.

Ecological economists such as Herman Daly have argued, however, that a primary question about the economy is its scale in relation to the ecosystem that sustains it.34 Whilst conventional economists see the macro-economy as the whole. ecological economists see it as embedded within a wider ecosystem. Logically there will be a size to the economy - at a given level of technology - which cannot be sustained by the underlying ecosystem. Beyond this point, growth becomes 'uneconomic'; in other words its costs outweigh its benefits. Economists understand that all courses of action have an 'opportunity cost' - the cost of other opportunities forgone. They tend to forget, however, that growth is another competing end amongst the things we may want, and, as with all things, we must decide what we will give up to achieve this end. Often the price is a heavy one, as we do not explicitly think through the cost to the environment of further growth in terms of resource depletion, pollution, climate change, etc.

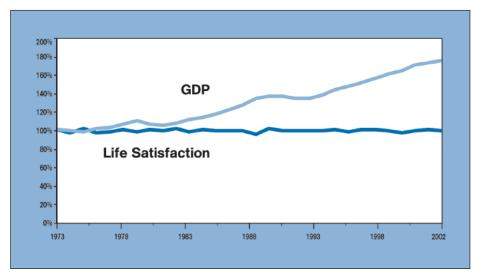
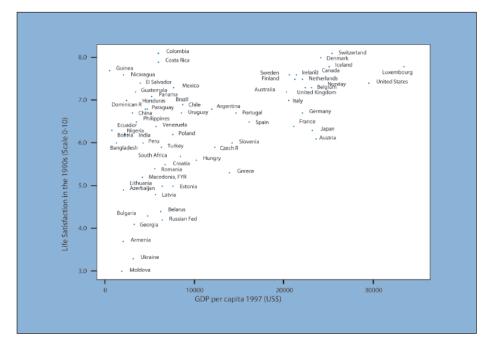


Figure 1: UK life satisfaction and GDP 1973–2002

One way to understand and communicate sustainable development is in terms of present and future quality of life.³⁵ Quality of life can be understood as comprising three major components: well-being, social justice and environmental sustainability.³⁶ If we understand sustainable development in terms of quality of life, it can become a concept that is more meaningful to people, and also is no longer primarily about limits to behaviour. Instead it is about promoting quality of life in holistic ways.

Over the last thirty years there has been a new stream of multidisciplinary research around wellbeing and happiness. This has provided some important new insights, particularly about the relationship between money and happiness. The data shows that in developed countries. massive increases in economic wealth over the last thirty years have resulted in happiness levels remaining unchanged (see Figure 1). The evidence suggests that after basic needs are met, we adapt very quickly to the material gains that come from increases in income. We also compare ourselves to others and this can lead to satisfaction or dissatisfaction. The resolute flatness of happiness in developed countries is coupled with data suggesting that mental health problems are rapidly on the rise, and levels of trust and social cohesion are falling.³⁷

Figure 2: An international comparison of the life satisfaction and GDP of nations



Cross-country comparison of life satisfaction and GDP also shows that some countries have high levels of well-being despite lower consumption (see Figure 2). In particular, the data suggests that it is the quality of our relationships that is fundamental to our well-being. There is also data showing that materialistic people (who believe money and possessions will bring happiness) have lower wellbeing than their non-materialistic counterparts.³⁸

Gross Domestic Product – an indicator often cited as the key measure of a society's progress – has been found to be sorely lacking. For these reasons *The Economist* has called GDP 'Grossly Distorted Picture' and Nobel Laureate Simon Kuznets – the original architect of GDP – has made it clear that he never meant it to be used to measure quality of life saying, "The welfare of a nation can scarcely be inferred from a measurement of national income."

The importance of well-being for policy is gaining ground. Most recently, the UK Sustainable Development Strategy *Securing the Future* has indicated that the UK will create a set of well-being indicators and also consider how policy could promote well-being.³⁹

There is an emerging body of thinking that suggests that we could move towards 'One Planet Living' and yet maintain or even increase our wellbeing. This is based on the view that our present development paths (particularly in developed countries), which focus primarily on growing the economy, may not be the best roads to well-being. This view holds that a well-being society would be more focused on quality work, community, and more leisure time, with less consumption created by a less agaressive marketing society. Such a society could directly meet human needs in a more holistic way than present societies whose economies are based on creating unsatisfied needs through marketing. A vision of such a society is outlined in nef's Well-being Manifesto.40

Some new research, which supports this view, looks at the relationship between well-being and ecologically responsible behaviour.⁴¹ Two studies found that happier people are living in more ecologically sustainable ways and that there is not a straightforward trade off between well-being and environmentally responsible behaviour. The research suggests that two factors underlie both the happiness and the ecological responsibility. The first is an 'intrinsic orientation' - in other words being motivated by internal goals rather than external and material goals. This both promotes well-being and proenvironmental behaviour as "intrinsic values are, by their very nature, not dependent on material goods for their

fulfilment".⁴² The second factor is 'mindfulness' – an ability to perceive internal and external realities openly and without distortion. Mindfulness is associated with greater levels of wellbeing, and also is linked to less materialism and less consumption spending over time. This new research suggests that we could cultivate lifestyles based on intrinsic values and mindfulness, which bring greater fulfilment and are at the same time more ecologically responsible.

Moving forward – creating 'One Planet Living' based on quality of life

Inspired by the data, which shows the close relationship between our well-being and our environment, this paper argues that we need to put quality of life at the heart of sustainable development.

Thinking about sustainable development in this way raises challenges about how to take it forward but also provides opportunities, in particular to make the concept more relevant to people's lives and thus make the transition to sustainable development more plausible and possible.

How could we move towards 'One Planet Living' based on quality of life? This is a big question, and the purpose of this paper is to raise it rather than to answer it in full. There are, however, some possible paths to follow which could be fruitful, some of which move away from traditional environmental territory. We suggest five ways of taking forward a concept of sustainable development with quality of life at its heart as a way of starting the debate.

1. Measure what matters

There are presently no major recognised indicators that bring together well-being concerns with environmental sustainability. Work needs to happen to consider how we can measure and manage the twin aims of promoting quality of life and 'One Planet Living'.

2. Promote and protect local environments

The evidence in the first part of this paper shows that the natural environment can have a powerful effect upon our well-being, and that the local environment in particular plays a crucial role in our physical and mental health, social and community life, the growth of our children and the economy in which we work. Therefore we need to do more to recognise the multiple and unique benefits that the local environment can provide, and seek to protect and promote these as a necessary part of vibrant communities with high quality of life.

As discussed earlier, there is evidence that the poorest citizens suffer the worst environments. Thus it is a matter of environmental justice to ensure that resources are aimed at the worst off. There is also evidence that there can be barriers to interaction or use of the environment by the socially excluded or ethnic minorities due to lack of access or knowledge and skills.⁴³ Thus all work on preserving or strengthening the local environment should focus on issues around inclusion and access, and should take a participatory approach.

Another factor to be taken into account is that as populations in the developing world grow, we will see a huge increase in urban population in mega-cities. It will therefore become ever more important to keep people in touch with the joys of nature, both for their own well-being and also to ensure a 'connection' with the natural world encouraging the acceptance of policies which protect non-urban areas.

3. Ecological debt trading

If all world citizens were given a right to their share of the global commons, developed-country citizens would be highly indebted to those in developing countries, as rich countries' environmental footprint is far greater than their fair share.⁴⁴ We should make these rights tradeable. This would mean that rich countries would have to pay poorer countries for over-using resources and overpollution. This would have significant effects on development through redistributing economic wealth to poorer countries. Over time the number of rights to environmental resources could be reduced, hence using the market mechanism to bring down global levels of resource use and pollution. Rich countries would also benefit from this kind of policy. Protecting the global environment is in everybody's interests. We live in an interdependent world and poverty and poor environments can create war and conditions where terrorism might flourish, factors which then affect everybody, rich or poor.



4. Curbing the marketing society and promoting sustainable consumption

Increased consumption is not bringing more well-being in developed countries. More materialism makes us less happy. And yet billions are spent every year on advertising and marketing to make us believe that we 'need' more products, and that if we had that car we would be happier... and sexier to boot!

Professor David Cadman, writing in Resurgence in April 2003, points out that, "The doctrine of consumption and economic growth is *not* primarily founded on 'satisfaction' but upon 'dissatisfaction'." Cadman quotes Robert Lane from The Loss of Happiness in Market Democracies "...advertising must use dissatisfaction to achieve its purpose" and shows that this deliberately misleading aspect of consumer culture dates back to Edward Bernays in the post war 1930s. Bernays applied his experience of US propaganda to the foundation of what is now modern day consumerism -"He understood that the appetite of our present materialism depends upon stirring up our wants - but not satisfying them." If this is true then this 'promise' of consumerism is not only not making us any happier and destroying the plant - it is also a lie!

The marketing machine's 'footprint' or 'brainprint'⁴⁵ preys on our weaknesses and seeks to make us

spend more money. But it has no real interest in meeting our needs. This is as true for developing countries as for developed countries. We need to review the role we want advertising and marketing to play in our world. We should consider how similar it is to pollution, and thus worth taxing like any other externality. We should also strengthen regulatory mechanisms to promote truth in advertising, and in particular to protect young people from targeted advertising.

There is growing understanding that consumption plays a complex role in society far beyond the functional satisfaction of basic needs.46 Developed countries need to take the lead in experimenting with the emerging thinking on how we can move towards sustainable consumption through innovative methods of behaviour change. This goes beyond traditional economistic models that focus upon information provision and financial incentives to incorporate thinking around social norms, institutional structures, situational factors and communitybased change.⁴⁷ We need to make the right choice the easy choice.

5. Bring together the global development and environmental agendas

At present there is a perceived and sometimes real clash between the global development agenda (which tends to see growth as a key to poverty reduction) and the global environmental agenda (which tends to see growth as a bad thing). Development and environmental bodies need to build a common platform on how to create a sustainable global economy that is based on quality of life now and for future generations.⁴⁸ This is likely to comprise of a mix of measures including:

- Ways of distinguishing 'economic growth' from 'uneconomic growth'.
- Higher levels of redistribution from developed countries to developing countries.
- Fewer constraints on developing countries' growth than on developed countries'.
- Better economic modelling of what slow-growth economies would look like, including the impacts on taxation, funding of public services, and employment.

Developing countries are understandably suspicious of Western environmental agendas and are right to ask, "Why can't we have what you have?" The only way we can move towards sustainable development is if developed countries take the lead on dealing with their own issues – particularly the sustainability of consumption.

Not the final word

By placing quality of life at the heart of sustainable development we can make the concept something that is positive and relevant to people's lives. It also allows us to create a new and powerful vision about the sort of society in which we wish to live. The challenge is for all those working on issues around development and environmentalism to grapple with the question of how we can move to a world based on well-being, social justice and environmental sustainability.

Endnotes

- 1 WWF (2004) Living Planet Report 2004 (WWF, Switzerland).
- ² This paper is not a detailed survey of the evidence. For more in-depth coverage of many of the issues, see, for example, Land Use Consultants (2004) *Making the Links: greenspace and quality of life* (Scottish Natural Heritage Commissioned Report No. 060 (ROAME No. F03AB01). Also see Duffy, B. (2004) *Life Satisfaction and trust in other people* (MORI, London).
- ³ Life satisfaction data tends to remain relatively stable at the country level. It partly suffers from the fact that people adapt to their circumstances. Therefore it is important to supplement life satisfaction with other measures. For a fuller explanation of, and justification for, a two-dimensional model of personal well-being see Marks, N., Shah, H. and Westall, A. (2004) *The Power and Potential of Well-being Indicators* (**nef**, London). www.neweconomics.org
- See, for example, Ryan, R. and Deci, E. (2001) 'On happiness and human potentials: A review of research on hedonic and eudaimonic well-being', in S. Fiske (Ed.) *Annual Review of Psychology* (Annual Reviews Inc., Palo Alto, CA.) Vol. 52; pp.141–166.
- ⁵ Countryside Commission (1997) Public Attitudes to the Countryside, (Countryside Commission, Northampton).
- ⁶ Chu, A., Thorne, A. and Guite, H. (2004) 'The impact on mental well-being of the urban and physical environment: an assessment of the evidence' Journal of Mental Health Promotion Vol. 3(2) pp.8-17.
- Purcell, A.T. et al (1994) 'Preference or Preferences for Landscape', Journal of Environmental Psychology. Vol. 14, pp.195–209.
- 8 net's model of personal well-being has two dimensions: life satisfaction and personal development. Meaning seems to be aligned with the second dimension. For example, new parents tend to report a drop in life satisfaction, but report feeling higher levels of meaning in their lives.
- ⁹ Burns, G. (2005), 'The role of the natural environment in well-being' in Huppert, F. *et al* (eds.) (2005), *The science of well-being* (OUP, Oxford) Forthcoming August 2005.
- ¹⁰ Coley, R., Kuo, F. and Sullivan, W. (1997) 'Where Does Community Grow?: The Social Context Created by Nature in Urban Public Housing', Environment and Behavior, Vol. 29 No. 4, pp.468–494.
- ¹¹ Kuo, F. and Sullivan, W. *et al*, (1998) 'Fertile Ground for Community: Inner-City Neighborhood Common Spaces', *American Journal of Community Psychology*, Vol. 26 No. 6, p.843.
- ¹² Van den Berg, A.E., Koole, S.L. and van der Wulp, N.Y. (2003) 'Environmental Preference and Restoration: (How) are they related?', *Journal of Environmental Psychology*, Vol. 23, pp.135–146.
- ¹³ Kuo, F. (2001) 'Coping with poverty: impacts of environment and attention in the inner city', Environment and Behaviour, Vol. 33, No. 1, pp.5–34.
- ¹⁴ Kuo, F. and Sullivan, W. (2001) 'Aggression and violence in the inner city: effects of environment via mental fatigue', *Environment and Behaviour*, Vol. 33, No. 4, pp.543–571.
- ¹⁵ www.who.int/nut/obs.htm quoted in Williams, J. (2004) 50 Facts that should Change the World (Icon Books, Cambridge).
- ¹⁶ Takano, T., Nakamura, K., and Watanabe, M. (2002) 'Urban residential improvements and senior citizens' longevity in megacity areas: the importance of walkable green spaces', *Journal of Epidemiology and Community Health*, Vol. 12.
- ¹⁷ Dasgupta, S. et al (1997) Surviving Success: Policy Reform and the Future of Industrial Pollution in China, (World Bank, Washington DC).
- 18 World Health Organisation (2005) Particulate Matter Air Pollution: how it harms health. Available online at http://www.euro.who.int
- ¹⁹ Ulrich, R.S. (1984) 'View through a window may influence recovery from surgery', *Science*, 224, pp.420–421.
- Hartig, T. et al (2003) 'Tracking restoration in natural and urban field settings', *Journal of Environmental Psychology*. Vol. 23. pp.109–123.
 Land Use Consultants (2004) *Making the Links: greenspace and quality of life*. (Scottish Natural Heritage Commissioned Report No. 060 (ROAME No. F03AB01) p.61.
- 22 Luttik, J. (2000) 'The value of trees, water and open spaces as reflected by house prices in the Netherlands', *Landscape and Urban Planning* Vol. 48, pp.161–167. Quoted in Cabespace (2004) The Value of Public Space (Cabespace, London). Available online at www.cabespace.org.uk
- ²³ The Trust for Public Land (1999) *Attracting Investment*. Available online at www.tpl.org
- Duxbury, G. (2004) Sustainable communities: regeneration and a just society, in Foley, J. (2004) Sustainability and Social Justice (ippr, London).
 Brocklesby, B. and Hinshelwood, E. (2001) Poverty and the Environment: what the poor say. An assessment of Poverty-Environment linkages in participatory poverty assessments, (University of Wales).
- 26 See for example Strategy Unit (2005) Improving the prospects of people living in areas of multiple deprivation in England. (www.strategy.gov.uk) 27 http://www.globalwitness.org/
- ²⁸ USAID (1998) The Value of Philippine Coastal Resources. www.oneocean.org/download/990118/intros.pdf
- ²⁹ UNEP (2000) *Global Environmental Outlook 2000.* www.unep.org/Geo2000/english/0027.htm
- ³⁰ USDA Forest Service (2001) Trees for children: helping inner city children get a better start in life, Technology Bulletin No. 7. (USDA Forest Service, Pennsylvania) quoted in Land Use Consultants (2004) Making the Links: greenspace and quality of life (Scottish Natural Heritage Commissioned Report No. 060 (ROAME No. F03AB01), p.41.
- ³¹ Land Use Consultants (2004) op. cit., p.42.
- ³² Kuo, F. and Sullivan, W. (2001) 'Environment and Crime in the Inner city: Does Vegetation Reduce Crime?', *Environment and Behavior*, Vol. 33, No. 3, p.348.
- ³³ McKay, T. (1998) 'Empty spaces, dangerous places', *ICA Newsletter*, Vol. 1(3) pp.2–3. Quoted in Cabespace (2004) *The Value of Public Space* (Cabespace, London). Available online at www.cabespace.org.uk
- ³⁴ Daly, H.E. and Farley, J. (2004) *Ecological Economics: principles and applications* (Island Press, Washington).
- ³⁵ The UK Government has taken this approach in its Sustainable Development Strategy. The main weakness of the approach was not conceptual but came from the failure of government to place sustainable development at the heart of policy-making.
- 36 Social justice cannot be reduced down to subjective well-being, for otherwise if poor people were happy with their lot (having got used to it) there would be no argument for redistribution. Some might argue that environmental sustainability can be reduced to subjective well-being, as sustaining the environment is necessary to promote well-being. Resolving this question requires discussion of whether the environment matters for its own sake and is beyond the scope of this paper. For further thinking on this, see Dobson, A. (2000) *Green Political Thought* (Routledge, London). Even if one has an anthropocentric view of green issues (which at least one of the authors has), for the purposes of operationalising sustainable development it makes sense to have environmental sustainability as a principle.
- 37 Shah, H. and Marks, N. (2004) A well-being manifesto for a flourishing society (nef, London). www.neweconomics.org
- 38 Kasser, T. (2002) The High Price of Materialism (MIT Press, CA Mass.).
- ³⁹ Securing the Future (DEFRA, 2005).
- ⁴⁰ Shah, H. and Marks, N. (2004) op. cit. See also Levett, R. et al (2003) A Better Choice of Choice (Fabian Society, London).
- ⁴¹ Brown, K.W. and Kasser, T. (2005) Are Psychological and Ecological Well-being Compatible? (Unpublished paper).
- 42 Ibid. p.15.
- ⁴³ See for example the research by the Black Environment Network (BEN) www.ben-network.org.uk
- ⁴⁴ Simms, A. (2005) *Ecological Debt* (Pluto Press, London).
- ⁴⁵ Peck, J. and Beloe, S. (2004) *Through the Looking Glass* (WWF/SustainAbility).
- ⁴⁶ For an extensive consideration of these issues, see Jackson, T. (2004) *Motivating Sustainable Consumption a review of evidence on consumer behaviour and behavioural change* (Sustainable Development Research Network, London). See also Levett, R. *et al* (2003) op. cit.
 ⁴⁷ Jackson T. (2004) op. cit.
- ⁴⁷ Jackson, T. (2004) op. cit.
- ⁴⁸ Such a process has begun through the creation of the Working Group on Climate Change and Development of which WWF is a member. See Simms, A. et al (2004) Up in Smoke? (nef, London).

One of the other things we do





Access to finance: Access to basic financial services is a vital part of living and working in the mainstream of society. Gaps in financial service provision in Britain exclude many people and communities from fulfilling their potential. **nef** is working to change policy and pilot new financial products and services to ensure proper access to financial services for all.

Appropriate and affordable financial services should be available to all – whether it's individuals looking for a bank account, a social enterprise looking for a loan or an inner-city enterprise looking for equity. This is currently not the case. To address the gaps in financial service provision **nef** is advocating reform to develop a policy environment that ensures access to affordable financial services for all, particularly the most disadvantaged.

The programme aims to stimulate and design more effective and sustainable approaches to investment for local economic development, including social investment vehicles such as the Adventure Capital Fund. We develop and pilot innovative financial products and delivery mechanisms, including the Factor Four approach to ending fuel poverty, community development credit unions and a wholesale fund for community development finance institutions in the UK. Current priorities include international debt, transforming markets, global finance and local economic renewal

For more information please call 020 7820 6300



One Planet Living is a joint initiative of WWF and BioRegional, and its vision is 'a world in which people everywhere can lead happy, healthy lives within their fair share of the Earth's resources'.

It is based on a set of 10 guiding principles:

- 1. Zero Carbon
- 2. Zero Waste
- 3. Sustainable Transport
- 4. Local and Sustainable Materials
- 5. Local and Sustainable Food
- 6. Sustainable Water
- 7. Natural Habitats and Wildlife
- 8. Culture and Heritage
- 9. Equity and Fair Trade
- 10. Health and Happiness.

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