

Chapter 6: How Will Striving to Achieve Social Sustainability Goals Affect or Correlate with Economic Growth?

Introduction

In Chapter 5, I have discussed the importance of needing to achieve a new form of economic growth that is based on improving national and global well being whilst ensuring non-declining well being for future generations. To be sustainable, this new form of economic growth would

- decouple economic growth from negative environmental and social pressures significantly to ensure reducing environmental pressures whilst for instance poverty is reduced globally
- drive forward, rather than slow down, a transition to an ecologically and socially sustainable society
- result in a society that is safe, secure, just and has a low carbon, low waste economy with fulfilling jobs and strong communities.

I have called this new form of economic growth in Chapter 5 “sustainable economic growth” to differentiate it from the current form of economic growth. We have shown that a new form of economic growth will need new measures such as decoupling indicators to provide feedback to decision makers to assess progress to achieving ecological sustainability. But just as it will be impossible to ensure future generation’s economic prosperity if ecosystems irreversibly collapse, it will be impossible to prevent ecosystems from collapsing if little is done to end extreme poverty and population growth. Extreme poverty and inequality and high infant mortality rates are the main drivers for high population growth rates, which are a major factor in increasing environmental pressures. In 2001, humanity’s ecological footprint exceeded the global bio-capacity by 21%.¹ Just as poverty drives population growth, rapid population growth is a factor in entrenching poor countries in the poverty trap. No country has ever raised itself out of poverty without reducing population growth rates.

“The factors believed to be the most directly important in lowering birth rates are not so much the size or wealth of the economy, but the extent to which economic improvement actually touches the lives of all families and especially the lives of women. More important predictors than GDP per capita are factors such as education and employment (especially for women), family planning, low infant mortality, and relatively egalitarian distribution of income and opportunity.² Sri Lanka, Costa Rica, Singapore, Thailand

¹ World Wildlife Fund (2004) Living Planet Report Available at www.panda.org/news_facts/publications/key_publications/living_planet_report/index.cfm

² See for example Dasgupta, P.S (1995) *Population, Poverty and the Local Environment*, Scientific American, February 1995. Robery, B. Rutstein, S.O, Morriss, L (1993) *The Fertility Decline in Developing Countries*. Scientific American, December 1993 and Feeney, G (1994) *Fertility Decline in East Asia*, Science 266(December 2 1994), 1518.

and Malaysia have shown that when literacy, basic health care and family planning are made available to most families, birth rates can drop even at modest income levels. Hence integrated social sustainability investments in education, health services and family planning are needed in countries to turn around the current unsustainable trends in population growth.”

One of the biggest impediments to reduce global inequality and ensure the necessary investments in health, education and family planning is corruption. Corruption is one of the biggest impediments to economic growth and social and environmental sustainability. This is shown simply by comparing Transparency International's (TI) 2000 Corruption Perceptions Index (CPI), which ranks 90 countries, with the performance of these same countries in the Environmental Sustainability Index (ESI). The 2000 TI CPI revealed a 0.75 correlation with ranking of environmental performance.³ *‘Corruption and environmental destruction go hand in hand’*, TI Chairman Prof. Dr. Peter Eigen stated. *‘The ESI underscores that the battle to preserve the world's natural heritage can only be won if there is transparent and accountable government’*, Eigen said at the World Economic Forum in Davos in 2001. A myriad of other studies and reports have found similar results.⁴

Also history shows that if we do not address extreme poverty and global inequity there will be no end to terrorism, conflict and war. In addition, in recent years, a quarter of the world’s armed conflicts have involved a struggle for natural resources. More than 5 million people died as a result of these conflicts in the 1990s.⁵ Hence many experts now acknowledge that the myriad of problems and challenges we face are intertwined and cannot be addressed in isolation. Hence investments are needed in social and institutional capital, systems of governance and democratic institutions simultaneously with efforts to achieve a decoupling of economic growth from environmental pressure. This is one of the messages of the Earth Charter. As Professor Rockefeller has stated:

“We cannot care for people in a world with collapsing ecosystems, and we cannot care for the Earth in a world with widespread poverty, injustice, economic inequity, and violent conflict exists.”⁶

And elsewhere

“The Earth Charter recognizes that there will be no peace without social and economic justice. This includes the urgent need to eradicate the poverty in which 1.3 billion people live hopeless and desperate lives. A war on terrorism must include a war on global poverty if it is to have any chance of lasting success. We must also recognize that 85% of the world’s resources are in the hands of 20% of the

³ See Transparency International - Press Releases at http://www.transparency.org/pressreleases_archive/2001/2001.01.26.davos-esi.html. Accessed 12 December 2006.

⁴ See The World Bank Governance and Anti-Corruption Library at: <http://worldbank.org/wbi/governance/library.html> Accessed July 2007

⁵ WorldWatch Institute (2003) Vital Signs

⁶ Rockefeller, S.C. (2001) *The Earth Charter: An Ethical Foundation*. A slightly shorter version of this essay appeared in Resurgence magazine. Available at <http://www.earthcharterinaction.org/resources/files/resurgence.htm> Accessed 15 February 2008

world's people, and the gap between the rich and the poor continues to widen. Such conditions generate resentment and anger that make young people easy targets for religious fanatics, revolutionaries, and terrorists.”⁷

And finally,

“Another condition of enduring peace is democracy. Democracy gives a voice to the people and opens the door to participatory decision making. It provides a social and political environment in which women and men can secure their human rights and fundamental freedoms. Building a global culture of peace means renewing our own democratic institutions at home and supporting other peoples in their efforts to create democratic institutions... It means making more democratic the international institutions that govern world trade and international relations.”⁸

The Earth Charter specifically lists a number of such social sustainability goals (See Appendix 1) These goals include

- 9. Eradicate poverty as an ethical, social, and environmental imperative
 - 9 c. Recognize the ignored, protect the vulnerable, serve those who suffer, and enable them to develop their capacities and to pursue their aspirations
- 11. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity
- 14. Integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life
- 13. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice
 - 13e. Eliminate corruption in all public and private institutions
- 16. Promote a culture of tolerance, non-violence, and peace.

Achieving these goals will require significant financial investment especially from the OECD countries in overseas development aid. To date, many have assumed that the costs of such an investment, to truly address these challenges, would be too great. This has been a significant barrier to building the necessary political will for such investments to occur. So here in Chapter 6 we ask what might happen economically if the governments of the world invested in the achievement of strong social-sustainability goals such as ending extreme poverty, reducing global and national economic inequality, ensuring basic human rights (such as access to health and education), reducing corruption and enhancing democratic institutions.

⁷ Rockefeller, S.C. (2001) *The Earth Charter: Building a Global Culture of Peace*. The Earth Charter Community Summits Tampa, Florida, September 29, 2001 Available At <http://www.earthcharterusa.org/pdfs/Rockefeller%20speech.pdf> Accessed 17 February 2008

⁸ Ibid.

In this chapter we explore the question of how does investing in a selection of the Earth Charter's social sustainability goals correlate with traditional economic growth. Specifically Chapter 6 focuses on the correlations of investments in the following variables with traditional economic growth—eradicating poverty and addressing global inequality, access to health and education, gender equity, tolerance and diversity, social trust, employment and issues of democracy, peace and reducing corruption. It is beyond the scope of this one thesis to investigate all of the social sustainability goals within the Earth Charter in detail.

If the empirical evidence outlined in this chapter shows that investing globally to achieve social sustainability goals correlates with higher economic growth, this will also have significant political implications. If investment to achieve ambitious social sustainability goals correlates with higher economic growth rather than less, then this demonstrates that there may be causal factors. By examining these questions this chapter will, at the very least, better inform these discussions on the best way to achieve win-win economic and social results. Fundamentally this is what sustainable development is all about; namely taking the time to understand in detail the economic, social and environmental dimensions of every problem and challenge to find optimal paths forward with minimal trade offs. Finding such optimal paths that, where possible, will enhance economic growth is important, as there are aspects of social sustainability that will negatively affect economic growth such as sustainable consumption.

To conclude, since humanity's ecological footprint has already overshoot the size of planet earth, if we are to truly end extreme poverty and increase the income of billions of people significantly, then development will need to be done in an environmentally sustainable fashion to avoid ecosystems collapsing irreversibly. Chapter 5 discussed this and how it will be necessary to achieve Factor 10-20 reductions in environmental pressure per capita to enable such significant global poverty reduction to be done sustainably. After this chapter, in Chapters 7 and 8 these issues will be discussed in more detail.

Before discussing these issues in detail, it is important to note that the ordering and structure of the chapter aligns with the ladder of development as described by Professor Jeffrey Sachs in his book *The End of Poverty*.⁹ So Chapter 6 starts with extremely poor countries and overviews a range of strategies to assist them to rise up the ladder of development in an environmentally benign fashion whilst also addressing the rights of women and other important social issues in an integrated fashion. Once countries have risen out of extreme poverty and further up the ladder of development then other social issues become more important like labour standards and rights. Thus the second half of Chapter 6 then talks of social issues for countries which are further up the ladder of development and are also relevant for OECD countries.

⁹ Sachs, J. (2005) *The End of Poverty: How Can we Make it Happen in Our Lifetimes*, Penguin Group. New York

6.1 How Does Pursuing Social Sustainability Goals Correlate with Economic Growth?

6.1.1 Eradicate poverty as an ethical, social, and environmental imperative.

The Earth Charter states as one of its main goals “*Eradicate poverty as an ethical, social, and environmental imperative.*” Poverty is a major cause and effect of global environmental problems. Therefore it is pointless to try to reduce environmental harms, without a broader strategy that addresses the factors that cause world poverty. The call for sustainable development came from the realisation that economic development and issues of poverty reduction and human well-being could not be separate from environmental protection. Environmental damage in the long run harms human well-being and contributes to poverty; in turn people living in poverty contribute to pressures on remaining biomass, forests, water resources, fish stocks, farmland, and wildlife. To reduce poverty it is vital first to understand what factors cause it? We consider this next.

6.1.2 Towards a Deeper Understanding: What Factors can lead to Nations Falling into a Poverty Trap?

Five main inter-relationships are identified as domestic aspects of the poverty trap. As Sach explains

First, domestic resources available to finance physical and human capital investment and productivity growth are low owing to generalized poverty. Second, state capacities are weak as all activities, including administration and law and order, are under-funded. Third, corporate capacities, in business, finance and support services, are weak, even though there may be a thriving informal sector.¹⁰ Fourth, generalized poverty engenders rapid population growth and environmental degradation. Fifth, in a situation of generalized poverty, the probability of political instability and conflict is greater. Low productivity, rapid population growth, environmental degradation, political instability and conflict, weak state capacities all serve to reinforce generalized poverty directly and indirectly. Generalized poverty in turn results in low savings and investment, and low productivity.¹¹

In addition external trade and finance relationships interact with these domestic cycles of stagnation and together cause generalized poverty to persist. Four principal inter-relating international aspects of the poverty trap have been identified namely: the type of primary commodity dependence; the development of external debt to unsustainable levels the development of an aid/debt service system, and the extent of access to international markets. While inter-related in their impact, each has a cause-and-effect nexus with general poverty and low productivity, investment and savings.

¹⁰ Hausmann, R; Rodrik, D. (2003) “*Economic development as self-discovery.*” *Journal of Development Economics* 72: 603, 2003..

¹¹ Sachs, J. (2005) *The End of Poverty: How Can we Make it Happen in Our Lifetimes*, Penguin Group. New York

Among the different causes of the poverty trap, both external and domestic, the underlying causes tend to be, low physical and human capital investment, low productivity and low savings. These factors result in the fact that most extremely poor countries cannot escape the poverty trap without foreign assistance, especially where they have high indebtedness, negative capital and savings, low productivity and negative economic growth.

Professor Jeffrey Sachs outlines a recent exposition of the poverty trap, and how to break it, in *The End of Poverty*¹². In this book he shows that

the extreme poor find themselves trapped in poverty because the ratio of capital per person (GDP per capita) actually falls from generation to generation because of depreciation of what little capital they have and loss of natural capital. Whether capital is accumulated and the poverty trap is broken fundamentally depends on whether households and business are able to save some of their current income or contribute some taxes to government at a higher rate than that which capital depreciates. Capital is diminished or depreciated as a result of the passage of time, wear and tear of equipment for instance, or other diseases, or the death of skilled workers through AIDS. Also the amount of capital per person declines when the population is growing faster than capital is being accumulated. So even if there is net positive capital accumulation whether this translates into rising income/economic growth per capita depends on whether the net capital accumulation is large enough to keep up with population growth. Much faster population growth in most developing countries is offsetting comparatively faster GNP growth, causing GNP per capita growth rates in these countries to be low or even negative.¹³

A simple economic model illustrates the point¹⁴. Suppose that an economy requires \$4 of capital for every \$1 of annual production. Suppose also that the capital stock depreciates at a rate of 2 per cent per annum. For each \$1 million of capital this year, about \$835,000 will remain at the end of a decade. Suppose that the economy has one million poor people, each with capital of \$1200. This results in an annual income of \$300 per person (\$1200 divided by four). The total GNP is therefore \$300 million (\$300 per person multiplied by one million people). The population is growing at two percent per year, so at the end of the decade there will be about 1.2 million poor people.

Assume now that this society is too poor to save any of their income since it does not even ensure that they can meet their basic needs for food, shelter and water, let alone medical or educational needs. At the end of the decade, the capital stock that they do own or lease will have depreciated. So instead of \$1200 million in capital, there will only be \$1000 million in capital. But also the population has grown from one million to 1.2 million so instead of \$1000 in capital per person each person now only owns ~\$833 per capita. Hence over a decade per capita wealth has dropped from \$1200 per person to

¹² Sachs, J. (2005) *The End of Poverty: How Can we Make it Happen in Our Lifetimes*, Penguin Group. New York.

¹³ Ibid

¹⁴ Ibid, p246-250. This is a summary and adapted version of the economic model presented by Sachs in *The End of Poverty*.

\$833 per capita amongst the poor in this country. This leads to households sinking into extreme poverty.

Now suppose that due to overseas development assistance the economy begins with the same population but with capital stock that is twice as much equal to \$2.4 billion. Assume that per capita income is twice as large at \$600 per capita. Assume that as before households do not save anything out of incomes up to \$300 and of income above \$300 they now can save 20 per cent of \$300 or \$60 per annum.

The capital stock is \$2.4 billion so over a decade it will depreciate to \$2.2 billion. In other words \$200 million will be lost. Also population growth will mean over that decade that in fact per capita wealth (not including saved income) is reduced to \$1833 per capita from \$2400 per capita. But over that same decade per capita saved income is \$600 or \$600 million. Thus savings are just ahead overall from depreciation costs and this country no longer is experiencing negative economic growth but economic growth (albeit at a slow rate).

At this point the poverty trap is broken, a nation now achieving positive economic growth has the potential to break this trap once and for all. Economic growth can become self-sustaining through household savings and public investments supported by taxation of households and business. Hence overseas foreign aid should not be ever seen as a hand out but rather an investment that breaks the poverty trap once and for all. As Sach explains further,

When countries get their foot on the ladder of development they are then able to continue an upward climb. The problem is that currently most poverty occurs globally because nations are not even on the first rung of development. Once countries and the extremely poor can be assisted onto the first rung then virtuous cycles can be created. If people and nations are trapped below the first rung on the ladder of development as the simple economic model above shows they will simply slide into deeper and more extreme poverty due to depreciation, population growth, greater vulnerability to disease, outside shocks (such as climate change) and the pressures this puts on increasingly scarce natural resources and ecosystems. Even if well-governed countries stuck in a poverty trap mobilize domestic resources to pay for the interventions, they will not be able to afford the entire cost, and the difference must be borne by the developed world."¹⁵

The results of the failure of the developed world to more effectively help poorer countries break the poverty trap is evident in the number of failed states in the world. The US Central Intelligence Agency estimates that there are at least 20 failed states currently and the World Bank estimates that there are an additional 35 fragile low-income countries under stress.¹⁶ A failed state is a state whose

¹⁵ Ibid

¹⁶ World Bank (2007) *Global Monitoring Report 2007: Millennium Development Goals*, World Bank, Washington, DC, p 5. Available at

government is so ineffective that it can no longer guarantee law and order or control over the country. The most systematic ongoing effort to analyse failed states is done by the 'Fund for Peace' and the Carnegie Endowment for International Peace. These reviews are published annually in each July/August issue of *Foreign Policy*.¹⁷

Table 6.1: Top Ten Failed States 2006

FAILED STATES 2006 - TOP 10 (*designates ranking in 2005)			
1.	Sudan (3)*	6.	Chad (7)*
2.	DR Congo (2)*	7.	Somalia (5)*
3.	Ivory Coast (1)*	8.	Haiti (10)*
4.	Iraq (4)*	9.	Pakistan (34)*
5.	Zimbabwe (15)*	10.	Afghanistan (11)*

Source: BBC¹⁸

In reviewing the data for 2006, Fund for Peace' and the Carnegie Endowment for International Peace noted that

"few encouraging signs emerged to suggest the world is on a path to greater peace and stability."

In his book, *Plan B*, Lester Brown points out that

"Ranking on the Failed States Index is closely linked with key demographic and environmental indicators. Of the top 20 failing states, 17 have rapid rates of population growth, many of them expanding at close to three percent a year or 20-fold per century. In 5 of these 17 countries, women have an average of nearly seven children each... In all but 6 of the top 20 failing states, at least 40 percent of the population is under 15. Such a large share of young people often signals future political instability. Young men, lacking employment opportunities, often become disaffected, making them ready recruits for insurgency movements. Not surprisingly, there is also often a link between the degree of state failure and the destruction of environmental support systems. In a number of countries on the list - including Sudan, Somalia, and Haiti - deforestation, grassland deterioration, and soil erosion are widespread. The countries with fast-growing populations are also facing a steady shrinkage of both

<http://web.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTGLOBALMONITOR/EXTGLOMONREP2007/0,,menuPK:3413296~pagePK:64218926~piPK:64218953~theSitePK:3413261,00.html>. Accessed 27 April 2008.

¹⁷ The Fund for Peace (2007) 'The Failed States Index 2007', *Foreign Policy Magazine*. Available at http://www.foreignpolicy.com/story/cms.php?story_id=3865. Accessed 27 April 2008.

¹⁸ BBC News (2006) 'Sudan Tops 'Failed States Index'', *BBC News*. Available at <http://news.bbc.co.uk/2/hi/africa/4964444.stm>. Accessed 27 April 2008.

cropland and water per person. After a point, as rapid population growth, deteriorating environmental support systems, and poverty reinforce each other..”¹⁹

Thus to help fragile states break out of the poverty trap and ensure they do not become failed states, an integrated and multi-faceted approach is going to be needed to address endemic poverty, rapid population growth, environmental degradation and lack of good governance and institutional capability.

We now consider in more detail the types of investment needed and the benefits of such investment to the developing world.

6.1.3 Breaking the Poverty Trap – Stabilising Population.

Given the correlation between terrorism, conflict and war with extreme poverty and failed states eradicating poverty and stabilizing population is a national security issue of great importance to the global community. If current trends continue the global population will exceed 10 billion by 2050. If current trends continue then, of this growth, 99% will take place in the developing countries, and more than 90% of the growth will be concentrated in the poorest of these developing countries.²⁰

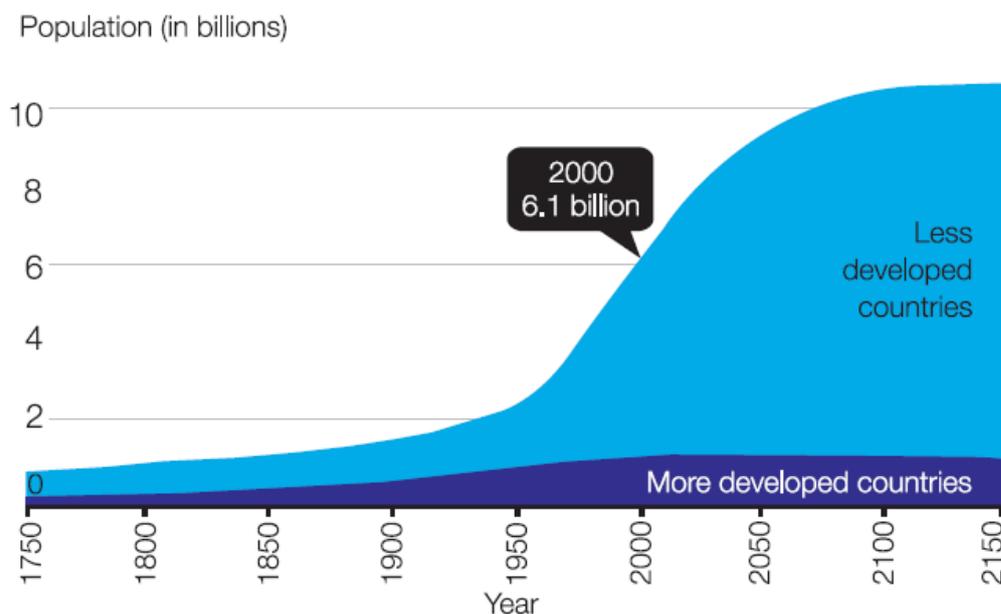


Figure 6.1 World Population Growth – medium level projection. (Source: United Nations World Population Prospects. The 1998 Revision and estimates by the World Population Reference Bureau,²¹ 1998)

¹⁹ Brown, L (2008) *Plan B. Mobilising to Save Civilisation*. The Earth Policy Institute Available At <http://www.earth-policy.org/Books/PB3/Contents.htm> Accessed 17.02.2008

²⁰ UNDESA Population Division (2004) *World Population Prospects revision, Vol 3, Analytical Report*. Available At http://www.un.org/esa/population/publications/WPP2004/2004Highlights_finalrevised.pdf Accessed 17 February 2008.

²¹ See United Nations World Population Prospects. The 1998 Revision and estimates by the World Population Reference Bureau at <http://www.prb.org/Educators/TeachersGuides/HumanPopulation/PopulationGrowth.aspx> 17 February 2008

As the Earth Charter states in its preamble, “*An unprecedented rise in human population has overburdened ecological and social systems.*” So, if we are serious about reducing environmental pressures to sustainable levels and eradicating extreme poverty, it will be necessary to address the factors which drive high population growth.²² Slowing population growth helps reduce poverty, and, conversely, eradicating poverty helps slow population growth.

Over 40 countries no longer have population growth. Japan, Russia, Germany, and Italy, have the lowest fertility rates and are likely to see a decline in population growth over the coming decades unless immigration levels are increased.²³ The majority of countries have relatively stable population numbers due to the fact that their fertility rates are at replacement level or just below. This group includes China and the United States. A third group of countries, with poor levels of GDP per capita, is projected to more than double their populations by 2050.²⁴ Even if these nations quickly move below replacement level fertility levels to 1.6 children per couple, the UN forecasts that global population will not stabilise until 2041 at 8 billion people.

A first step to slowing world population growth is investing to ensure that all women who want to plan their families should have access to the family planning and basic health services they need. Unfortunately, at present 201 million couples cannot obtain these services that they need.²⁵ Former U.S. Agency for International Development official Joseph Speidel notes that

“if you ask anthropologists who live and work with poor people at the village level...they often say that women live in fear of their next pregnancy. They just do not want to get pregnant.”²⁶

The benefits of addressing this issue are enormous and the costs are minimal.²⁷ Also, countries that want to help couples reduce family size can do so quickly. Janet Larsen from the Earth Policy Institute has shown²⁸ that in just one decade Iran dropped its near-record population growth rate to one

²² U.N. Population Division, World Population Prospects: The 2006 Revision Population Database, at www.esa.un.org/unpp updated 2007.

²³ See countries with stable or declining populations at Population Reference Bureau (PRB), Datafinder, electronic database, Available at www.prb.org/DataFind/datafinder7.htm Accessed 17 February 2008. U.N. Population Division, World Population Prospects: The 2006 Revision Population Database, at www.esa.un.org/unpp, Accessed 17 February 2008

²⁴ U.N. Population Division, World Population Prospects: The 2006 Revision Population Database, Available at www.esa.un.org/unpp Accessed 17 February 2008.

²⁵ All Party Parliamentary Group on Population Development and Reproductive Health, (2007) *Return of the Population Growth Factor: Its Impact on the Millennium Development Goals* (London: Her Majesty's Stationery Office, January 2007) Available at <http://www.appg-popdevrh.org.uk/Publications/Population%20Hearings/APPG%20Report%20-%20Return%20of%20the%20Population%20Factor.pdf> Accessed 16.02.08

²⁶ Prof. Joseph Speidel Oral evidence to the Group, 3rd July 2006, p.17 cit in All Party Parliamentary Group on Population Development and Reproductive Health, (2007) *Return of the Population Growth Factor: Its Impact on the Millennium Development Goals* (London: Her Majesty's Stationery Office, January 2007) Available at <http://www.appg-popdevrh.org.uk/Publications/Population%20Hearings/APPG%20Report%20-%20Return%20of%20the%20Population%20Factor.pdf> Accessed 16.02.08

²⁷ Program for Appropriate Technology in Health (PATH) and U.N. Population Fund (UNFPA) (2006) *Meeting the Need: Strengthening Family Planning Programs*. Seattle. pp. 5–11; quote from All Party Parliamentary Group, op. cit. footnote 17, p. 22.

²⁸ Larsen, J (2001) *Iran's Birth Rate Plummeting at Record Pace: Success Provides a Model for Other Developing Countries*. Earth Policy Institute. Available At <http://www.earth-policy.org/Updates/Update4ss.htm> Accessed 17 February 2008

of the lowest in the developing world. Back in 1979, when Ayatollah Khomeini assumed leadership in Iran, he dismantled all family planning programs and instead advocated large families. Khomeini wanted large families to increase the ranks of soldiers for Iran's war against secular Iraq during the 1980s. In response to his pleas, fertility levels climbed, to a peak population growth rate of 4.2 percent in the early 1980s. As this rapid population growth continued it began to burden the economy and the environment. Iran's leaders realized that such rapid population growth was burdening social services, infrastructure, whilst also contributing to unemployment and environmental degradation, and unemployment.²⁹ As a result, in 1989, the government restored the family planning program. In May 1993, it passed a national family planning law. Several government ministries, including education, culture, and health, were given the task of encouraging smaller families and Iran Broadcasting was given the task of raising awareness.

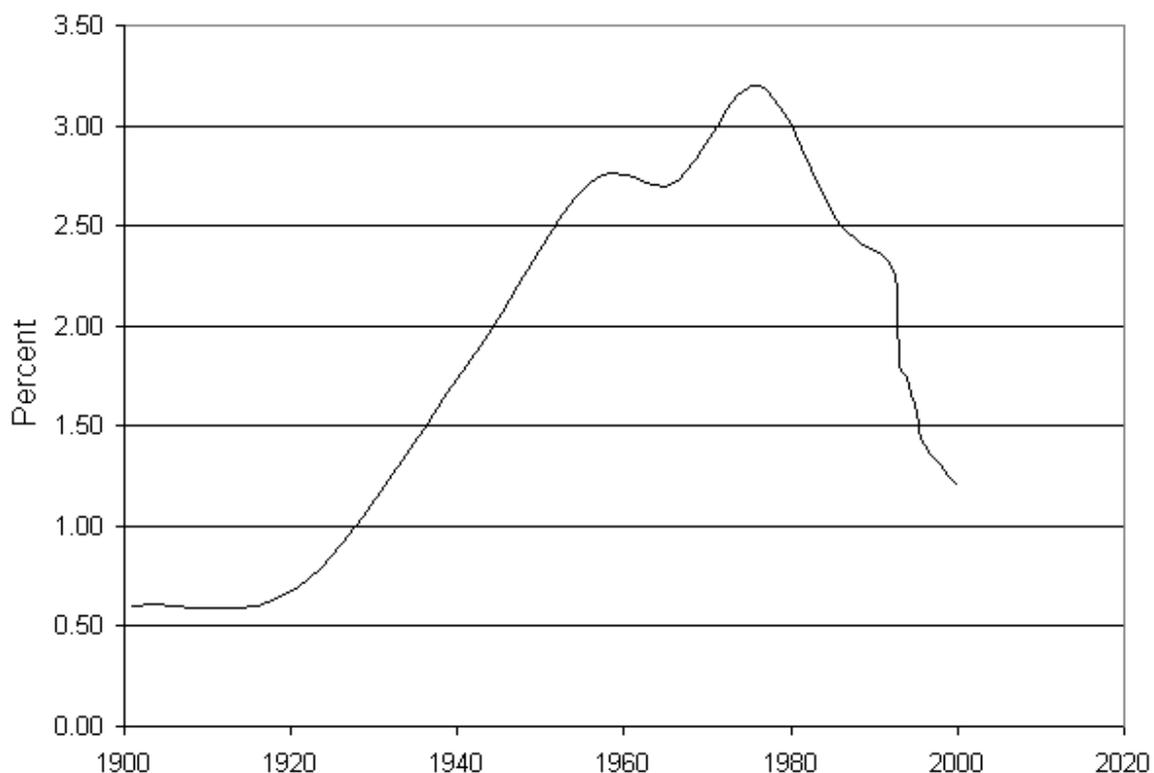


Figure 6.2 Annual Population Increase in Iran, 1901-2000. (Source. Central Budget and Planning Organisation, and Statistics and Registration Administration of Iran, 2000.)

²⁹ Aghajanian, A. Mehryar, A.H (1999) *Fertility Transition in the Islamic Republic of Iran: 1976-1996*. Asia-Pacific Population Journal, Vol. 14, No. 1 (1999) pp. 21-42. Dungus, A. (2000) *Iran's Other Revolution*, Populi, The UNFPA Magazine, September 2000. Hoodfar, H. Assadpour, S (2000) *The Politics of Population Policy in the Islamic Republic of Iran*, Studies in Family Planning, Vol. 31, No. 1, March 2000, pp. 19-34. Roudi, F (1999) *Iran's Revolutionary Approach to Family Planning*, Population Today, July/August 1999, pp. 4-5.

Specific measures taken included the establishment of 15,000 clinics known as “health houses”, the provision of all forms of birth control free of charge, and all couples, before receiving their marriage license were required to attend a class on modern contraception.³⁰

Janet Larsen wrote that

“In addition to the direct health care interventions, a broad based effort was launched to raise literacy. The literacy rate for adult males increased from 48 percent in 1970 to 84 percent in 2000, nearly doubling in 30 years. Female literacy climbed even faster, rising from less than 25 percent in 1970 to more than 70 percent. Meanwhile, school enrolment grew from 60 to 90 percent. And by 1996, 70 percent of rural and 93 percent of urban households had televisions, allowing family planning information to be spread widely through the media. As a result of these initiatives, family size in Iran dropped from seven children to fewer than three. From 1987 to 1994, Iran cut its population growth rate by half. Its overall population growth rate of 1.3 percent in 2006 is only slightly higher than the U.S. growth rate.³¹ The costs of providing reproductive health and family planning services are small compared with their benefits. Joseph Speidel estimates that expanding these services to reach all women in the developing countries would take close to \$17 billion in additional funding from both industrial and developing countries.”³²

The United Nations has estimated that giving access to effective contraception to the 201 million women who do not have it, could, in each year, prevent 52 million unwanted pregnancies, 22 million induced abortions, and 1.4 million deaths of infants. The situation is one in which the costs to society of not adequately addressing the family planning issues is greater than we can afford.³³

Moving to smaller families brings with it significant economic benefits. For example, analysts have concluded that in Bangladesh, \$62 spent by government to prevent an unwanted birth would save \$615 in spending on other social services. Spending fiscal resources on reproductive health and family planning services will result in more fiscal resources per child for health care and education, and so speed up the escape from poverty. From the perspective of donor countries, filling the entire gap of \$7.9 billion to ensure that couples everywhere have access to the reproductive health and family planning services that they need would have significant social returns in the form of improved education and health care, greater economic prosperity and would, at the same time reduce

³⁰ Larsen, J. (2002) “Iran’s Birth Rate Plummeting at Record Pace,” in Lester R. Brown, Janet Larsen, and Bernie Fischlowitz-Roberts, *The Earth Policy Reader* (New York: W. W. Norton & Company, 2002), pp. 190–94;

³¹ Ibid.

³² Additional spending from J. Joseph Speidel et al., *Family Planning and Reproductive Health: The Link to Environmental Preservation* (San Francisco: Bixby Center for Reproductive Health and Research Policy, University of California, 2007), p. 10, and from J. Joseph Speidel, discussion with J. Matthew Roney, Earth Policy Institute, 16 October 2007.

³³ Program for Appropriate Technology in Health (PATH) and U.N. Population Fund (UNFPA) (2006) *Meeting the Need: Strengthening Family Planning Programs*. Seattle. pp. 5–11; quote from All Party Parliamentary Group, op. cit. footnote 17, p. 22.

environmental pressures.³⁴ This is widely acknowledged. Economists talk of the per capita economic benefits of lower fertility rates which raise the capital stock per person. This is intuitively obvious. At the household level, higher fertility rates mean less investment in each child's development (nutrition, schooling, and health care). At the national level higher population growth means more capital investment must be provided simply to expanding the number of services and infrastructure just to keep up with population growth rather than improving the quality of services and infrastructure. This can be empirically tested with cross country studies of economic growth and fertility rates. Barro and Martin have found a statistically significant negative correlation of high fertility rates with economic growth. As Jeffrey Sachs explains,

“Consider two countries that are identical in all respects except that one has a fertility rate of 6 and the other a fertility rate of 2. According to the statistical result of the Barro and Sala-i-Martin study, the high fertility country will have per capita income growth that is 1.3 percentage points per year lower than the economic growth of the low-fertility country. That's a whopping negative effect of high fertility.”³⁵

6.1.4 Breaking the Poverty Trap - Ensure Universal Access to Education.

The overwhelming majority of those living in poverty today are the children of people who lived in poverty. The key to breaking out of the vicious cycle of poverty is education—especially the education of girls. As female educational levels rise, fertility falls. And mothers, with at least five years of school, lose fewer infants during childbirth, or to early illnesses, than their less educated peers do. Economist Gene Sperling concluded in a 2001 study of 72 countries that

“the expansion of female secondary education may be the single best lever for achieving substantial reductions in fertility.”³⁶

At a time when the HIV epidemic is spreading, schools provided the institutional means to educate young people about the risks of infection. Education systems provide the means to reach children at the right age with this information before they have had the chance to get infected.. Another way that investment in education can reap significant benefits is by OECD countries investing in teacher training. One great need in developing countries, particularly those where the ranks of teachers are being decimated by AIDS, is more teacher training. Scholarships could be provided to motivated students from poor families to attend training institutes in exchange for a commitment to teach for at least three-five years. Such an initiative would help create the teaching capacity to address the massive problem of lack of primary education and child and adult illiteracy. There are currently

³⁴ See Family Planning Programs: (1994) *Bangladesh: National Family Planning Program, Family Planning Programs: Diverse Solutions for a Global Challenge*. Washington, DC

³⁵ Barro, R.J., Sala-i-Martin. (2004) *Economic Growth*. 2nd Edition. Cambridge.Mass.;MIT. Press.

³⁶ Sperling, G. (2001) *Toward Universal Education* Foreign Affairs, September/ October 2001, pp. 7–13. Sperling, G. (2002) *Educate Them All*, Washington Post, 20 April 2002.

nearly 800 million illiterate adults. Bangladesh and Iran provide models of what can be done through successful adult literacy programs,³⁷ It has been estimated that to achieve universal primary education across the world, an additional \$10 billion in external funding and spending is needed. In an age when education can give children access to the computer and the the Internet as well as books, a situation where there are children who never go to school is not acceptable.³⁸ But there are also obstacles; for in very poor countries often children will have little food unless they help with the farming . Thus, as Lester Brown explains

“Few incentives to get children in school are as effective as a school lunch program, especially in the poorest countries. Since 1946, every American child in public school has had access to a school lunch program, ensuring at least one good meal each day. There is no denying the benefits of this national program.³⁹ Children who are ill or hungry miss many days of school. And even when they can attend, they do not learn as well.”

Jeffrey Sachs of the Earth Institute at Columbia University notes

“Sick children often face a lifetime of diminished productivity because of interruptions in schooling together with cognitive and physical impairment.”

It has been found that enrolments of children jump when school lunch programs are introduced in low-income countries. In addition, their academic performance improves and they spend more years in school.⁴⁰ Girls particularly benefit. Drawn to school by the lunch program, they also stay in school longer. As a result they marry later, and have fewer children. It has been estimated that a school lunch programs in the 44 lowest-income countries would cost \$6 billion per year beyond what is now spent by the United Nations to reduce hunger.⁴¹

It would also be very important to increase efforts to improve the nutrition of pre-school age children so they can benefit from the school lunches when they attend school. Former US Senator George McGovern notes that

“a women, infants and children (WIC) program, which offers nutritious food supplements to needy pregnant and nursing mothers”

should also be available in the poor countries. After running for 33 years, it is clear that the U.S. WIC program has been enormously successful in improving nutrition, health, and the development of

³⁷ UNESCO, EFA Global Monitoring Report 2007: Strong Foundations (Paris: 2006), p.2; U.N. *Commission on Population and Development, Thirty-sixth Session, Population, Education, and Development*, press releases, 31 March–4 April 2003; UNESCO, “*Winners of UNESCO Literacy Prizes 2003*,” press release, 27 May 2003.

³⁸ U.K. Treasury (2005) *From Commitment to Action: Education. Department for International Development*, London.

³⁹ McGovern, G. (2001) *The Third Freedom: Ending Hunger in Our Time*. New York: Simon & Schuster. chapter 1.

⁴⁰ Sachs, J. (2001) *A New Map of the World*, *The Economist*, 22 June 2000; McGovern, G. (2001) *Yes We CAN Feed the World's Hungry*, *Parade*, 16 December 2001.

⁴¹ .Ibid.

preschool children from low-income families in the USA. This 33 years of experience could be expanded to create new AID programs to reach pregnant women, nursing mothers, and small children in the 44 poorest countries. Such a program would help eradicate hunger among millions of small children at a time when it could make a huge difference to their early childhood development and progress.⁴² It is estimated that such an expansion would cost annually US\$4 Billion.

6.1.5 Breaking the Poverty Trap - Ensure Universal Access to Health Care

In developed countries, smoking, obesity, cancer and heart disease are the dominant health concerns. In developing countries the dominant health concern is infectious diseases; AIDS, malaria, tuberculosis, measles diarrhoea, respiratory illnesses. Child mortality rates are high. These infectious diseases not only take a devastating human toll but they also have a significant negative effect on economic growth. The poorest countries in GDP per capita also correlate with those countries with the worst malaria outbreaks globally. Mosquito bed nets, indoor spraying and the best malaria medicines are all very cost effective in preventing the spread of malaria to humans and vital investments to help most of the countries with negative economic growth break the poverty trap. Mosquito bed nets cost less than 50 cents each. Yet currently the world only spends tens of millions in aid per annum on fighting malaria when US\$2 to US\$3 billion is needed. Currently most people in Africa, where malaria is the most virulent, have no access even to mosquito bed nets.⁴³ In a devastating analysis of current aid expenditure on AIDS, Sachs and Attaran found that until early 21st century the world was only giving Africa \$70 million per annum to fight AIDS. In recognition of this serious failure, the World Health Organisation (WHO) formed the Commission of Macroeconomics and Health to study and outline the cost benefits to the world of investing to improve health outcomes globally. In 2001 the WHO Commission published *Investing in Health for Economic Development*.⁴⁴ This report found that

“The role of health in economic growth has been greatly undervalued. Evidence presented by the Commission suggests that each 10 percent improvement in life expectancy is associated with an increase in economic growth of about 0.3 percent to 0.4 percent per year, other growth factors being equal. Economic losses from ill health have been underestimated. Countries with the weakest conditions of health and education have more difficulty in achieving sustained growth. In sub-Saharan Africa losses due to HIV/AIDS are estimated to be at least 12 percent of annual GNP. Economic development in malaria-free zones is at least one percent per year higher than in areas where malaria is endemic.

⁴² Ibid.

⁴³ Ibid, p 200.

⁴⁴ Sachs, J. *et al* (2002) *Macroeconomics and health: investing in health for economic development*, World Health Organization, Geneva. Available at www.who.int/gb/ebwha/pdf_files/WHA55/ea555.pdf. Accessed 12 December 2006.

A few health conditions account for a high proportion of avoidable deaths. In 1998, 16 million deaths were caused by communicable diseases, maternal and perinatal conditions, childhood infections, tobacco-related illness and nutritional deficiencies. Of the 30 million children not receiving basic immunisations, 27 million live in countries with GNP per capita lower than US\$1200. Of the half million women who die annually in pregnancy and childbirth, 99 percent live in developing countries. The level of spending on health in low-income countries is insufficient to address the health challenges they face.

The recommended increase in spending is large, but so is the potential return. The aggregate additional cost of scaling up interventions in low-income countries is in the order of US\$66 thousand million per year, with around half of this amount coming from donors. The predicted result is to save around eight million lives a year and generate economic benefits of US\$360 thousand million: a sixfold return on investment..⁴⁵

The Earth Charter emphasises the importance of ensuring universal access to health care for the poor. The WHO report shows that investing more into health in developing countries could significantly help improve economic growth and social outcomes in these countries. Another significant report that shows the economic benefits of investments in public health is *Millions Saved: Proven Successes in Global Health*⁴⁶. This report showed that

“The costs of successful public health initiatives are dwarfed by the social and economic benefits of eliminating, treating, or controlling the disease. For example, a tuberculosis program in China treated more than 1.5 million patients over 10 years at a total cost of \$130 million, preventing 30,000 TB-related deaths annually and averaging just \$15-20 for each healthy life-year saved. The economic returns were enormous: Each dollar invested in the program generated \$60 in the form of savings on treatment costs and the increased earning power of healthy people. Similarly, efforts to control river blindness in sub-Saharan Africa between 1974 and 2002 cost less than \$1 per protected person and prevented 60,000 cases of blindness. As a result of the program's positive impact on health, an estimated \$3.7 billion will accrue from improved worker and agricultural productivity..⁴⁷

We consider next some of the major infectious diseases to highlight how cost effectively they can now be addressed to further re-enforce the main message of the WHO Macroeconomics of Health report.

6.1.6 Curbing the HIV Epidemic

The most cost effective approach to curbing the AIDS epidemic is prevention through education. In Africa governments are beginning to design effective prevention education programs. To rapidly reduce the spread of the infection it is vital to target the groups in society which are most likely to

⁴⁵ Ibid.

⁴⁶ Levine, R. et al (2004) *Millions Saved: Proven Successes in Global Health* Center for Global Development, 2004. Washington, DC. Available At <http://www.cgdev.org/section/initiatives/active/millionssaved/studies> Accessed 17 February 2007.

⁴⁷ Ibid.

spread the disease. Studies show that targeting truck drivers and sex workers in particular for education programs and free condoms is particularly effective. Studies have shown that, infected truck drivers spread HIV from country to country engaging in commercial sex during their extended travels. As to education programs, studies in India have shown that it has been very beneficial to educate its 2 million female sex workers about the risks of HIV and the value of using condoms.⁴⁸ Lester Brown⁴⁹ argues that

“At the most fundamental level, dealing with the HIV threat requires roughly 13.1 billion condoms a year in the developing world and Eastern Europe. Including those needed for contraception adds another 4.4 billion. But of the 17.5 billion condoms needed, only 1.8 billion are being distributed, leaving a shortfall of 15.7 billion. At only 3.5¢ each, or \$550 million, the cost of saved lives by supplying condoms is minuscule.⁵⁰ The condom gap is huge, but the costs of filling it are small. “

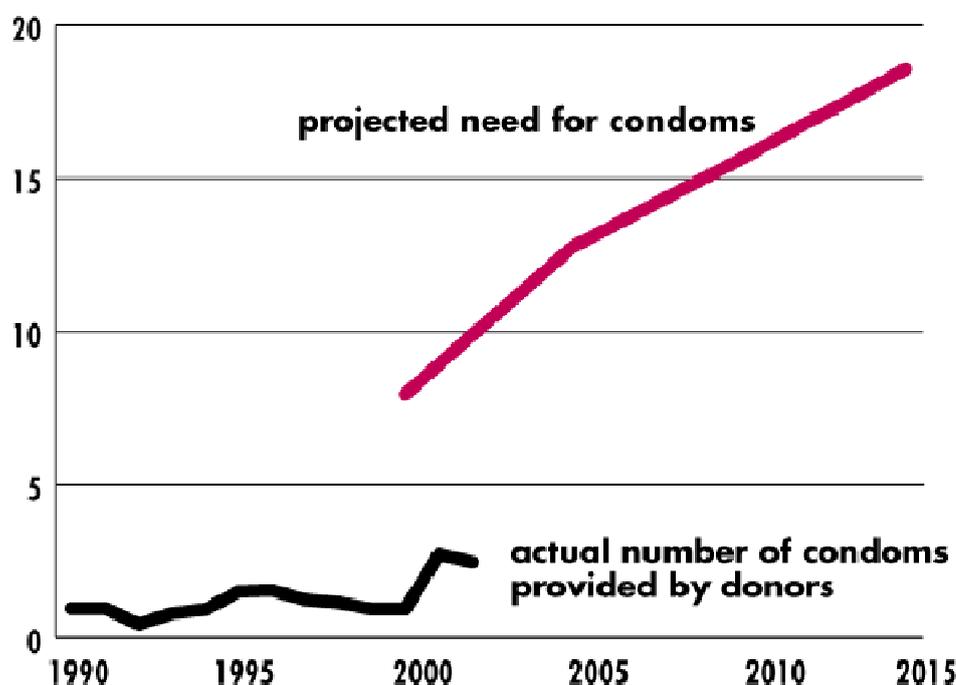


Figure 6.3 Donor Support for Condoms Compared to Projected Need (Billions of Condoms)⁵¹ (Source: UNFPA⁵² (2002), UNFPA⁵³(2004))

⁴⁸ Bhalla, N. “Teaching Truck Drivers About AIDS,” BBC, 25 June 2001; C. B. S. Venkataramana and P. V. Sarada, “Extent and Speed of Spread of HIV Infection in India Through the Commercial Sex Networks: A Perspective,” *Tropical Medicine and International Health*, vol. 6, no. 12 (December 2001), pp. 1040–61, cited in “HIV Spread Via Female Sex Workers in India Set to Increase Significantly by 2005,” Reuters Health, 26 December 2001.

⁴⁹ Brown, L (2008) Plan B. Mobilising to Save Civilisation. The Earth Policy Institute Available At <http://www.earth-policy.org/Books/PB3/Contents.htm> Accessed 17.02.2008

⁵⁰ Condoms needed from UNFPA, Donor Support for Contraceptives and Condoms for STI/HIV Prevention 2005 (New York: 2005); cost per condom from UNFPA, Achieving the ICPD Goals: Reproductive Health Commodity Requirements 2000–2015 (New York: 2005); Nada Chaya and Kai-Ahset Amen, with Michael Fox, Condoms Count: Meeting the Need in the Era of HIV/AIDS (Washington, DC: Population Action International, 2002).

⁵¹ See *Population Action International Charts and Graphs* at http://www.populationaction.org/Publications/Reports/Condoms_Count/Charts_and_Graphs.shtml

In the excellent study *Condoms Count: Meeting the Need in the Era of HIV/AIDS*, Population Action International notes that

“the costs of getting condoms into the hands of users—which involves improving access, logistics and distribution capacity, raising awareness, and promoting use—is many times that of the supplies themselves.”⁵⁴

So assuming that these costs are six times the price of the condoms themselves, the total cost of filling the gap would cost \$3 billion.⁵⁵

Also significant breakthroughs have occurred to reduce the costs of AIDS medicine. For instance, the cost of anti-retroviral medicine for AIDS now costs under US\$300 per annum per capita down from US\$12,000 per annum. The US administration promised US\$15 billion over five years for the ‘Emergency Plan for AIDS Relief’ in 2003. The plan sought to prevent 7 million new AIDS infections and treat at least two million with life extending anti-viral medicine.⁵⁶ If other OECD nations made a similar commitment it would then be possible to afford for all those currently suffering from AIDS to have access to anti-retroviral and allow them to assist the work of their communities. President George Bush stated in his 2003 State of the Union Address

“As our nation moves troops and builds alliances to make our world safer, we must also remember our calling, as a blessed country, is to make the world better. Today on the continent of Africa nearly 30 million people have the AIDS virus, including three million children under the age of 15. There are whole countries in Africa where more than one-third of the adult population carries the infection. More than 4 million require immediate drug treatment. Yet across that continent, only 50,000 AIDS victims- only 50,000- are receiving the medicine they need.

Because the AIDS diagnosis is considered a death sentence, many do not seek treatment. Almost all who do are turned away. A Doctor in rural South Africa describes his frustration. He says, ‘We have no medicines, many hospitals tell people - You’ve got AIDS. We can’t help you. Go home and die.’ In an age of miraculous medicines, no person should have to hear those words.

AIDS can be prevented. Anti-retroviral drugs can extend life for many years. And the cost of those drugs has dropped from \$12,000 a year to under \$300 a year, which places a tremendous possibility

⁵² UNFPA (2002) *Global Estimates of Contraceptive Commodities and Condoms for STI/HIV Prevention, 2000-2015*. New York:UNFPA.

⁵³ UNFPA. (2004) *Database on Donor Support for Contraceptives and Logistics Management*. New York:UNFPA.

⁵⁴ Population Action International (2004) *Why Condoms Count in the Era of HIV/AIDS*. Population Action International. Available at http://www.populationaction.org/Publications/Reports/Condoms_Count/english_condomscount.pdf Accessed 17 February 2008

⁵⁵ Chaya, N. Amen, K.A. Fox, M (2002) *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington, DC: Population Action International. Cost per condom from UNFPA, Achieving the ICPD Goals: Reproductive Health Commodity Requirements 2000–2015 (New York: 2005);

⁵⁶ Sachs, J. (2005) *The End of Poverty: How Can We Make it Happen in Our Lifetimes*, Penguin Group, New York, pp 344-345.

without our grasp. Ladies and gentlemen, seldom has history offered a greater opportunity to do so much for so many... This nation can lead the world in sparing innocent people from a plague of nature.”

6.1.7 The Value of Immunisation Programs

Infectious diseases that cause relatively few problems in developed countries continue to spread sickness and death in poorer regions of the world. One of the reasons for this is that poorer countries cannot afford the immunisations that those in the OECD countries take for granted. The largest private-public partnership to address this is the GAVI Alliance whose goal is to make a

“major contribution to the two-thirds reduction in under-five mortality targeted by the international community in the Millennium Development Goals. It will do this by making advanced vaccine products available in the world’s poorest countries and strengthening delivery systems to ensure that their children derive full benefit.”⁵⁷

Governments, philanthropists and benefactors can donate to the GAVI initiative. The Bill and Melinda Gates Foundation already invested more than \$1.5 billion through 2006 to protect children from infectious diseases like measles.⁵⁸ The Bill and Melinda Gates Foundation are partners with the GAVI Alliance. Vaccinations are one of the most cost effective investments anyone can make. There are few situations where spending a few cents per child can make such a difference.⁵⁹ Immunisation programs, led by the UN the World Health Organization (WHO) have successfully eradicated a number of diseases through global immunisation programs including smallpox saving billions of dollars in health care expenditures.⁶⁰ Lester Brown writes that

“Similarly, a WHO-led international coalition, including Rotary International, UNICEF, the U.S. Centers for Disease Control and Prevention (CDC), and Ted Turner’s UN Foundation, has waged a worldwide campaign to wipe out polio, a disease that has crippled millions of children. Since 1988, Rotary International has contributed \$600 million to this effort. Under this coalition-sponsored Global Polio Eradication Initiative, the number of polio cases worldwide dropped from some 350,000 per year in 1988 to fewer than 700 in 2003.”⁶¹

⁵⁷ See GAVI Alliance at <http://www.gavialliance.org/vision/index.php> Accessed 17 February 2008

⁵⁸ Bill and Melinda Gates Foundation, (2007) *Vaccine-Preventable Diseases*, at www.gatesfoundation.org/GlobalHealth, viewed 13 September 2007.

⁵⁹ Donnelly, J. (2003) *U.S. Seeks Cuts in Health Programs Abroad* Boston Globe, 5 February 2003.

⁶⁰ Jeffrey D. Sachs and the Commission on Macroeconomics and Health, (2001) *Macroeconomics and Health: Investing in Health for Economic Development* (Geneva: World Health Organization (WHO), 2001) Ruth Levine and the What Works Working Group (2004) *Millions Saved: Proven Successes in Global Health* (Washington, DC: Center for Global Development, 2004). Available At http://www.cgdev.org/section/initiatives/_active/millionssaved Accessed 17 February 2007.

⁶¹ WHO, “Polio Eradication: Now More Than Ever, Stop Polio Forever,” at www.who.int/features/2004/polio/en, viewed 17 September 2007; Rotary International, “About PolioPlus,” at www.rotary.org/foundation/polioplus/index.html, viewed 17 September 2007.

A different and very successful campaign was begun in Bangladesh by BRAC, a non-governmental group. Its aim was to teach every mother in Bangladesh how to treat diarrhoea at home and thereby significantly reduced the number of infants and children dying.⁶² The BRAC model has since been used by UNICEF for its worldwide program for the treatment of diarrhoea. It too has been very effective. It has reduced the number of children dying from diarrhoea from 4.6 million in 1980 to 1.6 million in 2006. Between 1982 and 1989, Egypt used this model to reduce infant deaths from diarrhoea by 82 percent. Few investments in programs have saved the lives of so many children at such a minimal cost.⁶³

6.2 Breaking the Poverty Trap - Investing in Natural Capital.

Another very important social sustainability goal of the Earth Charter is to

“Guarantee the right to potable water, clean air, food security, uncontaminated soil and safe sanitation, allocating the national and international resources required.”

It is physically impossible for all developing nations to achieve Western material living standards with previous modes of development, as the global ‘ecological footprint’ (the equivalent land and water area required to produce a given population’s material standard, including resources appropriated from other places) is already greater than the carrying capacity of our planet.

If the goal is to end poverty, then the world simply must find new innovative ways to achieve sustainable development. Only through dramatically improving resource productivity globally can we truly end poverty. Yet to date there has been little effort made to ensure that poverty alleviation efforts also focus on ensuring the environmental sustainability of the programs.

This is not because aid workers do not understand the linkages. The UN Millennium Goals reports all recognise that achieving environmental sustainability goals are key to achieving the Millennium Goals (see Table 6.2).

It is because the investment needs of the extreme poor are diverse, and decision-makers must weigh the need for investments in environmental assets against investment needs in other sectors, including education, health, vaccinations, family planning and infrastructure. In the past, therefore, scarce development finance has often not been allocated towards environmental investments because the belief has been that they secure a lower rate of return than investments in other forms of capital. However, economists can now measure rates of return on environmental investments and are therefore able to test these assumptions.

⁶² Chowdhury, M (2004) *Health Workforce for TB Control by DOTS: The BRAC Case*, Joint Learning Initiative Working Paper 5-2 Global Health Trust.

⁶³ Jeffrey D. Sachs and the Commission on Macroeconomics and Health, *Macroeconomics and Health: Investing in Health for Economic Development* (Geneva: World Health Organization (WHO), 2001); “UNICEF Lists Top Causes of Child Deaths,” Reuters, 13 September 2007; Ruth Levine and the What Works Working Group, *Millions Saved: Proven Successes in Global Health* (Washington, DC: Center for Global Development, 2004).

This new capability has resulted in a new report, *Investing in environmental wealth for poverty reduction*,⁶⁴ by the late UK environmental economist David Pearce. This report finds that rates of return on investments in environmental assets, in increasing access to water supply and sanitation for example, can yield very high rates of return, with benefit-to-cost ratios in the range of 4:1 to 14:1, making them extremely attractive from a social investment standpoint.

Table 6.2 Why reaching the Environmental Goals is so important for achieving the Millennium Goals in the developing world.

1. Eradicate extreme poverty and hunger	Poor people's livelihoods and food security often depend on ecosystem goods and services. The poor often have insecure rights to environmental resources, inadequate access to markets, decision-making and environmental information which limits their ability to protect the environment and improve their livelihoods and wellbeing.
2. Achieve universal primary education	Time spent by children collecting water and fuel wood reduces the time available for schooling. In addition, the lack of energy, water and sanitation services in rural areas discourages qualified teachers from working in poor villages.
3. Promote gender equality	Women and girls are especially burdened by water and fuel collection, reducing their time and opportunities for education, literacy and income-generating activities.
4. Reduce child mortality	Diseases (such as diarrhoea) tied to unclean water and inadequate sanitation, and respiratory infections related to pollution are among the leading killers of children under five. Lack of fuel for boiling water also contributes to preventable waterborne diseases.
5. Improve maternal health	Inhaling polluted indoor air and carrying heavy loads of water and fuel wood impacts significantly on women's health. This can make them less fit to bear children and place them at greater risk of complications during pregnancy.
6. Combat major diseases	Up to 20 percent of the disease burden in developing countries may be due to environmental risk factors (as with malaria and parasitic infections).
7. Develop a global partnership	Many global environmental problems, such as climate change, loss of species diversity and depletion of global fisheries can be solved only through partnerships between rich and poor countries.

(Source: Selection of the United Nations Millennium Development Goals, 2005)

David Pearce's report *Investing in environmental wealth for poverty reduction*,⁶⁵ finds that rates of return on investments in environmental assets have been significantly underestimated, for example in

⁶⁴ Pearce, D. (2005) *Investing in environmental wealth for poverty reduction*, prepared on behalf of the Poverty-Environment Partnership: UNDP, UNEP, IUCN, IIES, World Resources Institute. These are among some of the findings from *Investing in Environmental Wealth for Poverty Reduction*, prepared on behalf of the Poverty-Environment Partnership (PEP) for the 2005 World Summit that was held at the headquarters of the United Nations in New York.

⁶⁵ Pearce, D. (2005) *Investing in environmental wealth for poverty reduction*, prepared on behalf of the Poverty-Environment Partnership: UNDP, UNEP, IUCN, IIES, World Resources Institute.

the area of valuing the worth of forestry assets globally. Pearce has argued that, properly valued, the true value of a forest's ability to store carbon is between US\$360 and US\$2,200 per hectare. This makes them far more valuable for storing carbon than if the forest is converted to cropland or grazing. Pearce's study claims that should the price of carbon exceed US\$30 a ton, it would be far more cost effective not to clear forests but to conserve them.

6.2.1 Investing in Stopping Deforestation

Globally there is significant interest in finding ways to better value the world's remaining forests due to their ability to store carbon, protect biodiversity and deliver a range of ecosystem services, such as reducing soil erosion and purifying water.

The *Stern Review* and the work by McKinsey Consulting, is even more optimistic than David Pearce, and estimate that the marginal cost per GHG abated from avoiding deforestation is the cheapest form of greenhouse abatement after energy efficiency and energy demand management, and followed by a range of renewable energy technologies.

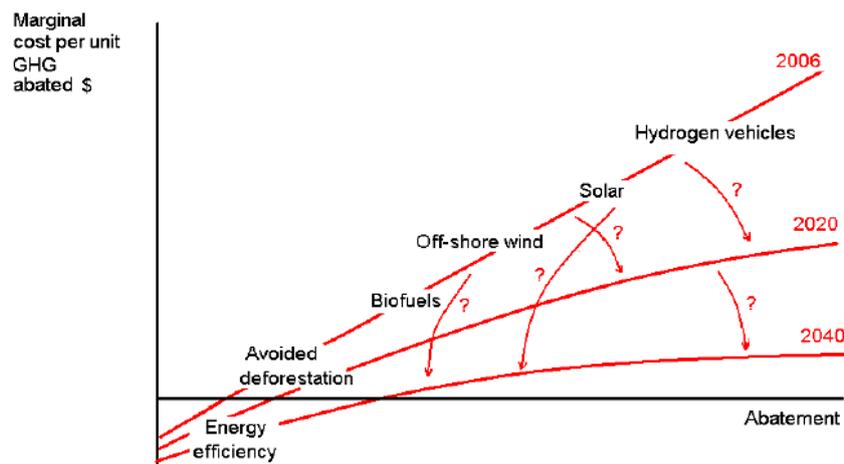


Figure 6.4 Relative Marginal Costs of Climate Change Abatement per unit GHG

Source: Stern Review (2006)⁶⁶

The *Stern Review* states,⁶⁷

“Almost 20 per cent (8GtCO₂/year) of total greenhouse gas emissions are currently from deforestation. A study commissioned for the Review looking at 8 countries responsible for 70 per cent of emissions from deforestation found that, based on the opportunity costs of the use of the land which would no

These are among some of the findings from *Investing in Environmental Wealth for Poverty Reduction*, prepared on behalf of the Poverty-Environment Partnership (PEP) for the 2005 World Summit that was held at the headquarters of the United Nations in New York.

⁶⁶ Stern, N. (2006) *The Stern Review: The Economics of Climate Change*, Cambridge University Press, Cambridge, p 243. Available at http://www.hm-treasury.gov.uk/media/F/0/Chapter_9_Identifying_the_Costs_of_Mitigation.pdf Accessed 13 February 2008.

⁶⁷ Ibid.

longer be available for agriculture if deforestation were avoided, emission savings from avoided deforestation could yield reductions in CO₂ emissions for under \$5/tCO₂ possibly for as little as \$1/tCO₂.”

Hence when considering the global benefit of preserving and expanding the remaining forest areas, coupled with the opportunity presented by the Clean Development Mechanism, many companies and governments are realising the benefits of investing in avoided deforestation projects in developing countries. Deforestation is currently responsible for roughly 18 per cent of global greenhouse emissions. Compensating developing countries for stopping deforestation and funding reforestation schemes is one of the most cost effective and quickest ways the world could make progress on reducing greenhouse gas emissions in the short term.

Conversely, further loss of forests and other natural ecosystems makes developing countries more vulnerable to storms, landslides, flooding, droughts and natural disasters. The International Union for the Conservation of Nature (IUCN)⁶⁸ has found that often the impacts of natural disasters are increased when nature’s natural resilience has been affected. The World Bank⁶⁹ has estimated that, for the poorest countries, the cost of natural disasters represents more than 13 per cent of GDP. While only some of this cost can be attributed to environmental factors, which can in turn be influenced directly by public policy (e.g. flood control, GHG mitigation, preventing deforestation, soil erosion and mudslides etc.), ‘inaction’ concerning natural disasters is clearly resulting in significant costs. The World Bank and the US Geological Survey have estimated that the worldwide economic losses from natural disasters in the 1990s could have been reduced by US\$280 billion, if US\$40 billion had been invested in disaster preparedness, mitigation and prevention strategies.⁷⁰

Countries are beginning to recognise the economic, social and environmental costs associated with deforestation, partly because of the evidence that deforestation reduces the environment’s resilience to shocks, enabling storms, flooding and natural disasters to have a greater impact. Deforestation leads to greater rainfall run-off and the associated flooding and soil erosion. China, the Philippines, Sri Lanka, Thailand, and Viet Nam all have total or partial bans on deforestation.⁷¹

6.2.2 Investing and Empowering Reforestation

The story of the last 40 years in Niger demonstrates probably better than any other the significant benefits of investing in reforestation.⁷² Forty years ago Niger was on track to become a failed state

⁶⁸ Masundire, H., Rizvi, A. and Rietbergen, S. (2006) *Ecosystems, Livelihoods and Disasters: An Integrated Approach to Disaster Risk Management*, IUCN. Available at http://www.iucn.org/en/news/archive/2006/08/30_pr_disaster.htm Accessed 23 March 2008.

⁶⁹ World Bank (2006) *Hazards of Nature, Risks to Development*, World Bank, Washington DC.

⁷⁰ World Bank (2004) *Natural Disasters: Counting the Cost*, World Bank, Washington DC.

⁷¹ Durst, P. et al. (2001) *Forests Out of Bounds: Impacts and Effectiveness of Logging Bans in Natural Forests in Asia-Pacific*, FAO, Asia-Pacific Forestry Commission, Bangkok.

⁷² Starke, L. (ed) (2008) *State of the World: Ideas and Opportunities for Sustainable Economies*. Worldwatch Institute. Earthscan. London.

propelled by drought, desertification, unsustainable farming practices and rapid population growth. It was becoming harder and taking longer for firewood and timber to be found and the farming soils' fertility was declining. The national average birth rate was seven children per family.

From the mid-1980s this began to change. At that time, farmers in several villages were taught to plough carefully around tree saplings when sowing crops of millet, sorghum, peanuts and beans. Careful nurturing, along with other simple soil and water conservation practices, saplings became trees, putting down roots and a buffer against top soil erosion and crop loss. The quick growing trees became assets that families used to supplement incomes, provide insurance against crop failure and meet their own needs. The trees provided wood for charcoal, foliage for animal fodder and fruit for food.

Word of mouth and marketplaces spread the good news until an area of 7 million hectares was being replanted with trees. Whilst this transformation occurred largely due to energy of Niger's farming families it was also assisted by the government. The government gave the farmers secure property rights over the trees in recognition farmers investment in time and labour to plant all the trees. The result of their efforts is today a more sophisticated mix of agro-forestry and a more diverse economy. The effects of this change have been profound. The average distance a woman must walk for firewood in the Zinder region of Niger has declined from 2.5 hrs to half an hour. Poverty is lower, nutrition improved and communities are less vulnerable to natural disasters. When a regional drought and locusts hit in 2005, many of the villages in the green belt of Niger reported no child deaths from malnutrition because they were able to sell wood in local markets to purchase expensive cereals that normally would have been beyond reach. This success story from Niger demonstrates that the value at overcoming barriers to empowering people. It shows that the greatest untapped resource in solving the problem of global poverty and environmental decline are those who are currently trapped in poverty and enduring hardship because of environmental degradation. They have more motivation than anyone to change their conditions if just supported to have a chance to do so.

In addition to re-afforestation, investing in other forms of natural capital provides protection and resilience from natural disasters. In Viet Nam, tropical cyclones have caused a considerable loss of livelihood resources, particularly in coastal communities. Mangrove ecosystem rehabilitation along much of Viet Nam's coastline is an example of a cost-effective approach to improving coastal defences while restoring biodiversity, and ecosystems while generating local livelihoods. Since 1994, the Vietnam National Chapter of the Red Cross has worked with local communities to plant and protect mangrove forests in northern Vietnam. Nearly 120 km² of mangroves have been planted, with substantial resulting benefits. Although planting and protecting the mangroves cost approximately US\$1.1 million, it saved US\$7.3 million/year in dyke maintenance. During the devastating typhoon Wukong in 2000, project areas remained unharmed, while neighbouring provinces suffered huge losses in lives, property and livelihoods. The Vietnam Red Cross has estimated that some 7,750

families have benefited from mangrove rehabilitation. Family members can now earn additional income from selling crabs, shrimp and molluscs, while also increasing the protein in their diets.⁷³

6.2.3 Investing in Water Quality and Sanitation

Another area where investment in natural capital has significant environmental, social, health and poverty reduction benefits is in investments in reducing water pollution and improving the quality of drinking water and levels of sanitation. Increasing access to supply of clean water and sanitation for example, can yield very high rates of return, with benefit-to-cost ratios in the range of 4:1 to 14:1, making such investments extremely attractive from a social investment standpoint.⁷⁴ Improved water supplies and sanitation create time savings (that is, time not spent travelling long distances to fetch water) that translate into higher economic output and productivity as well as greater school attendance.

Preserving or rebuilding ecosystem services can not only increase the systems resilience to natural disasters, it can also assist to improve water quality. The services provided by biodiversity through watersheds globally are worth tens of billions of dollars. Currently 40 per cent of humanity or 2.6 billion people now do not have regular access to clean water, due in part to the removal or degradation of water catchment areas. About 90 per cent of the sewage and 70 per cent of the industrial waste in developing countries are being discharged untreated into water courses, and without the natural wetlands and natural aquatic systems this waste is not even treated to primary levels.⁷⁵ The UN set a millennium goal of halving the proportion of people with no access to sanitation - even simple latrines rather than sewers - by 2015.

Rebuilding wetland ecosystems is a cost effective way often to provide interim water treatment. Understanding the ability of marshes and wetlands, to play an integral part in filtering waste water is often overlooked. Novel schemes currently looking to utilise ecosystem services to purify water include a plan to build an artificial wetland at a jail in Mombasa in Kenya, to process sewage from 4,000 inmates that now flows untreated into a creek, or ponds in South Africa where algae purify waste and are then used as fertiliser. This is but one way healthy ecosystems positively impact on human health.

Many poorer nations and communities depend on fish and other seafood as a key part of their diet, however, fisheries are collapsing throughout the world.

⁷³ IIED (2003) 'Climate Change – Biodiversity and Livelihood Impacts', Chapter 3 in *The Millennium Development Goals and Conservation; Managing Nature's Wealth for Society's Health*, International Institute for Environment and Development, London.

⁷⁴ Pearce, D. (2005) *Investing in environmental wealth for poverty reduction*, prepared on behalf of the Poverty-Environment Partnership: UNDP, UNEP, IUCN, IIES, World Resources Institute

⁷⁵ OECD (2008) *OECD Environmental Outlook to 2030*, OECD. Available at http://www.oecd.org/document/20/0,3343,en_2649_37465_39676628_1_1_1_37465.00.html Accessed 22 March 2008.

A 2003 landmark study by a Canadian-German research team published in *Nature* concluded that 90 percent of the large fish in the oceans had disappeared over the last 50 years.⁷⁶

The fisheries sector employs about 40 million fishers and fish farmers, most living in developing countries,⁷⁷ who depend on fisheries worldwide.⁷⁸ In many of these countries, fish is an essential part of the diet, providing 22 per cent and 19 per cent of animal proteins consumed in Asia and Africa.⁷⁹ Fishery resources also contribute to the livelihoods of coastal or island communities. When fishery stocks collapse around the world it is the poor in those regions who immediately feel the impact.

In this brief summary I have shown several examples of why investing in natural capital needs to be part of any serious strategy to help countries break the poverty trap permanently. But there are additional reasons to invest in natural capital which are well covered by the World Health Organisation in their 2005 Millennium Ecosystem Assessment report.⁸⁰ This report shows that there are many harmful health effects of loss of biodiversity and ecosystem services and conversely numerous benefits of maintaining biodiversity and ecosystem health to quality of life in developing countries.⁸¹

⁷⁶ Myers, R. and Worm, B. (2003) 'Rapid Worldwide Depletion of Predatory Fish Communities', *Nature*, vol. 432, pp 280–83; Crosby, C. (2003) 'Blue Frontier is Decimated', *Dalhousie News*, 11 June 2003.

⁷⁷ FAO (1999) *The State of World Fisheries and Aquaculture 1998*, FAO, Rome.

⁷⁸ FAO (2005) *Increasing the Contribution of Small-scale Fisheries to Poverty Alleviation and Food Security*, FAO Technical Guidelines for Responsible Fisheries, No. 10, FAO, Rome.

⁷⁹ Ibid.

⁸⁰ WHO (2005) *Ecosystems and Human Well-being: Health Synthesis*, Millennium Ecosystem Assessment, World Resources Institute, Washington, DC.

⁸¹ Ibid.

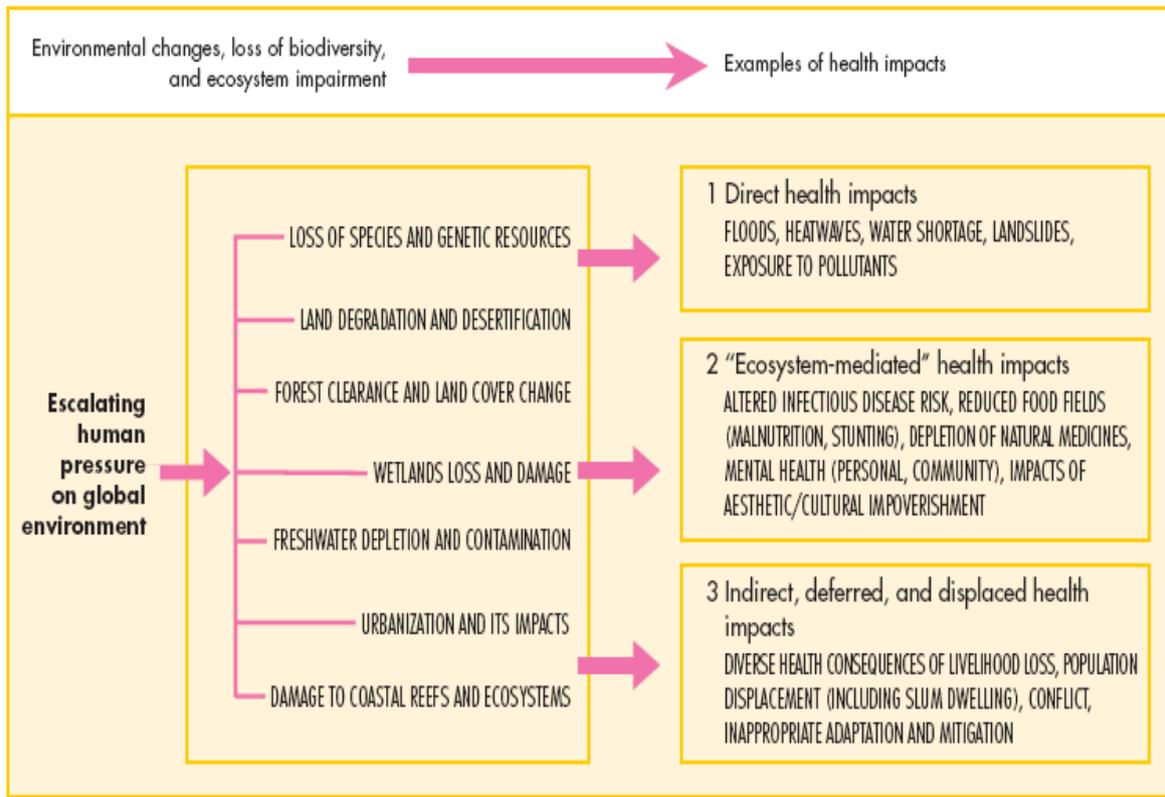


Figure 6.5 Harmful Effects of Ecosystem Changes on Human Health.(Source: WHO, 2005⁸²)

As Klaus Toepfer, UNEP executive director, stated,

"It is clear... that the environment is something like the red ribbon running through the Millennium Development Goals. It is not a luxury good, only affordable when all other problems have been solved. It is the oxygen that breathes life into all our aspirations for a healthier, fairer and more stable world. We also need to pursue more imaginative and clever methods for paying the poor for the regional and global assets they hold. It has been calculated that the carbon absorption value of tropical forests alone is worth tens of billions of dollars a year. But these ecosystem services, which largely remove the pollution of the rich countries from the atmosphere, are provided gratis and the people paid nothing for these assets."⁸³

Since overseas development aid funding is scarce, it is necessary for us to explore the question of what are some of the most cost effective ways to invest in developing countries to both improve natural and social capital. Given that there is now significant political will in OECD countries to invest in developing countries for projects that reduce greenhouse gas emissions, aid agencies and governments

⁸² Ibid.

⁸³ See UNEP (2005) 'Investing in the Environment Gives Big Bang for Your Buck Poverty and Environment Partnership Says Natural Capital Central to Development Goals', *Media Release*, UNEP. Available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=452&ArticleID=4933&l=en> Accessed 17 February 2008.

in developing countries are rethinking ways they can meet their people's urgent needs in ways that also reduce greenhouse gas emissions. It is very likely that the Clean Development Mechanism (CDM) of the Kyoto Protocol will be a key part of any post Kyoto Framework currently being negotiated. The following examples give a taste of how in the 21st century it is possible to combine poverty reduction and climate change mitigation goals simultaneously to create new avenues to overseas development aid.

6.2.4 Low Carbon Approaches to Heating and Cooking for Developing Nations

There is significant interest in OECD countries currently in working out the best ways to work with poor and developing countries to help them reduce their rates of deforestation and help mitigate climate change. The forests of the world are under significant environmental pressures for many reasons but one factor is global poverty. Roughly 1.6 billion people are currently without electricity to enable them to cook food, stay warm or see at night.⁸⁴ Hence any OECD funded scheme to reduce deforestation in a developing country will need to address the needs of the people for alternative energy sources to meet their basic needs. Fortunately, as I will now explain, there are ready made low carbon ways to do this which are already working in developing countries around the world. As Lester Brown explains

“The largest single demand on trees - the need for fuel - accounts for just over half of all wood removed from forests. Some international aid agencies, including the U.S. Agency for International Development (AID), are sponsoring fuelwood efficiency projects. One of AID's more promising projects is the distribution of 780,000 highly efficient wood cook stoves in Kenya that not only use far less wood than a traditional stove but also pollute less. Kenya is also the site of a solar cooker project sponsored by Solar Cookers International. These inexpensive cookers, made from cardboard and aluminium foil and costing \$10 each, cook slowly, much like a crockpot. Requiring less than two hours of sunshine to cook a complete meal, they can greatly reduce firewood use at little cost. They can also be used to pasteurize water, thus saving lives. Over the longer term, developing alternative energy sources is the key to reducing forest pressure in developing countries. Replacing firewood with solar thermal cookers, or even with electric hotplates fed by wind-generated electricity or with some other renewable energy source, will lighten the load on forests.”⁸⁵

The health benefits from investing in more efficient wood and solar heaters are significant. As stated above, at least two billion people worldwide burn wood, dung and crop residues indoors for home

⁸⁴ Raloff, J. (2006) ‘Illuminating Changes: Conventional lightbulbs may soon be obsolete’, *Science News Online*, May 20, 2006. Available at <http://light.lbl.gov/media/LED-Science-news.pdf>. Accessed 30 April 2008. Mills, E. (2005) ‘The specter of fuel-based lighting’, *Science*, no. 308, pp 1263-1264. Available at <http://www.sciencemag.org/cgi/content/full/308/5726/1263>. Accessed 30 April 2008.

⁸⁵ Brown, L. (2008) *Plan B. Mobilising to Save Civilisation*, The Earth Policy Institute. Available at <http://www.earth-policy.org/Books/PB3/Contents.htm>. Accessed 17 February 2008.

cooking and heating. According to the World Health Organization, this widespread use results in the premature deaths of an estimated 1.6 million people each year from breathing elevated levels of indoor smoke, resulting in 'indoor air pollution' as the fourth leading cause of death in developing countries. The Partnership for Clean Indoor Air (PCIA), which involves over 160 partners worldwide, is working towards addressing the problem by funding projects in Asia, Africa, and Latin America to identify and demonstrate effective approaches for increasing the use of clean, reliable, affordable, efficient, and safe home cooking and heating practices that reduce people's exposure to indoor air pollution. In addition to cooking and staying warm the other reason the poor burn wood is to be able to see at night to continue to carry out tasks and teach children to read who often have to work in the fields during the day.

6.2.5 Benefits from Investing in Low Carbon Approaches to Lighting and Renewable Energy

The use of efficient lighting powered by onsite renewable forms of energy has the potential to make a significant difference to the lives of millions of people in the developing world. The Barefoot Solar Engineering Program⁸⁶ in north-west India clearly demonstrates the revolutionary power of efficient lighting powered by renewable energy. At the Barefoot Engineering College illiterate women have been trained to make circuits for solar lighting and also how to install and maintain hand pumps, water tanks, solar cooking heaters and pipelines.

Just one of the Barefoot engineering products, solar lanterns, has transformed community life. Traditionally, only the boys have been able to get an education with the young girls needing to work in the fields during the day for the families to survive. Now thanks to solar lanterns they are able to run a school in the evening, after dark, so the young girls can learn to read and write after their work during the day. All around the developing world this problem of young women not getting a chance for an education exists; hence this simple practical solution has great significance. Finally, still more profound changes in the community have evolved. The female Barefoot solar engineers, who previously would have been seen as illiterate poverty stricken women, are now so respected by the communities in north-east India that they are being asked to represent the region in government. Maurice Dewulf, deputy senior resident representative, United Nations Development Programme (UNDP), comments:

"The project has demonstrated how solar energy provides a solution not just for cooking and lighting, but also for education, agriculture, health, and income generation."⁸⁷

⁸⁶ See Barefoot Solar Engineering Program at <http://www.boloji.com/wfs/wfs122.htm> Accessed 17 February 2008

⁸⁷ Maurice Dewulf, deputy senior resident representative, United Nations Development Programme (UNDP), comments, *'The project has demonstrated how solar energy provides a solution not just for cooking and lighting, but also for education, agriculture, health, and income generation. The Ministry of Non-conventional Energy Sources, the European Commission and the UNDP support the Barefoot Solar Engineering programme. Barefoot's project partners are encouraged by the response to the programme, which has received the Stockholm Challenge Award for Environment in 2002.'*

Programs like this have the potential to make a significant difference. Currently, the electrical power sector consumes a fourth of the world's development capital. It could be turned into a net *exporter* of capital to fund other development needs. The Indian government and overseas aid has now enabled over half a million such solar lanterns to now be in use throughout India.⁸⁸

6.2.6 Benefits of Investing in Low Carbon Sustainable Transport Solutions

In many parts of the world the problem of air pollution is largely due to transportation.⁸⁹ More than two million people globally are estimated to die prematurely each year due to indoor and outdoor air pollution.⁹⁰ Although air quality has improved dramatically in some cities, many areas still suffer from excessive air pollution. Unlike American and European cities, Asian and developing country metropolitan areas owe a substantial portion of their air pollution to two- and three-wheel motorised vehicles.⁹¹ Motorcycles and mini taxis constitute the majority of vehicles in many Asian and developing countries. Many of these small vehicles employ two-stroke engines which emit 50 times the amount of air pollution compared to modern automobiles.

Envirofit,⁹² an independent, non-profit company established at Colorado State University in 2003, is now distributing affordable retrofit kits that will both reduce air pollutant emissions by 90 percent while also improving the fuel efficiency of two-stroke engines by 30-50 percent and thus reducing greenhouse gas emissions. Since retrofitting two stroke engines results in a 30-50 percent improvement in fuel efficiency, projects to roll this out on a large scale will qualify as projects under the Clean Development Mechanism. This should attract further funding from governments looking for effective CDM projects to invest in.

Two Australian Professors, Peter Newman and Jeff Kenworthy, have published work which suggests that, overall, a new approach is needed to transportation in developing and developed countries. Their ground-breaking research, published in 1999, in a major report for the World Bank⁹³ demonstrated that cities which pursue sustainable transport options have better quality of life and higher economic growth than cities dependant largely on freeways.

⁸⁸ India Ministry of Non Conventional Energy Sources in the past few years has distributed ½ million units of solar lanterns (<http://mnes.nic.in/ach1.htm>)

⁸⁹ OECD (2008) *OECD Environmental Outlook to 2030*, OECD. Available at http://www.oecd.org/document/20/0,3343,en_2649_37465_39676628_1_1_1_37465_00.html. Accessed 22 March 2008.

⁹⁰ UNEP (2007) *Global Environment Outlook: Environment for development (GEO-4) report*, UNEP. Available at <http://www.unep.org/geo/geo4>. Accessed 23 March 2008.

⁹¹ World Bank (2000) *Improving Urban Air Quality in South Asia by Reducing Emissions from Two-Stroke Engine Vehicles*, The World Bank, Washington, DC. Available at <http://www.worldbank.org/transport/urbtrans/e&ci/2str1201.pdf>. Accessed 14 April 2007.

⁹² CSIRO (2007) 'Engine retrofit kit helps Filipino's breathe easier', *CSIRO ECOS*, Issue 139, p 4. Available at http://www.publish.csiro.au/?act=view_file&file_id=EC139p4.pdf. Accessed 10 March 2008.

⁹³ Newman, P. and Kenworthy, J. (1999) *Sustainability and Cities*, Island Press, Washington, DC.

Previously the World Bank had assumed that investing in freeways and cars was the road to economic growth.

With oil prices reaching record highs, there is great interest currently from developing countries for ideas on how to meet local transportation needs without oil. Model sustainable cities like Curitiba⁹⁴ in Brazil, and Bogota⁹⁵ in Columbia, are showing the way by demonstrating how sustainable transport – cycling, walking and buses – can comfortably manage over 50 per cent of all commutes, with better health and economic outcomes.

6.2.7 Bringing It Together – The UN Millennium Villages Project

One of the best examples currently in the world of bringing these elements together is the UN Millennium Village Project.⁹⁶ Millennium Villages is a sustainable, economic development project led by Africans and for Africans. Millennium Villages' aim is to achieve the Millennium Development Goals at a local level throughout rural Africa. As the Millennium Villages web site states:

“The Millennium Villages seek to end extreme poverty by working with the poorest of the poor, village by village throughout Africa, in partnership with governments and other committed stakeholders, providing affordable and science-based solutions to help people lift themselves out of extreme poverty.”⁹⁷

The UN Millennium Villages project works with village communities to identify and implement practical measures which will make a real difference to their lives quickly. In each part of the village the project identifies opportunities to make a difference through investing in clean water, vaccines, malaria nets and appropriate technologies, food, food supplements, and health and education services.

As Sachs says:

“It is a kind of aid that can work fast, providing a reliable investment, that is easy to monitor and protect against corruption.”⁹⁸

The first Millennium Village began in Sauri, Kenya⁹⁹ in August 2004 and achieved remarkable results rapidly.

⁹⁴ Hawken, P. *et al* (1999) *Natural Capitalism: Creating the Next Industrial Revolution*, Earthscan, London, Chapter 14: Human Capitalism. Available at <http://www.natcap.org/images/other/NCchapter14.pdf>. Accessed 10 March 2008.

⁹⁵ Runyan, C. (2008) *Bogotá designs transportation for people, not cars*, World Resources Institute. Available at http://archive.wri.org/newsroom/wrifeatures_text.cfm?ContentID=880. Accessed 10 March 2008.

⁹⁶ See UN Millennium Project at <http://www.unmillenniumproject.org/index.htm> Accessed May 1 2008.

⁹⁷ See UN Millennium Villages at <http://www.unmillenniumproject.org/mv/index.htm> Accessed May 1 2008.

⁹⁸ Sachs, J (2008) *CommonWealth: Economics for a Crowded Planet*, Penguin Press. Available at <http://www.npr.org/templates/story/story.php?storyId=89764376> Accessed 1 May 2008.

⁹⁹ See Millenium Project - *Case Study Sauri Powerpoint* at http://www.unmillenniumproject.org/mv/mv_history.htm Accessed 1 May 2008.

For example, maize yield has tripled and malaria rates have more than halved. Agriculturalists are teaching villagers new farming methods, free health care is also now available, and a school food program has been established. Since the introduction of school meals, the pupils' school test results have improved dramatically. Improved nutrition has also led to better health, and the mosquito nets treated with insecticide have reduced the malaria rates.

In 2005, the second Millennium Village was launched in Koraro, Ethiopia. It made very good progress initially. With financial support from the Government of Japan, a further ten villages were launched in partnership with UNDP and the Earth Institute at Columbia University. As a result, there were a total of 12 Millennium Villages located in Ethiopia, Ghana, Kenya, Malawi, Mali, Nigeria, Rwanda, Senegal, Tanzania and Uganda. The locations were selected as representing each of the agricultural and ecological zones of Sub-Saharan Africa. 90 percent of the agriculture population lives in these zones and the zones are representative of 93 percent of the agricultural land area of sub-Saharan Africa. The Millennium Villages are located in areas identified by the UN Millennium Project as having the highest rates of rural poverty and hunger and in reasonably well-governed and stable countries.¹⁰⁰

The financing model for these villages is based on the assumption that with a basic level of support, Millennium Village economies can escape the poverty trap and transition from subsistence farming to self-sustaining commercial activity. Over time the goal is for household incomes to grow with diversification into higher value crops and expanded off-farm jobs. As we showed in the discussion of the poverty trap, earlier in the chapter, higher incomes raise household savings, accelerating economic progress and investment. As the villages escape the poverty trap, they will be able to do more while also being less dependant long term on aid.

A multi-stakeholder approach is taken to the process of funding and implementing a Millennium Village. It involves a partnership of donors and NGOs, local and national governments, and the village community itself. The diagram that follows shows the typical anticipated financial contributions of each partner.

¹⁰⁰ See Millenium Promise - *Millenium Village Executive Summary* at http://www.millenniumpromise.org/site/DocServer/Executive_SummaryUSE.pdf?docID=861 Accessed 1 May 2008.

Village costs per person per yr/US dollars

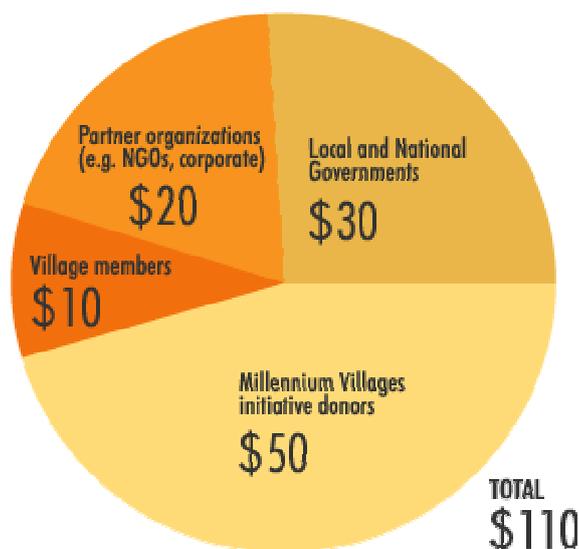


Figure 6.6 Village Costs per Person per Year. (Source: Millennium Project¹⁰¹, undated)

The total funding of \$110 per person per year will be sourced as to \$50 per person from donors. The remaining \$60 required per villager per year will be sourced from village members, local and national governments and partner organisations.

Percent of average annual village costs

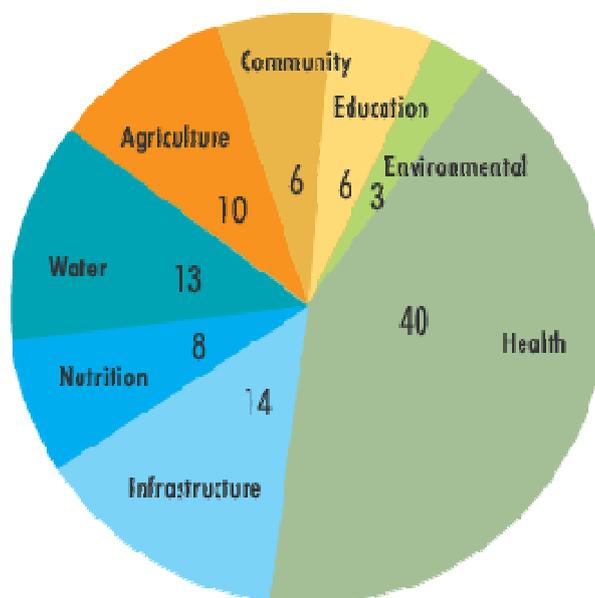


Figure 6.7 Village Costs per Person per Year. (Source: Millennium Project, undated)¹⁰²

¹⁰¹ See Millennium Project at http://www.unmillenniumproject.org/mv/mv_cost.htm. Accessed 1 May 2008.

¹⁰² Ibid.

Costings for the UN Millennium Villages project have been carried out on the basis of roughly 500 million Africans living in rural villages and each villager to receive \$50 per annum resulting in a total annual cost of \$25 billion per annum.¹⁰³ This is very affordable for the OECD nations. This figure is also between the aid levels promised, but not yet delivered by the G8 group of countries. At the 2005 G8 Summit in Gleneagles, Scotland the G8 countries promised to reach \$90 billion per annum in aid for Africa, doubling the current expenditure and charity giving. The evidence to date suggests that the UN Millennium Villages model thus offers a cost effective approach to significantly reduce poverty in Africa and other parts of the world. Much has been written already about the UN Millennium Villages project hence we will not explore it in detail here.

So far in this chapter, I have shown what a difference can be made to the lives of hundreds of millions of people currently living in poverty and suggested that the costs are manageable. We now explore this further and look at how much these costs will effect OECD economic growth rates?

6.1.8 What is the Economic Cost of Ending Extreme Poverty?

It is clear what is required to end poverty and to increase the change to smaller families. The steps required include remedying several funding gaps. They include funding for the following purposes: to achieve universal primary education; to fight HIV, tuberculosis, and malaria; and to provide reproductive health care.

According to the studies assembled in this chapter, the approximate annual cost of effectively undertaking the key recommendations of this chapter on a global scale are as follows:

- Water Sanitation - US\$ 9-30 billion (World Bank)¹⁰⁴
- Universal basic health care – US\$33 billion (Sachs, J *et al*)¹⁰⁵
- Reproductive health and family planning – US\$17 billion (University of California)¹⁰⁶
- Closing the condom gap – US\$3 billion (UNFPA)¹⁰⁷
- Universal primary education – US\$10 billion (U.K Treasury)¹⁰⁸

¹⁰³ Sachs, J. (2008) *CommonWealth: Economics for a Crowded Planet*, Penguin Press. Available at <http://www.npr.org/templates/story/story.php?storyId=89764376> Accessed 1 May 2008.

¹⁰⁴ World Bank (2007) *The Costs of Attaining the Millennium Development Goals*. The World Bank. Available at: <http://www.worldbank.org/html/extdr/mdgassessment.pdf> Accessed 28.04.2008

¹⁰⁵ Sachs, J. *et al* (2002) *Macroeconomics and health: investing in health for economic development*, World Health Organization, Geneva. Available at www.who.int/gb/ebwha/pdf_files/WHA55/ea555.pdf. Accessed 12 December 2006.

¹⁰⁶ Additional spending from J. Joseph Speidel *et al* (2007) *Family Planning and Reproductive Health: The Link to Environmental Preservation*, Bixby Center for Reproductive Health and Research Policy, University of California, San Francisco, p 10, and from J. Joseph Speidel, discussion with J. Matthew Roney, Earth Policy Institute, 16 October 2007.

¹⁰⁷ UNFPA (2005) *Donor Support for Contraceptives and Condoms for STI/HIV Prevention 2005*, UNFPA New York. Available at http://web.unfpa.org/upload/lib_pub_file/681_filename_dsr_2005.pdf. Accessed 30 April 2008; UNFPA (2005) *Achieving the ICPD Goals: Reproductive Health Commodity Requirements 2000–2015*, UNFPA, New York. Available at http://www.unfpa.org/upload/lib_pub_file/584_filename_achieving-icpd.pdf. Accessed 30 April 2008; Chaya, N., Amen, K.A. and Fox, M. (2004) 'Condoms Count: Meeting the Need in the Era of HIV/AIDS', *Population Action International*, Washington, DC. Available at http://www.populationaction.org/Publications/Fact_Sheets/FS21/Condoms_Count.pdf Accessed 20 April 2008.

- Eradication of adult illiteracy – US\$4 billion (Brown, L)¹⁰⁹
- Assistance to preschool children and pregnant women in 44 poorest countries – US\$4 billion (Brown, L)¹¹⁰
- School lunch programs for 44 poorest countries – US\$6 billion (McGovern, G),¹¹¹ and
- Natural Disaster Prevention - US\$4-6 billion (World Bank)¹¹²
- Emergency Food Aid- US\$3.8 billion.(UN World Food Program)¹¹³

In total this amounts to between US\$77-\$100 billion per annum. This estimate is very close to estimates of the cost to achieve the UN Millennium Development Goals. Using two different approaches, the World Bank estimates that if countries improve their policies and institutions, the additional foreign aid required to reach the Millennium Development Goals by 2015 is between US\$75-\$136 billion a year.¹¹⁴ Additional funding will be needed to restore natural capital and ecosystem services globally, along with additional aid needed for capacity building and improving developing countries institutional capability to provide these additional services.

However, in a global economy of over US\$60 trillion dollars this is a price the OECD nations can easily afford. Professor Sachs explains in detail how our generation is the first in history to have the technologies, knowledge and financial resources to actually eradicate extreme poverty. The achievements in poverty reduction and economic prosperity in Asia have been significant and can now underpin efforts by the OECD to invest in the necessary activities to eradicate extreme poverty. Lester Brown explains:

“China’s annual economic growth of nearly 10 percent over the last two decades, along with India’s more recent acceleration to 7 percent a year, have together lifted millions out of poverty. The number of people living in poverty in China dropped from 648 million in 1981 to 218 million in 2001, the greatest reduction in poverty in history. India is also making impressive economic progress. Several countries in Southeast Asia are making impressive gains as well, including Thailand, Viet Nam, and Indonesia.”¹¹⁵

In 2007 the world appeared to to be on track to meet this goal as a result of the progress made in China, India and Asia. Assuming no major economic setbacks, the gains in Asia appeared likely to

¹⁰⁸ UK Treasury (2005) *From Commitment to Action: Education Department for International Development*, UK Treasury, London.

¹⁰⁹ Brown, L. (2008) *Plan B. Mobilising to Save Civilisation*, The Earth Policy Institute. Available at <http://www.earth-policy.org/Books/PB3/Contents.htm>. Accessed 17 February 2008.

¹¹⁰ Ibid.

¹¹¹ McGovern, G. (2001) *The Third Freedom: Ending Hunger in Our Time*, Simon & Schuster, New York, Chapter 1.

¹¹² World Bank (2004) *Natural Disasters: Counting the Cost*, World Bank, Washington DC.

¹¹³ See UN World Food Program 2008 Shortfalls Available at http://www.wfp.org/appeals/Current_shortfalls/index.asp?section=3&sub_section=2 Accessed 30 April 2008.

¹¹⁴ World Bank (2007) *The Costs of Attaining the Millennium Development Goals*, The World Bank. Available at <http://www.worldbank.org/html/extdr/mdgassessment.pdf> Accessed 28 April 2008.

¹¹⁵ Brown, L. (2008) *Plan B. Mobilising to Save Civilisation*, The Earth Policy Institute. Available at <http://www.earth-policy.org/Books/PB3/Contents.htm>. Accessed 17 February 2008.

guarantee that the U.N. Millennium Development Goal (MDG) of halving poverty by 2015 would be reached. In its 2007 assessment of progress towards that Goal, the World Bank reported that, with the exception of sub-Saharan Africa, the developing world was already on track to reach the goal of halving the the number of people living in poverty by 2015. Sachs writes:

“The truth is that the cost now [of ending extreme poverty] is likely to be small compared to any relevant measure – income, taxes, the costs of further delay, and the benefits from acting. Most importantly, the task can be achieved within the limits that the rich world has already committed: 0.7% of the gross national product of the high-income world, a mere 7 cents out of every \$10 in income. All the incessant debate about development assistance, and whether the rich are doing enough to help the poor, actually concerns less than 1% of rich-world income. The effort required of the rich is so slight that to do less is to announce brazenly to a large part of the world, “You count for nothing”. We should not be surprised, then, in later year’s the rich reap the whirlwind of that heartless response.”¹¹⁶

Sachs asks the question, ‘Can the US afford 0.7% of GDP?’ The US’ current donor assistance is 0.15% of GDP. To go from that to 0.7% would be an extra 0.55% tax on the US GDP. Econometrics shows that the US economy, growing at 1.9% per annum, would reach the same level of increased prosperity in May 1 of 2010 paying 0.7% of GDP rather than January 1, 2010 if it continues paying 0.15%. Sach’s writes, ‘So, for a four month delay in achieving higher levels of prosperity, a billion people could be given an economic future of hope, health and improvement, rather than a downward spiral of despair, disease and decline’. To put this further in perspective, the US spent 30 times as much on its military as it does on overseas aid in 2004: \$US\$450 billion on the military compared to \$15 Billion on overseas aid. By comparison some European countries only spend two to four times as much on their military as foreign aid.

The lopsided ratio of the US in this area reflects several myths. Most Americans when surveyed assume that the US is already giving far more overseas aid than is in fact the case. Surveys by the Program on International Policy Attitudes show that Americans on average believe that foreign aid accounts for 20 percent of the federal budget, approximately 24 times the actual figure. In 2002 the USA gave \$3 per sub Saharan African. Taking out the parts for US consultants, food and other emergency aid, administrative costs and debt relief then the aid per sub Saharan African from the USA comes to six cents each in 2002¹¹⁷.

Whilst it is difficult to calculate exactly how much money is needed to break the extreme poverty traps globally once and for all, the general consensus is that it will involve the OECD nations paying 0.7% of their GDP in effective developmental aid. Several European countries already pay this, including Finland who currently tops the Global Competitiveness Index by the World Economic Forum. Hence

¹¹⁶ Sachs, J. (2005) *The End of Poverty: How Can we Make it Happen in Our Lifetimes*, Penguin Group. New York p288

¹¹⁷ Ibid, p310.

clearly investing in overseas aid does not have to harm a nation's competitiveness at all. The price that needs to be paid is so small that all of the wealthy nations have at different times promised to at least make every effort to pay this amount¹¹⁸.

Three times the wealthy nations of the world have committed to the 0.7 per cent of GDP target for their ODA. In 1992 the United States, Australia and most of the nations of the world were signatories of Agenda 21, the document adopted at the Rio Summit on Sustainable Development in 1992 which contained the following statement in Chapter 33:13:

“Developed countries reaffirm their commitments to reach the accepted United Nations target of 0.7 per cent GNP for ODA and, to the extent that they have not yet achieved that target, agree to augment their aid programmes in order to reach that target as soon as possible and to ensure prompt and effective implementation of Agenda 21.”

A decade later, at Monterrey, the Monterrey Consensus, adopted by the United States and the other participating countries, stated:

“We urge developed countries that have not done so to make concrete efforts to towards the target of 0.7 per cent of GNP as ODA to developing countries.....”

A few months after Monterrey, at the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, the conferees agreed on the WSSD Plan of Implementation to

“Make available the increased commitments in official development assistance announced by several developed countries at the International Conference on Financing for Development. Urge the developed countries that have not done so to make concrete efforts towards the target of 0.7 percent of GNP as ODA to developing countries.”

6.2.8 Is there a Correlation between OECD Countries Investing in Development Aid and the Economic Growth of Developing Nations?

Effective overseas development aid certainly has the potential to help countries escape the poverty trap. It is important to ask whether there is a correlation between foreign development aid and the economic growth of developing countries or whether such a correlation is conditional. This question has drawn the attention of many scholars over time. Papanek¹¹⁹ found a positive connection between aid and growth in developing countries. So too did Fayissa and El-Kaissy¹²⁰. Snyder¹²¹ found a

¹¹⁸ Ibid. pp337-339.

¹¹⁹ Papanek, G. (1972). *The Effect of Aid and Other Resource Transfers on Savings and Growth in Less Developed Countries*. Economics Journal 82

¹²⁰ Fayissa, Bichaka and El-Kaissy, Mohamed I. (1999). *Foreign Aid and Economic Growth of Developing Countries (LDCs): Further Evidence*. Studies in Comparative International Development

¹²¹ Snyder, Donald W. (1993). *Donor Bias Toward Small Countries: An Overlooked Factor In the Analysis of Foreign Aid and Economic Growth*. Applied Economics, 25, 481-488

positive relationship between aid and growth when country size is taken into account. Burnside and Dollar¹²² claim that aid works well in the good-policy environment. The World Bank has found that

“Developing countries with sound policies and high-quality public institutions have grown faster than those without them, 2.7% per capita GDP and 0.5% per capita GDP respectively.¹²³ One percent of GDP in assistance normally translates to a sustained increase in growth of 0.5% per capita. Some countries with sound policies received only a small amount of aid yet still achieved 2.2% per capita growth. The good-management, high-aid groups grew much faster, at 3.7% per capita GDP”¹²⁴.

Others, however, have found that foreign aid can have a negative impact on growth. Knack¹²⁵ argues that a high level of aid has a negative impact on growth because it damages the quality of institutions and encourages rent-seeking and corruption. Easterly, Levine and Roodman¹²⁶ re-examined the work of Burnside and Dollar. They used a larger sample size and found that the results were less robust. Gong and Zou¹²⁷'s study found that aid decreased growth. Pedersen¹²⁸, on the other hand, maintains that it is not possible to conclude that foreign aid positively affects growth. Morrissey¹²⁹ has taken the position that aid works well but accepts that other variables have an impact on its effectiveness.

By and large, the relation between aid and economic growth remains neither definitely positive nor negative because there are so many other variables affecting whether or not aid stimulates economic growth significantly. In addition, geography is found to be influential on economic growth but so far this factor normally is neglected in many of the aid and economic growth analyses¹³⁰. As the World Bank states

“Foreign aid has at times been a spectacular success. Botswana and the Republic of Korea in the 1960s, Indonesia in the 1970s, Bolivia and Ghana in the late 1980s, and Uganda and Vietnam in the 1990s are all examples of countries that have gone from crisis to rapid development. Foreign aid played a significant role in each transformation, contributing ideas about development policy, training for public policymakers, and finance to support reform and an expansion of public services...Internationally funded and coordinated programs have dramatically reduced such diseases as river blindness and vastly expanded immunization against key childhood diseases. Hundreds of millions of people have had their

¹²² Burnside, C. and Dollar, D. (1998). *Aid, the Incentive Regime, and Poverty Reduction*. Policy Research Working Paper 1937. World Bank, Development Research Group, Washington D.C.

¹²³ World Bank (1998). *Assessing Aid: What Works, What Doesn't and Why*. Oxford University Press, New York

¹²⁴ Ibid

¹²⁵ Knack, S (2000). *Aid Dependence and the Quality of Governance: A Cross-Country Empirical Analysis*. World Bank Policy Research Paper

¹²⁶ Easterly, W Levine, R. Roodman, D. (2003). New Data, New Doubts: A Comment on Burnside and Dollar's. *Aid, Policies and Growth*. NBER Working Paper No.9846

¹²⁷ Gong, L. and Zou, H.-fu (2001). “Foreign Aid Reduces Labor Supply and Capital Accumulation.” *Review of Development Economics*, 5(1), pp105-118

¹²⁸ Pedersen, K. R.(1996). “Aid, Investment and Incentives.” *Scandinavian Journal of Economics* 98(3), pp.423-438

¹²⁹ Morrissey, O. (2001). “Does Aid Increase Growth?” *Progress in Development Studies* 1,1, pp.37-50

¹³⁰ Gallup, John Luke; Sachs D., Jeffrey and Mellinger, Andrew D. (August 1999). *Geography and Economic Development*. *International Regional Science Review* 22, 2; pp.179-232

lives touched, if not transformed, by access to schools, clean water, sanitation, electric power, health clinics, roads, and irrigation—all financed by foreign aid. On the flip side, foreign aid has also been, at times, an unmitigated failure. While the former Zaire's Mobutu Sese Seko was reportedly amassing one of the world's largest personal fortunes (invested, naturally, outside his own country), decades of large-scale foreign assistance left not a trace of progress. Zaire (now the Democratic Republic of Congo) is just one of several examples where a steady flow of aid ignored, if not encouraged, incompetence, corruption, and misguided policies. Consider Tanzania, where donors poured a colossal \$2 billion into building roads over 20 years. Did the road network improve? No. For lack of maintenance, roads often deteriorated faster than they could be built. Foreign aid in different times and different places has thus been highly effective, totally ineffective, and everything in between.”

Clearly then simply increasing overseas development aid will not be sufficient to ensure poverty is eliminated. Overseas development aid will most likely succeed in good policy and governance environments free of corruption.

6.2.9 Eliminate Corruption in all Public and Private Institutions.

The UN Earth Charter outlines that to achieve this it is necessary to “*Eliminate corruption in all public and private institutions.*” The World Bank has identified corruption as, ‘*the single greatest obstacle to economic and social development*’;¹³¹ an obstacle that can cause the growth rate of a country to be 0.5-1.0 percent lower than that of a similar country with little corruption.¹³² As a result the World Bank runs a Governance and Anti-Corruption program.¹³³ The World Bank sees eliminating corruption as one of the four most important tasks to helping countries create good business environments.¹³⁴ Addressing corruption is also vital for achieving other broad social sustainability goals, such as access to adequate education and health services. Transparency International, the leading NGO working on these issues, highlights how damaging corruption is to achieving the full breadth of social sustainability goals.

“On the political front, corruption constitutes a major obstacle to democracy and the rule of law. In a democratic system, offices and institutions lose their legitimacy when they are misused for private advantage. Though this is harmful in the established democracies, it is even more so in newly emerging ones. Accountable political leadership cannot develop in a corrupt climate. Economically, corruption leads to the depletion of national wealth. It is often responsible for the funnelling of scarce public resources to uneconomic high-profile projects, such as dams, power plants, pipelines and refineries, at

¹³¹ See World Bank - *Anti-Corruption* at <http://www1.worldbank.org/publicsector/anticorrupt/index.cfm>. Accessed 12 December 2006.

¹³² See Transparency International website at <http://www.transparency.org/>. Accessed 12 May 2007.

¹³³ See World Bank Governance and Anti-Corruption Program <http://info.worldbank.org/etools/library/governance.asp?topicID=646&n=1&del=&cdrom=> (Accessed July 2007)

¹³⁴ See the World Bank at http://en.wikipedia.org/wiki/World_Bank (accessed June 2007)

the expense of less spectacular but more necessary infrastructure projects, such as schools, hospitals and roads, or the supply of power and water to rural areas.”

Transparency International¹³⁵

Susan Rose-Ackerman¹³⁶ has written widely on corruption and lists the following ways through which poor people are hurt by corruption:

- The poor will receive a lower level of social services
- Infrastructure investment will be biased against projects that aid the poor
- The poor may face higher tax or fewer services
- The poor are disadvantaged in selling their agricultural produce.

Using cross-country regressions over the period 1980-97, Sanjeev Gupta, Hamid Davoodi and Rosa Alonso-Terme, in an International Monetary Fund paper,¹³⁷ showed that high and rising corruption, as measured by the ICRG index, increases income inequality and poverty. Mauro also found tentative evidence that corruption alters the composition of public expenditures, stating that, ‘*higher levels of corruption are correlated with lower levels of spending on education.*’¹³⁸

“Corruption hurts the poor disproportionately by diverting funds intended for development, undermining a government's ability to provide basic services, feeding inequality and injustice, and discouraging foreign investment and aid.”

Kofi Annan, United Nations Secretary-General, 2003¹³⁹

The problem of corruption highlights more clearly than any other issue that social, environmental and economic challenges are intertwined. Corruption is widely regarded as one of the biggest impediments to economic growth and social and environmental sustainability. This is shown by a myriad of studies and reports.¹⁴⁰ In 1995, Paolo Mauro presented an article titled, ‘Corruption and Growth’¹⁴¹ which empirical evidence to helped to demonstrate the negative relationship between corruption and long-term economic growth. His paper showed, using extensive cross country data that

¹³⁵ See Transparency International – *FAQs on Corruption* at http://www.transparency.org/news_room/faq/corruption_faq. Accessed 12 December 2006.

¹³⁶ Rose-Akerman, S. (1999) *Corruption and Government: Causes, Consequences, and Reform*, Cambridge UK: Cambridge University Press.

¹³⁷ Gupta, S., Davoodi, H. and Alonso-Terme, R. (1998) *Does Corruption Effect Income Inequality and Poverty?*, IMF Working Paper, May, Washington D.C.

¹³⁸ Mauro, P. (1997) ‘The Effects of Corruption on Growth, Investment, and Government Expenditure: A Cross Country Analysis’, in Elliot, K.A. (ed) (1997) *Corruption and the Global Economy*, The Institute for International Economics, Washington D.C., pp 83–107.

¹³⁹ Quoting Kofi Annan in his statement on the adoption by the General Assembly of the United Nations Convention against Corruption. Kuhlmann, T. (2004) ‘With Corruption Everyone Pays’ *UN Chronicle Online*, vol. XLI, no. 2. Available at <http://www.un.org/Pubs/chronicle/2004/issue2/0204p77.asp>. Accessed 12 December 2006.

¹⁴⁰ See The World Bank Governance and Anti-Corruption Library at: <http://worldbank.org/wbi/governance/library.html> (Accessed July 2007)

¹⁴¹ Mauro, P. (1995) ‘Corruption and growth’, *Quarterly Journal of Economics*, vol. 110, pp 681-712.

corruption has the effect of reducing confidence and investment in nations and thus reducing economic growth. Mauro's 1995 study has been backed up by a number of empirical studies which have generally concluded that the economic costs of corruption and weak governance are substantial.¹⁴²

Given that there is increasing recognition that corruption has substantial, adverse effects on social, environmental and economic outcomes, the question needs to be asked why don't countries strive to improve their institutions and root out corruption? Why do many countries appear to be stuck in a vicious circle of widespread corruption and low economic growth, often accompanied by ever-changing governments through revolutions and coups? Mauro argues in his 2002 paper¹⁴³ that a possible explanation is that when corruption is widespread, individuals do not have incentives to fight it even if everybody would be better off without it. Another is that they simply do not know how to effectively address and stamp out corruption. Transparency International¹⁴⁴ is the peak international NGO addressing this complex questions and building global coalitions of organisations wishing to address this major global problem. They seek to empower people wherever they are in society to help play their part to stamp out corruption.

Countries like Botswana¹⁴⁵ have shown that it is possible to stamp out corruption and maintain this through a pro-active approach. Botswana since independence in 1966, has been politically stable, with a multi-party democracy. The country has enjoyed four decades of economic growth, underpinned by its diamond industry. It is the largest producer of diamonds - by value - in the world. Botswana has successfully kept corruption in check. According to the corruption watchdog, Transparency International, Botswana is the least corrupt country in Africa. The poster on the wall in the arrivals hall at Gaborone Airport is a clear pointer. "Botswana has zero tolerance for corruption. It is illegal to offer or ask for a bribe," it reads. Lebang Mpotokwane, chairman of Transparency International in Botswana, says that in a fast-growing economy, there are temptations, but the government has led by example. "The government is forever preaching to the nation about corruption, and I can't think of any corruption involving government ministers", he says.

The success of Botswana demonstrates that it is worthwhile to investigate the underlying causes of low corruption. Some of the reasons for Botswana's success story owe to unique historical developments such as the discovery of diamonds after independence, a peaceful struggle for independence and political leaders who refrained from seizing the nation's wealth. Although this lucky course of events cannot be replicated, others can: Botswana's economic policies are

¹⁴² Knack, S. Keefer, P (1995) "Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures," *Economics and Politics*, Vol. 7, No. 3, pp. 207–27. Kaufmann, Daniel, Aart Kraay, and Pablo Zoido-Lobaton, 1999, "Governance Matters," World Bank Policy Research Working Paper No. 2196 (Washington: World Bank).

¹⁴³ Paolo Mauro, (2004). "The Persistence of Corruption and Slow Economic Growth," *IMF Staff Papers*, International Monetary Fund, vol. 51(1), pages 1.

¹⁴⁴ See Transparency International at <http://www.transparency.org/> (Accessed June 2007)

¹⁴⁵ Biles, P (2005) Botswana: Africa's success story? BBC News, Gaborone at <http://news.bbc.co.uk/2/hi/africa/4318777.stm> (accessed June 2007)

characterised by a remarkable prudence as regards the use of diamond rents. Moreover, the deals with diamond multinational De Beers were negotiated very carefully and evolved into a real partnership which is often absent in the relations between multinationals from the North and governments in the South. Botswana's over-all success would have been impossible without a National Integrity System (NIS). Botswana's NIS includes high levels of democratic accountability, an independent and efficient judicial system, an Ombudsman to report irregularities in the public service and free media.¹⁴⁶

Botswana is not the only success story. When government officials, politicians, judges or the police are earning very low wages they are vulnerable to corruption. Singapore showed that corruption of this type can be quickly eliminated by strong penalties and by raising salaries. However not all countries and governments have the capacity to do this. In Uganda, to fight corruption, the government publicizes all cheques sent to the local level, so that villagers know what they should be receiving and can make sure that those between the national government and the villages are not taking a cut. In Nigeria, the government publishes how much money it is getting in oil royalties so that citizens can see where the money is going. In Thailand, the new constitution includes a provision that citizens have a basic right to know what their government is doing with taxes and money.

Addressing corruption not only helps economic growth and social sustainability goals, it also allows environmental sustainability goals to be achieved. This is shown simply by comparing Transparency International's (TI) 2000 Corruption Perceptions Index (CPI), which ranks 90 countries, with the performance of these same countries in the Environmental Sustainability Index (ESI). The 2000 TI CPI revealed a 0.75 correlation with ranking of environmental performance.¹⁴⁷

'Corruption and environmental destruction go hand in hand', TI Chairman Prof. Dr. Peter Eigen stated.

'The ESI underscores that the battle to preserve the world's natural heritage can only be won if there is transparent and accountable government', Eigen said at the World Economic Forum in Davos in 2001.

The strong causal relationship between corruption, environmental destruction, lack of social justice and poor economic growth in many countries are around the world creates a remarkable synergy around which business, government to all NGOs can form coalitions. A good example of this is what is happening globally to address illegal logging and forest degradation. Forest-related corruption is one of the major factors in the environmental destruction of forests globally. It has many manifestations, ranging from fraudulent logging concessions, to log smuggling and illegal logging, to the laundering of illicit proceeds, fraud, tax evasion and illegal trade. Yet, in a search for global sustainability, corruption remains one of the hardest challenges to address. Researchers and reformers at all levels-national and international, official and non-governmental, public and private-see their

¹⁴⁶ See Frimpong, K (2001) National Integrity Systems Country Study Report: Botswana 2001 Published by Transparency International at http://www.transparency.org/publications/publications/nis_botswana_2001 (accessed July 2007)

¹⁴⁷ See Transparency International - *Press Releases* at http://www.transparency.org/pressreleases_archive/2001/2001.01.26.davos-esi.html. Accessed 12 December 2006.

efforts to tackle corruption frustrated by lack of political will and lack of information, as well as lack of common methodologies, appropriate tools of analysis and concerted action. Combating forest corruption thus urgently requires multi-strategy, multi-stakeholder and multi-level action in order to be successful in the short and long run. Transparency International has helped to catalyse the global international coalition Forestry Integrity Network¹⁴⁸, born from this sense of urgency, to respond to this pressing challenge.

Transparency International provides numerous resources outlining how to tackle corruption. The World Bank's 1997 *World Development Report, The State in a Changing World* also covered the topic in detail.¹⁴⁹ These two sources provide a detailed overview and plan for action to reduce and eliminate corruption based on years of experience.

6.2.10 Breaking the Poverty Trap - Reducing Farm Subsidies and Debt.

The UN Earth Charter also calls for us to “Ensure that economic activities and institutions at all levels promote human development in an equitable manner” and “Enhance the intellectual, financial, technical, and social resources of developing nations, relieve(ing) them of onerous international debt.” This is because eradicating poverty involves much more than international aid programs and ensuring good policy and corruption free environments. The relief of debt and the reform of farm subsidies in countries giving aid may be just as important. Lester Brown explains:

“A successful export-oriented farm sector— taking advantage of low-cost labour and natural endowments of land, water, and climate to boost rural incomes and to earn foreign exchange—often offers a path out of poverty. Sadly, for many developing countries this path is blocked by the self-serving farm subsidies of affluent countries. Overall, industrial country farm subsidies of \$280 billion are roughly 2.5 times the development assistance flows from these governments. (EU) is staggering, accounting for over one third of its total annual budget. It also looms large internationally. In 2005 the EU-25 accounted for \$134 billion of the \$280 billion spent by affluent countries on farm subsidies. The United States spent \$43 billion on farm subsidies.¹⁵⁰

The reality is that subsidies can encourage the overproduction of farm commodities. They will then be sent abroad with the assistance of export subsidies. The end result is the depressing of world market prices, which harms the poorest countries. For example, the European Union provides more than half of the \$104 billion in development assistance from all countries. But much of the economic gain that would flow from this assistance has been reduced because of the impact of the EU's farming subsidies

¹⁴⁸ See Transparency International Forest Integrity Network at http://www.transparency.org/global_priorities/fin (Accessed JULy 2007)

¹⁴⁹ World Bank (1997) *World Development Report: The State in A Changing World*, The World Bank. Available at <http://www.worldbank.org/html/extpb/wdr97/english/wdr97con.htm> Accessed 28 April 2008.

¹⁵⁰ Brown, L (2008) *Plan B. Mobilising to Save Civilisation*. The Earth Policy Institute. Available At <http://www.earth-policy.org/Books/PB3/Contents.htm> Accessed 17.02.2008

and annual dumping. The Catholic aid agency CAFOD has calculated that the money spent by the EU to protect its farmers could pay for an annual world trip for each of its 21 million cows. Every cow in the EU is subsidized by EU\$2.50 per day which is more than what over one billion people currently earn each day. But EU cows are not the most heavily subsidized. Japanese cows are subsidized \$7.50 per day. Change in this area will not be politically easy in the EU and thus come with political costs. To minimise these political costs structural adjustment packages would be needed. Ideally this would be part of a genuine effort to progress global trade negotiations to create a fairer world trade agreement. Stiglitz and Charlton have in 2006 published a detailed study¹⁵¹ addressing the question of how can the poorer countries of the world be helped to help themselves through freer, fairer trade.¹⁵²

In addition to eliminating harmful agricultural subsidies, another essential part of any attempt to eradicate poverty is debt forgiveness. For example, sub-Saharan Africa spends four times more on debt servicing than it does on health care. Forgiving debt in such a situation can help to boost living standards..

In July 2005, in Gleneagles, Scotland, the heads of the G-8 group of industrial countries, agreed that debts owed by a number of the poorest countries to the World Bank, the International Monetary Fund, and the African Development Bank be cancelled. The countries affected were 18 of the poorest countries (14 in Africa and 4 in Latin America) and the proposal offered them a significant boost. It was also agreed that, subject to them meeting the qualifications, up to another 20 of the poorest countries could also benefit in this way. A combination of public pressure by non-governmental groups campaigning for debt relief in recent years and strong leadership from the U.K. government were the keys to this poverty reduction breakthrough.

The year after the Gleneagles meeting, the International Monetary Fund had eliminated the debts owed by 19 countries, the first major step toward the debt relief goal set at the G-8 meeting. For Zambia, the \$6 billion of debt taken off the books enabled President Levy Mwanawasa to announce that basic health care would be now free. Burundi cancelled school fees, permitting 300,000 children from poor families to attend school and committed to a poverty action fund, some of which would be used to train thousands of new teachers. The continuation of debt forgiveness by the international community would give strong support towards eradicating poverty. But there is still room for further progress. The Gleneagles' commitment eliminated only a small part of poor-country debt to the three international lending institutions. Further there are at least another 40 more countries with low incomes that would benefit from the cancellation of their international debt to those bodies.

¹⁵¹ Stiglitz, J. Charlton, A (2006) *Fair Trade for All: How Trade Can Promote Development*. Oxford University Press. Available at <http://www.andrewcharlton.com/ftfa.htm> Accessed 17 February 2008

¹⁵² See Fair Trade for All Book Launch Speech by Australian Treasurer, Wayne Swan. Available At <http://www.andrewcharlton.com/ftfa.htm> Accessed 17 February 2008

6.3 Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner

6.3.1 Promote the equitable distribution of wealth within nations and among nations.

Another core goal of social sustainability as outlined in the Earth Charter is reducing global and national economic inequality. The Earth Charter mentions the importance of equity several times. The two titles for this sub-section are taken from the Earth Charter. In addition, in the Earth Charter's preamble it states that "*The benefits of development are not shared equitably and the gap between rich and poor is widening.*" Global inequality does continue to rise¹⁵³. In 2005 two major reports published on the issue, both agreeing that global income inequality continues to increase. The UNDP *Human Development Report 2005* recorded that only nine countries (4% of the world's population) had reduced wealth inequality, while 80% of the world's population experienced an increase in wealth inequality. The Report noted that 'the combined income of the 50 richest people in the world was greater than the combined income of the poorest 416 million. 2.5 billion people (40% of the world's population) were living on less than \$2 a day receiving 5% of global income. The wealthiest 10% of the world's population received 54% of global income'.¹⁵⁴

The UN's Report on the World's Social Situation 2005, *The Inequality Predicament*, examined other aspects of global inequality that were causing and worsening poverty. They included the areas of health, education and employment, gender and opportunities for participation in society and politics. Where these inequalities were institutionalised they resulted in greater marginalisation within communities. The report emphasised the inevitable consequences flowing from such inequality including the disintegration of society, violence and terrorism, both national and international. The World Bank has recognised the seriousness of the problems created by these extreme inequalities¹⁵⁵. The 2006 Development Report was focussed on the issue and on what needs to be done to address it and the benefits that will flow from doing so.

6.3.1.1 Addressing Inequality Helps to Reduce Poverty Faster

Broad-based economic growth is critical to accelerating poverty reduction. The most successful East Asian countries in the 1970s and 1980s showed that rapid growth, combined with low initial inequality and pro-poor distributional change, could significantly reduce poverty.¹⁵⁶ Analysis of changes in poverty levels across a sample of developing countries in the 1980s and 1990s also highlights the

¹⁵³ <http://www.eldis.org/poverty/index.htm>

¹⁵⁴ UNDP (2005) *Human Development Report* <http://hdr.undp.org/reports/global/2005/> (Accessed June 2007)

¹⁵⁵ Ferreira, F.H. and Walton, M. *et al.* (2006) *Equity and Development, World Development Report*, World Bank. Available at <http://econ.worldbank.org/wdr/wdr2006/>. Accessed 12 December 2006. Developed under the guidance of François Bourguignon, Senior Vice President and Chief Economist, and a group of advisors.

¹⁵⁶ World Bank. (1993) *The East Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press.

importance of fast growth for poverty reduction.¹⁵⁷ But income inequality also affects the pace at which growth is translated into poverty reduction. Growth is less efficient in lowering poverty levels in countries with high initial inequality or in which the distributional pattern of growth favours the rich.¹⁵⁸ In the late 1990s the term pro-poor growth became popular as economists recognized that accelerating poverty reduction required both more rapid growth and lower inequality.¹⁵⁹ Thus two of the key goals of the Earth Charter, namely to eliminate poverty and reduce global inequality appear to be mutually re-inforcing.

6.3.1.2 Addressing Inequality Helps to Reduce Violence, Conflict and War

Another central aim of the Earth Charter is to encourage people to work to end violence and foster peace. Section IV of the Earth Charter is simply titled “*Democracy, Non-Violence and Peace.*” The most well-established environmental determinant of levels of violence is the scale of income differences between rich and poor. More unequal societies tend to be more violent. The World Bank has found that greater income inequality increases the risks of criminal violence and armed violence between warlords in various nations. Civil war and unsafe streets reduce economic growth dramatically.¹⁶⁰ Economists Alberto Alesina and Dani Rodrick’s work also demonstrates that inequality impedes economic growth by promoting ‘distributional conflicts’ that cost real resources and impede genuine progress within nations.¹⁶¹ The likelihood of armed conflict affecting states increases as their human development ranking declines. 5.5 per cent of the countries ranked as High Human Development states by the UN Human Development Index (HDI) 2004 experienced one or more armed conflicts during the ten-year period 1995-2004. This figure rises to 29.1 per cent of those ranked as Medium Human Development states. For Low Human Development states, there was almost as much likelihood (47.2 per cent) that they were at war during the decade as not.

¹⁵⁷ Dollar, D., and A. Kraay. (2002). *Growth Is Good for the Poor*. Journal of Economic Growth 7: 195–225.

Foster, J., and M. Székely. (2001) *Is Economic Growth Good for the Poor? Tracking Low Incomes Using General Means*. Research Department Working Paper 453, Inter-American Development Bank, Washington, DC.

Kraay, A. (2006) *When Is Growth Pro-Poor? Evidence from a Panel of Countries*. Journal of Development Economics 80 (1): 198–227, June.

Ravallion, M., and S. Chen. (1997) What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty? World Bank Economic Review 11 (2): 357–82.

¹⁵⁸ Bourguignon, F. (2004) *The Poverty-Growth-Inequality Triangle*. Paper presented at the Indian Council for Research on International Economic Relations, New Delhi, February 4.

Ravallion, M., and S. Chen. (1997) What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty? World Bank Economic Review 11 (2): 357–82.

- 2003. “*Measuring Pro-Poor Growth.*” Economics Letters 78 (1): 93–99.

¹⁵⁹ See World Bank on Shared Growth at

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPGI/0,,contentMDK:20161268~pagePK:210058~piPK:210062~theSitePK:342771,00.html> Accessed 17 February 2008

¹⁶⁰ Ibid.

¹⁶¹ Alesina, A. and Rodrik, D. (1994) ‘*Distribution Political Conflict and Economic Growth*’, Quarterly Journal of Economics, vol.109, no. 2.

Inequality also directly correlates with increased violent crime and homicide. There are over 50 studies showing a clear tendency for violence to be more common in societies where income differences are larger. The empirical evidence comes from international studies of developed and developing countries as well as from empirical studies within specific nations. Fajnzylber and colleagues found a clear correlation between homicide rates and inequality using international data from over thirty nine countries.¹⁶² In 2001, Daly *et al*¹⁶³ showed at least a tenfold difference in homicide rates related to inequality for 50 US states and 10 Canadian provinces. By as early as 1993 there were enough studies on this issue to allow a meta-study to be done. In 1993, Hsieh and Pugh compared over 40 published studies and concluded that the relationship between inequality and violence was a robust one.¹⁶⁴ In fact, the relationship between inequality and violent crimes like homicide is regarded by many criminologists as the most well established relationship between homicide and *any* factor. This leads to many direct and indirect costs to society which harms economic growth. Over 2 million residents of the US are currently incarcerated. In 2002, for every 100,000 residents in the US, 700 were in jail, while for England and Wales only 132, Canada 102, France 85 and only 42 were locked up in Japan. Therefore, reducing inequality will have a positive effect on reducing violent crime and the costs of such crime to society. Ironically, the diversion of social development funds to national/international security and military operations produces further deprivation and marginalization, thus creating a vicious cycle.

6.3.1.3 Addressing Inequality Helps to Create a Healthy Society

Reducing inequality also correlates with greater health,¹⁶⁵ which in turn correlates with a productive workforce and economic growth.¹⁶⁶ There is a significant health gradient from rich to poor for many diseases. It is worst in those countries with the greatest inequality and is noticeably less prominent in those societies that are noticeably both more equitable and have a greater ethic of working together and trusting each other, such as Japan in the OECD and Kerala, India in the developing countries.¹⁶⁷ Life expectancy is a health factor that is also closely related to inequality; within each of the OECD countries the average life expectancy is five, ten, fifteen years shorter for people living in the poorest

¹⁶² Fajnzylber, P., Lederman, D. and Loayza, N. (2002) '*Inequality and Violent Crime*', Journal of Law and Economics, vol. 45, no. 1.

¹⁶³ Daly, M. Wilson, M. and Vasdev, S. (2001) '*Income Inequality and Homicide Rates in Canada and the United States*', Canadian Journal of Criminology, vol. 42, pp219–36.

¹⁶⁴ Hsieh, C.C. Pugh, M.D. (1993) '*Poverty, Income, Inequality and Violent Crime: A Meta-analysis of Recent Aggregate Data Studies*', Criminal Justice Review, vol.18, pp182–202.

¹⁶⁵ Marmot, M. (2004) *Status Syndrome: How Your Social Spending Directly Effects Your Health and Life Expectancy*, Bloomsbury Publishing, London; Wilkinson, R. (2005) *The Impact of Inequality: How to Make Sick Societies Healthier*, The New Press, New York.

¹⁶⁶ Bloom, D.E. and Canning, D. (2005) *Schooling, Health and Economic Growth: Reconciling the Micro and Macro Evidence*, Harvard School of Public Health. Cambridge, MA Available at http://www.rand.org/labor/adjp_pdfs/2005canning.pdf. Accessed 12 December 2006.

¹⁶⁷ Marmot, M. (2004) *Status Syndrome: How Your Social Spending Directly Effects your Health and Life Expectancy*, Bloomsbury Publishing, London, pp 176-190.

areas compared to those in the richest. Those OECD countries with some of the greatest inequality, like the US, rank low amongst the OECD in terms of health outcomes even though the US is the richest country in the world. Life expectancy, for example, is 20 years less in black downtown Washington, DC, in comparison to rich and white Montgomery County just 20 miles away.¹⁶⁸

6.3.1.4 Reducing Inequality Boosts Economic Growth

The evidence suggests that long term extreme inequality with extreme poverty does not assist economic growth as much as a more egalitarian approach. Oxfam, in its 1997 report *Growth with Equity*, found that:¹⁶⁹

“Policies for economic growth and poverty reduction are mutually reinforcing, rather than contradictory. This is because widespread poverty represents a vast waste of productive potential, reducing output and productivity, limiting the scope for savings and investment, and restricting market opportunities. Simply put, poverty represents not only a denial of basic rights, but also a source of economic inefficiency. Overcoming that inefficiency should be a central policy objective for all governments.

Rapid progress towards poverty reduction and human development is possible through policies which combine growth with equity. East Asia demonstrates that such policies, which are good for equity, are good for growth, and good at converting growth into poverty reduction. Over the past three decades the region has experienced the most rapid and sustained growth recorded this century. Less widely appreciated is the fact that economic success has been accompanied by a silent revolution in poverty reduction. More people have moved out of poverty more quickly than at any time in history. The message which emerges for governments, which are serious about economic growth, is clear: get serious about poverty reduction and human development.”

6.3.2 Ensuring Access to Education and Health Services

Given the success of the social investment in education and health in the Asian economies, why aren't all countries following Asia's lead? Some popular opinion, and the opinion of many economists, sees social spending - spending on poverty reduction and investment in human development, unemployment benefits, public health care, public pensions, housing subsidies, and public education and training - as being a drag on economic growth. In the 1960s and 70s, Arthur Okun, the Keynesian economist and policy advisor to presidents Kennedy and Johnson, argued that there was a '*big trade-off between equality and aggregate economic efficiency*'.¹⁷⁰ He argued that government policies to distribute income more fairly through social legislation and job creation schemes would necessarily

¹⁶⁸ Murray, C.J., Michaud, C.M., McKenna, M.T. and Marks, J.S. (1998) *US Patterns of Mortality by Country and Race: 1965-94*, Harvard Centre for Population and Development Studies, Cambridge, MA.

¹⁶⁹ Watkins, K. (1997) *Growth with Equity: An Agenda for Poverty Reduction*, Oxfam International, UK.

¹⁷⁰ Okun, A. (1975) *Equality and Efficiency: The Big Trade-off*, Brookings Institution, Washington D.C.

intrude into market relationships, causing the society to forego private gains elsewhere.¹⁷¹ More recently, however, Okun's ideas have been disproved.

Experts now argue that public spending on education, for instance, helps productivity and economic growth, rather than hindering it. For instance, Nobel Prize winning economist Amartya Sen in *Development as Freedom*¹⁷² argues that:

“The pioneering example of enhancing economic growth, through social opportunity, especially in basic education, is of course Japan. It is sometimes forgotten that Japan has a higher rate of literacy than Europe had even at the time of the Meiji restoration in the mid-nineteenth century, when industrialization had not yet occurred there but had gone on for many decades in Europe. Japan's economic development was clearly much helped by the human resource development related to the social opportunities that were generated. The so-called East Asian miracle involving other countries in East Asia was, to a certain extent, based on similar causal connections¹⁷³.... These economies went comparatively early for massive expansion of education and later also health care, and they did so in many cases before they broke the restraints of general poverty.”

Sen argues that whether countries invest or not in social capital and human development has a significant impact on what economic growth rates are achieved. Sen illustrates this by comparing the Asian tiger economies and India and their literacy rates. Sen writes:

“When China turned to market liberalisation in 1979 it had already a highly literate people, especially the young, with good schooling facilities across the country. Whilst when India turned to market liberalisation in 1991, half the Indian adult population could not read and..... the situation is not much improved today”¹⁷⁴.

In other words, ensuring that the whole population has a good education and useful skills can assist development and economic growth in many ways. Productivity gains do not simply depend on the skills of employees in a company but also on the abilities of the other companies in the supply chains, sector or cluster, at least within the region. Thus, a company operating out of any regional economy will benefit if there is a high skill-base in that region where workers can learn from each other. This supports faster economic growth in a regional economy, urban economists call these ‘neighbourhood effects’.¹⁷⁵ This explains why, empirical evidence shows that when inequality is allowed to grow, this

¹⁷¹ Kuttner, R. (1984) *The Economic Illusion*, Houghton Mifflin, Boston; Kuttner, R. (1996) *Everything for Sale*, Knopf, New York. Robert Kuttner thoroughly debunks Okun's insistence on the inevitability of a trade-off between equality and growth in these two publications.

¹⁷² Sen, A. (1999) ‘Development As Freedom’, p10.

¹⁷³ World Bank, (1993) ‘The East Asian Miracle: Economic Growth and Public Policy’, Oxford, *Oxford University Press*.

¹⁷⁴ Sen, A. (1999) ‘Development as Freedom’, p42.

¹⁷⁵ Bernstein, A. (1994) *Inequality: How the Gap Between Rich and Poor Hurts the Economy*, Business Week, August 15, pp 78–83.

in fact slows subsequent economic growth, particularly over the longer term.¹⁷⁶ One of the reasons for this is that inequality causes an under-investment in education by the poor.¹⁷⁷ When a large fraction of the population under-invests in education, compared to the investment being made by the economies with which one competes, productivity growth falters.¹⁷⁸ This is one of the reasons why ‘the relatively egalitarian states of East Asia have grown economically three times faster than the highly unequal economies of Latin America’.¹⁷⁹

Such beliefs are backed up by *Growing Public*,¹⁸⁰ by economist Peter Lindert. Lindert has examined the history of social spending from the late eighteenth century to the present day. What he found was surprising, namely that 200 years of empirical evidence shows that wise social spending and the welfare state has contributed to, rather than inhibited, economic growth. Contrary to traditional assumptions, Lindert’s book shows the net national costs of government social programs to be virtually zero. Lindert examined the question of whether social spending, that overall redistributes income imposes constraints on economic growth. Lindert shows that no Darwinian mechanism has punished the welfare states, but shows why effective welfare helps economic growth over time.¹⁸¹ Other books investigating these issues, such as *Growing Prosperity: The Battle for Growth with Equity in the 21st Century* by Bluestone and Harrison,¹⁸² come to similar conclusions. Investing in improving the skills and education of today’s workforce and the next generation is now widely acknowledged as sound investments to lift the productivity of the economy and help business to compete in a globalised economy. Investing in people’s skills and education is seen by many political leaders as the key to creating a new round of improved productivity. There is also now a great deal of

¹⁷⁶ Aghion, P. et al. (1999) Inequality and Economic Growth: The Perspective of the New Growth Theories, *Journal of Economic Literature*, vol. 37, p1615; Alesina, A. and Rodrik, D. (1992) Distribution Political Conflict and Economic Growth: A Simple Theory and Some Empirical Evidence, in Cukierman, A. et al. (eds) (1994) *Political Economy Growth and Business Cycles*, MIT Press, Cambridge, USA; Persson, T. and Tabellini, G. (1994) ‘Is Inequality Harmful for Growth?’, *American Economic Review*, vol. 84, pp600-621; Repetti, J.R. (2001) *Democracy, Taxes and Wealth*, *New York University Law Review*, vol. 76, pp825–873.

¹⁷⁷ Bluestron, B. and Harrison, B. (2000) *Growing Prosperity: The Battle for Growth With Equity in the 21st Century*, University of California Press. See pp188–190 for an overview of additional literature that supports the claims made here.

¹⁷⁸ Aghion, P. et al. (1999) ‘Inequality and Economic Growth: The Perspective of the New Growth Theories’, *Journal of Economic Literature*, vol. 37, p1615; Perotti, R. (1993) ‘Political Equilibrium Income Distribution and Growth’, *Review of Economic Studies*, vol. 60, pp755–766; Galor, O. and Zeira, J. (1993) ‘Income Distribution and Macroeconomics’, *Review of Economic Studies*, vol. 60, pp35-52.

¹⁷⁹ Mack, A. (2002) ‘*Policy is the Key to Income Inequality*’, *Canberra Times*, July, C2.

¹⁸⁰ Lindert, P.H. (2004) *Growing Public: Social Spending and Economic Growth Since the Eighteenth Century*, Cambridge University Press, New York.

¹⁸¹ While there is a small relationship between greater social spending and higher unemployment in OECD countries, the unemployed are often the least productive, so increases in unemployment have little effect on GDP growth. Lindert argues that, ‘the broad universalism in taxes and entitlements [found in more fully developed welfare states such as Western Europe] fosters growth better than the low-budget countries’ [such as the US] preference for strict means testing and complicated tax compromises’. Lindert concludes that high-spending countries face more pressure from the electorate to design their tax-and-spend plans with care to avoid affecting growth prospect.

¹⁸² Bluestron, B. and Harrison, B. (2000) *Growing Prosperity: The Battle for Growth with Equity in the 21st Century*, University of California Press. See pp 188–190 for an overview of additional literature that supports the claims made here.

empirical data which shows that investing in public health¹⁸³ is highly cost effective.¹⁸⁴ Also it has been shown that taxing “bads” such as tobacco has also led to a decrease in the numbers smoking in many OECD countries. The savings to the national health budget of such reductions in tobacco usage are very significant.

Studies suggest that there is significant potential to improve OECD countries population health and significantly reduce healthcare system costs simply by addressing lifestyle choices. The Australia Institute of Health and Welfare found that:

“By world standards Australians are living long lives, health risks are being actively tackled, and access to high quality health services is very good and generally improving. But much of the burden of ill-health to individuals and society as a whole can be reduced through attention to a few lifestyle factors, such as smoking, poor nutrition, excessive alcohol consumption, and inadequate physical activity - in other words, the public health message of prevention being better than cure. AIHW Medical Adviser Dr Paul Magnus says there is plenty of scope for improvement. For example, 50% of adults have high cholesterol levels, and this hasn't improved for the past 20 years. The major culprit is a diet too high in saturated fats. Diabetes is now a major disease for older people, with much of it probably due to increasing prevalence of overweight and obesity. Overweight and obesity affect about 65% of men, 45% of women, and 1 in every 5 children.¹⁸⁵

Similar trends apply to most other OECD countries. Exploring this phenomenon in all OECD countries is beyond the scope of this thesis, so let's consider the potential gains for Australia through a focus on lifestyle choices.

Physically inactive Australian adults are already costing the Australian healthcare system an avoidable AU\$1.5 billion a year.¹⁸⁶ Obesity already costs Australia AU\$21 billion annually. Seven million Australians are estimated to become obese by 2025¹⁸⁷ If nothing is done to address obesity and the diseases of inactivity, the average taxpayer will have to spend thousands more per annum in taxes to meet rising costs of the public health system. The Australian Government health spending is projected to almost double by 2050 due, in large part, to the costs of these diseases of inactivity in an aging population. Paul Gross, from the Institute of Health Economics and Technology Assessment argues

¹⁸³ Bennett, J (2008) Investment in Population Health in Five OECD Countries. Available At: <http://www.oecd.org/dataoecd/30/39/2510907.pdf>

¹⁸⁴ See Australian Government Department for Health and Aging (2003) Media Release Returns on Investment in Public Health: An Epidemiological and Economic Analysis. Available at <http://www.health.gov.au/internet/main/publishing.nsf/Content/health-mediarel-yr2003-kp-kp03039.htm> Accessed 17 February 2008

¹⁸⁵ Australian Institute of Health and Welfare (2002) Health system delivers, but lifestyle investment needed. Media Release. Available At <http://www.aihw.gov.au/mediacentre/2002/mr20020627.cfm> Accessed 18.02.2008

¹⁸⁶ Medibank Private (2007) *The cost of physical inactivity. What is the lack of participation in physical activity costing Australia?* Available at www.medibank.com.au/Client/Documents/Pdfs/pyhsical_inactivity.pdf Accessed 7.02.2008

¹⁸⁷ Access Economics (2005) *The Economic Costs of Obesity*. Access Economics. Available At http://www.diabetesaustralia.com.au/lib/doc_pdf/reports/obesity/Economic_Costs_of_Obesity_Exec_Summ.pdf Accessed 7.02.2008

that for every dollar invested by Government in encouraging people to be active and live healthier lifestyles, the government would save six dollars in improved productivity, reduced absenteeism and reduced drain on the health care dollar.¹⁸⁸ It is possible for governments to invest in incentives and infrastructure to make it easier for people to walk and ride to work or the shops. Investing in sustainable transport solutions which make our cities walkable and cyclable would improve public health, reduce congestion and reduce greenhouse gas emissions. This is one of the main justifications for greater government investment into sustainable forms of transport which help people to be more physically active through catching the train or bus, walking and cycling. A 30 minute cycle trip a day provides all the exercise you need to halve the chance of becoming obese or diabetic.¹⁸⁹ As former CEO of BHP Billiton Chip Goodyear stated:

“Cycling to work is a great way of incorporating exercise into my daily routine. Cycling provides an outlet from the demands of the job and gives me time to think. It also beats sitting in traffic. For some employees the ride to work is 30 minutes quicker than driving or catching public transport. Regular exercise is a key to staying focussed and productive at work, so I’m happy to invest in facilities and programs that make riding to work easier.”¹⁹⁰

There are other quantifiable economic benefits of investing in people. More of these are considered next.

6.3.3 The value of social capital and trust to economic growth

The impact of social norms, trust, relationships and community on economic growth has also recently been investigated. Here again, social capital¹⁹¹ and trust have been found to positively effect economic growth. Two studies on social capital illustrate its importance to economic growth: Robert Putnam’s study of the workings of social capital in northern Italian communities,¹⁹² and the World Bank study on household incomes and social capital in rural Tanzania.¹⁹³ both show that social capital and trust have a positive effect on traditional economic growth.

¹⁸⁸ ABC (2006) The Costs of Obesity. Available At: <http://www.abc.net.au/health/thepulse/s1587390.htm> Accessed 7.02.2008

¹⁸⁹ World Health Organisation, (2000) *Transport, Environment and Health*, Regional Office for Europa, Copenhagen, Denmark. Available at <http://www.euro.who.int/document/e72015.pdf> Accessed 7.02.2008

¹⁹⁰ See Chip Goodyear’s quotes at <http://www.cyclingpromotion.com.au/CPFMovingForwards.pdf> and http://www.bv.com.au/file/file/RTW/BICY%20-%20Cycle-Fndly%20Workplaces_v12.pdf Accessed 17 February 2008

¹⁹¹ See Social Capital on Wikipaedia for definitions of social capital at http://en.wikipedia.org/wiki/Social_capital (Accessed July 2007)

¹⁹² Robert Putnam has done much to put social capital on the academic and political agenda as a key and important measurable factor in human well-being and welfare.

¹⁹³ Narayan, D. and Lant,P. (1997) Cents and Sociability:Household Income and Social Capital in Rural Tanzania.Social Development and Development Research Group, Policy Research Paper No. 1796.Washington, D.C.World Bank.

Robert Putnam's work¹⁹⁴ has highlighted that Italy provides one of the best examples of the value of social capital and trust to the genuine wealth of a region. While the north of Italy is now significantly more prosperous than the south, 1000 years ago the opposite was the case. Why has this changed? Several leading academics have investigated this. In 1958, sociologist Edward Banfield's concluded in his book, *The Moral Basis of a Backward Society*,¹⁹⁵ that the culture of the south ran contrary to members of society banding together to act for the common good. Instead, they were oriented towards the '*maximise the material, short-run advantage of the nuclear family: assume all others will do likewise*'. They were more competitive than co-operative - and poorer for it. For example, Robert Putnam, Harvard University, notes that in both northern and southern Italy there were considerable investments in social relationships.¹⁹⁶ However, northern Italy tended to be characterised by egalitarian relationships that grew out of a long history of guilds and co-operative efforts. Robert Putnam was surprised to find that the most powerful correlation for regional wealth was with the number of soccer clubs and choral societies. Sport and recreation are critical to building social capital, to creating the networks and trust between business, government and community, which are totally inter-mixed and integrated when people join sporting groups and voluntary community associations. He argues that the '*horizontal civic bonds have under girded levels of economic and institutional performance generally much higher than in the south, where social and political relations have been vertically structured*'. Robert Putnam's article, *Bowling Alone*,¹⁹⁷ built on this to show that the roots of the difference go back to the 1100s, when the north never knew the centralised, autocratic, vertical power-structure rule of the Normans, and instead had small autonomous republics for many centuries.¹⁹⁸ While the southerners lived in a hierarchical society, with every family dependent on the patronage of landowners and bureaucrats, the northerners depended on one another for work, help and for money.

They formed hundreds of low-level, horizontal-bond organisations, such as guilds and credit associations, which built mutual trust instead of competition. In studying why particular regions of

¹⁹⁴ Putnam, R.D., Leonardi, R. and Nanetti, R.T. (1993) *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press, Princeton, New Jersey

¹⁹⁵ Banfield, E. (1958) *The Moral Basis of a Backward Society*, Free Press, New York. This book is a study of under-development in a village at the southern tip of Italy. 'The extreme poverty and backwardness of which', he wrote, 'is to be explained largely (but not entirely) by the inability of the villagers to act together for their common good'.

¹⁹⁶ In the 1970s, Putnam began a collaboration with Robert Lonardi and Raffaella Y. Nanetti that, nearly 20 years later, resulted in the seminal work, *Making Democracy Work: Civic Traditions in Modern Italy* (1993). Based on a study of Italian politics and, in particular, the experience of the move to regional government post-1970, this book displays a number of the classic Robert Putnam hallmarks. These include: sustained and detailed attention to empirical data; a commitment to producing material that could help with the task of enhancing the quality of social and political discourse; and grounded and accessible writing. The book's concern with civic community and social capital was a direct precursor to *Bowling Alone* (1995, 2001) - Putnam's very influential study of the decline in civic engagement in the US.

¹⁹⁷ Putnam, R. (1995) '*Bowling Alone: America's Declining Social Capital*', *Journal of Democracy*, vol. 6, no. 1. Available at <http://xroads.virginia.edu/~hyper/DETOC/assoc/bowling.html#REF1>. Accessed 12 December 2007.

¹⁹⁸ Putnam's work in *Bowling Alone* is not without criticism. See Schudson, M. (1996) '*What if Civic Life Didn't Die?*', *The American Prospect*, no. 25, March-April; Skocpol, T. (1996) '*Unravelling from Above*', *The American Prospect*, no. 25, March-April.

Italy were wealthier than others, Putnam was surprised to find that the most powerful correlation was with the number of soccer clubs and choral societies. He wrote, '*Good government in Italy is a by-product of singing groups and soccer clubs*'. His analysis provided the basis for understanding how social capital – both the historical legacy and current social networks – has a significant effect on an economy. Markets are available to develop everywhere, but to bring together the required components of finance, government approval and community support requires the social infrastructure of networks and trust. The enduring 'tragedy of the commons'¹⁹⁹ nightmare of southern Italy suggests that any part of the world high in social capital should place an extremely high priority on its preservation. This human dimension is being increasingly acknowledged as being key to achieving both better economic and environmental outcomes. Following the results of Putnam's work, US Government authorities are developing an awareness of social capital and making increased efforts to establish relevant databases. In Europe, a study entitled *Social capital and regional economic growth*,²⁰⁰ by Sjoerd Beugelsdijk and Ton van Schaik, backed Putnam's finding. This study of a cross-section of 54 European regions during the period 1950-1998 asked whether social capital, in the form of generalised trust and associational activity, is related to regional differences in economic growth. Based on extensive robustness tests, they found evidence that social capital, measured as associational activity, is positively related to growth differentials in European regions. Hence, their results suggest that Putnam's 1993 thesis²⁰¹ on social capital in Italian regions can be generalised. Their analysis also suggests that it is not only the mere existence of network relationships that stimulates regional economic growth, but also the level of actual involvement in these relationships.

Another significant study demonstrating the importance of social capital in creating genuine wealth and economic prosperity was that of The World Bank's on Tanzanian social capital²⁰². This study used data from the 1995 *Social capital and poverty survey*. This data came from a larger poverty assessment survey, which surveyed about 5,000 rural households on the extent and characteristics of their associational activity and their trust in various institutions and individuals. A measure of social capital was constructed from their answers, which was matched with data on household expenditures in the same communities as a proxy for aggregate income. The conclusions are robust: that social capital is indeed related to higher incomes, and that it is social, in that the higher household incomes depend on the village level of social capital and not on the household's measure of participation. The magnitude is quite impressive: an increase in social capital of one standard deviation increases household expenditures per person by 20 to 30 percent, an impact as large as an equivalent increase in

¹⁹⁹ See Tragedy of the Commons at http://en.wikipedia.org/wiki/Tragedy_of_the_commons (Accessed July 2007)

²⁰⁰ Beugelsdijk, S. and van Schaik, T. (2003) '*Social Capital and Regional Economic Growth*', paper submitted to ERSA 2003 Jyväskylä, Finland.

²⁰¹ Putnam, R.D., Leonardi, R. and Nanetti, R.T. (1993) *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press, Princeton, New Jersey.

²⁰² Narayan, D. and Lant P. (1997) *Cents and Sociability: Household Income and Social Capital in Rural Tanzania*. Social Development and Development Research Group, Policy Research Paper No. 1796. Washington, D.C. World Bank.

non-farming assets or a tripling of the level of education. The data also reveals some of the channels through which social capital affects incomes - improved public services, greater use of modern agricultural inputs, more community activity, and greater use of credit.

Stephen Knack and Philip Keefer have endeavoured to explore additional aspects of social capital, providing evidence that the level of trust and civic norms has correlated with improved economic performance in 29 market economies over the last two decades.²⁰³ The World Bank is now sponsoring a large number of follow-up studies to the Tanzania one, using developments of the original methodology in different countries.

This literature is having an effect in changing the perceptions about the importance of social capital within organisations, ranging from the IMF to the former Australian Treasurer, Peter Costello.

Peter Costello made an important speech on the importance of social capital in which he acknowledged Putnam's work and the literature on the value of social capital and trust:

“If you want to run a successful modern liberal economy then trust and tolerance between citizens gives you a long head start. Trust facilitates compliance. Trust enhances efficiency. It reduces transaction costs because you do not have to ascertain and negotiate the bribe on each transaction. Trust in the legal system and the enforceability of contract underpins the willingness to invest. Trust and tolerance are sometimes described as social capital. In an IMF paper on second generation reform, Francis Fukuyama argued: ‘Social capital is important to the efficient functioning of modern economies and is the sine qua non²⁰⁴ of (without which there would not be) stable liberal democracy.”

Peter Costello, Treasurer of the Australian Federal Government, 2003²⁰⁵

What is often ignored in this renewed interest in social capital and the strength of community life is the fact that increases in social capital are almost entirely dependant on greater social equality. There are now several important studies showing that the more equitable a society is, the more they are also trusting and healthier. Eric Uslaner, in his 2002 book, *The Moral Foundations of Trust*,²⁰⁶ draws attention to the fact that more egalitarian societies also tended to be more trusting. He shows that people trust each other less in countries with larger income differences. Uslaner looked at studies of countries across the globe, including the 1997 study by Kawachi and Kennedy²⁰⁷ which showed that in the US more people were much more trusting of each other in those states with the least inequity.

²⁰³ Knack, S. and Keefer, P. (1997) ‘Does Social Capital Have an Economic Payoff?’, *Quarterly Journal of Economics*, no. 112, pp 1251–1288.

²⁰⁴ See sine qua non at Wikipedia http://en.wikipedia.org/wiki/Sine_qua_non (Accessed July 2007)

²⁰⁵ Costello, P. (2003) *Building social capital*, speech, July 16, 2003, <http://www.australianpolitics.com/news/2003/07/03-07-16.shtml> (accessed December 2006). This is the text of the speech delivered by the Treasurer, Peter Costello, to the Sydney Institute, at Parliament House, Sydney.

²⁰⁶ Uslaner, E. (2002) *The Moral foundations of trust*, Cambridge University Press, New York.

²⁰⁷ Kawachi *et al.* (1997) *Social capital, income inequality and morality*, *American Journal of Public Health*, vol. 87, no. 1, pp 491–498.

They found significant differences between the more equitable states, where only 10-15 percent of the population felt that they could not trust others, compared to the less equitable states, where 35-45 percent felt they could not trust others. Interest in these links between social capital, social trust, and strength of community life and participation rates goes back to Alexis de Tocqueville's *Democracy in America*,²⁰⁸ in which he describes his visit to the US in 1831. Academics writing on social capital often quote his book and its coverage of the strength of community life in the US at the time. However, they fail to acknowledge that Alexis made this linkage explicitly, even though he does this on the first page of the book where he writes:

“Among the new objects that attracted my attention during my stay in the United States, none struck me with greater force than the equality of conditions. I easily perceived the enormous influence that this primary fact exercises on the workings of the society. It gives a particular direction to the public mind, a particular turn to the laws, new maxims to those who govern and particular habits to the governed.”

Alexis de Tocqueville, 2000²⁰⁹

Tocqueville explained why he believes greater equity leads to a stronger civic life

“When the chroniclers of the Middle Ages, who all, by their birth or their habits, belonged to the aristocracy, report the tragic death of a noble, they express infinite sorrows; whereas they recount in one breadth and without batting an eye the massacre and tortures of the common people... [However,] when ranks are almost equal among a people, with all men having more or less the same manner of thinking and feeling, each of them can judge in an instant the feelings of all the others... There is thus no misery that he cannot easily conceive of and whose dimensions are not revealed to him by a secret instinct. It does not matter whether it is a question of strangers or enemies: his imagination puts him immediately in their place. It mixes something personal into his pity and makes him shudder himself when the body of his fellow man is torn apart.”

Alexis de Tocqueville, 2000²¹⁰

6.3.4 Creating Jobs and Livelihoods.

Ensuring those who want a job can find one is regarded by most as a key social sustainability goal. In developing countries, many of which have no social welfare net, it can be the difference between life and death. The International Labour Organisation's (ILO) 2006 annual jobs report says global unemployment continues to grow and youth now make up half those out of work. The number of people unemployed worldwide climbed to new heights in 2005, as robust economic growth failed to offset an increase in people seeking work - especially among the vast and growing legion of jobless

²⁰⁸ de Tocqueville, A. (1835) *Democracy in America*, Paris.

²⁰⁹ Ibid, p 249.

²¹⁰ Ibid, p 251.

youth, the International Labour Office (ILO) said in its annual *Global Employment Trends*. What's more, the ILO report said the weakness of most economies in turning GDP growth into job creation or wage increases, coupled with a spate of natural disasters and rising energy prices, hit the world's working poor especially hard. The ILO trends report showed that despite 4.3 per cent global GDP growth in 2005, only 14.5 million of the world's more than 500 million extreme working poor were able to rise above the US\$1 per day, per person poverty line. According to the ILO, in addition, in 2005, of the more than 2.8 billion workers in the world, 1.4 billion still did not earn enough to lift themselves and their families above the US\$2 a day poverty line.

According to official estimates, the unemployment rate remained unchanged after two successive years of decline at 6.3 per cent. The total number of jobless stood at 191.8 million people at the end of 2005, an increase of 2.2 million since 2004 and 34.4 million since 1995. The ILO found that while more people are actually "in work", at the same time, more people are unemployed than ever before. ILO Director-General Juan Somavia stated:

"This year's report shows once again that economic growth alone isn't adequately addressing global employment needs. This is holding back poverty reduction in many countries...We are facing a global jobs crisis of mammoth proportions, and a deficit in decent work that isn't going to go away by itself. We need new policies and practices to address these issues...Economic shocks as well as natural disasters hit those who are already poor disproportionately hard, and, in the recovery process, they are the last to return to pre-shock conditions. The current pattern of globalization continues to have an uneven social impact with some experiencing rising living standards and others being left behind."²¹¹

According to the report, recognition that poverty reduction can only be reached via the route of more and better jobs is more widespread today, especially in Africa. Increased awareness of the importance of placing employment at the centre of economic and social policy-making, is an important step forward.

Unemployment has also been a major recurring social problem throughout the twentieth century for OECD countries, and a permanent feature of economic life in many OECD countries since the early to mid 1970s. Hence ensuring that all people in OECD and developing countries have access to secure and meaningful livelihoods is a critical goal for achieving socially sustainable world.

6.3.4.1 Negative Effects of Unemployment on Health

We all know friends or family who have at times not been able to find work. It can be devastating to self-confidence, and physical and mental health. But until the 1980s there was not much solid data to

²¹¹ See Media Release (2006) *ILO annual jobs report says global unemployment continues to grow, youth now make up half those out of work*. The Inter-American Centre for Knowledge Development in Vocational Training (ILO/Cinterfor) Available at: <http://www.cinterfor.org.uy/public/english/region/ampro/cinterfor/temas/youth/news/emp106.htm> Accessed 17 February 2008.

contradict arguments from politicians who stated that unemployed people have worse health because it is hard for sick people to get a job. This brings up an interesting point - what is the cause and what is the effect? The work of John Fox and his team in the early 1980s dramatically changed thinking on this issue. They followed a one percent sample of people identified in the national census in Britain in 1971. They showed that people who became unemployed had 20 percent higher mortality than those who remained employed at the same socio-economic level. The critics on the right and in government argued that this was because the unemployed were already sick. Fox argued that if the unemployed had higher mortality because of the existence of life-threatening illness prior to becoming unemployed, this effect should wear off as the sick people died out. It did not.²¹² At the same time a related book, *Unemployment and Health: a disaster and a challenge*,²¹³ Richard Smith drew widespread attention to the effects of unemployment on health. Since then, numerous studies have highlighted the range of physical and mental illness caused by unemployment.²¹⁴

More recently Michael Marmot's²¹⁵ work demonstrates that the degree of control people feel they have over their lives is one of the most important factors for their health and well-being. When people are deprived of the opportunity to work altogether this significantly removes the degree of control they have over their lives and the choices and options available to them. Losing a job also leads to loss of social status and for many people shame and additional stresses that can negatively affect important family relationships. For instance, financial pressures are a significant factor in many divorces.

6.3.4.2 The Economic Costs of Unemployment are Significant

In 1994, Quiggan calculated that the economic costs to Australia of unemployment meant that the Australian national income was around \$35 billion a year lower than it would be if unemployment were only about three percent - a rate close to full employment. This massive waste reduces the living standard of every Australian, and dwarfs the costs of other inefficiencies. The direct budget cost of unemployment from increased outlays on income support and loss of revenue is at least AUS\$20 billion. The persistence of high unemployment is largely responsible for the severe pressure on government budgets. This clearly has a negative effect on economic growth, but economists support it because, in theory, having structural unemployment helps to keep inflation in check through providing a downward pressure on wage rises. The question then is: what is the point at which unemployment is alleviated and the percentage of unemployed becomes so small that it leads to increased worker

²¹² Moser, K.A., Fox, A.J. Jones, D.R. (1984) 'Unemployment and Mortality in the OPCS Longitudinal Study', *The Lancet*, no. 2, pp 1324–1329.

²¹³ Smith, R. (1987) *Unemployment and Health: A Disaster and a Challenge*, Oxford University Press, Oxford.

²¹⁴ Mathers, C.D. and Schofield, D.J. (1998) *The Health Consequences of Unemployment: The Benefits*, *Medical Journal of Australia*, vol. 168, pp178-182. Available at <http://www.mja.com.au/public/issues/feb16/mathers/mathers.html#refbody1>. Accessed 12 December 2006.

²¹⁵ Marmot, M. (2004) *Status Syndrome: How Your Social Spending Directly Effects your health and Life Expectancy*, Bloomsbury Publishing, pp 176-190.

confidence to seek increased wages leading to inflation rises? Economists have an acronym for this point, NAIRU, which means the non-accelerating inflation rate of unemployment.

Until a few years ago, the NAIRU point was considered to be about 5 percent unemployment - if you went below that, you would get inflation. But in practice this does not have to be true. In Australia in the 1980s the Labour Government's *Accord* locked-in agreed real wage cuts of about 15 percent from 1983-1996 relative to inflation. Therefore, it is possible with understanding in the community to reach a consensus, like the Hawke Labour Government did in 1983, to reduce real wage rises to keep inflation in check, thereby allowing unemployment to come down. In the past, many countries, including Australia, had a strong tradition of seeking to provide full employment.²¹⁶

"The maintenance of conditions which will make full employment possible is an obligation owed to the people of Australia by Commonwealth and State Governments."

Full Employment in Australia, White Paper, 1945

Governments and citizens are very concerned to lower unemployment and create more jobs. Also due to globalisation, economic deregulation, and reduction of tariffs there is much greater competition in the marketplace. Since the fall of the iron and bamboo curtains, hundreds of millions of cheap workers have been added to the world's workforce. Since the late eighties developed nations and their companies have embarked on significant cost-cutting exercises. Downsizing and outsourcing have been adopted to such an extent that in the past 12 years, for example, Australian organizations have retrenched one in two full time employees. Citizens are looking for greater job security than they currently have. Competition policy and changes in workplace relations has meant very few people have more than one to two year performance based contracts. This leads to much greater insecurity and uncertainty in the workplace. Economy-wide, inflation adjusted hourly wages for male workers are in a twenty year decline in many OECD countries. Many male workers once they lose their jobs from established industries do not recover their former salaries quickly. Therefore citizens are understandably concerned about highly visible government environmental policies that seem to them likely to further destabilize their communities and potentially lead to job losses. Much of the concern about job loss in the case of miners, timber workers and fishermen is related to the disappearance of high paying union jobs that were available to hard working high school graduates and that made up the backbone of the blue collar middle class of the 1960s and 1970s. Also, these fears about environmentalists destroying jobs persist from the fact that timber worker's, coal miner's and fishermen's identify and sense of who they are is so closely tied up in these jobs. Many are third and fourth generation working in these industries. Many do not have experience doing any other jobs.

²¹⁶ Australia was the first country in the world in which full employment in a free society was made official policy by its government. On May 30, 1945, The Australian Labor Party Prime Minister, John Curtin, and his Employment Minister, John Dedman, tabled a white paper in the Australian House of Representatives titled *Full Employment in Australia*. It was the first time any government apart from totalitarian regimes had unequivocally committed itself to providing work for any person who was willing and able to work. Conditions of full employment lasted in Australia from 1941 to 1975.

Hence they understandably fear anything that could affect their way of life. This understanding helps to explain why so many people fear that environmental protection will lead to job losses.

In Chapter 3 it was shown that virtually all economists who have studied the jobs-environment debate over the last thirty years agree that the fears that environmental protection will lead to job losses and capital flight are false.²¹⁷ And at the local level, in sharp contrast to the conventional wisdom, layoffs from environmental protection have been very, very small. Even in the most extreme cases, such as protection of forests or closing down fisheries or steps to address acid rain, job losses from environmental protection have been minute compared to more garden-variety downsizing and layoff events.”²¹⁸ The real economy-wide effect of environmental regulation is to shift jobs without increasing the overall level of unemployment. But this is little comfort to fishermen and woman, timber or mine workers who do not have any other skills to do anything else.

So to effectively diffuse the myths and move the environment versus jobs sustainability debate forward rational economic facts and figures will not be enough. There will need to be structural adjustment and compensation packages and re-training to those workers and businesses in the sectors and regions of an economy that will be significantly negatively affected – such as fisheries, forests, farming, coal mining. Workers in regional economies that are dependant on one main industry are understandably very concerned about anything that would affect that industry. With more social services, better adjustment assistance programs and most importantly universal health care workers can free themselves from a desperate fear of layoffs. Structural adjustment packages are not new. They have been widely used in Australia to help sectors that have been hard hit by changes in international competition. In Australia for instance the Federal government in the last 20 years has run the following structural adjustment packages – The car plan, the steel plan, the sugar industry bailouts and finally the recent 2005 \$220 million structural adjustment package for the domestic Australian fishing industry.

Finally, another key factor why these myths resonate with mainstream voters is that many are now exposed to higher personal levels of debt either through mortgages, credit cars or lay buy purchases.

²¹⁷ Organization for Economic Cooperation and Development. (1978) *Employment and Environment*. Paris: OECD.

Haveman, Robert. (1978) *The Results and Significance of Employment Studies*. In *Employment and Environment*. Paris: Organization for Economic Cooperation and Development.

Data Resources Inc. (1979) *The Macroeconomic Impacts of Federal Pollution Control Programs: 1978 Assessment*. Washington, D.C.: U.S. Environmental Protection Agency.

Data Resources Inc. (1981) *The Macroeconomic Impacts of Federal Pollution Control Programs: 1981 Assessment*. Washington, D.C.: U.S. Environmental Protection Agency.

Wendling, Robert M. and Roger H. Bezdek. (1989) “Acid Rain Abatement Legislation: Costs and Benefits.” *OMEGA International Journal of Management Science*, Vol. 17, No. 3, pp. 251-61.

Meyer, Stephen. (1992) “Environmentalism and Prosperity: Testing the Environmental Impact Hypothesis.” Cambridge, Mass.: MIT Project on Environmental Politics and Policy.

Meyer, Stephen. (1993) “*Environmentalism and Prosperity: An Update*.” Cambridge, Mass.: MIT Project on Environmental Politics and Policy.

²¹⁸ Ibid.p15

With the size of personal debt and mortgages having increased significantly over the last two decades in most OECD countries, voters are very concerned about whether economic growth and employment rates are going up or down because they simply cannot afford to lose their job or for interest rates to rise on their mortgage. For the last ten years the mortgage belt of Australia has consistently voted for the Liberal Party of Australia. At the last federal election the mortgage belts of Australia overwhelmingly voted for the return of the Liberal government again. Hence the focus in this thesis on the jobs, competitiveness and “growth” versus environment debates. These are not just academic debates they relate to peoples’ real fears and concerns that if they had supported strong social and environmental policies at the last election in Australia that this would have harmed economic growth, jobs and interest rates.

This thesis in Chapters 5 proposed one way to turn the economic growth versus sustainability debates around is through showing how sustainable development can help achieve as good or higher economic growth as business as usual. In Chapter 5 a number of studies were quoted to support this claim. Here now in Chapter 6 the proposal is made that a transition to sustainable development will create higher jobs growth than business as usual as well. If this is combined with good structural adjustment and re-training packages for workers as outlined above it is possible to significantly advance and resolve the jobs versus environment debates.

The reason that a transition to sustainable development can lead to higher jobs growth than business as usual is threefold: (i) the greater labour intensity of new ways of doing things where the technology and the manufacturing and operational techniques are not yet highly refined; (ii) the pump priming affect of investments brought forward to replace scrapped capital; (iii) the recycling of revenues from eco-taxes to reduce payroll taxes or other costs of employing labour.

Many decision makers have failed to date to appreciate the possibilities of the progressive use of eco-taxes, which internalise negative environmental externalities, to fund the reduction of non-wage labour costs and thus increase employment through many sectors of the economy. Currently employment (a social good) is taxed in a variety of ways such as payroll taxes whilst environmental pollution (a social bad) received almost no taxation in all OECD countries. Today, nearly 95% of the current US\$7.5 trillion raised annually in tax revenues world wide, comes from levies on payrolls, personal income, corporate profits, capital gains, retail sales, trade and built property; all essentially penalties for work and investment. The present governments of the world are mostly applying 20–50% taxes on wages and profits and almost none on pollution and waste of resources. Governments are overtaxing social ‘goods’ and under-taxing social and environmental ‘bads’. A tax-neutral shift would result in no citizen and few businesses being worse off whilst internalising the presently externalised negative costs to the environment. In fact, many people and businesses will be significantly better off with such a tax neutral shift. Using tax neutral shifts is thus a smart way to implement the goal of the Earth Charter to “*Internalize the full environmental and social costs of goods and services in the selling*

price, and enable consumers to identify products that meet the highest social and environmental standards.”

6.3.4.3 Tax Neutral Shift

Numerous studies have shown that levying taxes on waste and pollution and removing them from social benefits, such as work, can both protect the environment and create jobs – an outcome often referred to as the environment and jobs ‘double dividend’. In 1975, Agnar Sandino argued in the *Swedish Journal of Economics* that substantial ‘Pigouvian’ taxes should be included in any ‘optimal’ revenue to place the costs of pollution on the polluters and reduce the need for income and other taxes. Environmental Tax Reform (ETR) places taxation on practices that pollute and damage the environment and remove them from sound environmental and social practices. ETR has the potential to improve the protection of the environment, while, at the same time boosting the economy and jobs. It has the potential to drive the modernisation of the protection of the environment and the economy. In 1994, Data Resources Inc (DRI) and other consultancies commissioned by the European Commission modelled a scenario where all the revenues from pollution taxes were used to reduce employers’ non-wage labour costs such as social security payments, superfund payments and payroll tax. The study showed that employment in the UK would be increased by 2.2 million through such tax shifting.²¹⁹ A number of other studies have produced similar results.²²⁰ The employment dividend can be made even greater if there is full recycling of eco-taxes in a cost neutral way to replace employers’ non-wage costs. For instance, studies show that with full recycling of revenues, employment could be increased by 3% and unemployment reduced by 2.7%.²²¹ Other studies support this finding.²²² Whilst it has been much maligned in some countries, there is strong evidence that, as long as carbon tax revenue is recycled effectively, a carbon tax would have a strong employment dividend and assist the economy to become far more energy efficient. Part of the benefit of this derives from the relative labour intensity of the low carbon intensive sectors (services, retail, finance, education and health). These sectors could significantly benefit from such a relative price shift. This effect was thoroughly studied by Proops *et al.*²²³

²¹⁹ DRI *et al.* (1994) *Potential Benefits of Integration of Environmental and Economic Policies*, Graham and Trotman and Office for Publications of the European Communities, Brussels.

²²⁰ Majocchi, A. (1996) *Green Fiscal Reform and Employment: A Survey*, Environmental and Resource Economics, vol. 8, p375-97.

²²¹ *Ibid.* p393, table viii.

²²² Infras. (1996) ‘Economic Impact Analysis of Eco-tax Proposals: Comparative Analysis of Modelling Results’, final report of a project conducted in co-operation with the 3rd Framework Programme of DGXH of the European Commission, INFRAS, Zurich.

²²³ Proops, J., Faber, M. and Wagenhals, G. (1993) *Reducing CO₂ Emissions: a Comparative Input-output Study for Germany and the UK*, Springer Verlag, Berlin.

Table 6.3: International Environmental Tax/Levy Reform²²⁴

Country	Tax/levy shift
Denmark	New or increased environment related taxes, including a carbon tax, have been used to reduce employer and income taxes.
Finland	New landfill and energy taxes used to lower income and labour taxes.
Netherlands	New energy tax used to reduce employer social security levy.
Norway	Proposal by Tax Commission to introduce new eco-taxes and to reduce environmentally harmful subsidies and payroll tax.
Sweden	New environment related taxes used to reduce income taxes, with reductions in employer taxes being considered.
United Kingdom	New landfill and energy taxes used to reduce employers' social security contributions.
Germany	New energy taxes to reduce employer and employee pension contributions.

Source: OECD (1997)²²⁵; Hamilton et al²²⁶ (2000).

During the transition to a fully operational ecologically and socially sustainable economy, which would be a period of several decades at least, the economy would have a strong structural tendency to higher levels of employment. This is because investment in industries such as renewable energy creates more jobs than the equivalent investment in coal power stations. The structural tendency to favour higher employment is caused by three things:

1. The recycling of revenues from eco-taxes to reduce payroll taxes or other costs of employing labour.
2. The greater labour intensity of new ways of doing things where the technology and the manufacturing and operational techniques are not yet highly refined.
3. The pump-priming effect of investments brought forward to replace scrapped capital. It is also important to note that the avoidance of social and economic costs associated with unemployment would also offset some of the adjustment costs of the transition.

²²⁴ Ashiabor, H., Deketelaere, K., Krelser, L., Milne, J. (2005) *Critical Issues in Environmental Taxation: International and Comparative Perspectives*, Richmond Law & Tax Ltd, Richmond, UK. Volume II provides the most up to date overview of the field and developments internationally.

²²⁵ OECD (1997) *Environmental Taxes and Green Tax Reform*, OECD, Paris

²²⁶ Hamilton, C., Schlegelmilch, K., Hoerner, A., and Milne, J. (2000) *Environmental Tax Reform: Using the Tax System to Protect the Environment and Promote Employment*, Tela series, Australian Conservation Foundation

6.3.4.4 Are Eco-Taxes Regressive?

Some green tax shift proposals have been criticized as being fiscally regressive (a tax with a marginal rate that decreases as the taxpayer's income increases). Taxing negative externalities usually entails exerting a burden on consumption, and since the poor consume more and save or invest less as a share of their income, any shift towards consumption taxes can be regressive. However, conventional regulatory approaches can affect prices in much the same way, while lacking the revenue-recycling potential of eco-taxes. One of the strengths of the eco-tax approach is precisely that, unlike regulations, it provides revenue for ensuring low-income groups are not worse off. So correctly assessing the distributive impact of any eco tax requires an analysis of the specific instrument design features. There are a range of design options for an eco-tax instrument to reduce or eliminate any regressivity. Firstly, an ecotax policy package can include revenue recycling to reduce or eliminate any regressivity. Recycling of revenue can offset the regressivity of an eco-tax by a decrease in income tax levels for the poor or by reductions in (regressive) consumption taxes or increasing welfare payments such as providing additional payment to the unemployed, pensioners and the disabled.

In the case of a carbon tax, for instance, revenue can be recycled and invested in providing insulation and energy efficiency lighting/appliances for the poor and pensioners to dramatically reduce their electricity bills and thus offset any increase cost from a carbon tax. For example, an eco-tax can be designed so that modest consumption levels are priced relatively low (even zero, in the case of water), and higher consumption levels by business are priced at a higher rate. Furthermore, pollution and other forms of environmental harm are often felt more acutely by the poor, who cannot "buy their way out" of being receptors of air pollution, water pollution, etc. It is important to note that such losses, although externalities have real economic welfare impacts. Thus by reducing environmental harm, such instruments have a progressive effect. An ecotax has been enacted in Germany by means of three laws in 1998, 1999 and 2002. The first introduced a tax on electricity and petroleum, at variable rates based on environmental considerations; renewable sources of electricity are not taxed. The second adjusted the taxes to favour efficient conventional power plants. The third increased the tax on petroleum. At the same time, income taxes were reduced proportionally so that the total tax burden remained constant.

Economic theory has predicted that where pollution is diffuse and the cost of reaching agreement is high Pigouvian taxes will be an efficient way to improve the quality of life (measured by the Genuine Progress Indicator and other recognised indicators), raise Gross domestic product (GDP) and better serve the public interest.. Economic theory also has predicted that, under certain conditions, a double dividend could be achieved. The double dividend results from simultaneously achieving a reduction of pollution and using government revenue from the green tax to reduce or eliminate economically inefficient taxes. A green "eco-tax" enables government to maintain a constant overall level of tax revenue because it increases revenue through the eco-tax whilst economically inefficient and

distortional taxes such as payroll tax are reduced. Research suggests that there was a significant correlation during the 1990s between a country's level of green taxes as a percentage of total tax revenues and its ranking on the UN Human Development Index (HDI) per fixed amount of GDP. In addition, countries like Norway, Sweden and Netherlands that had higher green tax rates experienced higher GDP growth and higher HDI growth rates over periods longer than 5 years.

However, it cannot be confirmed that an increase in green tax rates causes higher GDP growth and higher HDI growth rates. It may be a correlative effect as opposed to a causal effect.

6.3.4.5 Is there an Inevitable Trade-Off between Ensuring Progressive Labour Standards and Unemployment?

Simply creating jobs is not going to be enough to truly create a socially sustainable society. Reasonable labour standards need to be established to ensure the well-being of the vast majority. Seeking to have good labour standards is widely regarded as another key social sustainability goal. The Earth Charter states "*Ensure that all trade supports sustainable resource use, environmental protection, and progressive labor standards.*"

Yet many currently argue that if labour standards were lower, employers would be able to employ more employees more easily and this would assist unemployment. What does the data suggest about correlations between labour standards and unemployment in OECD nations? Is there an inevitable trade-off of higher labour standards leading to higher unemployment? Unfortunately, unemployment rates are a highly unreliable indicator for comparing the health of labour markets between countries. They are flawed because they can leave out a large group of potential employees: those individuals who have dropped out of the jobless statistics.

Therefore, a more informative measure is the proportion of the working-age population in each country who have a job. The OECD provides these figures for each of its member countries. It has also created an index of employment protection, designed to measure the strictness of employment protection legislation of OECD nations. The index takes into account, 'Regulations governing the terms and conditions of permanent contracts in case of individual dismissals; additional provisions in the face of mass lay-offs; and regulations governing the possibility of hiring on temporary contracts'. When employment rates and the job protection index is compared, of the six countries with the highest levels of employment, only one has less employment protection than Australia. The other five countries - Switzerland, the Netherlands, Norway, Sweden and Denmark - have more protection, yet are performing better in terms of providing employment. What about the US, Britain and New Zealand? The social cost can be very high, and the benefits - an extra 1.7% in employment above Australia's rate - are easily matched by the more generous systems in Switzerland, the Netherlands, Norway, Sweden and Denmark. But the US has a significantly higher percentage of incarceration which makes the extra 1.7% look much less impressive because they are not counted amongst the

unemployed. Also, four of those five countries out-perform the other low-protection countries - Britain, New Zealand and Canada - in providing jobs. The performance of Switzerland, the Netherlands, Norway, Denmark and Sweden shows that alternative policies can be just as successful in providing jobs.

6.3.4.6 What Correlation is there between Progressive Labour Standards, Productivity and Economic Growth?

There has been significant pressure to reduce labour standards from the process of globalisation. With the opening of the Berlin wall and the Chinese markets it has made it very hard for labour intensive industries in the OECD to compete with manufacturers in countries like China. As a result, industry groups and political parties in the OECD have argued that a significantly more 'flexible' labour market is essential to create more jobs and greater economic growth. Many currently believe as a result that there is an inevitable trade-off between labour standards and economic growth. It is true that labour standards - the level and coverage of the minimum wage, extent of collective bargaining, number of weeks notice workers need to be given before plants close, laws and regulations dictating weeks allowed for holiday and sickness, rights of workers to challenge 'unfair' dismissal - do effect economic growth, but not always in the way that many current commentators believe. One of the first comprehensive studies of this was undertaken by Robert Buchele and Jens Christiansen; an international cross-section analysis of the connection between labour standards, productivity and economic growth.²²⁷ They constructed an index consisting of seven indicators of worker's rights. They then compared this index with productivity improvements in the G7. The index turned out to strongly correlate with growth in labour productivity across the G7 for the period 1972-88. This was still true after accounting for differential growth in capital-labour ratios - the amount of plant and equipment and software per worker. Higher wage and working time standards and respect for equality can lead to better and more contented workers and lower staff turnover. Investment in vocational training leads to a better-trained workforce and higher employment levels. Safety standards can reduce costly accidents and health care fees. Importantly, employment protection provides enough security to encourage workers to work with their managers, take risks and innovate. Freedom of association and collective bargaining can lead to better labour-management consultation and cooperation, thereby reducing the number of costly labour conflicts and enhancing social stability.²²⁸

The beneficial effects of labour standards also appeal to foreign investors. Studies have shown that in their criteria for choosing countries in which to invest, foreign investors rank workforce quality and

²²⁷ Buchele, R and Christiansen, J. (1995) *Worker Rights Promote Productivity Growth*, Challenge, September-October, p32-37.

²²⁸ World Bank (2005) *World Development Report 2005: A Better Investment Climate for Everyone*, World Bank, Washington, DC, p136-156.

political and social stability above low labour costs. Also to date there is little evidence that countries, which do not respect labour standards, are more competitive in the global economy.²²⁹

This all sounds convincing, but a closer examination of these studies and others in this field shows that it is not so simple. Whilst it is true that nations with more progressive labour standards (Norway, Sweden, France, Germany) have experienced higher productivity growth, these countries have also experienced higher unemployment rates. The unemployed are, relatively speaking, less productive in the workforce. So if the country has a large percentage of relatively unproductive people outside the workforce, then of course the productivity of the average worker will be higher.²³⁰

6.3.5 Ensure gender equality and equal opportunity

In developing countries poverty is not just about the lack of income and financial resources. Poverty also encompasses the notion of inequalities in access to and control over the material and non-material benefits of any particular society. Gender is an important determinant of inequality in access to and control over these resources and benefits, which include human and basic rights, political voice, employment, information, social services, infrastructure and natural resources. At the international level, this is recognised by the 1979 Convention on the Elimination of All Forms of Discrimination against Women, the 1994 Cairo Programme of Action, the 1995 Beijing Platform of Action and the Millennium Development Goals. In developing countries there is a well established positive correlation between gender mainstreaming²³¹ with participative approaches²³² and the success of aid programs and projects. It is well established that gender mainstreaming and equality in developing countries significantly helps women, their families and communities escape the poverty trap and build more prosperous futures.

In OECD countries there is a strong correlation between gender equity and economic growth. Gender equality strengthens long-term economic development. This assertion is based on a new analysis of the relationship between birth rates and attitudes toward gender equality in a range of countries. What researchers²³³ have found is that more traditional family structures in modern economies face chronically low birth rates, whereas the birth rate trend is positive and the demographic structure more

²²⁹ Kucera, D. (2002) *Core Labour Standards and Foreign Direct Investment*, International Labour Review, vol. 141, no. 1-2, p31–70.

²³⁰ Charlton, A (2007) *The Myth of the Economic Superhero*. Random House.

²³¹ Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality.

²³² See Participation Resource Centre at <http://www.pnet.ids.ac.uk/prc/index.htm> Accessed 18 February 2008

²³³ Jaumotte, F. (2005), *Women and work: Resolving the riddle*, in OECD Observer, No. 248, March, available at www.oecdobserver.org

Lofstrom, A (2001) *A Report on Gender Equality and Economic Growth*. Stockholm. http://ec.europa.eu/employment_social/equ_opp/documents/growth_en.pdf Accessed 14 January 2008

balanced in countries where gender equality with good maternity leave and childcare provisions in the workplace. More progressive gender equity policies in OECD countries enable women to both pursue a career and afford to raise children thus enabling birth rates to be closer to replacement rates. For these countries, slightly higher birth rates will assist those societies afford the costs of increasingly aging populations as well as providing over time higher labour activity and a more robust economy. Thus there are numerous benefits of implementing the Earth Charter's aim to “*Affirm gender equality and equity as prerequisites to sustainable development.*”

6.3.6 Giving Expression to Human Potential through Creativity and Innovation – the Secret for lasting Economic Growth

Significant advances in economics in the last two decades have highlighted that it is exactly this creativity and technological innovation that are vitally important to achieving ongoing productivity gains and lasting economic growth. Economists such as Keynes²³⁴ and Schumpeter had argued this over 70 years ago.

Building on the work of Keynes, Schumpeter and Schultz a new field called ‘new growth theory’ is now showing that new designs, new ideas and innovations are very important to achieving lasting economic growth. And whether societies are good at this relates directly to how wisely and effectively a nation invests in education and R&D; in other words, whether that nation has wise social spending. For over 60 years now, economists have recognised the importance of social capital as being a key factor in determining economic growth. They have been emphasising that it is social and human capital that has as much, if not more, significance for economic growth as physical capital. By human and social capital, economists mean individual talents, the accumulated knowledge of society, and society's forms of interaction, institutions, organisation and culture. In the middle of last century, Joseph Schumpeter and Theodore Schultz demonstrated that human resources are now a more important factor of production, in achieving economic growth, than natural resources.²³⁵ Schumpeter laid the foundations for our understanding of the critical role of entrepreneurship in the innovation process, one form of human capital.²³⁶ For this and other work he won the Nobel Prize for Economics. Schultz focused on investment in human capital (the acquisition of skills and knowledge, or improvements in health, for example) as a means for poorer nations to develop and grow. For this work he shared the Nobel Prize in Economics in 1978. Building on from their work is one of the chief architects of ‘new growth theory’, Stanford economics Professor Paul Romer.²³⁷ His work shows that

²³⁴ Keynes, J. (1930) ‘*Economic Possibilities For Our Grandchildren*’ N&A and Saturday Evening Post..

²³⁵ Schultz, T.W. (1961) *Investment in Human Capital*, The American Economic Review, vol. 51, no. 1, p1-17.

²³⁶ Schumpeter, J. (1950) *Capitalism, Socialism, and Democracy*, 3rd edition, Harper and Row, New York. Further references: <http://en.wikipedia.org/wiki/Entrepreneurship>.

²³⁷ Romer, P. (1993) *Economic growth*, in Henderson, DR (ed), *The Fortune Encyclopedia of Economics*, Warner Books.

Romer, P. (1986) *Increasing Returns and Long-run Growth*, Journal of Political Economy, vol. 94, no. 5 October, p 1002—1037: <http://www.stanford.edu/~promer/pubs2005.html>.

economic growth does not arise just from accumulating more capital. He shows that economic growth also arises from new and better ideas expressed as progress in technology and design. Before new growth theory, economists recognised that technology contributed substantially to growth, but they could not figure out how to rigorously and completely incorporate that insight internally into their economic models. Romer's innovation, expressed in technical articles with titles such as 'Increasing returns and long-run growth' and 'Endogenous technological change', has been to find ways to describe how technological progress brings about economic growth. In the old growth models the rate of technological progress was assumed to be a given and was not modelled explicitly. Rather, it was simply set at a constant rate of productivity growth. New growth theorists make technological progress internal to their economic growth model, including the explicit modelling of R&D and technological changes in production. In new growth models, the rate of technological progress is determined by aspects of the model itself rather than simply being set at a constant rate of progress as it was in the old growth models.

This provides, at least, a start for building economic models that link how positive changes in the productivity at the firm level influence economic growth at the macro economic level: the theoretical foundation needed to rigorously model how improvements in design, technological processes at the firm level (outlined in chapter 2) can positively affect macro-economic growth. Paul Romer writes that:

"We now know that the classical economic suggestion that we can grow rich by accumulating more and more pieces of physical capital is simply wrong. The problem an economy faces is what economists call 'diminishing returns'. In handling heavy objects a forklift is a really useful piece of equipment. When there are few fork lifts in the economy, the return on an investment in an additional lift is significant. But eventually buying additional forklifts would have no value and become a nuisance (to the firm). The return on investment in an additional fork lift diminishes and eventually becomes negative. As a result, an economy cannot grow merely by accumulating more and more of the same kind of capital goods."²³⁸

Rather,

"Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. A useful metaphor for production in an economy comes from the kitchen. To create valuable products, we mix inexpensive ingredients together according to a recipe. The cooking one can do is only limited by the supply of ingredients, and most cooking in the economy produces undesirable side effects. If economic growth could be achieved only by doing more and more of the same kind of cooking, we would run out of raw materials and suffer from unacceptable levels of pollution and nuisance. Human

Romer, P. (1986) *Endogenous Technological Change*, Journal of Political Economy, vol. 98, no. 5, 'Part 2: The Problem of Development: A Conference on the Institute for the Study of Free Enterprise Systems', Oct. 1990, p S71–102.

²³⁸ Romer, P. (1997) *Beyond Classical and Keynesian Macroeconomic Policy*, from a presentation at the Hotel InterContinental, London: www.gsb.stanford.edu/research/faculty/news_releases/Romer.Paul/London_Speech.html.

history teaches us however that economic growth springs from better recipes, not just from more cooking. New recipes generally produce fewer unpleasant side effects and generate more economic value per unit of raw material.”²³⁹

Berkeley economist Gene Grossman comes to the same conclusion through a simple thought experiment. He tells us

“Imagine how the world economy would have evolved if none of the major inventions of the last 200 years had materialised—no steam engine, no electricity, no transistors, no computers, and so on. Would growth have proceeded none the less in ever more capital (more field animals and hand instruments?) and continued increases in levels of schooling?”

Simply posing this question shows why ideas and technological innovation, not just capital accumulation on its own, are essential for understanding the potential for monetary economic growth. These developments in economics in the last 20 years mark a significant paradigm shift in modern economics. Bluestone and Harrison, in their publication *Growing Prosperity*, discuss this paradigm shift and its implications for economic growth prospects and government policy in great detail.²⁴⁰ The importance of these developments in economics is impossible to underestimate. This new paradigm offers a new understanding from which a ‘constellation of high productivity, high-wage, institution-rich developments can be thought of as offering *the possibility for a high road to economic growth with equity*’.²⁴¹

Not only are creativity, new ideas and new designs important for long-term economic growth; they are also, as mentioned above, key for businesses. The key to success in the knowledge-based economy is what economists call high human capital - what most of us would call talent. Nobel Prize-winning economist Robert Lucas maintains that the driving force in the growth and development of cities and regions can be found in the productivity gains associated with the clustering of talented people. So today when businesses make location decisions, they are on the lookout not for iron ore or forests, rivers or highways, but for people with ideas. In his book, *The Creative Class*, Richard Florida shows that cities and regions that attract a ‘creative class’ of highly professional, innovative and motivated people are the most prosperous²⁴².

²³⁹ Romer, P. (1993) *Economic Growth*, in Henderson, D. R. (ed) *The Fortune Encyclopedia of Economics*, Warner Books.

²⁴⁰ Bluestone, B., Harrison, B. (2000) *Growing Prosperity: The Battle for Growth with Equity in the 21st Century*, University of California Press. See p205–263 for an overview of New Growth Theory and what it means for government and R&D policy.

²⁴¹ *Ibid*, p206.

²⁴² Florida, R. (2002) *The Rise of the Creative Class: And How It is Transforming Work, Leisure, Community and Everyday Life*, Basic Books, New York.

6.3.7 Attracting the Creative Class – the Key to achieving High Economic Growth Regions and Cities

What brings talented workers to those areas? How do they make their residential decisions? What sets high-technology centres such as San Francisco, Boston, and New York apart from other metropolitan areas? Why have some cities - many home to some of the nation's most prestigious university research centres and college graduates - been unable to attract talented technology workers?

These people are highly mobile and will seek out cities and regions with good environments and social services. Hence, the cities and regions that are succeeding are those that care about their environment and their most precious resource: their people. Other factors, such as a regions level of tolerance for a wide range of people, also seem to be important. This seems to be key to a region's success in attracting talented people. Richard Florida and Gary Gates make this argument in their piece on *Technology and Tolerance: Diversity and High-Tech Growth*.²⁴³

They argue that diverse, inclusive communities that welcome unconventional people - gays, immigrants, artists, and free-thinking 'bohemians' - are ideal for nurturing the creativity and innovation that characterise the knowledge economy. They have brought together data analysing the diversity of human capital which, they argue, is a key component of the ability to attract and retain high-tech industry. When they sum the rankings of their three diversity indices to make their composite diversity index (CDI), the result strongly correlated with the Milken Tech-Pole ranking. There is a higher statistical correlation between the Tech Pole and CDI than that between the Tech Pole and any of the individual diversity measures taken. It is also higher than the correlation between the Tech Pole and measures such as the share of college graduates in the population and other simple measures. Significantly, the CDI strongly predicts growth in high-tech areas, a result found when making a comparison with the Milken Institute's Tech-Growth Index. They also found that there was a significant positive correlation between their diversity measure and high-tech growth from 1990 to 1998 when they estimated the effect of the CDI on high-tech growth and took account of population, the share of college graduates in the region, and measures of climate, culture and recreation. These findings strongly support the importance of the combined effects of cultural, ethnic and social, diversity for both the location of high-tech industries and their growth.

6.3.7.1 The Hidden Economic Value of Tolerance and Diversity

It is not suggested that having a large representation of gays, bohemians and immigrants in a community will directly lead to technology industries springing-up in that community. It is more that people working in the technology area appear to be drawn to communities that are inclusive, open-minded, and creative - attributes often found in a cosmopolitan community with a diverse local

²⁴³ Florida, R. and Gates, G. (2002) *Technology and Tolerance: Diversity and High-tech Growth*, The Brookings Review, Winter, vol. 20, no.1, p32—35.

population. The reality is that high-tech professionals are attracted to communities to which gays, bohemians and immigrants are attracted.

Austin, Texas is a university town that has aspired to be a high-tech economic growth centre. It has made the traditional investments in R&D and business incubation. But Austin has also invested heavily in its lifestyle and music scene. When a high-tech company, Vignette, recently sought to expand downtown with a new office, they agreed to set up a million-dollar fund to support the local music scene. Austin Mayor Kirk Watson has had a clear vision that seeks to build on this convergence between technology, talent and tolerance, as he puts it.

There's a message here for cities. Talent powers economic growth, and diversity and openness attract talent. Companies remain important but talented people no-longer work for the one company for their whole lives. The location decisions of people are just as important - maybe even more so. So companies by necessity have to go where talented people want to live. Building a vibrant technology-based region therefore requires not just investing traditionally in R&D, supporting entrepreneurship and generating venture capital. It requires the creation of an environment that attracts talented people. From the empirical data, that seems to mean encouraging diversity and vibrancy. This evidence, therefore, is showing that even pursuing the social sustainability goal of tolerance and respect for cultural diversity helps economic growth.

6.3.8 Strengthen democratic institutions

The Earth Charter next recommends the important step of “Strengthening democratic institutions at all levels, and providing transparency and accountability in governance, inclusive participation in decision making, and access to justice” This is a large topic in itself. Since the central hypothesis of this thesis is whether or not it is possible to have it all: economic growth, environmental protection and social justice here we will just consider how democracy correlates with economic growth rates.

6.3.8.1 Is There A clear Correlation with Democracy and Economic Growth?

There have been numerous econometric studies investigating the relationship between political liberties and economic growth.²⁴⁴ In general, one can make arguments that go both ways. The existing literature has developed various arguments that link democracy to both greater and lower economic growth of all. By definition, democracies allow populations to peacefully and regularly oust inept, inefficient and corrupt government administrations, while allowing people to keep more efficient, successful regimes, thus tending to make the quality of governance on average higher in the longer term. Authoritarian regimes may randomly provide high-quality governance, but if they do not, they can only be changed by force, which may take years or decades longer than under democratic

²⁴⁴ Helliwell, J. (1994) *Empirical Linkages Between Democracy and Economic Growth*, British Journal of Political Science 24, 1994, 225-248. Barro, R. (1996) *Determinants of Economic Growth: A Cross-Country Empirical Study*, NBER Working Paper no. 5698.

institutions. As Sen succinctly summarizes: “[in considering the effects of democracy relative to authoritarian regimes] we have to consider the political incentives that operate on governments and on the persons and groups that are in office. The rulers have the incentive to listen to what people want if they have to face their criticism and seek their support in elections.” The potentially high cost of sustaining poor government policies under authoritarian regimes have been noted forcefully by Goetzmann in relation to recent financial crises:

Suppose bankers lend to a dictatorship, as Indonesia was, suppose further that debt piles up, and the government of the borrowing country cannot service its obligations...This is in fact what has happened. Tens of millions of people in emerging markets have recently fallen back into poverty. Without a democratic voice, they had no control of the risks their governments assumed. Even more outrageous, without transparent political institutions and a free press they had no way to understand these risks...Some would call this taxation without representation. In fact, history is filled with examples of non-democratic governments causing great harm to their citizens.

On the other side of the coin, a number of authors have noted that the proliferation of interest groups lobbying for power or for rents under democratic institutions may lead to policy gridlock, preventing the major decisions that are required in the development process. The view that democracy is a critical ingredient for economic growth is untenable. There is no robust statistical relationship to support it. But democracies perform better than authoritarian regimes in a number of respects. Dani²⁴⁵ shows four results in particular:

1. Democracies yield long-run growth rates that are more predictable.
2. Democracies produce greater stability in economic performance
3. Democracies handle adverse shocks much better
4. Democracies pay higher wages.

6.3.9 Promote a Culture of Tolerance, Non-violence, and Peace

The final section, (number 16) of the Earth Charter focuses on creating a culture of tolerance, non-violence and peace. The reasons for and benefits of such a focus were covered at the start of Chapter 3 in the discussion of the costs of war. Hence the reader is asked to refer to that part of the thesis for a discussion of the benefits of pursuing non-violence and peace.

Conclusion

Chapter 6 has overviewed in detail the empirical evidence that shows that investing in many of the social sustainability goals such as building social capital, reducing corruption and inequality,

²⁴⁵ Rodrik, D (1997) *Democracy and Economic Performance*. Harvard University December 14, 1997 conference on democratization and economic reform in South Africa, Cape Town, January 16-19, 1998.

providing equitable access to education and health services, building social trust, can have a positive effect on economic growth, not a negative effect. This chapter has shown that many leading economists are now making such arguments about specific aspects of social development.

Chapter 6 has for the first time brought such evidence together to show that seeking to simultaneously achieve significant social sustainability goals has negligible negative effects on OECD GDP growth whilst at the same time dramatically increasing economic growth in many poor countries that currently have negative economic growth.

