

DEDEVELOPMENT

by

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We accept this thesis as conforming  
to the required standard

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When you have to choose which way to go, take the most difficult path.  
Buddhist teaching

For my wife Janpen, and children Suchitra, Rakan, and Ananda.

With thanks to Ann Dale for her untiring guidance and patience, and to Cynthia Canavan and Malek Hamza for their unflagging support.

## TABLE OF CONTENTS

1.	<b>INTRODUCTION</b>	1
2.	<b>RESEARCH CONTEXT</b>	3
2.1.	Research Question	3
2.2.	Methodology	4
3.	<b>ANALYSIS</b>	6
3.1.	The Dominant Development Paradigm	6
3.2.	Dominance of the Paradigm	11
3.3.	State of the Planet	13
3.3.1.	The Economic Imperative	13
3.3.1.1.	Growth and Wealth	13
3.3.1.2.	Aid	17
3.3.1.3.	Trade	22
3.3.1.4.	Employment and Livelihoods	26
3.3.1.5.	Economic Security and Stability	30
3.3.2.	The Social Imperative	31
3.3.2.1.	Well being and Happiness	31
3.3.2.2.	Health	32
3.3.2.3.	Education	36
3.3.2.4.	Governance	38
3.3.2.5.	Loss of Human Diversity	42
3.3.3.	The Ecological Imperative	42
3.3.3.1.	Climate Change	43
3.3.3.2.	Ecosystems	45
3.3.3.3.	Biodiversity	49
3.3.3.4.	Ecosystem Services	52
4.	<b>SUMMARY</b>	59
5.	<b>AN ALTERNATIVE PARADIGM - DEDEVELOPMENT</b>	61
6.	<b>REVIEW OF PREVIOUS WORK RELATED TO DEDEVELOPMENT</b>	62
6.1.	First Steps to Dedevelopment	62

<b>7.</b>	<b>THE IDEA OF DEDEVELOPMENT</b>	<b>69</b>
<b>8.</b>	<b>THE FORM OF DEDEVELOPMENT</b>	<b>72</b>
<b>8.1.</b>	<b>Dedehveloping Social Control</b>	<b>73</b>
8.1.1.	Dedehveloping Minds	73
8.1.2.	Dedehveloping Security Systems	79
<b>8.2.</b>	<b>Dedehveloping Systems of Exploitation</b>	<b>88</b>
<b>8.3.</b>	<b>Dedehveloping Dysfunctional Life Support Systems</b>	<b>97</b>
<b>8.4.</b>	<b>Restitution</b>	<b>102</b>
	<b>BIBLIOGRAPHY</b>	<b>104</b>
<b>APPENDIX:</b>	<b>ABBREVIATIONS</b>	<b>125</b>

## **Abstract**

The state of the planet was briefly examined from economic, social, and environmental perspectives. The examination showed that the world has largely come under a single development paradigm and that the situation this paradigm has led us to is unsustainable and inequitable. There have been a number of efforts to set the planet on a different path to sustainability and social justice but so far they have failed to gain sufficient momentum to achieve change on a scale commensurate with the magnitude and urgency of the problem.

The author contends that these efforts for change might be more effective if they could be united under a common, global theme or objective sharing common principles. The research suggests that the idea of dedevelopment might arise as a theme around which many of the movements seeking sustainability and social justice could unite. The author further attempts to show the form dedevelopment might take.

The deepening of the current economic and climate crises which has occurred since this research was conducted serves to reinforce the author's argument for the necessity and urgency of a change in the current development paradigm.

## 1. INTRODUCTION

There is no denying that the accumulated global achievements of the current development paradigm and its predecessors have been enormous - improvements in health and education, tremendous wealth and material goods have been generated, vast improvements in communication, transportation and technology have occurred, and burgeoning democracies, individual freedoms and human rights have spread throughout the world (Freedom House, 1999; Maddison, 2001) (Simon, 1995) (Goklany, 2007).

Improvements in growth rates and social indicators such as longevity, mortality, and education, however, have demonstrated a sharply slower progress for the vast majority of low and middle income countries over the 25 year period between 1980 and 2005 (Weisbrot, Baker, & Rosnick, 2005) and particularly in economically unpromising areas such as sub Saharan Africa. There are also today a number of unprecedented, converging crises (McNally, 2007) (Homer-Dixon, 2006), such as climate change, the degradation of the environment, dwindling natural resources, increasing global inequity, crises of democracy and representation, looming economic crises, food shortages, the loss of human diversity, the prospect of endless conflict, and most importantly of all, a crisis of knowledge (Ho, 2005).

What matters in the end though, are not achievements or progress, but whether the course the planet is taking is sustainable in ecological and social terms. Is the dominant development paradigm able to carry the planet forward and sustain it, or has it taken the planet as far as it can; or perhaps too far?

The dominant development paradigm should be judged though, not only by its own self referential terms of success, but also with some measure as to how it has fared in meeting and reconciling the ecological, social, and economic imperatives essential to sustaining life on the planet - living within the biophysical carrying capacity of the globe, maintaining biodiversity, and ensuring equity and social justice (Dale, 2001). However, it should be borne in mind in taking that measure, that there is still an implicit recognition of the development imperative, that impoverished countries should be compared to advanced countries; that the statistics and indicators (aggregated though they are) will tell the story of the requisite amount of conventional economic development. But this precludes other possibilities. How has one paradigm come to dominate development? Other types of development such as those which are predominantly socially oriented, or managed development for example, are left unexplored. Most significantly, the question is never asked - would countries and peoples, the environment, be better off with lesser degrees of what we now call "development"?

To answer the research question, the author first briefly describes the current global development paradigm, its history and development, attributes, and purported objectives. He then argues that it is the dominant development paradigm, by demonstrating its global presence, scale, and preeminence, the global effect of actions undertaken within the context of the paradigm, and its relationship with alternative models of social organization.

The ecological, social, and economic conditions which have been achieved under the influence of the model are briefly described, the inference being made that the conditions today are in general, attributable to the operation of the global development paradigm. The greatest threats to sustainability and social justice are considered, and the forces responsible for arriving at this juncture, examined. The author then attempts to explain how the model has achieved and maintained its preeminence.

Finally, in reaching an answer to the research question, the author draws from and synthesizes the ideas and principles of a number of social movements and thinkers, and examining the larger scale social solutions to some of the world's major ecological, social, and economic problems which have been put forward by diverse experts, the concept and form of a different paradigm is then articulated.

## **2. RESEARCH CONTEXT**

### **2.1. RESEARCH QUESTION**

**Are there alternative paradigms to the current global development paradigm that reconcile the ecological, social and economic imperatives of the 21st century?**

Although there are increasing concerns about where western industrial civilization and its predominantly economically focused development model have taken the world, and there is greater recognition and a deeper understanding of the causes of many of the crises facing the planet, to many these problems seem enormous and insurmountable, engendering pessimism and feelings of helplessness. Many lack faith in government or

business to address these crises in an effective way; others consider fragmented single issue approaches, or purely local or individual solutions to be likewise ineffective.

Answers proffered to these critical problems have ranged from “tinkering around the edges” to the dismantling of institutions such as the International Monetary Fund (IMF) (Bello, 1999). A few, such as Zerzan (1994) and Jensen (2006) have suggested that the solution to many of our current problems lies in abandoning contemporary western civilization itself.

## **2.2. METHODOLOGY**

Seeking to analyze and to find alternatives to the present global development model does not lend itself easily to conventional research methodologies; experimentation and manipulation of variables. Performing case studies on a global scale, and over an extended period, are impossible for thesis research. In addition, the research question is meta-physical and thus necessitates a novel research methodology that is heuristic rather than quantitative. The author chose to pursue this inquiry using qualitative social science research methods (Krathwohl, 1993) (Hesse-Biber & Leavy, 2005). An extensive literature review and first hand direct field observations were deemed the most appropriate methodology to obtain the data and to expose the fundamental elements and underlying relationships between the ecological, social, and economic imperatives that comprise sustainability.

The extensive literature review encompassed literature, film, audio, and internet sources on topics including the environment, sustainability, social justice, governance,

international development, corporatism, and globalism. In addition, speeches from key political actors were also analysed. Quantitative data comprising social, economic, and environmental indicators and study data were gathered from primary sources including international agencies such as the United Nations Development Program (UNDP), United Nations Food and Agricultural Organization (FAO), United Nations World Food Program (WFP), World Bank (WB), International Monetary Fund (IMF), and NGOs such as the World Resources Institute, Worldwatch Institute, all of which were particularly valuable for their global coverage over a number of years. Global environmental and social assessments such as the Millennium Ecosystem Assessment (MEA) and Intergovernmental Panel on Climate Change Assessment (IGPCC) reports were extensively used.

In addition the author has drawn upon his observations over ten years as a manager for United Nations development and humanitarian programs. His experience has given him insights into international relations and the international development industry, as well as exposure to a variety of social and cultural settings. Thus, extensive literature review, grounded in direct experiential observation, coupled with data triangulation (literature review, quantitative data and speeches) give a level of confidence in the ability to answer the research question.

Grounded theory was developed to build theory from data rather than utilizing existing theory as a starting point; grounded theory methodology has moved from its host field of sociology to fields such as nursing research and health studies, organizations and

information studies, although there are disagreements about the method (see Glaser's 1992 critique of Strauss and Corbin 1990 : Basics of Grounded Theory Analysis: Emergence Vs. Forcing). Classic grounded theory as prescribed by Glaser (Glaser, 1998) in its purest form involves the identification of a core concept -- in this case dedevelopment.

### **Scope of Work and Limitations**

The work broadly examines some of the significant social, economic, and ecological issues which currently affect the planet. It is beyond the scope of this work to provide a comprehensive analysis of the state of the world; the intent is simply to convincingly provide an indication of the modern problems facing the planet and to develop an analysis and coherent argument for the need to change our current dominant development paradigm. The research does not aim to propose particular solutions to these problems, but rather seeks to argue for the need for an alternative development paradigm.

## **3. ANALYSIS**

### **3.1. THE DOMINANT DEVELOPMENT PARADIGM**

What is meant by the dominant development paradigm? In examining this paradigm, the reference is to the system of forces which are shaping the economic, social, and ecological condition globally, affecting both developed and developing countries, albeit in different ways. It is an exploitist model (Dale, 2001). Although it is a global model, it is

uneven in its application, clearly, wealthier nations have more freedom and capability to escape its prescriptions. Moreover, the model is not static, but evolving in the direction of greater powers of accumulation and concentration (Harvey, 2003) (Jolly, 2006) (Davies, Sandstrom, Shorrocks, & Wolff, 2008).

Today, the dominant development paradigm is primarily an economic one, exemplified by the self regulating, free market capitalist democracy, a minimal, non interventionist nation state under the rule of law, favoring the rights of property (Chang, 2008), with the corporation reigning as the dominant institution. Virtually all states are circumscribed by a global economic governance system since 1995, with the largely American controlled World Trade Organization (WTO), IMF, and the WB as the core institutions (Chang, 2008). How did one model achieve such global dominance?

## **Background**

Asia, which had been the locus of power due to its superior technology and transportation was overtaken in influence by western Europe by the 14th century. European ideas and values began to spread the world over, hastened by now superior European technology and transportation (Maddison, 2001) (Diamond, 1997). European countries began to embark on imperial enterprises under the guise of moral missions in whose name exploitation was carried out, each mission bringing with it the right to dominate and to impose religious and other values (Wright, 2004) (Rahnema & Bawtree, 1997).

The earlier religious missions to spread Christianity, were superseded by the grander civilizing mission of the Victorian and later eras, and now by the modern development mission, given impetus by American president Truman in his 1949 inaugural address (Sachs, 1992) (Rahnema & Bawtree, 1997). These missions brought with them Christian and Enlightenment values, modern, rational, reductionist scientific thought, notions of the market economy, and introduced western modes of social organization, governance, and civil institutions (Hobsbawm, 1990) (Latouche, 1996) (Maddison, 2001). Existing human, social relations and boundaries of tribe or kinship, and environmental and geographical boundaries, began to be replaced with indirect social relations increasingly mediated by institutions and social structures (Illich, 1973), and with political and economic boundaries and constraints (Hobsbawm, 1990) (Maddison, 2001). In the nineteenth century, the institution of market economies which had never before been significant in the internal economies of countries, introduced the motive of profit, and man's social interests began to be subsumed by economic considerations, and society increasingly subservient to the market (Polanyi, 1957).

Truman provided the springboard for the modern development industry, the drive towards improvement and growth, by proposing to make available to the “underdeveloped” the benefits of scientific and industrial progress (Sachs, 1992 foreword) (Easterly, 2007). The effect of his pronouncement was to stimulate today's development imperative, that there can be no satisfaction without perpetual progress, that stability is undesirable, that one should always aspire to more. The underdeveloped, the unequal, lesser countries and their peoples, so categorized, should then surely want,

even have a duty, to escape their predicament and strive to achieve a universal model of human development (Sachs, 1992). For their part, the developed countries were under an obligation to develop themselves still more and urged to help the underdeveloped to develop, these days through the provision of free market and governance mechanisms (Easterly, 2007) (Chang, 2002). During the UN's first development decade from 1960 to 1970, the American President Kennedy provided another rationale - that security would be born of development, linking it to the cold war strategic objectives of the United States, that free market capitalism would lead to security. However experience has shown the contrary to be the case - that development is born of security (Rufin, 1996).

### **Characteristics**

Economics and the free market economy are central to the current development model, as manifested by the dominance of economic considerations across almost all facets of contemporary societies and the growing power of economic institutions, such as trans national corporations and international trade bodies, at the expense of state influence (Soros, 1998) (Polanyi, 1957) (Stiglitz, 2002). Despite its demonstrated failures at wealth distribution, the neo liberal Washington Consensus still prevails as the preferred economic reform.

The dominant development paradigm characterizes man as a predominantly economic being (Paretian turn of neo classical economics) making rational choices between alternatives, and motivated by self interest (Bruni & Sugden, 2007) (Polanyi, 1957). Pervasive economic notions such as productivity and efficiency, favor monoculture over

diversity, consumption over conservation, the private over the commons, and the short term over the long term. Spending and consumption, which are dependent on extraction, commodification, and trade, drive growth. Nature and the environment are considered separate from man, to be conquered, not lived alongside of, and exist to be used and extracted from (Dale, 2001). The dominant development paradigm is intrinsically elitist, preferring the individual over the social (Thatcher “society does not exist”) or cooperative, maintaining a hierarchy of states of being based on wealth and power, through the use of force and social controls.

### **Objectives**

A state should claim a moral basis for its existence and its modes of social organization. A model which strives for global dominance and which attempts to suppress alternative paradigms should purport to be a system which provides greater benefits to the collective good. That moral basis for the state today is endowed in the current dominant paradigm which assures the fulfillment of our desires and delivery of the best solutions to our problems through predominantly economic instruments. The invisible hand of the market promises to deliver economic growth and prosperity, social security, education, and health, individual freedom, self actualization and happiness, and to provide market driven solutions to problems such as climate change, (International Monetary Fund, 2007) (United Nations Development Programme, 2007), encountered along the way. It aims to sweep away the barriers to achieving a purely economic social organization where all relations are economically moderated. The effective functioning of the market economy necessitates the abolition of regulation, the imposition of restrictions on

constraining the system (Soros, 1998) (Reich, 2005b) (Polanyi, 1957) and increasingly, the integration of countries into economic and trade blocks such as the European Union, ASEAN, and NAFTA for control and economic efficiency. The resulting free global movement of capital, goods and services, facilitates the flows of wealth towards accumulation and concentration (Harvey, 2003).

### **3.2. DOMINANCE OF THE PARADIGM**

The modern nation state, an invented community (Hobsbawm, 1990), is the vehicle at this time for the development paradigm. The modern nation state, the dominant mode of social organization, is considered a prerequisite to solving the problems of the undeveloped (Sachs, 1992 Nandy p264) as well as developed nation states.

All nations, whether their peoples have a need or desire to reach out or interact with the rest of the planet, now belong to a global community of international institutions which advance notions of universal rights, justice, modes of governance, and promote common values and conceptions of progress (Meyer, Boli, Thomas, & Ramirez, 1997). Today, with the notable exception of countries such as Cuba and North Korea, the vast majority of countries practice de facto free market capitalism and participate in a global financial and trading system (Holmes, Feulner, & O'Grady, 2008). Developing countries are pursuing economic development towards industrial economies through growth, now "pro poor growth" and pro market economy reforms imposed as a condition by international lenders and development agencies (Thorbecke, 2005) (Nafziger, 2006).

Following the demise of the Soviet Union, the dominant rival of the capitalist system, Francis Fukuyama proclaimed the end of history and the supremacy of Western liberal democracy in his 1989 essay “The End of History?” (Fukuyama, 1989), arguing that for modern societies, there was no alternative to the market economy and democratic political system. Although we can dismiss his notion of the end of ideological development, the world has increasingly come under this single paradigm whose actions and behavior seek to determine the economic, social, and ecological life of the planet (Weber, Barma, Kroenig, & Ratner, 2007).

Capitalist democracies and international institutions, together with powerful regional groupings and alliances, such as the European Union, NATO, and ASEAN, exert a persistent influence on countries to conform to the dominant paradigm (Hobsbawm, 2004). The few countries such as Venezuela, which resist adoption of the model, which may operate under different socio economic systems, or not engage in multi party electoral politics, or which possess different legal and rights frameworks, are relegated to the status of failed or rogue states, (Foreign Policy, 2007), coerced to reform (Robinson & Gindin, 2005), or like Iran, demeaned as irrational, oppressive, fundamentalist regimes (Barber, 1996), (Huntington, 1996) (Human Rights Watch, 2008).

Increasingly, economic institutions and corporations are also powerful global participants in this world community, transcending the state, and forging partnerships with

governments and organizations such as the UN. Indeed, government bodies, cities, civil and international institutions, and NGOs have increasingly adopted what is an economic social structure, transforming themselves into corporations - a means to evade their personal and social responsibilities (Soong, 2007).

### **3.3. STATE OF THE PLANET**

#### **3.3.1. The Economic Imperative**

##### **3.3.1.1. Growth and Wealth**

Growth, the principal indicator of economic achievement and development, is measured by gross domestic product (GDP), the total movement of goods and services within an economy (Cavanagh & Mander, 2002). Indications of rising growth - increased income, spending, and consumption are deemed desirable whereas no growth or contraction are not. As indicators of progress, growth and aggregated statistics such as GDP are a poor reflection of the well being of people or the planet, hiding growing disparity and externalities - the depletion and degradation of many ecosystem services, and not taking into consideration their non market benefits (Millennium Ecosystem Assessment, 2005b). Adherence to such indicators of progress are more a reflection of market fundamentalism (Soros, 1998) and faith in trickle down economics. Looking at other measures of economic well being, such as household wealth - the value of physical and financial assets less liabilities, can give a vastly different picture.

## **Performance**

There have been decades of sustained growth and rising incomes in the majority of countries throughout the world. Prosperity has been brought to many (International Monetary Fund, 2007). In 2006, global GDP growth rose to 3.7 % and to greater than 6% in the least developed countries for the third year in a row (World Trade Organization, 2007). But over the 25 year period between 1980 and 2005 the growth of GDP per capita actually experienced a sharp decline in all countries except the bottom 20% (Weisbrot et al., 2005).

On closer inspection, the economic record is revealed to be almost the opposite of that portrayed by neo liberal advocates. When the developed countries began to implement neo liberal policies, growth slowed. While developing countries were pursuing the “wrong” economic policies of state interventionism and protectionism during the 1960s and 1970s, per capita income grew by 3% annually, their best ever recorded and comparing favorably to the performance of the industrialized countries. After their adoption of neo liberal policies, per capita income fell by half and growth slowed or has been non existent. In Africa, which has been managed under IMF and WB policies since the 1980s, per capita income and living standards have fallen (Chang, 2008).

## **Disparity**

Global inequality between richest and poorest countries and between richest and poorest people has been increasing significantly over the past 200 years (Jolly, 2006)]. There has been an enormous divergence of growth rates between rich and poor countries in the last decades with only the East Asian ‘Tigers’ sustaining an increase in

that time (L. Taylor, 2006). Even in the richest country, the US, there is increasing disparity and poverty (Center For American Progress, 2007). Despite many years of poverty alleviation programs by international institutions and the international development industry, over the past two decades income inequality has increased in almost all countries, with only marginal income increases of the poorest earners (International Monetary Fund, 2007) (Millennium Ecosystem Assessment, 2005b) (L. Taylor, 2006). Approximately 1.1 billion people, most of them in rural areas and dependent on agriculture, grazing, and hunting, earned less than one dollar a day of income in 2001 (Millennium Ecosystem Assessment, 2005b).

In 2006 the “two dollars a day” working poor decreased worldwide to 47 %, from 55 % in 1996. But 1.4 billion workers and their families were living below the “two dollars a day” poverty line, while 507 million workers and their families earned less than one dollar a day. An estimated 20 % of the worlds youth, more than 200 million persons, live on less than one dollar a day, while approximately half survive on less than two dollars a day. Indigenous peoples and persons with disabilities are disproportionately represented among the worlds poorest (United Nations, 2007a).

Looking at a broader measure, the distribution of household wealth is even more concentrated than the world distribution of income, or the distribution of wealth within almost every country. Based on data for the year 2000, within country the top 10 % of wealth holders typically own approximately 50 % of the wealth, while for the world as a whole the share of the top 10 % was 85 %. The US and Canada, with only 6 % of the

global population held 34 % of the world's wealth, Europe 30 %, and the rich Asia Pacific group of countries, 24 %. The remaining 12 % was shared by Africa, Central and South America, China, India and other Asia Pacific countries. Of the top global 1 % of wealth holders, 39 % were found in North America, 26 % in Europe and 32 % in the rich Asia Pacific countries (Davies et al., 2008).

Low levels of wealth relative to income, such as are found in Africa, Latin America, and the low income Asia Pacific countries, are particularly troublesome, as it means lower levels of socio economic security, and access to fewer financial opportunities and resources (Davies et al., 2008). Moreover, the deregulation of global financial markets has resulted in significantly lower taxation on capital, whereas the tax share of labor income has been rising steadily for years, increasing disparity still more (United Nations, 2007a). This concentration of wealth in those who own and control financial, labor, property, and natural resources, continues to rise, leading to a concentration of power in the hands of an unaccountable few.

### **Consumption**

The flip side of growth is consumption. Global consumption and demand for energy and resources are increasing at a time of declining resources and increasing population (UNFPA, 2001). The earth's natural capital is steadily declining, jeopardizing life on the planet, a fact not reflected in conventional indicators of well being (Cavanagh & Mander, 2002).

Per capita consumption in western countries, particularly the US, is much greater than in lesser developed countries, but demand is now rapidly growing in China and India (Lester R. Brown, 2005). As “poor” countries become more “developed” following the pattern set by wealthy industrialized countries, consumption of energy and hydrocarbon intensive resources is rising, bringing as well an array of associated environmental, health, and social problems (M. Naim, 2008). The global demographic trend from extended families to nuclear families (United Nations, 2007a) is also playing a part in increased consumption and demand. With fewer people sharing energy, appliances, and furnishings, consumption rises (M. Naim, 2008).

### **3.3.1.2. Aid**

To address the issue of underdevelopment, and to increase living standards, improve education and health, an international development industry has arisen, comprising international institutions such as the UN, IMF, WB and regional banks, NGOs, and bilateral donors. However the purpose of official development assistance is no longer redistribution of wealth, but poverty alleviation (Jolly, 2006) and pro poor growth, to be achieved through sound economic policies and good governance (Nafziger, 2006) (Bello, 2004).

### **Effectiveness**

Although per capita wealth in donor countries has grown by approximately 230% since 1961, aid per person has increased by only 50% in that time (Reality of Aid Management Committee, 2006). According to WB estimates “poor performing” countries received 43%

less aid between 1992 and 2002 than would be warranted by their poverty and population levels (Reality of Aid Management Committee, 2006).

Aid is often in the form of loans granted to the host country on favorable terms. But high levels of indebtedness have often been used to coerce debtor countries to adopt neo liberal policies to open up their countries to greater foreign influence and control. In some of the poorest countries payment for debt is greater than expenditures for health or education (Monbiot, 2005). External loans have also often been misused by the host government and not used to benefit the population. This odious or illegitimate debt has not always been cancelled by the lenders, who have evaded their responsibility in making these loans in the first place (Eurodad, 2008). Aid figures reported over the past few years often include debt cancellation masquerading as official development assistance. When this is deducted, the increase in official development assistance is significantly lower or even represents a decline over previous years. It is unlikely that the United Nations Millennium Development Goals will be met by 2015 given these shortfalls in aid and commitment (Reality of Aid Management Committee, 2006) (United Nations Development Programme, 2005).

Many countries though are committed to military spending, which increased dramatically to more than US\$1 trillion globally in 2004, a small fraction of which would have been sufficient to achieve the Millennium Development Goals (Reality of Aid Management Committee, 2006) (United Nations Development Programme, 2005). Development assistance policies have been dramatically altered since 2001 to reflect the security

interests of predominantly western countries, who are increasingly providing aid for strategic reasons in their fight against terrorism (Reality of Aid Management Committee, 2006). In addition, the increasing participation of the military in humanitarian and development work has contributed to a blurring of the line between the military and aid agencies, increasing the risk for development workers, threatening their neutrality, and diminishing their ability to function and to carry out their mandate (Waldman, 2008).

Tied aid, requiring the procurement of donor country goods or services such as food and technical assistance, amounted to more than 36% of development assistance funds in 2004. In Afghanistan for example, more than half of aid is tied. An estimated 72% of American aid is tied (Waldman, 2008) (Reality of Aid Management Committee, 2006).

The professed intent and efficacy of international development efforts and economic and trade reforms, is belied by the fact that during the last 200 years Japan, and perhaps the Asian Tigers, have been the only countries to join the ranks of the developed nations (L. Taylor, 2006). Considering that in 2003, 18 countries with a total population of almost half a billion people had a lower human development index (HDI) than in 1990, the prognosis for a significant increase in the numbers of developed nations seems unlikely any time soon (United Nations Development Programme, 2005). Rather it seems as if the development industry is arranged so that the lesser developed countries will not succeed, but rather be satellites, serving the interests of the developed countries.

## **Ownership**

National ownership of official development assistance - the ability of developing country governments to control policy and strategy, is considered essential to achieving development (Waldman, 2008) (Reality of Aid Management Committee, 2006). However conditions imposed by donors increasingly continue to undermine the sovereign and democratic rights of host countries and their citizens to pursue their own development path. More and more, the international development industry is attaching conditions to aid with the intent to force the weaker, poorer, developing countries into alignment with western free market policies. International donors as well as international aid and trade institutions are establishing their role as gatekeepers, setting over arching conditions in order to bypass and transcend host country governments (Reality of Aid Management Committee, 2006) (Mason, 2008). The Paris Declaration brought about harmonization of donor practices which have integrated their conditionalities for government institutional reforms into the aid industry (Setton et al., 2006). These conditions are principally targeted at instituting free market reforms such as price liberalization, privatization, public enterprise restructuring, commodity price regulation and subsidies, trade reforms and tariff reductions. Conditions are often imposed against the wishes of the host countries as well as against the interest of what the development industry is ostensibly trying to achieve, namely alleviation of poverty and improvement in well being (Eurodad, 2007).

In 2007, the WB began to publish governance indicators, on voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality,

rule of law, control of corruption, as a guide to countries worthiness as recipients of aid (World Bank, 2008). As of 2006, almost three quarters of the World Bank's International Development Association grants and loans had controversial conditions attached to them; economic policy conditions constituted 25% of all WB conditions (Eurodad, 2007). The use of loans as aid rather than grants has allowed the lenders to set even more stringent conditions on the use and control of the funds. Now that lending on less stringent terms is available from new "sovereign lenders" such as China, lenders characterized as "free riders" by free market ideologues, the western controlled lenders such as WB, are threatening not to grant favorable loan terms to developing countries which borrow from these new lenders (Oddone, 2007). The share of bilateral aid available under national ownership / control has dropped from 39% in 2000 to 32% in 2004 (Reality of Aid Management Committee, 2006).

The imposition by international institutions and the wealthy industrialized countries of institutional and policy reforms as a prerequisite for aid is self serving, and not supported by the evidence. The caution that aid should be given to developing countries with good fiscal, monetary, and trade policies, is of dubious validity (Antipin & Mavrotas, 2006) (Chang, 2002). On the other hand, there is little accountability and transparency in the international development industry itself and insufficient mechanisms for monitoring and evaluation of their effectiveness (United Nations Development Programme, 2005) (Bello, 2004). For example in Afghanistan, there are 77 donor mandated benchmarks for government, but there are none for donors themselves (Waldman, 2008).

### **3.3.1.3. Trade**

The global multi lateral trading system and its institutions, GATT and the WTO, are part of a framework for international economic cooperation seeking greater trade harmonization and market access through economic liberalization and other free market reforms. Over the past 60 years, the multi lateral trading system has been a means to deliver prosperity and stability, alleviate poverty, increase living standards and enhance technology acquisition. International trade cooperation has been seen as a way to avoid trade wars - tariffs and protectionism, which inevitably make the countries involved worse off (World Trade Organization, 2007) (de Rato, 2007).

The global trade agenda and rules have been set for more than a decade by the WTO. The terms of trade though are unbalanced, pitting the rich developed countries who dominate global trade and finance, against the vulnerable, weaker, developing countries. The economic power of the developed countries, especially the US and European Union, has allowed them to dominate the international trade agenda and flout the very trade rules which they were instrumental in establishing (Chang, 2003) (Bello, 2004).

The resistance of developing countries to what they perceive as an unfair WTO regime has led developed countries, unable to win concessions through multi lateral negotiations, to adopt a divide and conquer strategy, concluding numerous regional and bilateral trade agreements with developing countries over the last decade and half.

Developed countries have signed bilateral free trade agreements with about 25

developing countries and are in negotiations with more than 100 others (Jones, 2007) (World Trade Organization, 2007).

### **Trade Flows**

Due in no small measure to the significant contribution of a stable multilateral trading system to the reduction of trade barriers, world trade has increased twenty seven fold in volume since 1950. World merchandise exports increased in 2006 to 8 % over the previous year (World Trade Organization, 2007). Developing countries merchandise exports increased by 20 per cent in 2006, and imports rose by 17 per cent. Their overall share in world merchandise exports rose to 36%, its highest ever level, while its share of world merchandise imports was 31 per cent (World Trade Organization, 2007). In 2006 least developed countries exports increased an estimated 30 %, and merchandise imports by 17 per cent. However their share of world merchandise exports was a negligible 0.9 per cent, the highest level achieved since 1980 (World Trade Organization, 2007).

Although there is in general free movement of goods between countries, the movement of labor is restricted. Low wages in developing countries mean that trade is predominantly cheap agricultural commodities and unprocessed natural resources flowing from the lesser developed countries, while expensive manufactured goods, technology, and intellectual property flows to them from the developed countries (International Monetary Fund, 2007).

## **Capital Flows**

The result of trade liberalization has been an overall net capital flow out of poor countries to the rich developed ones (Social Watch, 2006). Most developing countries are dependent on only a few export goods, principally commodities which have been falling in price over the past few decades. The free market policies which have opened up their economies result in imports rising more rapidly than exports, creating a trade deficit which is financed through external loans, which are repaid through increasing exports - clearly an unsustainable situation (Setton et al., 2006). Developing countries are also obliged to improve the infrastructure for trade, roads, ports, and electricity, for which more loans are required.

## **Dependence**

One of the principles of globalized trade is specialization – countries doing what they can do best (see Ricardo and later). For many developing countries, specialization has come at the cost of self sufficiency, creating dependence on trade, and effectively creating a world of suppliers and consumers. Even developed countries have deindustrialized and become dependent on imported manufactured goods.

The technological benefits of trade have largely not accrued to developing countries. The global intellectual property rights regime has made it more expensive and difficult for developing countries to progress due to lack of access to knowledge. Rules on intellectual property are reducing developing countries access to new technology and medicines, and increasing the prices of many agricultural inputs (Patel, 2007) (Shiva,

1997). Developed countries hold 97% of the worlds intellectual property rights, leaving the lesser developed countries to pay the high price to acquire it, or to develop using the remaining 3% or obsolete knowledge (Chang, 2008) (United Nations Development Programme, 2005) (Jones, 2007).

### **Sovereignty**

Neo liberal trade policies have been criticized by many as a way to secure resources and markets of developing countries, and to open the labor market of underdeveloped economies for exploitation by the developed economies (Jones, 2007). International trade agreement rules go far beyond the limits of what are required for the normal conduct of trade, to infringe on the sovereign rights of countries, undermining governance, and conferring power on unaccountable trans national firms, often in sectors which affect the poor the most. These rules include restrictions on social services, government ownership, and state run enterprises. Often local companies are driven out of business and replaced by foreign multinationals, providing no local benefit in jobs; trade agreements may even prevent the host country from requiring technology transfer or training (Jones, 2007) (Chang, 2008).

In contrast to the neo liberal prescriptions imposed on developing countries, the early development of the developed countries such as the US and Britain occurred without those institutional and policy reforms, but with government support, protectionism, and interventionist policies. Further, the economic rise of Japan, Taiwan, Singapore, South Korea, and now China and India is attributable not to their implementing the prescribed

neo liberal policies, but instead to their following the interventionist and protectionist policies of their successful western predecessors (L. Taylor, 2006) (Chang, 2002) (Chang, 2008).

#### **3.3.1.4. Employment and Livelihoods**

The 1995 Copenhagen Declaration on Social Development committed its' signatories to promote full employment as a fundamental priority of their economic and social policies, and to enable everyone to achieve sustainable livelihoods through freely chosen productive work [Commitment 3 of the Copenhagen Declaration on Social Development, adopted by the World Summit for Social Development, 1995 Copenhagen]. The idea of jobs or employment has changed in recent years from one which simply connotes a stable wage relationship to a much broader one which considers personal development and the well being of family and society as well. In other words, freedom, security, equal opportunity and social justice are a precondition of sustainable livelihoods. These notions of decent work and sustainable livelihoods also include other forms of work such as unpaid care and voluntary community work (United Nations, 2007a).

#### **Performance**

The fact is though, that the majority of people in the world cannot afford to be unemployed, and a number of other factors such as underemployment and under paid employment, are also important to consider besides employment statistics. The global labor force, people who were working or looking for work grew by 16.6 %, to 2.9 billion between 1996 and 2006. At the same time, despite a continued economic growth rate of

3.8 % per year, global unemployment rose to 195 million unemployed in 2006 (United Nations, 2007a). The gender gap in the labor force has persisted as well with only 48.9 % of women employed in 2006 (United Nations, 2007a). Indigenous peoples, and persons with disabilities continued to experience unemployment rates much greater than the country average (United Nations, 2007a).

Although global agricultural output has increased, employment in the agricultural sector, comprising approximately 45 % of the world's labor force in 2006, has been on the decline throughout the world for many years, mainly due to the modernization of farming and an emphasis on export oriented production (United Nations, 2007a) (Millennium Ecosystem Assessment, 2005b). In 2006, the employment share of the service sector grew to 40 % of total global employment while the industry sector has accounted for 21 %, almost identical to 10 years ago (United Nations, 2007a).

### **Changing Conditions**

For the vast majority of workers, the economic liberalization that characterizes globalization has brought with it greater insecurity, poverty, and inequality, and a decline of the power of labor with respect to that of employers. This diminution has occurred because of global transformations in social conditions and in the types and conditions of employment (United Nations, 2007a).

Deindustrialization is occurring in virtually all developed countries which are losing manufacturing jobs despite increased manufacturing output, leading to high

unemployment. In developing countries, including China and India, deindustrialization has meant a net loss of jobs from the agricultural to the low paid service sector, where social security measures are often absent (United Nations, 2007a). The low wage service sector is growing quickly throughout the world with only a fraction who are engaged in high paying financial and professional services benefiting (United Nations, 2007a).

### **Conditions of Employment**

Permanent, stable, protected employment, has been diminishing rapidly all over the world as governments and business introduce free market reforms aimed at achieving labor flexibility. These reforms have had the effect of increasing the degree to which labor is considered a commodity (United Nations, 2007a).

For most workers employment flexibility has meant greater insecurity. Throughout the world, labor casualization has led to increased outsourcing, subcontracting, short term contracts with fewer benefits, and temporary status for workers even though they may have held their jobs for many years. Individual contracts achieved through bargaining between employer and workers are more common, replacing standardized and collective contracts (United Nations, 2007a). Although there is enhanced international labor mobility, it has principally benefited a small number of highly paid professional workers, but for the majority who have fewer skills, there has been greater insecurity and deprivation (United Nations, 2007a).

## **Environmental Degradation and Livelihoods**

The degradation of the environment is harming the livelihoods of many of the world's poor (Millennium Ecosystem Assessment, 2005b). Household income for the rural poor often relies on ecosystem services such as harvesting wild food, fuelwood, fodder, medicinal plants, and timber, and constitutes a much higher proportion of their income than that of wealthy families (Millennium Ecosystem Assessment, 2005b). Now, the privatization of public resources means many people do not have a sufficient supply of or access to ecosystem services, particularly indigenous peoples, forest dependent communities, and other marginalized groups (Millennium Ecosystem Assessment, 2005b). Many rural women in developing countries now have an increased domestic labor demand as a result of degradation of ecosystem services (Millennium Ecosystem Assessment, 2005b). Global employment in food production, timber, and fisheries, has been significantly affected by environmental degradation and climate change, rendering insecure the livelihoods of millions of people (Millennium Ecosystem Assessment, 2005b).

## **Social Conditions**

The deregulation and privatization of health, education, and other social services has had a damaging impact on employment across the world (United Nations, 2007a). State based systems of social security are being dismantled, affecting not only the livelihoods of social service sector workers, but the social protection of all workers. In their place self regulation, fiscal regulation, and privatized regulation have been substituted. At the same time the labor market has undergone reregulation, not to enhance the security of

workers, but with the objective to increase the degree to which labor is considered a commodity (United Nations, 2007a).

Sustained global economic growth has not led to increased formal employment, but rather has had an opposite effect - “jobless growth” wherein no jobs are created or they are created at a substantially lower rate than that of economic growth. Consequently there has been a tremendous increase in the global supply of labor, contributing to lower wages and diminishing the bargaining power of workers (United Nations, 2007a). Over supply of labor, the drastic reduction throughout the world in union and organized labor membership, and the effects of labor casualization have dramatically shifted power to employers. As well deregulation and self regulation of the labor market by unaccountable, non transparent commercial entities is undermining national and even corporate autonomy (United Nations, 2007a).

### **3.3.1.5. Economic Security and Stability**

No matter how well an economic system may perform, how can it be justified if it does not offer security, stability and hope for improvement, if it does not offer assured access to basic needs, and to opportunities for productive, creative work for the majority of the world’s population? Economic instability has increased during the neo liberal period with a greater number of financial crises occurring (Chang, 2008). There are already mounting fears of global economic crises arising from the structural problems and contradictions inherent in unregulated free market economies (Coubard & Ganet, 2006), and the notion of endless economic growth (Soros, 1997) (Kolko, 2006). There is

declining faith in neo liberal policies and in the stability and value of the US dollar as the international medium of exchange, and a world wide recession or economic collapse may occur (United Nations, 2007b) with ensuing unemployment and social unrest (Kotlikoff, 2008) (Roberts, 2006). Most importantly, the global economic and environmental crises resulting from the integrated economies and homogenized cultures of the dominant development paradigm, demonstrate a lack of resilience - something which having a diversity of systems would provide (Weber et al., 2007).

### **3.3.2. The Social Imperative**

#### **3.3.2.1. Well being and Happiness**

The UNDP Human Development Index (HDI) is a widely used measure of wellbeing, comparing life expectancy, literacy, education, and per capita GDP for countries worldwide. HDI rankings are used to distinguish a countries level of development and to measure the effect of economic policies on the quality of life. Overall there has been a steady rise in the HDI, but progress has been uneven and faltering. During the 1980s a decline in the HDI was observed in only four countries, but 21 countries, 14 of them in sub Saharan Africa experienced declines during the 1990s (Millennium Ecosystem Assessment, 2005b). In 2005, 18 countries with a combined population of almost half a billion people had a lower HDI than they had in 1990 (United Nations Development Programme, 2005). The world is not on track to achieve the MDGs (G. Brown, 2007).

There are other measures which attempt to measure well being directly, rather than using economically derived indicators. The NEF Happy Planet Index (HPI) of human well

being and environmental impact looks at factors other than economic ones and is based on a nations ecological footprint, longevity and life satisfaction measures. Life satisfaction is related to social, cultural and political factors. Higher levels of life satisfaction are associated with high levels of social capital - trust and membership in community groups, with democratic government, and with lower values placed on material wealth (New Economics Foundation, 2006) (Diener & Seligman, 2004). The HPI and other studies have found that beyond a certain level, higher incomes and consumption do not bring increased levels of happiness, in fact, they may reduce well being, and trap people on a hedonistic treadmill (Diener, Lucas, & Scollon, 2006). In contrast to their score on the UNDPs HDI, Western countries on the whole rank poorly and the G8 countries in particular score badly on the HPI scale (Layard, 2006) (New Economics Foundation, 2006) (Diener & Seligman, 2004).

### **3.3.2.2. Health**

Throughout the world there has undeniably been a steady improvement in health during the 20th century. Advancements in quarantine, sanitation and immunization, and the development of new drugs and vaccines have helped to improve hygiene and living standards and to reduce the threat of infectious disease, but more particularly in the industrialized countries and amongst the more prosperous (World Health Organization, 2007). There has been an overall increase in longevity, child mortality has been reduced by half, from approximately 20 million in 1960 to 9.7 million in 2006 (Deen, 2008), and diseases such as smallpox have been effectively eradicated (World Health Organization, 2007).

There are still significant health inequalities between and within countries (CSDH, 2008) and the rate of improvement in health has declined over the last twenty years compared to that observed during the 1960s and 1970s. Disparity in health between urban and rural populations appears to have increased in the majority of cases studied (Cornia & Menchini, 2006).

Over the 25 year period between 1980 and 2005 there have been declines in the rate of improvement for infant mortality, the rate of progress for child under five mortality, the rates of improvement for life expectancy for the vast majority of low and middle income countries, and for adult mortality for most groups (Weisbrot et al., 2005). Child under five mortality in sub Saharan Africa is 20 times greater than in industrial countries, a higher rate than it was a decade ago. Sub Saharan Africa has also experienced an increase in maternal deaths (Millennium Ecosystem Assessment, 2005b) (United Nations Children's Fund, 2008). The health goals which are crucial to achieving the MDGs are moving backwards (Haines & Cassels, 2004) (Capdevila, 2005) (United Nations Children's Fund, 2008).

In the developing countries there has been a resurgence of diseases such as malaria, dengue fever, yellow fever, polio, and cholera (World Health Organization, 2007), while in the developed countries there is a reappearance of poverty related diseases such as tuberculosis, and an increase in lifestyle related diseases such as heart disease, obesity, and diabetes (Cordain et al., 2005). AIDS, avian flu, SARS, and other

pandemics present a worldwide problem because of increased mobility. Over 38 million people are living with HIV worldwide (World Health Organization, 2007). New diseases are appearing at an unparalleled rate of one per year, infectious diseases are spreading more rapidly than ever, and drug resistance is causing antimicrobials to fail more quickly than replacement drugs can be developed (World Health Organization, 2007). In addition chemical and radionuclear accidents, and environmental disasters are posing increasing and significant health risks (World Health Organization, 2007) (Millennium Ecosystem Assessment, 2005b).

Climate change, weather related catastrophes, and conflict, are responsible for the destruction of infrastructure essential to public health, causing the increased spread of disease, and the health problems associated with migration from the affected areas (World Health Organization, 2007). Approximately 1.7 million people die every year from diseases associated with inadequate water supply and sanitation while half the urban population of Africa, Asia, Latin America, and the Caribbean are afflicted with diseases resulting from poor water and sanitation. More than one billion people have no access to adequate water supply and more than 2.6 billion have no access to proper sanitation (Millennium Ecosystem Assessment, 2005b) (World Health Organization, 2007). Drug affordability has become a major public health concern (Bulard, 2000).

### **Public Health and Inequality**

Health care systems and health care spending do not produce health. Even universal health care has been shown to have little or no overall effect on a nation's health. The

primary determinants of a nation's health are not individual treatment of disease or individual behaviors such as those related to diet, exercise, and smoking, but economic and political policies. The major factor governing the health of a society is the gap between rich and poor (Bezruchka, 2006) (Bezruchka, 2001) (Kawachi & Kennedy, 2002) (CSDH, 2008). When public health is ranked by the degree of disparity within nations the US is last while Japan the healthiest country in the world, with the lowest degree in wealth disparity has the highest proportion of men smoking among all rich countries (Bezruchka, 2001) (Kawachi & Kennedy, 2002).

### **Hunger, Malnutrition, and Food**

The global improvement in agricultural productivity has led to a net increase in food availability per capita from 2360 kcal in the 1960s to 2803 kcal per capita per day in the 1990s. Food is cheaper now than 40 years ago (IAASTD, 2008). However, ten years after the World Food Summit in Rome in 1996, virtually no progress has been made in the commitment to halve the number of people suffering from hunger and malnutrition by 2015. In 2006 an estimated 854 million people worldwide suffered from hunger and malnutrition (Food and Agriculture Organization, 2006a) (Food and Agriculture Organization, 2007). The number of hungry people in the world is increasing at the rate of four million a year, and today, with rapidly increasing food prices and global food shortages, the outlook is even bleaker (Food and Agriculture Organization, 2006b).

Although there has been global growth in per capita food production in the past four decades, the distribution of food is unequal. Per capita food production has been

slowest in South Asia and sub Saharan Africa, the regions which have the greatest numbers of undernourished people (Millennium Ecosystem Assessment, 2005b).

World food prices have risen dramatically over the last year due to the effects of climate change, diversion of food stocks for biofuels production, low levels of grain and other food inventories, increased consumption of meat and dairy products in developing countries, and increased fuel and transportation costs. There are already world shortages of rice, wheat and maize. In addition, global cereal demand is forecasted to rise by 75% and global meat demand is expected to double by 2050 (IAASTD, 2008).

Modern industrial and export oriented agriculture and the global agricultural commodity trade have failed in their ability to sustainably provide food for the world while at the same time causing adverse environmental effects and contributing to climate change. As well, the purported benefits of biotechnology and transgenic crops are uncertain and unlikely to provide a solution to feeding the poor (IAASTD, 2008) (Shiva, 1997).

### **3.3.2.3. Education**

Education, as measured by enrollment and literacy is improving in the developing and lesser developed countries, but the rate of improvement is declining. The lesser developed countries in particular have a long way to go to match the global average.

Almost one billion people have not had access to education (Global Campaign for Education 2007, 2007) and 65 million girls and 56 million boys - 121 million children are

not attending school (United Nations Children's Fund, 2003). The quality of education, especially for girls, disabled children, child laborers and those living in rural and conflict areas is poor while some countries have made no progress (Global Campaign for Education 2007, 2007).

The primary net enrolment rate rose 17% in lesser developed countries between 1991 to 2004 to 69%, significantly behind the world average of 86% (UNESCO, 2006).

Reductions in the rate of increase in enrollment were seen over the period between 1980 and 2005 in secondary school enrollment across all groups of countries, and in primary school enrollment for the bottom 40% (Weisbrot et al., 2005). For the lesser developed countries the rate of enrollment of girls in primary and secondary school is between 80 to 90% that of boys, but at the tertiary level it is less than 70% (UNESCO, 2006). In 2004 completion of primary education in lesser developed countries was only 53%, but for the world 86% (UNESCO, 2006).

Almost 800 million adults are illiterate (Global Campaign for Education 2007, 2007).

Women's and girls literacy rates are low, and women's literacy is less than 80% that of men as of 2004 (UNESCO, 2006). Ten percent of young people are illiterate (United Nations, 2007a).

To reach the Education for All and MDGs, 18 million teachers are needed by 2015 (Global Campaign for Education 2007, 2007). The rate of increase of public spending on education declined for all groups of countries over the 25 year period between 1980 and

2005 (Weisbrot et al., 2005) and developed countries are failing in their commitment to help finance education in developing countries (Global Campaign for Education 2007, 2007).

The privatization and growing inaccessibility of knowledge is impeding education and development, especially in developing countries (United Nations Development Programme, 1999) (Chang & Grabel, 2004). In wealthy industrialized countries, the goal of a liberal arts education and the development of critical thinking, has been discarded in favor of the development of skills for the workplace (Kwiek, 2000) (Newson, 1998) (Johnstone, Arora, & Experton, 1998) (Giroux, 2004) with the result that business interests control the direction of education (Newson, 1998) (Johnstone et al., 1998) (Giroux, 1998).

#### **3.3.2.4. Governance**

In recent decades there has been a decrease in the number of countries under dictatorial governments, an increase in governments under a multiparty electoral system, and increased recognition and observation of human rights worldwide (Human Rights Watch, 2008).

According to Freedom House, as of 1999, 58 % of the world's population were residing in electoral democracies in 119 countries, 85 of those being liberal democracies - those considered free and respecting human rights and the rule of law (Freedom House, 1999).

## **Representation**

There is a sense though, that democracies are not working either. There is a low participation rate in electoral politics and declining respect for the political class in many countries (Skidmore, 2008) (Feffer, 2007) (Bello, 2005) (Reich, 2005a). There is growing disenchantment with current models of representative democracy and electoral politics which are antagonistic in nature and which seek citizen input only at prescribed voting times. Some feel that current models of representative democracy can not work; how can one person represent a heterogeneous constituency? More direct forms of participation such as referenda, or more frequent elections, are claimed by those in power to be too cumbersome, costly, and unpopular.

Central government is remote from the grassroots level. People feel disenfranchised, experiencing little or no consultation or involvement in political decision making. Their needs and interests are ignored, while governments cater to elites, business, or even foreign interests, and enter into agreements and enact policies which are harmful to society at large, trading democratic participation and civil liberties for the economic prosperity and security of a few (Reich, 2005b) (Strange, 1996). Raising money and obtaining corporate media approval still pose significant structural barriers to attaining public office in most democracies; only the elites can participate.

The power of corporations over the political process is growing while governments increasingly claim they are powerless and unable to act, because of their obligations to

unrepresentative or undemocratic international institutions such as the WTO, International Centre for Settlement of Investment Disputes (ICSID), or to tyrannical “market forces” (Reich, 2005a) (McQuaig, 1998). (Anderson, 2007) (Strange, 1996). Powers invested in unaccountable international organizations such as the WTO threaten local democracy. These bodies have adopted a role as gatekeeper, enacting international agreements as irrevocable ‘constitutions’ in order to ‘defend public interests’ such as in international trade, against the actions of government, (World Trade Organization, 2007) no matter what their populations democratically expressed will.

Internationally, although many dictatorships have been overthrown, other political models which have dubious democratic credentials, are supplanting them (Human Rights Watch, 2008). Political intervention by western nations and civil society masquerading as “democracy promotion” is in fact aimed at undermining real democracy so that the electoral outcome will not threaten the elites (Robinson & Gindin, 2005) (Moises Naim, 2007) (Human Rights Watch, 2008). Other political models, seemingly more democratic, and opposed to the prevailing global economic agenda, are under constant threat (Dwyer, 2006) (Hobsbawm, 2004).

The widespread dissatisfaction with contemporary models of democracy, the inaction and inability to act of governments and leaders in the face of social injustice and environmental crises (Christian Aid, 2001) are causing some to call into question the legitimacy not only of the agreements they have entered into and the policies they have

enacted, but the role, purpose, and existence of governments and states themselves (German Advisory Council on Global Change (WBGU), 2007).

## **Conflict**

Following the end of the cold war many believed the reasons for military conflict would lessen, but militarization has in fact increased. There is now potential for endless conflict (Putin, 2007). The destruction of the environment (Schwartz & Randall, 2003) and declining opportunities for development, economic growth, and consumption are increasingly leading to conflict (Leahy, 2007) (Ziegler, 2005) (Christian Aid, 2001). Conflicts over resources are fueling wars in many countries (United Nations Development Programme, 2005).

Climate change is likely to threaten international stability and security and global economic development. There are risks of growing national and international conflicts over the distribution of resources, and of the failure of disaster management systems (Klare, 2002) (Hiro, 2006). There is the possibility of an increase in the number of weak and fragile states, and rising migration. As well, the effects of climate change may erode the social order, causing increased violence and threatening human rights. The legitimacy of the role of industrialized countries as global governance actors may be called into question (German Advisory Council on Global Change (WBGU), 2007). Throughout the world, people are increasingly questioning why they should suffer and do without in order to satisfy the profligate lifestyles of the elites. Their resistance to social injustice may lead to conflict (Leahy, 2007) (Ramonet, 2002).

### **3.3.2.5. Loss of Human Diversity**

Many cultures, traditions, languages (R. G. Gordon, Jr., 2005) (UNESCO), and ethnic groups (Survival International, 2007) are increasingly threatened with extinction due to the spread of western style development, facilitated by convenient, inexpensive transportation, the penetration of international mass media, and religious proselytizing, (Survival International, 2007) (Latouche, 1996). Loss of cultures is also arising from environmental causes – for example habitat loss in the Amazon river basin, and from the inundation of coastal regions such as Bangladesh, or the Pacific Island States. There is even evidence of the loss of human genetic diversity over the last millennium (Töpf, Gilbert, Fleischer, & Hoelzel, 2007). Diminishing human diversity and the loss of other models of being and knowledge, is eliminating potential opportunities for learning, for different life, and for the answers we may need to solve our crises and to ensure human survival.

### **3.3.3. The Ecological Imperative**

The earth's environment and its ecosystems are the basis for life on the planet. What is the state of the ecosystems and the services they provide? The evidence is now unequivocal; the natural environment is rapidly degrading due to human influences (Millennium Ecosystem Assessment, 2005b), severely affecting the ability of the earth to sustain life and to provide benefits to humans. The interconnectedness and complexity of the earth's natural systems means that the effects of this degradation can be both profound and unpredictable. The greatest threat now confronting the planet is climate

change. Its effects flow through and are felt in every ecosystem and reverberate through the social and economic spheres. Anthropogenic global increases in temperature have very likely had an influence on the changes which have occurred in many physical and biological systems (Intergovernmental Panel on Climate Change, 2007b).

### **3.3.3.1. Climate Change**

Global greenhouse gas emissions increased 70% between 1970 and 2004, with CO<sub>2</sub> emissions increasing 80% during the same period. The concentration of CO<sub>2</sub> in the atmosphere has increased 34% since 1750 with approximately 60% of that increase occurring since 1959 (Intergovernmental Panel on Climate Change, 2007b) (Millennium Ecosystem Assessment, 2005b). Greenhouse gases released to the atmosphere by human activities are very likely the cause of the greater part of the rise in global average temperature which has occurred since the mid 20th century (Intergovernmental Panel on Climate Change, 2007b). This global warming trend is contributing to an unstable and unpredictable climate. At the same time the natural processes which help to prevent the buildup of CO<sub>2</sub> in the atmosphere are slowing. These events are leading to stronger climate responses sooner than expected (Canadell et al., 2007). Studies have also shown that the full effect of global warming has been masked to some extent by smog induced global dimming, and that when air pollution is diminished the effects of global warming may be even more severe than previously thought (Pearce, 2005).

Weather patterns throughout the globe are being altered. Mean global air and ocean temperatures are rising, affecting temperature extremes and increasing the frequency

and severity of heatwaves over most land areas (Intergovernmental Panel on Climate Change, 2007b). Eleven of the warmest years since 1850, when global surface temperature began to be recorded, occurred from 1995 to 2006 (Intergovernmental Panel on Climate Change, 2007b). There has been a decrease in the extent of snow and ice cover, and a rise of 1.8 mm/yr in global average sea level over the past half century, has now increased to 3.1 mm/yr since 1993. The frequency of extreme high sea levels has been on the rise since 1975 (Intergovernmental Panel on Climate Change, 2007b). In addition, the rate of melting of glacier and sea ice is now considered to have been significantly underestimated and the consequent sea level rise as well as diminution of fresh water supplies may occur much faster than previously predicted (Hansen & et al, 2007). Precipitation and wind patterns are changing, affecting extra-tropical storm tracks. Since the 1970s the frequency of torrential rain and flooding has increased in most regions while other areas are experiencing unexpected drought (Leahy, 2006) (Intergovernmental Panel on Climate Change, 2007a). (Intergovernmental Panel on Climate Change, 2007b).

### **Predicted Effects**

Greenhouse gas emissions at or above current rates would cause further warming and induce many changes in the global climate system during the 21st century that would very likely be larger than those observed during the 20th century (Intergovernmental Panel on Climate Change, 2007b). Predicted temperature increases would be greatest over land and at most high northern latitudes and least over the Southern Ocean and parts of the North Atlantic Ocean, leading to a further decrease in snow cover and sea

ice extent, and more extensive thawing of permafrost. Tropical storm tracks are predicted to migrate further towards the poles causing modifications to wind, precipitation, and temperature patterns. Precipitation is likely to increase in high latitudes and decrease in subtropical land regions with consequent higher river runoff and water availability in high latitudes and decrease in some dry regions in the mid latitudes and tropics. Extreme weather events such as high temperatures, heat waves, heavy precipitation; and more severe tropical storms, are likely to occur with even greater frequency (Intergovernmental Panel on Climate Change, 2007b).

### **3.3.3.2. Ecosystems**

The planets ecosystems - forest, dryland, inland water, coastal, marine, island, mountain, and polar, have changed more quickly over the past 50 years than ever before in recorded history. Large changes to the ecosystems of the industrialized countries have taken place over the last four centuries; now changes are occurring at an even more rapid rate in developing countries. The main drivers responsible for the decline are human induced climate change, habitat change, invasive species, over exploitation, and pollution (Millennium Ecosystem Assessment, 2005a). Across all ecosystems with the exception of temperate forests, the trend of ecosystem impact is a negative one and showing a predominantly steeper rate of decline, particularly from temperature increases (Millennium Ecosystem Assessment, 2005a) (Intergovernmental Panel on Climate Change, 2007b).

Natural habitat continues to be lost at a great rate as land is converted for agriculture, resource extraction, and human habitation (Millennium Ecosystem Assessment, 2005b). Six million hectares of primary forest have been lost every year since 2000 (Secretariat of the Convention on Biological Diversity, 2006). This trend is exacerbated by the ease of global transportation and the intensification of economic globalization.

Almost a quarter of the earth's land surface has been transformed into cultivated systems (Millennium Ecosystem Assessment, 2005a). The rate of change has only recently shown signs of decreasing, because of increases in agriculture productivity and a diminution of the amount of land suitable for conversion (Millennium Ecosystem Assessment, 2005a). This trend may reverse however as agricultural practices are modified in response to climate change and the increased costs of petroleum. As well, greater urbanization throughout the world continues to result in the loss of existing agricultural land.

Temperate grasslands and Mediterranean forests have lost more than two thirds of their area to conversion, and temperate broadleaf forests, tropical dry forests, tropical grassland, and flooded grasslands have lost more than half their area to conversion. Mangroves have declined 35% and corals 20% over the last two decades (Millennium Ecosystem Assessment, 2005a). Although tundra and boreal forests have experienced minor levels of loss and conversion, they are beginning to be affected by climate change and greater demand for fuel and fiber (Millennium Ecosystem Assessment, 2005a). Plant and animal ranges are migrating towards the poles and spring events are

occurring earlier in terrestrial ecosystems due to anthropogenic warming (Intergovernmental Panel on Climate Change, 2007b). Higher average temperatures are decreasing snow and ice cover, increasing the number and size of glacial lakes and modifying polar ecosystems (Intergovernmental Panel on Climate Change, 2007b). In some freshwater and marine ecosystems higher water temperatures and consequent changes in salinity, oxygen levels, circulation patterns, and ice cover, have resulted in changes to the range and abundance of marine life (Intergovernmental Panel on Climate Change, 2007b).

Over the last 50 years the industrialization of fishing and adoption of wasteful practices have reduced the biomass of commercial and bycatch fish species in marine ecosystems by 90% and resulted in a 66% decline of large fish in the North Atlantic (Millennium Ecosystem Assessment, 2005a) (Secretariat of the Convention on Biological Diversity, 2006). Freshwater ecosystems have been severely affected by the doubling over the last 40 years of withdrawals of water from rivers and lakes for irrigation, urban, and industrial use. Man made changes to river channels and flow regimes and the construction of dams have affected 60% of the worlds major rivers. Worldwide, 70% of water use is for agriculture (Millennium Ecosystem Assessment, 2005a).

### **Ecological Cycles**

The functioning of the water and nutrient cycles which underlie life on the planet are also threatened by human activities which have induced large scale changes in the last several decades. Excessive nutrient loading, particularly of nitrogen and phosphorous, is

considered one of the most significant drivers of ecosystem change (Millennium Ecosystem Assessment, 2005a). The addition of these enormous quantities of nitrogen and phosphorus based fertilizers, livestock and human wastes, to terrestrial systems has resulted in the transfer of these nutrients to inland and coastal waterways, causing eutrophication and significantly affecting the functioning of aquatic systems (Secretariat of the Convention on Biological Diversity, 2006) (Millennium Ecosystem Assessment, 2005a).

The burning of fossil fuels and biomass has resulted in the release of enormous quantities of carbon dioxide to the atmosphere, increasing atmospheric concentration by more than a third over the last two and a half centuries. However due to different forest management and agricultural practices, terrestrial ecosystems have changed from being a net carbon dioxide source to becoming a net carbon sink around the middle of the last century (Millennium Ecosystem Assessment, 2005a) (Secretariat of the Convention on Biological Diversity, 2006) (Millennium Ecosystem Assessment, 2005b) (Intergovernmental Panel on Climate Change, 2007b).

The hydrologic cycle has been significantly affected by the extraction of water from rivers, lakes, and aquifers for irrigation, urban, and industrial use, which doubled between 1960 and 2000, and by construction of dams and impoundments, and structural changes made to rivers. The advent of climate change has also altered the water quality and thermal structure of lakes and rivers and brought about higher runoff and earlier spring peak discharge in many glacier and snow fed rivers (Millennium

Ecosystem Assessment, 2005a) (Secretariat of the Convention on Biological Diversity, 2006) (Intergovernmental Panel on Climate Change, 2007b).

### **3.3.3.3. Biodiversity**

The earth's biodiversity is the foundation for the functioning of its ecosystems. There are an estimated 2 to 10 million species, the majority of which have not yet been identified. Within species there also exists tremendous genetic variety (Secretariat of the Convention on Biological Diversity, 2006). Biodiversity is rapidly declining. The rate of extinction today is estimated to be as much as one thousand times greater than that demonstrated by the fossil record. The population or range, or both of the majority of species throughout a range of taxonomic categories is decreasing. The trend is increasing, particularly among cultivated species where monoculture agriculture and forestry is a common practice (Millennium Ecosystem Assessment, 2005b). There has been a 40% decline in the average abundance of species between 1970 and 2000 (Secretariat of the Convention on Biological Diversity, 2006), and the global distribution of species is becoming more homogenous (Millennium Ecosystem Assessment, 2005b). The wider biodiversity crisis is such that the all too common local disappearance of a species often goes unremarked (Baillie, Hilton-Taylor, & Stuart, 2004).

### **Losses**

Of the 1 590 000 species described; only a fraction have been evaluated, meaning that estimates of biodiversity loss represent a minimum estimate. Of those species which have been evaluated, 23 % of vertebrates, 51 % of invertebrates, 70 % of plants, and 50

% of mushrooms, lichens, and brown algae were considered at risk in 2007 (IUCN, 2007). Amphibians, African mammals, birds in agricultural lands, corals, and commonly harvested fish species are in decline (Secretariat of the Convention on Biological Diversity, 2006). Freshwater habitats typically have the highest proportion of threatened species (Millennium Ecosystem Assessment, 2005b). Rivers, lakes and marshlands have seen a species decline of 50% (Secretariat of the Convention on Biological Diversity, 2006). Twelve percent of birds, 23% of mammals, and at least 32% of amphibian species are threatened with extinction, as are 25% of conifers, and 52% of cycads in tropical and sub tropical regions (Baillie et al., 2004) (Secretariat of the Convention on Biological Diversity, 2006) (Millennium Ecosystem Assessment, 2005b).

### **Causes of Loss of Biodiversity**

The threats to biodiversity are increasing. Fragmentation of habitat is diminishing the capacity of ecosystems to maintain biodiversity and deliver services (Secretariat of the Convention on Biological Diversity, 2006) (Baillie et al., 2004). Increased trade and improved transportation have resulted in a significantly higher rate and risk of introduction of alien invasive species (Secretariat of the Convention on Biological Diversity, 2006) (Millennium Ecosystem Assessment, 2005b). Over exploitation of resources and unsustainable rates of consumption continue unabated. The global demand for resources now surpasses the biological capacity of the earth by 20% (Secretariat of the Convention on Biological Diversity, 2006) (Baillie et al., 2004).

Pollution is resulting not only in the declining health of humans but also in the decreasing viability of other species (Corvalan, Hales, & McMichael, 2005). Genetically engineered and synthetic biological organisms (ETC Group, 2007) are being created and released into the natural environment with few safeguards and insufficient knowledge about the consequences. Many of the products of genetic engineering, once released into the environment cannot be contained and will continue to reproduce and mutate, degrading the earth's natural heritage, and destroying the evolutionary potential of the planet (Shiva, 1993). Some native species are already declining due to invasion by genetically modified organisms (Shiva, 1997).

### **Human Population**

Humans are a part of the planet's biodiversity and their behavior poses a threat to the biodiversity of other species at the same time. The human population is 6.2 billion today and continues to grow. It is estimated according to the UN medium population scenario, that a zero growth rate will only be achieved by 2075, with a peak population of 9.2 billion, declining thereafter. Most of the population increase is expected to occur in the less developed countries (United Nations, 2004) (United Nations Department of Economic and Social Affairs, 2007).

At the same time plant and animal populations, which are essential for the survival of humanity and of the ecosphere, are declining. The human population is competing with rest of the natural world for habitat and ecological services, but the earth cannot sustain even its present human population at the high rates of consumption and environmental

destruction of the wealthy industrialized countries (UNFPA, 2001). Yet some governments for economic and political reasons, pursue policies to increase population (Simon, 1995), while in many regions of the world, women are still denied the reproductive rights (UNFPA, 2004) (Nierenberg & MacDonald, 2004) essential for maintaining healthy, stable, and sustainable populations.

Human populations are also migrating, fleeing sea level rise or conflict, creating additional environmental and social pressures. Migration also contributes to the upward trend of urbanization, bringing with it the myriad problems associated with dense habitation (UNFPA, 2007) (UN-HABITAT, 2007) (Davis, 2006).

#### **3.3.3.4. Ecosystem Services**

The regulating and provisioning services which ecosystems provide are essential to life on earth and have been severely degraded by human activity (Hassan, Scholes, & Ash, 2005) (Hails, Loh, & Goldfinger, 2006).

##### **Regulating**

The regulation of the climate has been negatively affected by changes in land cover, and soils continue to be degraded and eroded through poor land use and crop management. Widespread pollution and the loss of wetlands continue to cause a decline in water quality throughout the world and a deterioration in the ability of ecosystems and the atmosphere to purge themselves of contaminants (Hassan et al., 2005).

Disease control has been affected by changes to ecosystems which have resulted in the introduction of infectious disease vectors to new areas (Intergovernmental Panel on Climate Change, 2007b) and often led to the increased local occurrence of infectious diseases (Hassan et al., 2005), as well as to higher incidence of skin cancers, malaria, and heat related deaths in humans (Corvalan et al., 2005). The widespread use of pesticides to supplant natural pest management has led to a decrease in the ability of agro ecosystems to regulate pests (Hassan et al., 2005). Reported declines in the global abundance of pollinators has probably resulted in reduced seed and fruit production (Hassan et al., 2005) (Latsch, 2007).

The ability of ecosystems to provide a buffer against natural hazards has decreased resulting in a greater loss of life and higher economic costs (Hassan et al., 2005). These severe risks to infrastructure posed by climate change have been acknowledged for several years by the international reinsurance industry (Münchener Rückversicherungs-Gesellschaft, 2006) (Association of British Insurers, 2005). Sea level rise is threatening water supplies and the existence of millions of people in coastal communities (Hassan et al., 2005) (Stern, 2006) (McGranahan, Balk, & Anderson, 2007). Countries such as Bangladesh and the Pacific island states will experience extensive inundation leading to devastation and mass migration (McGranahan et al., 2007).

### **Provisioning: Agriculture, Forestry, and Water**

The increase in global food supply has been greater than that of population growth, mainly due to increases in productivity and in cropland. The spread of intensive,

confined farming of poultry, pigs, and cattle across the globe has resulted in an increase in livestock production, and over the last 50 years, aquaculture has also contributed significantly to global food production (Hassan et al., 2005).

Food supply, quality, and safety are degrading though. Climate change and rising global temperatures are already leading to soil depletion and desertification (L. R. Brown, 2008) (Belmonte, 2007) (Intergovernmental Panel on Climate Change, 2007b) and to declining agricultural productivity (L. R. Brown, 2008) (Millennium Ecosystem Assessment, 2005b). Agricultural productivity in developing countries is predicted to suffer a decline of from 10 to 25 percent by the 2080s (Cline, 2007).

The increasing westernization of the Asian diet has created more demand for wheat, temperate zone fruit and vegetables, and high protein and energy dense food. This development trend is leading Asian agriculture away from food security based on traditional rice or cereal crops to dependency on a commercialized western model food supply chain (Pingali, 2007).

Rising global temperatures are contributing to declining fisheries productivity [Worldwatch Institute] (Millennium Ecosystem Assessment, 2005b). Marine and freshwater fish harvests have been decreasing since the late 1980s, with 25% of marine fish stocks overexploited or significantly depleted (Hassan et al., 2005).

The abundance of medicinal plants and other natural products is declining due to species extinction and over exploitation and the supply of wild plants and animal food products continues to decline globally as a result of habitat loss and over exploitation (Hassan et al., 2005).

Modern agricultural practices which rely on genetic engineering and biotechnology rather than on traditional crop breeding, and species and local population extinctions, have resulted in the loss of genetic resources (Hassan et al., 2005) (Shiva, 1997). Despite claims that genetic engineering can furnish solutions to looming food problems, the evidence is that genetic engineering has contributed to food and environmental insecurity (ISAAA, 2007) (Altieri & Rosset, 2002) (Worldwatch Institute, 2005).

Rising oil prices are threatening the viability of petroleum based agriculture itself. Now biofuel production is encouraging competition between food and fuel uses of crops and raising food commodity prices to their oil equivalent price (L. R. Brown, 2008). World grain stocks are at their lowest level in many years because of climate change related crop failures and food / fuel competition (L. R. Brown, 2008) (Nebehay, 2007).

Freshwater supplies are being significantly affected by over exploitation, pollution, and the loss of biodiversity of inland waters and there are predictions of increased water shortages in many regions of the world. Global freshwater use is 5 to 25% greater than the long term supply capacity, and the 40% of freshwater which originates from glaciers, is threatened by climate change and increased demand. In addition construction of

dams and reservoirs has impounded a large part of continental river flows (Hassan et al., 2005).

Over the last 40 years timber production has grown 60% worldwide. Plantations are a significant contributor accounting for 35% of the global harvest in 2000. The consumption of wood for fuel is on the decline (Hassan et al., 2005) but may revert due to the increase of alternative fuel prices. Forest loss from timber exploitation and conversion continues in many regions of the world (Hassan et al., 2005) but the effects of higher temperatures are already being felt at Northern Hemisphere higher latitudes in changing patterns of forest fires and outbreaks of pests (Intergovernmental Panel on Climate Change, 2007b). World production of agricultural fibers with the exception of cotton and silk, has declined (Hassan et al., 2005).

### **Provisioning: Non Renewable Resources and Energy**

Non renewable resources - hydrocarbons and minerals are being ever more rapidly consumed and many face depletion within a century if current population and consumption trends continue. The consumption of oil, gas, coal, and minerals such as aluminum, copper, iron, phosphate rock over the last 100 years is greater than the total previously consumed in human history (Tilton, 2001).

### **Mineral Resources**

There are likely insufficient mineral resources such as copper and zinc to supply the whole world at current western rates of consumption (R. B. Gordon, Bertram, & Graedel,

2006) (Cohen, 2007). Bardi and Pagani examined USGS data and suggested that 11 minerals, including mercury, potash, and gallium follow the same pattern as oil extraction and have already reached their peak production (Bardi & Pagani, 2007). The capacity of platinum to meet anticipated demand in the next 3 or 4 decades is also questionable (R. B. Gordon et al., 2006) (Cohen, 2007). Depletion of minerals such as platinum, used as a catalyst in many environmental processes, and gallium, an essential constituent of photovoltaic cells, calls into question the availability of technology to meet future environmental needs (Cohen, 2007).

The planets mineral inventories are made up of the raw mineral resources found in deposits, which are subsequently transformed into mineral commodities, such as copper and lead. Mineral commodities are then incorporated into products which are often dissipated throughout the globe with only a proportion still available for recovery and reuse. It is estimated for example that the proportion of zinc irretrievably lost to recovery is 19% (R. B. Gordon et al., 2006)).

The future availability of minerals and hydrocarbons depends on the practicality of their recovery or extraction. Many of the richest and accessible ore bodies have already been exploited and remaining mineral resources may not be technologically or economically feasible to recover or, the environmental and social costs may be too great (Tilton, 2001) (Cohen, 2007). Shortages of these non renewable resources have a mutually adverse affect – as the availability of oil and gas declines and prices increase, the extraction or recovery of minerals becomes more difficult and expensive (Bardi & Pagani, 2007). As

demand for minerals increases and ore becomes more difficult to mine, or as mineral recovery efforts from recycling streams or the environment increase, the environmental and social costs also greatly increase, resulting in greater waste generation, higher greenhouse gas emissions, and higher water, energy, and chemicals consumption (Mudd, 2007).

## **Energy**

The extent of global oil and hydrocarbon liquids production is difficult to estimate. Nonetheless, given their significance, it is important to estimate the amount and rate of depletion of the resource. The range of predictions varies widely - from those such as the UN International Energy Agency (IEA), US Department of Energy, and ExxonMobil, for whom oil is still considered a limitless resource due to the power of economic and technological forces to acquire it (Exxon Mobil Corporation, 2007), to a growing number of industry analysts - Mathew Simmons [www.simmonsco-intl.com](http://www.simmonsco-intl.com) Colin Campbell [www.peakoil.net](http://www.peakoil.net) Kenneth Deffeyes [www.princeton.edu/hubbert](http://www.princeton.edu/hubbert) who consider that oil and hydrocarbon liquids have or will reach maximum production, or peak by 2020 at the latest, after which production will decline. After peak oil is more difficult to recover and of a lesser quality. The business as usual case, being based on unrealistic assumptions, was found to be less credible than that of the “peak oil” proponents (Bentley, 2005) (G. Boyle & Bentley, 2007) (Hirsch, 2007). It is estimated that more than 60 countries have passed their peak of conventional oil production (Bentley, Mannan, & Wheeler, 2007).

Consumption and demand for energy continue to grow rapidly, especially in Asia. The world total final consumption (TFC) of fuel - oil, gas, electricity, coal, combustible waste, and other, including geothermal, solar, and wind energy, grew from 4700 Mtoe (million tons oil equivalent) in 1973, to 7912 Mtoe in 2005, an increase of 168 %. Oil and gas made up 4664 Mtoe or 60%; and the transportation sector 2183 Mtoe, 28% of the TFC in 2005. Renewable energy consumption grew from 1.6% of TFC in 1973 to only 3.5% in 2005 (International Energy Agency, 2007). US oil consumption in 2005 comprised 25% of the world total (BP, 2007).

Alternatives to conventional oil, such as oil sands, coal, and nuclear energy (Godoy, 2006), bring with them significant environmental problems and supply issues. Solar, wind, and wave energy cannot at this time economically supply sufficient power for present needs, not to mention forecasted ones. Nor do any of the currently available energy alternatives offer the portability that concentrated oil fuel supplies (Trainer, 2007). If all factors such as land conversion to cropland are considered, the production and use of most types of biofuels, with the exception of those generated from wastes, will result in net greenhouse gas emissions (Searchinger et al., 2008) (Scharlemann & Laurance, 2008).

#### **4. SUMMARY**

Based on the foregoing literature review, there clearly has been a failure of the dominant development paradigm to effectively and equitably provide for human well being throughout the globe. The record of the dominant model is beginning to falter and the

outlook for the majority of mankind is increasingly bleak. Evidence is mounting that we are heading in a direction that is unsustainable in ecological, social, and economic terms (L. R. Brown, 2008) (Hails et al., 2006).

The prevailing notions of achievement and progress are value judgments, reflecting the influence of wealthy industrialized countries and elites and 600 years of western global dominance (Maddison, 2001) (Surowiecki, 2007). The collection of statistics and indicators of these notions of achievement and progress give reassurance and hope that something is being done, but after decades, limited success is evident from this review of the literature. It is not a question of refining or defining new indicators. The real issue now is not the measurement of the effectiveness of development and aid on recipients – it is the assessment of the commitment to development, aid, sustainability, and social justice, of those with the power to provide it. We should be re-examining the dominant model and its will and capability to provide well being, sustainability, and social justice to a majority of the world's population.

The development and progress of the wealthy industrialized countries took place during a period of seeming abundance of natural resources and cheap energy. Much of that achievement has been built on depleting and degrading the earth's natural capital, diversity, and resilience, changing in the space of a few generations the ecological and social systems which have evolved over thousands of years and from which human life has evolved. These were the gains principally of wealthy industrialized countries and elites throughout the world and were achieved at the expense of lesser developed

countries. Now, there are few new lands to conquer and exploit, and non-renewable resources are declining.

Despite the looming crises, expectations of prosperity and increasing consumption persist. The evidence demonstrates that we need to drastically change our current unsustainable trajectory and move to a more sustainable path, but how? Many still continue to believe in the correctness of the course of the dominant development paradigm, or that there is no alternative, or that they are powerless to change anything.

## **5. AN ALTERNATIVE PARADIGM - DEDEVELOPMENT**

**Deddevelopment is a global endeavor to dismantle or abandon unsustainable and inequitable systems of exploitation and social control, to support the establishment, growth, or restoration of sustainable, equitable systems, and to redress the harm brought about by exploitation.**

It is apparent that the prevailing human built systems are insufficient and inappropriate to sustain the planet. A radical change of direction is called for; it is vital to break many of the old dysfunctional patterns and to look ahead to a different way of being. Whereas mankind has invested his security and survival in tribes, nations, and the accumulation of wealth, it is time to assure mankind's survival and wellbeing by investing instead in the survival of the earth.

For many there is a disconnect between the goals of accumulation of wealth and economic growth, and the goals of happiness and security (New Economics Foundation, 2006). We should ask ourselves fundamental questions about the kind of world we desire, what future and what kinds of social arrangements are sustainable and socially just.

If we seek sustainability and social justice, and if we agree that the earth and its resources are not only for the strongest, the richest, or for those who arrived there first, and that in order to survive we need to share the earth, then we can also agree that a lowering of expectations of the material comfort (Christian Aid, 2000) and security many of us wish to achieve, the global redistribution of wealth and resources, and restitution for past and ongoing harm and exploitation are necessary.

## **6. REVIEW OF PREVIOUS WORK RELATED TO DEDEVELOPMENT**

### **6.1. FIRST STEPS TO DEDEVELOPMENT**

The idea of dedevelopment is not a new one; the first steps to dedevelopment have already been taken. Initiatives in favor of dedevelopment are now mounting in response to the effects of climate change, the increasing cost of energy, and the current global economic and food crises.

### **E. F. Schumacher**

One of the earliest to acknowledge the need for a fundamentally different economic paradigm was E. F. Schumacher. His influential book, *Small Is Beautiful*, criticized the modern growth and efficiency oriented economy as unsustainable (Schumacher, 1974). His Buddhism inspired economics advocated maximizing human well being with the minimum amount of consumption. In contrast to the bigger is better mindset, he proposed that the most appropriate scale and technology for an activity should be employed.

### **Dag Hammarskjöld Report**

The Dag Hammarskjöld Report of 1975 recognized that international development, economic relations, and social institutions were in crisis as a result of a global system of exploitation which principally benefited the power structure of the industrialized world (Dag Hammarskjöld Foundation, 1975). The report called for the transformation of social, economic, and political institutions, the reorientation of science and technology towards social development, and improved public information. The Third World capability for self reliant development should be strengthened. To accomplish these tasks the report proposed that a world authority to manage mankind's common heritage be established, and that the UN system be adapted to these new requirements.

### **Edward Goldsmith**

Edward Goldsmith, writing in *The Ecologist* and *Blueprint for Survival* (Goldsmith, Allen, Allaby, Davoll, & Lawrence, 1974); argued that the western economic and social

trajectories were unsustainable. He advocated that society be entirely reformed and that small decentralized communities were the most appropriate form of social organization. Later, in *The Great U Turn* (Goldsmith, 1988) he identified industrialization as the root cause of the ecological and social crises. He suggested that the solution to the crises lay in deindustrialization, reversing progress, reverting to smaller scale societies and communities, and learning from tribal societies. In looking back at the fall of the roman empire, Goldsmith contended that their leaders chose more politically palatable short term measures intended to ameliorate the situation rather than tackling the root cause of the problems. Goldsmith warned that we should not succumb to such political expediency; the current political and economic systems should be radically transformed, and he proposed one of the most far reaching programs for deindustrializing society.

### **F.E. Trainer**

F.E. Trainer in his book *Abandon Affluence* (Trainer, 1985) asserted that the predominantly western affluent lifestyle is unsustainable and that there are insufficient global resources for it to be attained by all. The western affluent lifestyle was responsible for a host of environmental problems, promoted third world poverty and under development, and increased the risk of conflict over resources. The problem was a structural one - an economic system based on infinite growth. Trainer contended this economic system should be dedeveloped and in its place built an alternative society based on simplicity and values which emphasize frugality, self sufficiency, and cooperation.

## **Ivan Illich**

Ivan Illich was a long time critic of western society and its institutions of education, religion, service, work, and medicine, which he believed were counter productive, corrupting human nature and alienating people from their real needs. He was opposed to economic development and to the North American development model in particular, rejecting the notion of progress, and questioning why work had become the focus of society. In works such as *Deschooling Society* (Illich, 1976a), *Medical Nemesis* (Illich, 1976b), and *Tools For Conviviality* (Illich, 1973), Illich argued that as technology and social institutions become more complex, the less control we have over them while at the same time we become more dependent on them. He called for the deinstitutionalization of society, the disestablishment of schools, and restraint in the use of science. He was an advocate of small scale technology, asceticism, and withdrawal from contemporary society.

## **Brundtland Report**

The United Nations World Commission on Environment and Development report, *Our Common Future* (World Commission on Environment and Development, 1987) recognized the world's "threatened future" and linked economic development to the deteriorating health of the environment. It popularized the notion of sustainable development "as development that meets the needs of the present without compromising the ability of future generations to meet their own needs", and called for a multilateral approach to achieve solutions within the existing economic framework of the western developed nations. The report argued that:

“the pursuit of sustainable development requires:

- a political system that secures effective citizen participation in decision making.
- an economic system that is able to generate surpluses and technical knowledge on a self-reliant and sustained basis
- a social system that provides for solutions for the tensions arising from disharmonious development.
- a production system that respects the obligation to preserve the ecological base for development,
- a technological system that can search continuously for new solutions,
- an international system that fosters sustainable patterns of trade and finance, and
- an administrative system that is flexible and has the capacity for self-correction” (World Commission on Environment and Development, 1987 p65).

### **Lester Brown**

Lester Brown, formerly of the Worldwatch Institute, published Plan B (L. R. Brown, 2003) (more recently Plan B 3.0) (L. R. Brown, 2008), which documented a “civilization in trouble”. He put forward a global plan to save civilization by implementing measures within the current political and economic framework to create an environmentally sustainable economy.

### **International Forum on Globalization**

The International Forum on Globalization (IFG) in its report “Alternatives to Economic Globalization,” (Cavanagh & Mander, 2002) argued that corporate globalization is resulting in increased disparity and inequity throughout the world. These crises cannot be solved by the same institutions that created them, the Bretton Woods institutions, - the WB, IMF, and WTO. The IFG called for these institutions to be dismantled, corporations to be disempowered, and for economic globalization to be reversed. In their place democratic institutions of global governance are to be created under a reformed

and strengthened UN system, and economic democracy implemented, along with the practice of ecological economics, and economic localization.

### **Decroissance**

The decroissance - degrowth, non growth, or contraction movement

<http://www.decroissance.org/> rejects the economics of growth as unsustainable and socially and ecologically harmful. It calls for a contraction in the western mode of living and a reduction in the use of the planet's resources to sustainable levels. At this time decroissance represents the most far ranging conversation and inquiry into downscaling western society.

### **Chris H. Lewis**

Chris H. Lewis in his essay *The Paradox of Global Development and the Necessary Collapse of Global Industrial Civilization* (Lewis, 1997) claimed that economic growth is destabilizing global industrial civilization which will ultimately result in the collapse of the global financial and monetary system. He argues that globalization should end and nations and regions be uncoupled from the global industrial economy and reformed into self sufficient local and regional economies and trading networks.

### **John Busby**

John Busby's report, *A national plan for survival in the 21st Century* (Busby, 2002), contends that a global economic collapse will occur this century and that the UK and Europe should plan now for their survival before the required resources are exhausted.

His beggar thy neighbor approach would see the British economy reorganized to minimize energy requirements and maximize the use of renewable energy, and the revival of the coal industry for chemical manufacturing, thereby providing a model for a second industrial revolution in Europe.

### **Alternative Social Organization**

There are some who see withdrawal from participation in the dominant development paradigm as an answer to the current crises. They support the creation of sustainable and more equitable forms of community through relocalization - the local production of food, energy, and goods, and the development of alternative currency and governance. Proponents of relocalization include Julian Darley of the Post Carbon Institute [www.postcarbon.org](http://www.postcarbon.org) and Richard Douthwaite of The Foundation for the Economics of Sustainability (Feasta) [www.feasta.org](http://www.feasta.org). Mexico's Zapatista movement is a concrete example of an autonomous alternative social organization. The movement arose in opposition to free trade and economic globalization, building non hierarchical, radical democracy in Chiapas, Mexico while rejecting the seizure of political power (Ramírez, 2008).

### **Anti Civilization**

Still others simply advocate the tearing down of western civilization. John Zerzan, an anarcho primitivist, proposes a "Future Primitive", based on the dismantling of an alienating and hierarchical technological society, and the adoption of a decentralized, highly socialized way of life with its roots in hunter gatherer societies (Zerzan, 1994).

Derrick Jensen, also an anarcho primitivist, believes that the modern economy is incapable of allowing healthy social relations, and that civilization is inherently violent and unsustainable and should be taken down, by force if necessary. Jensen, like Zerzan, harkens back to the hunter gatherer, and considers that a primitive, particularly native American, way of life would be more harmonious and sustainable (Jensen, 2006).

## **7. THE IDEA OF DEDEVELOPMENT**

Can dedevelopment progress beyond these previous efforts and help to achieve global, lasting change?

Dedevelopment is based on principles of sustainability, social justice, and equity. Global social justice and equity are seen as necessary conditions for sustainability.

Sustainability means to examine the logical extension of one's behavior and actions, globally and over generations, to determine whether the survival of the planet is endangered. Social justice involves the achievement of equity. Equity demands equal respect for and fair treatment of all persons. It means the fair distribution of the benefits of human development and of the earth's resources. Equity is stewardship of the planet (Boyce, 2007) - attaining balance in the use of resources, not only locally, but across the globe, and considering the needs of future generations. Equity then implies global redistribution of wealth and resources, and restitution for past and ongoing harm inflicted by colonization, theft, and exploitation (KAIROS, 2002) (Cavanagh & Mander, 2002).

Dedevelopment calls for a deliberate lowering of the material standard of living of those who consume more than their fair share, and the raising of the living standards and security of the disadvantaged to an equitable, sustainable level (Jolly, 2006).

Deddevelopment is a recognition of the commonality of the disadvantaged throughout the world, and calls for dismantling of the fundamental unsustainable and inequitable relationships – have and have not, powerful and powerless. Deddevelopment involves the dismantling or disestablishment of the social controls – corporate mass media, knowledge and belief systems, and security systems – the rights, laws, hierarchy and governance structures, and security apparatus which serve to promote and safeguard systems of exploitation. It means the creation of new rights and notions of justice, and the creation or rebuilding of sustainable social organisms and relations. It seeks to bring about a fundamental reorientation of the prevailing systems of culture and values.

Deddevelopment calls for the dismantling or counterdevelopment, of systems of exploitation - economic ideologies, money and financial systems, international trade and development institutions, corporations, and the dominant model of ownership. It seeks the abandonment of dependencies on nations and hierarchy; it rejects reliance on technical and economic solutions, and calls for an embrace of independence, self sufficiency, cooperation, and interdependence – on family, community, and the environment (Earth Charter Initiative, 2000).

Deddevelopment entails a cessation of or reversal of many tendencies associated with western industrial society. It seeks the dismantling of unsustainable life support systems - settlements, habitat, agriculture, infrastructure, and business (Goldsmith, 1988).

Deddevelopment stands against the homogenization of the planet (Cavanagh & Mander, 2002) (Latouche, 1996) and calls for an end to the hegemony of western society and industrial civilization. It calls for an immediate halt to the invasion and destruction of other forms of social organization and instead seeks to preserve and promote a diversity of sustainable models of social organization.

Deddevelopment is challenging the inevitability, “there is no alternative”, the faith in, and the subservience to systems - economics, security, science and technology, and reasserting peoples control over them. Deddevelopment means to redefine and set the terms of discourse. It means to question, resist, and reject orthodoxy. It means to challenge the psychology of our times – especially the prevailing western notions of ‘normal’ and social pathology (Soong, 2006a).

Deddevelopment does not advocate a particular solution or political ideology. It rejects ideology and labels which can be used to divide. It is a call to unite under a set of principles which can serve to sustain the planet.

Deddevelopment then, is not specifically an anti technology, anti global, or anti civilization movement; it is not necessarily concerned with the promotion of voluntary simplicity, or primitivism; nor need it be a religious or spiritual movement. Deddevelopment is beginning a conversation. There is room for the many answers in whatever form they may be which embody sustainability, social justice, and equity.

## **8. THE FORM OF DEDEVELOPMENT**

How would the ideas and principles of dedevelopment look in concrete form? How would it be implemented, by whom, and in what way? What are examples of movement along the path to a more sustainable and equitable world?

Dismantling social controls will most probably entail a rebalancing in the stature and power of western industrialized countries, of the rich and elites, and result in the rise of lesser developed countries, and of the influence of the poor and marginalized. Instead of the current north / south dichotomy, a global realignment of the poor and of those who support sustainability, social justice, and equity may come to be seen.

For the wealthy and elites throughout the world, dismantling systems of exploitation will likely involve a decline in their material standard of living; but for the poor, it will hopefully lead to an improvement in their physical well being and security. Global commerce will come to be supplanted by local, socially oriented systems. A halt to or substantial reduction in unequal trade with the exploited countries of the south can be foreseen, and ultimately, as part of the process of restitution for past exploitation, a reversal in the current south to north direction of the transfer of wealth and resources.

To dedevelop the unsustainable physical and social life support systems - settlements, habitat, agriculture, infrastructure, industry and labor, new tools, techniques, and knowledge will undoubtedly have to be acquired. We will have to learn how to dismantle and recycle our existing wasteful and unsustainable physical infrastructure and support

systems (Orlov, 2005) (Kunstler, 2006) (Doyle et al., 2008) and to replace them with sustainable, local, holistic systems.

## **8.1. DEDEVELOPING SOCIAL CONTROL**

If systems of exploitation are to be dismantled or abandoned, there is little that can be accomplished without broad based support. To obtain that support it may be necessary to dismantle or disestablish the systems which shape and control thought and behavior and which encourage or permit exploitative and unsustainable practices to occur, that is - dedeveloping minds. In practice, this may mean dismantling significant aspects of corporate media, knowledge systems, contemporary consumer culture, legal and security systems, and governance structures, and creating or rebuilding sustainable and equitable entities to occupy those spaces.

### **8.1.1. Dedeveloping Minds**

To achieve a fundamental transformation of the mind it is desirable to have democratic control over the systems and processes which influence it, and maintain an environment which is open and receptive to learning, and to the free exchange of information and ideas. Changing the mind is also about exposing reality - looking for example at the real nature of exploitation, conflict, poverty, and environmental degradation (Farmer, 2006). Changing the mind means to deconstruct the language and terms of discussion, social, political, and economic paradigms, measures of progress and success (Sale, 1999), so as to determine how to make sustainability and social justice the foundations of life on earth.

## **Corporate Media**

There have been calls for a media revolution (Jay, 2005) (McChesney, 2007), for new media models (PRNewswire, 2007), and to redefine what is newsworthy. These new media should be independent and representative of and accountable to their audience and communities, and serve to inform, rather than to generate profit (Pilger, 2007) (Jay, 2005) (Thompson, 2007). Media, media delivery technology, communications systems, and the airwaves should be made universally accessible, and under real democratic control (McChesney, 2007) <http://www.freepress.net/spectrum/> (PRNewswire, 2007).

During the last decade we have seen an increase in the number of new media models and efforts to democratize the media. These include the creation of the global independent media network <http://independentmedia.ca/>, and the South American based Telesur network <http://www.telesurtv.net/>, which attempts to provide international and regional news and programming which is an alternative to the global corporate media. Community media, local newspapers, micro radio, and community radio (Fernandes, 2005),(Castro, 2006) are proliferating as well. Another trend has been the establishment of citizen journalism, from the Latin American media volunteers of Rebellion, who are news providers and distributors <http://www.rebellion.org> (Martínez, 2006) to the International Network of Street Papers <http://www.street-papers.com/> which aims to provide a voice to the poor and homeless as well as working to alleviate poverty.

## **Knowledge Systems**

Science and western thought is largely mechanistic and based on analysis and abstraction (Goldsmith, 1988) (Ho, Novotny, Webber, & Daniels). This approach to knowledge has played a large part in creating highly individualistic societies, with the result that individuals are unaware of their connectedness to, and the workings of the larger organisms or systems of which they form a part. On the other hand, knowledge systems which are based on synthesis and holism (Ho et al.), make us aware that we are not an atomized collection of individuals, but part of many interdependent systems, and that we have a role to fulfill as part of these systems. In light of this, the nature and purpose of contemporary education, science, and professional systems should be re-examined (Illich, 1976a) (Illich, 1973) (Gatto, 2003) (Schmidt, 2000). There is a need to engage in an unlearning process (Illich, 1976a).

To prepare humankind to face the challenges created by our crises, and to set the world on a path to sustainability, education systems, the sciences, their institutions and professional organizations can serve to develop critical thinking (Newson, 1998) (Giroux, 2004), rather than serving the marketplace (Newson, 1998) (Illich, 1976a). That means developing new models to impart and to use knowledge which are accessible to all, and which serve social purposes rather than predominantly economic ones. Education should be for social change, not the status quo (Douglas, 1970). Nor should it be the role of education to teach conformity and respect for authority. New education models can instill self reflection and strength in the face of collective thought (Adorno, 1970) and transcend philosophical systems, political ideologies, and belief. Rather than inculcating

the dominant culture, education systems can consider and recognize a diversity of global cultures and knowledge systems. New education would be directed at facilitating learning rather than focused on teaching. We will need different ideas as to what a teacher is (Gatto, 2003) (Freire, 2000).

There have been suggestions that the underlying ideology of contemporary science be dismantled (Frickel & Moore, 2006) (Feyerabend, 1978) (Sale, 1983) and that science seek new values and directions as well as considering and integrating other cultures and models of knowledge (Feyerabend, 1978) (Ho et al.) (Sale, 1983). Demands for greater citizen participation in science governance are growing (Independent Science Panel, 2007) (ETC Group, 2007). Scientists and professionals are being called on to give greater consideration to the use and social implications of their work and put science, technology, and the professions at the service of benefiting humanity and sustaining the planet. This would also require changes in the focus of their training and research; engineering and architecture for example, could be reoriented to emphasize sustainability, medicine to a preventative model (Illich, 1976b). Scientific and engineering activities which pose significant threats to the planet, for example military research and genetic engineering, should be proscribed (Burroughs et al., 2007) (Ho et al.) and science and research based on the precautionary principle ("The Wingspread Consensus Statement on the Precautionary Principle," 1998) (Gardner, 2006).

## **Culture and values**

What has been the role of belief in shaping thought and behavior, in supporting past and ongoing exploitation, in the promotion of inequity and conflict (Russell, 1957) (Harris, 2005)? In particular, the role of Judeo Christian thought in establishing and preserving the now dominant norms of social behavior and mans relationship to nature should be examined (Noble, 2005). Belief systems and their institutions can be encouraged to adhere to principles of social justice and sustainability (Harris, 2005) (Dawkins, 2006). Like Gilgamesh, mankind can also realize the futility of the quest for immortality and transience ("Gilgamesh," 1985) and identify with the earth, with nature, rather than with the supernatural.

Ethnicity, race, gender, and religion have sometimes been used to exclude, to divide, and to exercise control over others. We should question why these attributes should still assume such importance, and how can these differences instead become a force for unity. If race doesn't exist in biological terms (Jablonski, 2006) (R. A. Brown & Armelagos, 2001), then perhaps it is time to eliminate that construct in social terms (P. C. Taylor, 2004) and to forge our own social associations.

As the world is faced with mounting crises, what is evidently needed are not values which encourage a self destructive pursuit of wealth, technology, and self indulgence, but ones emphasizing a greater connectedness to humanity and to nature. The survival of humanity depends on the viability of our species, not the individual, and it would be desirable that values are aligned with sustainability and social justice, and inculcate

responsibility towards one's community and beyond it, to the sustainability of the planet. Rather than drawing one's identity from associations with nations, power and wealth, people can derive their identity from their immediate relationships with others – community, family, friends, and colleagues, and from their relationship with nature. That also means expressing one's values more through direct social interactions rather than indirectly through institutions (Illich, 1973) and organizations. Instead of being occupied with the physical, and with material consumption, it means a greater emphasis on inhabiting a mental or intellectual space - enjoying social relations, or drawing satisfaction from carrying out the tasks to fulfill one's basic needs (Goldsmith, 1988).

To change values our relationship with nature has to be changed to one wherein people accept to live with the natural world rather than seeking to conquer it. These new values would incorporate an acceptance of nature – of its apparent imperfection, disorder, inefficiency, and unpredictability, and of the inevitability of death and decay, and place less emphasis on image and appearance of order, and along the way, create a different aesthetic which is more in harmony with nature. Accepting nature means to acquire greater patience and to be more mindful of natural timeframes, and to incorporate long term, multi generational, and even longer timeframes into our thinking, consistent with the scale necessary to gauge the sustainability of the planet (Duncan, 2007).

Acceptance of nature means not extraction, but stewardship, sharing, and giving back to the earth.

Movements aimed at promoting values which encourage sustainability are growing. The simplicity movement <http://www.simpleliving.net/> in the United States and other developed countries is aimed at changing the policies and culture that drive consumption and overwork. Organizations such as New Dream <http://www.newdream.org/> and New Road Map Foundation <http://www.newroadmap.org/> seek to build more just and sustainable societies through fostering cooperative human communities, engaging in more meaningful work, conserving natural resources, and reducing wasteful consumption (Trainer, 2007). The United Nations Conference on Environment & Development has issued a call to the developed countries to decrease consumption (United Nations, 1992) <http://esa.un.org/marrakechprocess/> and sustainable consumption is now a field of study - Sustainable Consumption Research Exchange [http://www.score-network.org/score/score\\_module/index.php](http://www.score-network.org/score/score_module/index.php) (T. Jackson, 2006). Even eating has become a social statement with vegetarianism, organic food, and the slow food <http://www.slowfood.com/> and 100 mile diet <http://100milediet.org/> movements tied to the promotion of values and behavior which are more attuned to sustainability.

### **8.1.2. Dedeveloping Security Systems**

Notions of security need to have real meaning with respect to safeguarding human well being. Security should be based on a rational assessment of risk across all facets of society. Globally, there is less risk of harm from terrorism and crime than from disease, poverty, or the effects of environmental degradation and climate change (Houghton, 2003) (Anemüller, Monreal, & Bals, 2006) (Gray & Ropeik, 2002) (Bezruchka, 2006)

(United Nations Development Programme, 2006) (CSDH, 2008). Effort and resources should be devoted to mitigating the greatest risks and eliminating their root causes. On the other hand, risk can not be avoided entirely; the cost to achieve zero risk is often too great. A degree of risk must be accepted as an inescapable aspect of life.

## **Rights**

Rights should have a relationship to securing human life and the environment rather than to the protection of political, property, and commercial “rights”. This implies that rights recognize the interdependence of humans and their dependence in turn on a sustainable environment. Rights thus implicate responsibilities to one another as well.

Notions of individual rights would also include the right to health, access to medicine and medical care, the right to education, to earn a livelihood, and the right to shelter.

Women's reproductive rights are a necessary condition for population stability (Nierenberg & MacDonald, 2004). Fundamentally, a right to information (PRNewswire, 2007) (Ducrot, 2007) is critical to democratic social organization. Everyone, present and future generations, should have the right to an equitable share of the earth's resources, albeit sustainably. The right to food and the right of communities to control the food they grow and consume - food sovereignty, are basic rights (United Nations, 2005). There has been a call for a genetic bill of rights to protect individuals and communities against the misuse of genetic technology (Krimsky, McKibben, & Shorett, 2005). There is also a need for a right to social and environmental stability - that is to have and to protect community and the environment (Watt-Cloutier, 2005), to be left alone and not to be

subjected to constant pressure for change. Although the UN Declaration on the Right to Development declared that every person has the right to enjoy economic, social, cultural, and political development (United Nations, 1986), there still remain significant obstacles to putting that declaration into practice (Barsh, 1991).

Finally, people should not have to intervene on nature's behalf to argue that it can exist undisturbed and for its own sake. The way that the majority of humans interact with the earth must change from one of property and ownership, appropriation, extraction and exploitation, to one governed by 'rights of nature' which would protect the integrity of its support systems, natural systems, and other living beings.

## **Justice**

The ability of the prevailing western legal model to serve and promote social justice and sustainability is increasingly coming under question. If we are to attain global social justice and sustainability we need to redefine proscribed behavior in terms of the greatest threats to the integrity of the environment and the human species (Watt-Cloutier, 2005) (Senate Environment Communications Information Technology And The Arts References Committee, 2000) (Martinez-Alier, 1998). That means considering the outlawing of activities which may pose harm on a mass scale such as genetic engineering, whose consequences are unknown and unpredictable, or those which degrade the environment. Similarly the use of state violence, immunity from prosecution for war crimes and crimes against humanity need reexamination. Democratic and equitable legal models should be encouraged and created (MacCallum, 2007) which

seek justice not punishment, without impunity and without regard for the status or worthiness of victims and perpetrators (Paris, 2008) (Houghton, 2003). In the meantime a start can be made in repudiating or abrogating those laws and agreements which sanction or condone unsustainable and inequitable behavior.

### **Security Apparatus and Enforcement**

Security does not arise from a security apparatus (Putin, 2007) (Burroughs et al., 2007) but from a society where there is equity and social justice (Ziegler, 2005) (Dodd, 2006) (ul-Haq, 1998) (Sale, 1980). The current increase in militarism (Stockholm International Peace Research Institute (SIPRI), 2008) and the use of force to resolve disputes is an admission of social and political failure. In fact a larger security apparatus is itself a cause of greater insecurity (Putin, 2007) (ul-Haq, 1998) (Foreign Policy & Center for American Progress, 2007) (Khan, 2007).

It is time to disarm and demilitarize societies. Instead of the counterproductive use of violence and coercion, other models of dispute settlement and enforcement are needed (Burroughs et al., 2007) (Stockholm International Peace Research Institute (SIPRI), 2008) which are under democratic control and devoted to safeguarding the environment and securing the welfare, health, and livelihoods of all people. Dismantling security systems means that enormous amounts of money, trained personnel, and resources can be directed to the social good.

## **States, Governance, and Social Organization**

Societies all over the world are under pressure to achieve growth and progress. Implicit in these ideas is that nothing is satisfactory and that change should occur. Those who resist or reject these ideas in favor of stability are derided as regressive, as enemies of prosperity impeding the advancement of humanity. We have to ask what are the relative benefits of change and stability, growth and contraction, and how do they relate to sustainability? What purpose do change, progress, and growth serve? Can people cope with a world in which culture, values, societies, and the environment are changing with increasing rapidity? People and communities should be in control of their destinies and not be constantly impelled by external forces. Societies can be stable and unchanging. There is no imperative for change.

By adopting the flexible and imperfect principles of nature, systems producing order and balance can be organized in many ways and be more stable and resilient than the existing hierarchical and technologically based systems. Monolithic, powerful systems can be replaced with a diversity of social systems which are stable and resilient (Sahtouris, 1997) (Goldsmith, 1988). There is at the same time a need to create systems of interdependence (Earth Charter Initiative, 2000). In securing our future we also should look back in history and to other cultures around the globe, to find surviving models of social organisms which can contribute to creating and rebuilding sustainable societies elsewhere.

## **Hierarchy**

The prevailing hierarchical model of subjects ruled by elites has not fundamentally changed since the beginning of agricultural society (Manning, 2004) (Diamond, 1997) (Wright, 2004). But do people need to be ruled, to be led? Should there be leaders or rulers? Why not instead real servants of the people, who claim as do the Zapatista - to listen not lead; everything for everybody, nothing for ourselves (Ramírez, 2008). Relationships of domination and power, notions of servitude and servility can be replaced at every level in favor of non hierarchal ones.

## **The State**

Virtually all people now live under a state structure, endowed with a class of people to manage society. However the notion of the state is increasingly being eroded. If there is a role for the state, isn't it to express the collective will of its people, to represent and safeguard the interests of its citizens and their communities? If it is not doing that, if it is complicit in the destruction of the environment, if it is diminishing social justice, and disempowering people and communities, if it is acting in the interests of corporations, or of narrow interests, what is the need for the state? If governments are diminishing their social obligations, decreasing real security, and yet facilitating increased social control and exploitation, then what is the need for government?

We can begin to question the purpose, role, and legitimacy of the state and governments, and deconstruct the ideas behind them. What and who does the concept of the state serve? Is there a need for states and governments or are there more rational

assemblies of people (MacCallum, 2007) (Sale, 1996)? Can a state represent their diverse interests and needs or can people themselves better organize their own social relations (Burnheim, 1985)? Are states needed to provide a structure and legal framework for economic and security systems, or are there other solutions (Powell, Ford, & Nowrasteh, 2006)? Are states necessary to provide and manage social services and infrastructure (MacCallum, 2007) (Powell et al., 2006)? What is the basis of association of the citizens of a state? That is, what if anything besides nationality, do citizens share? Or is the state simply an invented community (Hobsbawm, 1990)?

Yet the power and significance of states are already being supplanted by unaccountable corporate power (Korten, 2001) and economic globalism. Many states are surrendering their mandate in an increasing number of areas to global economic interests - privatizing or eliminating social services, security systems, provision and maintenance of infrastructure, and at the same time claiming an inability to act in people's interests due to their obligations to corporations and international institutions (McQuaig, 1998). Is it really the concern of economic interests to govern the planet, or is it a social concern? If the state is abandoning these spaces, if corporate power can supersede the powers of states, why can't communities step in and occupy those spaces?

Economic globalism has achieved increased freedom of its economic institutions - of their movement, of flows of capital and profits, of trade, and freedom from taxation, while at the same time there are increased restrictions on the movements of individuals, their communications, their ability to engage in cross border commerce, as well as increasing

tax and social burdens. In addition, the solidarity of international finance can be contrasted with the encouragement of division among people through appeals to nationalism, sectarianism and racism. This kind of economic globalism can be replaced by a popular globalism which aims to achieve increased freedom and solidarity for people.

While some are claiming the end of the nation state and working to remake social relations in purely economic terms (Ohmae, 1996), people can also seize the initiative to create new community centered models. Dismantling states and government structures is not a call to look inward, to provincialism or tribalism, but a call to also look outward to forge autonomous relationships, unencumbered by state restraints, following principles of sustainability, social justice, reciprocity, and non interference.

### **Local Governance**

In fact we should begin to think outside the framework of the state (Sitrin, 2005). In Latin America many of the social movements are not about taking state power (Sitrin, 2005) but like the Zapatista movement are about building democracy from below (Rivas, 2006).

The ability to govern their own lives should rest at the local level (Sale, 1996) whether through distributed or shared power, direct democracy (Valente, 2007), consensus, or horizontalism (Sitrin, 2005). People and communities have the right to proximity to power that affects their lives, to reject unaccountable power and hierarchy, and to refuse

representation and the influence of inequitable and unsustainable organisms such as corporations.

Increased social participation would help to overcome the isolation and alienation characteristic of consumer societies. It should be up to communities to choose their manner of social organization and how to provide for their means of life. That means building communities which are based on social principles and ideas, not economics. For example the implementation of horizontalism in Argentina produced a change in the way people were. Horizontalism went against individualism (Sitrin, 2005).

Some communities have already begun to assert local power and to determine their external relations. Since 1988 several communities in the Philippines have declared themselves zones of peace (Hancock & Iyer, 2004) as have Columbian communities. Pennsylvania municipalities have been writing their own constitutions for home rule, and their citizens rewriting municipal charters and disempowering corporations (Pennsylvania Department of Community and Economic Development, 2003). Other municipalities have declared themselves cities which uphold human rights <http://www.pdhre.org/projects/hrcommun.html>.

### **Other Solutions**

There are a number of efforts underway to address the global crises of democracy and representation which aim to work largely within the current political framework. These range from proposed global parliaments such as the Action Committee For a Global

Parliament <http://www.parlementmondial.com> and a UN Parliamentary Assembly (Monbiot, 2007), to global advisory councils – Global Forum of Leaders (20L) (Jaura, 2006), whose members would be drawn largely from the global actors and “statesmen” operating within the dominant development paradigm. Other proposals for governance include the World Future Council <http://www.worldfuturecouncil.org> , an advisory body of one hundred wise elders, pioneers and youth leaders who would represent the shared ethical values of citizens worldwide, and the World Citizen Foundation <http://www.worldcitizen.org> , which is attempting to create a system wherein the people of the world could express their voices directly instead of through politicians.

On the other hand John Burnheim considers electoral democracies to be unworkable and proposes a system called demarchy (Burnheim, 1985) which involves the abolition of states and governments and their replacement with a system wherein randomly selected local representatives serve in functional groups concerned with for example, education, health services, and transportation.

## **8.2. DEDEVELOPING SYSTEMS OF EXPLOITATION**

### **Dedeveloping Economic Ideology - Economism**

As has been shown, the dominant economic model has delivered increasing disparity and insecurity to the majority of humanity and made a significant contribution to the degradation of the environment. New notions of economy are called for.

Economics should not be treated as an end in itself but as a means to reach a social goal. Social concerns should be the driver of economies rather than being its creature. The role, reach and scope of economics in everyday life should be reduced and replaced with broader and more significant concerns and measures which are in societal and environmental terms, and which make clear that the principles of sustainability and social justice guide economics. That means an economic focus on profit, growth, efficiency, and productivity would likely have to be discarded in favor of a greater societal concern wherein even financial losses, stability, and inefficiency may at times be desirable for the social good.

Economists notion of rational self interest or greed as a basis for economic systems ought to be rejected as unsustainable and unjust, and replaced with notions of altruistic and cooperative behaviors, fairness and equity, giving and sharing, and stewardship for the future. Economies which seek equity and redistribution rather than concentration (Jolly, 2006) (Bello, 2004) will be more effective in fairly and securely providing and distributing goods and services which fulfill real needs, and in providing sustainable livelihoods. Economies can no longer be based on the idea of infinite extraction from the earth and rational models should be developed which consider full cost accounting, externalities, and the valuation of known and sequestered resources, and which view extraction of non renewable resources as a net loss of the earths capital (Kumar, 2006). Economies will likely have to be smaller in scale (Sale, 2006) and planned (Polanyi, 1957) rather than be subject to the vagaries of market forces.

Alternative socially and environmentally oriented economic models have been proposed including various forms of “green economics” (Milani, 2005), and participatory economics (parecon) whose main institutions are workers and consumer councils engaged in self managed decision making and participatory planning (Albert, 2003).

### **Dedeveloping Ownership**

The world is increasingly being privatized. Ownership is one of the pillars of economic ideology, and with the notion of exchange value, means a price can be put on everything, allowing everything to be owned, bought, and sold. What is the need for, the purpose, and legitimacy of ownership of natural resources, land, water, air, genetic resources, and intellectual property? How did these things come to be owned, transferred and exchanged, apparently in perpetuity - through being the strongest, or arriving there first, or are they the products of exploitation (Jolly, 2006)? It has become evident that where the earth and its resources are privately owned, social justice and sustainability are diminished. Notions of common wealth, sharing, stewardship, and rights to use would be more conducive to attaining sustainability and social justice.

Some communities are beginning to take ownership of natural resources out of private hands. Bolivia is taking back natural resources, including oil, from trans national corporations, and indigenous peoples there have called for mineral resources to be left in the ground and remain unexploited (Slack, 2004) (Serrano, 2007). This action follows the successful struggles in Cochabamba, Bolivia and Kerala State, India, to reclaim water from private interests and to restore it as a public good, not a marketable

commodity (Balanyá, Brennan, Hoedeman, Kishimoto, & Terhorst, 2005) (Shiva, 2006). In Mexico, the Zapatista Other Campaign has called for a new constitution that would ban privatization of public resources. The United Nations Law of the Sea which entered into force in 1994 was an attempt, albeit of limited success (Stokstad, 2006), to establish the oceans as a commons, providing for the stewardship and sharing of ocean resources.

### **Dedeveloping the Notion of Intellectual Property**

The privatization of knowledge is also increasing. There are claims that the control of and monopoly over intellectual property is harming science, research, and cultural endeavors, and that as well, the actual creators often receive little if any of the purported benefits of “owning” intellectual property. In the US there have been calls to organizations and government to reverse the trend toward patent and copyright monopoly (Drahos, 2003) (Lessig, 2004) (J. Boyle & Lessig, 2007). Thomas Jefferson, one of the founders of the American patent office, believed that inventions can not be considered property and that it was mankind’s right to share ‘useful improvements’ (Lipscomb and Bergh, 1903-04).

Intellectual property is a relatively recent concept. Is intellectual property indeed ‘property’ and why should certain kinds of intellectual work merit a greater consideration and compensation than others? There are other seemingly more fair paradigms for the treatment of intellectual work, for example copyleft, creative commons, and open source (Lessig, 2004) (J. Boyle & Lessig, 2007).

The legitimacy and value of ownership and control of genetic resources and life forms is also being rejected in favor of their treatment as a commons (Shiva, 1997). To combat the theft, commodification, and appropriation of their biological and cultural heritage, developing countries have proposed an amendment to the WTO TRIPS regime calling for disclosure of the origin of biological resources, proof of compliance with the legal requirements of the providing country, and fair sharing of the benefits from the use of those resources (Intellectual Property Watch, 2006). India has published a large body of their traditional knowledge to the public domain to ensure it cannot be patented and privatized (Gupta, 2005).

### **Dedevolving Money and Financial Systems**

What types of money and financial systems can support and encourage sustainability and social justice? Money and financial systems ought to be under democratic control, accountable, transparent, and serve local economies rather than the interests of the international financial system (Liu, 2002).

It is evident now that the mobility of money, whether capital fleeing crises, or relocating to more profitable locations, is a cause of great economic and social instability, as are financial systems which primarily engage in speculative activity at the expense of the social good, the environment, and of real production. The proposed Tobin tax on speculative transactions is one step towards curbing these activities (ATTAC, 1998), and it has also been suggested that the Chicago Mercantile Exchange for agricultural

products and raw materials, which speculates in the prices of major food products, and other commodity exchanges, be closed (Ziegler, 2005). There are already international movements advocating for democratic control of financial markets and their institutions (ATTAC, 1998), and for the creation of a framework, the Equator Principles, for financial institutions to better manage environmental and social issues in project financing ("The Equator Principles," 2006).

Alternative banking systems exist, which are often modeled on Islamic banks (Ariff, 2006) (Anielski, 2003). These avoid debt related problems of growth and consumption, as well as the associated ethical issues, by offering zero or negative interest rates. There are institutions such as the Grameen Bank, owned and operated by the poor, which seek to eliminate poverty and to further cultural and social change.

Money can be considered a social instrument, and should be circulated to achieve its social purpose, fulfilling social functions as a standard of measure and as a medium of exchange, rather than being utilized as an instrument of control and accumulation of wealth. The idea of interest then, conflicts with the idea of money as a social tool because it acts to restrict circulation. Debt based money systems are inflationary, and inherently unstable (Lietaer, 2002) (Bernstein, 1965). There have been many efforts in recent years to create alternative economies based on social rather than financial objectives (Douthwaite, 1996). These include the creation of community exchange systems, monetary unions, complementary currencies (Lietaer, 2002) , and local currencies such as Local Exchange Trading System LETs <http://www.gmlets.u-net.com/>

and the Swiss Wirtschaftsring <http://www.wir.ch> . A parallel currency was established in Mexico (DeMeulenaere, Lopezllera-Mendez, & Greco, 1999), and Bolivia and Thailand among other countries have had successful local currency systems. Barter groups are also enjoying a resurgence; and in Argentina and Brazil local economies also incorporate local currency, micro credit, plans for local development, and alliances with municipal government and community organizations (Primavera, 2004) (Sitrin, 2005).

### **Dedeveloping Business and Corporations**

Do we need business and corporate entities or can societies flourish with a more holistic model which embraces industry, social welfare, and livelihoods?

During the American occupation of Japan following World War II, the Supreme Commander of the Allied Powers, Douglas MacArthur, stated there can be no democracy in Japan while wealth and power were concentrated in the hands of a few huge Japanese corporations (zaibatsu). He attempted, with some success, to break up the zaibatsu and to legislate a national maximum wage (Soong, 2006b). Calls to dismantle undemocratic corporations continue today (Korten, 2001) (Bello, 2004), Program on Corporations, Law & Democracy (POCLAD) <http://www.poclad.org/> . Economic structures can be constructed so as to be inherently equitable and socially beneficial and not to require constant vigilance as is the case today.

In developing alternatives to the dominant business model we can perhaps look to Veblen's analysis that the modern capitalist world is based on opposition between productive forces and those unproductive forces which make no real social contribution -

between those who make goods and those who make money, between workmanship and salesmanship (Veblen, 1965). The challenge to building a new sustainable model, is in the dedevelopment of those so called unproductive forces.

### **Dedeveloping International Trade and the International Development Industry**

The legitimacy and representation of many international economic and development institutions are increasingly being called into question and some have called for their abandonment, arguing that as vital instruments of an exploitative economic system, they are incapable of reform (Bello, 1999) (Bello, 2004) (Bello, 2000) (Netto, 2007). There have been calls as well for lesser developed countries to withdraw from the global economy and its institutions and to establish their own mechanisms for development (Lewis, 1997) (Chemillier-Gendreau). It may also prove more beneficial to the poor for international development agencies to curtail their overseas development assistance programs and to refocus their efforts on the dedevelopment of unsustainable and inequitable practices at home.

Across the world, countries are taking steps to free themselves from the crippling debt and onerous policies of the International Monetary Fund, to the extent that the viability of the Fund is now threatened. In South America, Venezuela bought almost a third of Argentinean IMF debt issued in 2005, (Chomsky, 2006) (Dwyer, 2006) and Argentina and Brazil paid off the balance of their IMF debt at the end of 2005, ahead of schedule (Engler, 2006). Bolivia, freed from its debt obligations to the Fund in 2005 has let its standby agreement with the IMF expire and pulled out of the ICSID (The Democracy

Center, 2007). Other countries are pursuing strategies to avoid reliance on the Fund, such as early debt repayment by Russia and Thailand, and the building up of large cash reserves by middle income Asian countries to cushion them in the event of an economic downturn (Engler, 2006).

International and inter communal relations ought to be based on principles of reciprocity, real representation, sustainability, social justice, and equity. That means agreements concerning trade, commerce, and aid would be freely entered into, and with the full knowledge and consent of the people. Trade dependency should end and the notion of free trade abandoned in favor of fair trade and managed trade (Curtis, 2005) (Bello, 2004).

Actions to dismantle inequitable trade arrangements, lessen dependence on international trade, and to place more emphasis on fairness and self sufficiency are also increasing globally (Sader, 2006). Bolivia recently abrogated its bilateral investment treaties (BITs) after they were ruled unconstitutional (Movimiento Boliviano por la Soberanía y la Integración solidaria de los pueblos: Contra el TLC y el ALCA, 2006a). Civil society of Brazil has organized a referendum on joining free trade agreements. In Africa and Europe thirty civil society groups have demanded an end to negotiations for a free trade agreement, the Economic Partnership Agreement, between the European Union, Africa, and Caribbean and Pacific countries, contending this unequal partnership will have devastating effects on their economies (Adabre, 2006).

In response to the failure of the neo liberal trade model, Bolivia has proposed a model for just trade between peoples, Trade Treaty of the Peoples (Movimiento Boliviano por la Soberanía y la Integración solidaria de los pueblos: Contra el TLC y el ALCA, 2006b). It starts from the view that trade and investment are means towards improving the conditions of life and achieving sustainable, equitable, egalitarian, and democratic development, with the goals of poverty reduction, preservation of indigenous communities, and respect for the environment, and following principles of complementarity, cooperation, solidarity, reciprocity, prosperity and respect for a countries sovereignty. Other models for reciprocal economic relations are being developed which are based on equity, and which have social objectives rather than economic ones. In 2005, Venezuela signed an economic agreement with Cuba with the goal of meeting the needs of their people in food, housing, employment and environmental protection (Sader, 2006).

### **8.3. DEDEVELOPING DYSFUNCTIONAL LIFE SUPPORT SYSTEMS**

The life support systems of western industrial civilization have been built on and are dependent on a petroleum based economy. These unstable, expansionary systems - settlements, agriculture, infrastructure, and industry, are rapidly consuming and depleting the earth's resources and degrading the environment (Trainer, 2007). It is evident these systems need to be urgently transformed or abandoned and new models created.

In stable sustainable communities, life support systems would be thought of in the context of nature, recognizing the interdependence of all life. This implies cooperation, not competition. Sustainable life support systems respect the integrity of the environment, and ensure the conditions for their coexistence with nature. Although new life support systems would strive to maximize efficiency, at the same time they recognize the reasons for, and the benefits found, in the complexities and so called inefficiencies of natural systems, moving to optimal systems rather than maximal and ultimately to restorative economic models rather than extractive. An integrated, holistic approach can be followed in building flexible, stable, self sustaining systems supporting democratic, local communities.

### **Dedeveloping Settlements, Habitat, and Population**

In light of the current global crises, there is a need to reconsider the viability of our villages, towns, and cities with respect to risks from environmental and health hazards, their capacity for self sufficiency, and their support for social and environmental justice. Today's mega cities and slums with their huge concentrations of people and wealth are also vulnerable to tremendous damage and injury from natural and other catastrophes (UN-HABITAT, 2007) (Münchener Rückversicherungs-Gesellschaft, 2004) from which it may be too expensive and difficult to recover and rebuild. Perhaps as Sale and others have suggested there is an optimum size of human groups (Sale, 1980) and settlements will need to be scaled down. Venezuela is a case in point. Faced with problems of unsustainable urban growth, it instituted a deurbanization program, offering incentives

for urban dwellers to resettle in rural areas, and ensuring their security by providing livelihoods and social services (McCaughan, 2005).

Attaining a balance between the needs of humans and the natural world means that a significant amount of our habitat – settlements, forests, farms, parks and recreation areas will have to be dedeveloped and returned to nature (Doyle et al., 2008) and human population achieve a sustainable level. Settlements can be designed to make a net positive contribution to sustainability by providing real habitat, ecological niches, and helping to maintain diversity such as does satoyama in Japan (United Nations University, 2006). Rather than basing communities on a fossil fuel economy, communities can strive for self sufficiency in food, energy, transportation, waste management, and in providing livelihoods.

### **Dedeveloping Agriculture**

The crises in food supply and distribution make clear that large scale petroleum based agriculture and the farming of potentially harmful genetically modified organisms are not viable solutions. It should be recognized that the primary purpose of agriculture is to sustain life by ensuring food security (United Nations, 2005)

[http://viacampesina.org/main\\_en/index.php](http://viacampesina.org/main_en/index.php) and that the dominant export oriented agribusiness model will need to be replaced, for example by more responsive, efficient, and sustainable small scale farming (IAASTD, 2008) (Pretty et al., 2006) (Manning, 2004) (Rosset, 2000) (Bello, 2004) [http://viacampesina.org/main\\_en/index.php](http://viacampesina.org/main_en/index.php) .

Sustainable models of agriculture sustain not only human life, but other life of which that

agricultural habitat forms a part and allow losses and inefficiency as the price of sustainability.

The vast changes which have occurred in agricultural practice and in the environment, and the increasing unpredictability of the climate mean that agriculture will have to be relearned. Abandoned agricultural practices may be revived, small scale sustainable agricultural practices throughout the world preserved, and new agricultural models developed (W. Jackson, 1980) (Mollison, 1997) to adapt to the changes in diet that dedevelopment and climate change will bring (Duncan, 2007). It is likely as well, that agricultural land will be reclaimed for agricultural purposes and the practice of urban agriculture expanded. It is also to be hoped that the transformation of humankind's relationship with nature will also bring about an end to the treatment of animals as property or commodities (Torres, 2007).

### **Dedeveloping Infrastructure**

It is becoming more and more apparent that the massive energy, transportation, industry, and waste management infrastructure supporting an unsustainable way of life will have to be dismantled, and local decentralized, self sustaining, integrated models developed (Doyle et al., 2008). At the same time the dismantling of infrastructure will provide an opportunity to restore ecological systems (Doyle et al., 2008). The availability of cheap fossil fuels has meant cheap transportation and enabled globalization but as fossil fuels become more expensive to extract and experience extreme price escalations, transportation, trade, and tourism will decline, and with them, a globalized

economy. The creation of different ideas and models arising from the dedevelopment of transportation, one of the most significant elements of western industrial civilization, will radically alter societies and social organization. The task of dismantling and recycling vehicles and transportation infrastructure alone will be an enormous challenge.

### **Dedeveloping Industry and Labor**

Dedevelopment calls for different models of industry and labor based on worker democracy rather than the authoritarianism of today's workplace, and following an integrated and multidisciplinary approach, involving input and decision making from those they serve. In these models, industry and labor provide manufactured goods and services, while at the same time ensuring sustainable livelihoods and contributing to the social capital to the communities where they are located.

Industry and labor are part of a larger social system and sustainability rather than economic efficiency should have the predominant role. That may mean for example, desired inefficiency in more labor intensive and less mechanized work in order to provide more employment and to conserve scarce resources, or the replacement of large scale industries with small scale local ones serving primarily local needs (Bello, 2004). Formal employment may also play a smaller societal role with reduced time worked, allowing more freedom for other social pursuits (Goldsmith, 1988). There will be new kinds of workers.

As a consequence of dedevelopment, we will also have to learn how to dismantle and recycle the debris of previous unsustainable development (Orlov, 2005) (Kunstler, 2006) (Doyle et al., 2008). It is likely that new industries will arise based on dismantling our societies and these will involve scavenging, recovery and recycling of hydrocarbons, metals, and waste exploration and mining. Industries will have to make more efficient use of energy and resources and produce goods which are durable and more standardized.

Higher energy costs and changes in agriculture and climate may result in geographical shifts in population and industry. Some third world and manufacturing nations such as China will initially fare better than import dependent nations because of their existing industrial knowledge and capability. On the other hand many of the developed countries may find a reindustrialization of society will have to take place, and abandoned and decommissioned industries restored to better serve local needs.

#### **8.4. RESTITUTION**

Many have recognized that the wealthy, and the industrialized and developed countries owe a debt to the third world, to the vulnerable and dispossessed for what they have taken and the damage they have inflicted. The harmful effects of war and colonization (Barkan, 2000) (Edelman, 2006), of the imposition by international development institutions of harmful policies such as structural adjustment and the privatization of public resources (Martinez-Alier, 1998) (Monbiot, 2005) (JUBILEO SUR/Américas, 2007) (Christian Aid, 2000) (United Nations, 2006) (Marable, 2002) (Haley, 2003), and

environmental degradation (Christian Aid, 2000) (Martinez-Alier, 1998) (Senate Environment Communications Information Technology And The Arts References Committee, 2000) (Watt-Cloutier, 2005) (United Nations Development Programme, 2007) should be redressed in the interests of sustainability and social justice, and debt contracted by the state against the social good, or entered into through coercion or the exploitation of the vulnerable, should be repudiated (International Conference on the Cancellation of Illegitimate Debts, 2006) (Jubilee South, 2008) (Ziegler, 2005) (Simms & Reid, 2006) (Monbiot, 2005).

As the earth's resources dwindle and are degraded, so do the opportunities for economic growth and the hope for a better future for all. There are insufficient resources and energy available for all to achieve a standard of living comparable to that enjoyed by the wealthy and many others in the industrialized countries, but all are entitled to an equitable and sustainable standard of living if we are to restore global security. To achieve that on a global scale, there should be restitution, and redistribution and reallocation of wealth from rich to poor, and wealthy countries will likely have to dedevelop to a lower material standard of living to permit a corresponding rise in the standard of living of the poor (Global Commons Institute) (Royal Commission on Environmental Pollution, 2000) (contraction and convergence ) (Church of England, 2000) (Jolly, 2006) (Duncan, 2007).

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## **APPENDIX: ABBREVIATIONS**

ASEAN	Association of Southeast Asian Nations
BITs	bilateral investment treaties
FAO	Food and Agriculture Organization of the UN
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
HDI	Human Development Index
HPI	Happy Planet Index
ICSID	International Centre for Settlement of Investment Disputes
IEA	International Energy Agency
IFG	International Forum on Globalization
IMF	International Monetary Fund
MDGs	Millennium Development Goals
Mtoe	million tons oil equivalent
NAFTA	North American Free Trade Agreement
NATO	North Atlantic Treaty Organization
NEF	New Economics Foundation
NGO	non governmental organization
TFC	total final consumption
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organization
WTO	World Trade Organization