

Building the Green Economy:
A Guide to the Practice of Sustainable Development

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Acronyms and abbreviations

CIS	Commonwealth of Independent States
CSD	Commission on Sustainable Development
DAC	Development Assistance Committee
EPE	Environment protection expenditure
FCA	Full Cost Accounting
GATT	General Agreement on Trade and Tariffs
GHG	greenhouse gases
ICAO	International Civil Aviation Organization
IIED	International Institute for Environment and Development
ILO	International Labour Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
JPOI	Johannesburg Plan of Implementation
ppm	Parts per million (used for example in measuring atmospheric concentrations of gases)
NDS	National Development Strategy
NGO	Non-governmental Organization
NSDS	National Sustainable Development Strategy
OECD	Organization for Economic Cooperation and Development
PrepCom	preparatory commission or committee
PRSP	Poverty Reduction Strategy Paper
SCP	Sustainable Consumption and Production
SEEA	System of Environmental and Economic Accounts
TNC	Transnational Corporation
UNCED	United Nations Conference on Environment and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
WIPO	World Intellectual Property Organization
WSSD	World Summit on Social Development
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization

BUILDING THE GREEN ECONOMY: a guide to the practice of sustainable development*

I. AIMS AND OBJECTIVES

The purpose of this policy note is to brief policy-makers and policy-shapers, particularly those who are new to the portfolio of sustainable development, in using this over-arching concept to promote, through national development strategies, equitable growth and development at the country level of a kind that does not impinge on the livelihoods and well-being of future generations.

The note synthesizes the concepts and analytical tools of sustainable development, suggests how to build national consensus to ensure that sustainable development serves as the overarching framework for national development strategies, and suggests how such national development strategies can be actively pursued and how sustainable development goals can be promoted in international negotiations. In short, it is a guide to action at the country level and action by national actors at the regional and international levels. In this era of planetary interconnectedness and accelerating climate change, ensuring national interests in sustainable development requires action at all levels, not only at country level.

The note takes into account the outcomes of the major conferences and summits on sustainable development as well as of guidelines on sustainable development that have been published over the last 15 years, such as the United Nations Department of Economic and Social Affairs (UNDESA)'s *Guidance in preparing a National Sustainable Development Strategy*¹, the *Sustainable Development Strategies resource book* of the International Institute for the Environment and Development (IIED)² and OECD/DAC's *Strategies for sustainable development*³. The present note, however, takes into consideration the evolution of thinking and practice in sustainable development since then. It also takes as a starting point, the distinct perspective of actors at the country level, in addition to those involved in international development cooperation, and seeks to

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¹UNDESA guidance documents and key principles for the preparation of national sustainable development strategies <http://www.un.org/esa/sustdev/natlinfo/nsds/nsds.htm> and *Guidance in Preparing a National Sustainable Development Strategy: Managing Sustainable Development in the New Millennium* http://www.un.org/esa/sustdev/publications/nsds_guidance.pdf

²International Institute for Environment and Development (IIED), *Sustainable Development Strategies Resource book*. (IIED, 2002). Available: www.iied.org

³OECD/DAC Guidelines, *Strategies for Sustainable Development*, OECD, Paris, 2001 www.oecd.org/dataoecd/34/10/2669958.pdf

provide a range of alternative views and options to policy-makers and policy shapers rather than advocating a particular course of action.

While not an official document of the United Nations Secretariat, the note is informed by the proceedings of the pluralistic intergovernmental debate for which the United Nations is renowned. The views and concerns of the major groups of stakeholders – including governments, business, civil society and others – as expressed at the neutral forum of the United Nations summits, conferences and standing intergovernmental bodies, both in agreed outcomes and in individual statements, – as well as the experience of technical cooperation of the United Nations secretariat in sustainable development at the national, regional and global levels were examined in shaping the note.

Evolution of the Concept of Sustainable Development

In international parlance, sustainable development is now “agreed language” forged in a series of international processes and events including the Brundtland Commission in 1987, the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 and the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002. The Brundtland Commission defined sustainable development as “development which meets the needs of the present without compromising the ability of future generations to meet their needs.”

At UNCED, Agenda 21 fleshed out the concept of sustainable development in 40 chapters. Today, the chapters of Agenda 21 serve as basic parameters for the working definition of sustainable development, which, however, now includes additional parameters such as energy, which did not receive a chapter in Agenda 21. Under the working definition used by UNDESA, some 42 issues come under the scope of sustainable development.⁴

WSSD integrated far more clearly the economic, social and environmental aspects of sustainable development as compared with UNCED, where the concept was just gaining broad international support and many discussions still referred to the environment and development and the underlying focus was much more on the Earth and its natural environment. The full corpus of outcomes of WSSD, both the official and the unofficial, reflected a broader participation of non-environmental government and non-governmental actors than at UNCED. WSSD, building on the work of the Commission on Sustainable Development, clearly recognized poverty eradication an integral part of the concept of sustainable development and globalization as a major force shaping sustainable development. At WSSD, given the changed political realities, discussions on sustainable development also focused on a more manageable political agenda of such themes as water, sanitation, energy, health, agriculture and biodiversity, the so-called “WEHAB” issues proposed by the Secretary-General of the United Nations, leading to

⁴ www.un.org/esa/sustdev/sdissues/sdissues.htm

over 30 targets in the agreed text⁵. In these areas, WSSD moved from the great global threats to the Earth that were discussed at UNCED to the national challenges of developing countries in particular.⁶

This note relies on a practical definition of sustainable development for policy-making purposes as the process of balancing economic, social and environmental objectives in pursuing development and growth. The emphasis is on managing the process of balancing these three groups of objectives, within the realm of the politically possible, rather than on achieving an ideal balance. While policy-makers should strive for an ideal balance, the reality is often one of second-best solutions and improvements in policy at the margin.

The concept of sustainable development has its roots in many cultural and spiritual traditions dating back centuries and even millennia and has essentially to do with the relationship of humans to the earth and how they may draw sustenance from it while remaining in harmony with it and with one another.

For ages, many traditional cultures have practiced forms of sustainable development without using the term. *In building national consensus around sustainable development in keeping with the international consensus achieved in world summits and other forums, it is desirable that policy-makers draw references from their own traditions of sustainability imbedded in their cultures and faiths.* The explicit recognition in Principle 22 of the Rio Declaration on Environment and Development⁷ of the knowledge stock on sustainable development held by indigenous groups as well as the creation of the United Nations Permanent Forum on Indigenous Issues and the General Assembly's adoption of the Declaration on indigenous peoples⁸ is testimony to the value ascribed to respect for traditional cultures.

The Debate on Sustainable Development

Sustainable development often means different things to different groups, although there is a basic consensus on its definition as development with inter-generational equity. The definition continues to be imprecise because it has been constrained by the collective political will of governments and other major groups at international conferences and summits. For example, the concept of “needs” of present and future generations has never been elaborated or quantified, so that there is no common yardstick to judge the extremely diverse levels of consumption and production in the world as within or

⁵ For a civil society view of the outcomes of WSSD, see Tom Bigg, *The World Summit on Sustainable Development: An Assessment*, IIED

⁶ See another civil society assessment of WSSD in J.W. Anderson and Richard Morgenstern, *The Future of Sustainable Development: The Johannesburg Conference and What Happens Next*, Resources for the Future, Issue Brief 03-06, (Washington, D.C. , July 2003) www.rff.org

⁷ <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

⁸ <http://www.un.org/esa/socdev/unpfii/>

exceeding needs. The concept of “unsustainable consumption” remains elusive, though it is easier to identify deprivation and unmet fundamental consumption needs. However, it is true that what is not possible at the international level can be better defined at the national level, where interests and stakes are more concrete and can be politically more manageable.

The various interest groups see the relationship between the three pillars of sustainable development differently, placing the emphasis on one or the other. In this note, however, it will be recognized that the goals of sustainable development are fundamentally about people – people of the present generation as well as people of future generations. Sustainable development is about the well-being of present and future generations, so that symbolically the social pillar should be seen as the ultimate goal of sustainable development, while the economy is the instrument and the environment one of the resources by which that well-being is achieved. Knowledge, technology and culture also play a key role in the achievement of such well being. These ideas will underlie most of the argumentation in the present note.

In international forums, many industrial countries and conservationist civil society groups tend to focus on the environmental aspects of sustainable development, whereas developing countries tend to focus on the economic and social aspects. This differential emphasis has been at the root of some of the difficulties in international negotiations over the sustainable development agenda.

Mainstream environmental groups, such as the International Union for Conservation of Nature and Natural Resources, clearly focus on the environmental pillar of sustainable development: “the natural resources on which our economic activity is based are threatened as never before...conservation is not a voice of gloom and doom. It is a resource for change that assists societies to make the right choices when they increasingly recognize the costs of unsustainability.”⁹

Some radical environmental interest groups see sustainable development itself as a contradiction in terms, affirming that economic growth based on the depletion of natural resources cannot be sustainable because such resources by definition cannot be replaced. Natural resources such as petroleum are being used up faster than they are created by nature. They see “sustainable development” as a compromise, a concession to business and governments who would present growth as potentially friendly to the environment, for public relations purposes.¹⁰ They refer to sustainable development as an attempt at “greenwash” or “bluewash”, in other words, the use of politically-correct environmental language and the cover of the United Nations to disguise essentially unsustainable economic activity. Such environmental groups call for more radical solutions such as a fundamental transformation in consumption and production patterns, particularly in developed countries, to reduce the environmental impact of growth, or simply a reduction in growth.

⁹ Achim Steiner, International Union for the Conservation of Nature, Statement at WSSD, <http://www.un.org/events/wssd/statements/iucnE.htm>

¹⁰ http://en.wikipedia.org/wiki/Sustainable_development

Some conservative interest groups, concerned about government interference in private lives, paint sustainable development as a “plan for global control”¹¹ of the behavior and economic activity of private citizens and have striven hard to undermine public support for the concept, particularly in English-speaking industrial countries. They caricature sustainable development and its instruments such as Agenda 21 as a prelude to central planning, establishment of a command-and-control economy and the curtailment of private initiative and free choice.

Business, perhaps the best organized of the major groups outside government, has taken an active part in shaping the debate and definition of sustainable development from the beginning and puts forth its point of view eloquently in statements and position papers of their representative groups, particularly the International Chamber of Commerce and the Business Council for Sustainable Development. Business played a major role in shaping Principle 12 of the Rio Declaration which affirms that “states should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development, in all countries to better address the problems of environmental degradation.”¹²

The Dialogue Paper by Business and Industry for the second preparatory committee of WSSD in 2002 further calls, as a part of sustainable development, for economic policies that promote open and fair trade of agriculture products and that “allow the alignment of food prices at world market levels...avoid unnecessary bureaucratic differentiation of food regulations, customs, safety and other control systems...progressively dismantle price distortions.” For business and industry sustainable development, therefore, means free trade and a harmonization of regulation across countries.

Trade unionists focus in the sustainable development agenda on addressing workplace issues within the broader sectoral issues of water, energy, health, agriculture and biodiversity and on generally strengthening the social pillar of sustainable development.¹³ “Work, workplaces and working people are the essence of the social pillar. It is through opportunities for decent work that millions of those today trapped in poverty can have access to sustainable livelihoods.”¹⁴

All in all, sustainability has come under considerable pressure in the decade and a half since UNCED in Rio and the nearly five years since the WSSD in Johannesburg. Across the world, including in developed countries where the environmental movement has been strong, the economic pillar has grown in relative importance to the social and environmental pillars as a result of the creation of the World Trade Organization and its

¹¹ See for example Freedom 21 Santa Cruz, Understanding Sustainable Development: A Guide for Public Officials, <http://www.freedom21santacruz.net/site/downloads/sd-guide-web.pdf> and Joan Veon, Sustainable Development, Agenda 21 and Prince Charles, <http://www.newswithviews.com/Veon/joan19.htm>

¹² <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

¹³ See Trade Union Advisory Committee to the OECD, The Outcome of the WSSD: An Evaluation, <http://www.tuac.org/statemen/communiq/Evwssd2002e.htm>

¹⁴ Guy Ryder, International Confederation of Free Trade Unions, Statement to WSSD, <http://www.un.org/events/wssd/statements/icftuE.htm>

rules-based trade regime to which a growing majority of countries are agreeing as well as the general spread of a free market or neo-liberal model of economic development. In the words of one civil society observer, “Marrakesh [site of the 1995 GATT/WTO Ministerial Conference that created the WTO] has trumped Rio [and Johannesburg].”¹⁵

Sustainable Development Today

The snapshots above of the views of several major groups show the kaleidoscope of views that surround the concept of sustainable development. At a minimum it is important to recognize that sustainable development is much more than environmentally-sensitive development, although in many government circles it is often reduced to the environmental portfolio.

The three pillars of economic, social and environmental objectives can be represented as three circles, the intersection of which is sustainable development. This conceptual framework, schematized in the commonly-used Venn diagram in Figure 1, is useful in analyzing both the concept of sustainable development as well as the dialectic interaction of these three circles which underlies the dynamic of political negotiation around sustainable development. Each major group seeks to influence policy making on sustainable development to favor one of the three circles. The challenge of the policy-maker is to bring policy choices into the areas of intersection.

Symbolically, the social pillar is placed at the top of the diagram to illustrate the point made earlier, and reflected in Principle 1 of the Rio Declaration¹⁶, that ultimately sustainable development is about the well-being of human beings and society in this and future generations. The environment provides the resources for development, while the economy is the process by which the resources are transformed into well-being. This stylized view of sustainable development can be further nuanced to recognize that human beings also serve as the labour and management resource and the means by which natural resources are transformed into well-being for present and future generations.

¹⁵ Wolfgang Sachs, et. al, The Johannesburg Memo, Heinrich Boell Foundation, 2002
<http://www.boell.de/downloads/rio+10/wsp18.pdf>, Marrakesh was the venue of the GATT/WTO Ministerial Conference that led to the creation of WTO in 1995.

¹⁶Rio Declaration on Environment and Development, 1992,
<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

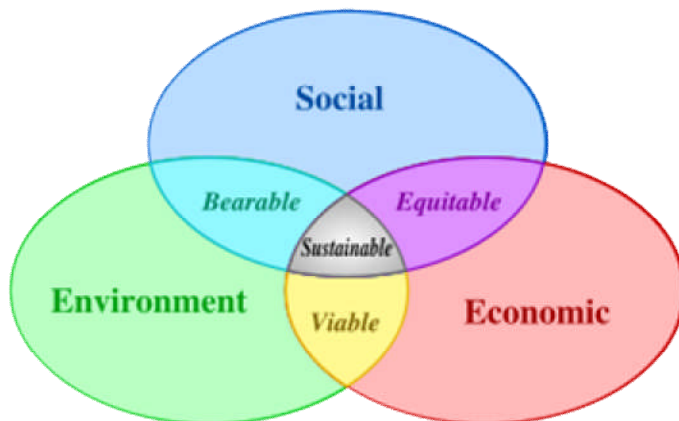


Figure 1: Venn Diagram of Sustainable Development.

Source: Wikipedia article sustainable development: http://en.wikipedia.org/wiki/Sustainable_development

Sustainable development as a concept occupies the middle-ground at the intersection of economic, social and environmental concerns. Sustainable development is about balance between the three pillars. The intersection of social and economic concerns should ensure that development is equitable, the intersection of economic and environmental concerns that development is viable and the intersection of environmental and social goals that development is bearable, in other words environmental degradation does not impinge on health and other aspects of social well-being.

Subsequent chapters of this note will be devoted to each of these concerns in turn and will draw on the other notes in this series as well as on the outcomes of other relevant conferences such as the GATT/WTO Ministerial Conference at Marrakesh, the International Conference on Financing for Development at Monterrey and the World Summit on Social Development at Copenhagen, to arrive at some conclusions as to what sustainable development means in the first decade of the 21st Century.

In short, this note will view sustainable development as the middle ground in a process of political economy, in a world where increasingly the economic dimension outweighs the social and environmental. The challenge of the note will be the pursuit of the middle ground shown in the Venn diagram of Figure 1, while recognizing that the social pillar in the form of the well-being of present and future generations is the ultimate goal of sustainable development policy, which should underlie national development strategies¹⁷.

¹⁷ The Venn diagram is, of course, a stylization, as it treats the social pillar symmetrically with the other two, while we recognize that the social pillar is ultimately more important. A fairly common alternative representation would have the social and economic systems embedded in the environmental/natural system. While it may have been possible for much of the 20th century to pretend that the economy and society could evolve without regard to the environment, climate change may challenge that view

II. SUSTAINABLE DEVELOPMENT AND NATIONAL DEVELOPMENT STRATEGIES

National Strategies for Sustainable Development

Thirteen years before the 2005 World Summit called for National Development Strategies, Agenda 21, in its Chapter 8 already called on countries to adopt “national strategies for sustainable development that ... build upon and harmonize the various sectoral economic, social and environmental policies and plans that are operating in the country ... to ensure socially-responsible economic development while protecting the resource base and the environment for the benefit of future generations.”¹⁸

Thereafter, at the five-year review of the outcomes of UNCED in the 1997 Special Session of the General Assembly, the importance of NSDS was reiterated and the year 2002 was set as a target of 2002 for their preparation. At the World Summit for Sustainable Development (WSSD) in 2002, States were urged to “take immediate steps to make progress in the formulation and elaboration of national strategies for sustainable development” and to “begin their implementation by 2005.” At subsequent sessions of CSD, Governments regularly reiterate their commitment to develop and implement NSDS.¹⁹

The National Sustainable Development Strategy is intended to build upon and harmonize the various sectoral economic, social and environmental policies and plans existing in a country²⁰. In fact, as pointed out in UNDESA's 2001 *Guidance on preparing a National Sustainable Development Strategy*²¹, which provides many useful process-oriented suggestions, national sustainable development strategies do not need to be a separate document but can take the form of a continuous process of interaction and coordination among government departments through which a sustainable development approach is brought to existing planning practices.

Typically, it is existing planning processes which matter most to governments, especially finance ministries. Separate NSDS can risk being relegated to environment ministries and becoming marginal to the big decisions on development direction and budget allocations.

National sustainable development strategies have been completed in a large number of countries. However, most of sub-Saharan and North Africa (except South Africa, Tunisia

¹⁸ See <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter8.htm>

¹⁹ United Nations Division for Sustainable Development website, www.un.org/esa/sustdev/natinfo

²⁰ *ibidem*

²¹ UNDESA, Division for Sustainable Development, *Guidance in Preparing a National Sustainable Development Strategy: Managing Sustainable Development in the New Millennium* http://www.un.org/esa/sustdev/publications/nsds_guidance.pdf

and Morocco), South Asia, Central Asia, West Asia, and North America (except Canada and Mexico) have yet to develop explicit NSDS or identify an equivalent sustainable development process in their planning practices.

Moreover, an independent assessment of national strategies for sustainable development in 19 industrial and developing countries revealed that “most NSDS simply remain at the periphery of government decision making,” being often led by environmental ministries and departments, and that “their coordination with other strategic processes such as poverty reduction strategy papers and environmental management plans remains a significant challenge.”²² The study also revealed that countries such as Mexico and India had found it effective to ensure a sustainable development approach within existing development planning processes rather than to establish a separate process and instrument for a national strategy for sustainable development. The Philippines found it useful to have the National Economic Development Authority lead the National Council for Sustainable Development rather than the environmental authority in order to mainstream sustainable development in economic development planning.

At the December 2006 technical workshop on experiences with national sustainable development strategies organized by UNDESA in Seoul, Korea, it was reported that “many Asia and Pacific countries are having difficulties establishing [their] own national strategies for sustainable development” and that “among the national sustainable development councils formed in some countries in the past, some have been sustained but others have simply disappeared.” The query was rightly raised whether “every country really needs a separate sustainable development strategy, especially when many have already woven it into their indigenous planning processes.”²³

Accordingly, the approach of the present note is to focus on the concepts and analytical tools of sustainable development rather than on a specific national strategy process or instrument for sustainable development.

The choice of whether to follow a separate national strategy for sustainable development or simply to mainstream sustainable development into existing national development planning and strategy processes is the prerogative of the national policy-makers, who may wish to take into account the experience of other countries with either approach as reflected in evaluations such as the ones mentioned above.

²² Darren Swanson, Laszlo Pinter, Francois Bregha, Axel Volkery, Klaus Jacob, *National Strategies for Sustainable Development: Challenges, Approaches and Innovations in Strategic and Coordinated Action*, (International Institute for Sustainable Development, Deutsche Gesellschaft fuer Technische Zusammenarbeit, 2004). http://www.iisd.org/pdf/2004/measure_nat_strategies_sd.pdf

²³ UN Department of Economic and Social Affairs, *Division for Sustainable Development, Report of a Technical Meeting of the Shared Learning and Review of the National Sustainable Development Strategy of the Republic of Korea (Seoul, December 13-20, 2006)* <http://www.un.org/esa/sustdev/natlinfo/nsds/tmKorea/techReport.pdf>

Policy-makers should seek ways to bring the spirit of Chapter 8 of Agenda 21 back into their national development strategies – whatever form these may take - as they are formulated so that they also further the international consensus represented by Agenda 21 and by the Johannesburg Plan of Implementation (JPOI).

Policy Space for Sustainable Development

A very apposite question posed by policy-makers is whether today's international policy regime in fact allows enough policy space to pursue sustainable development at the national level. As stated before, civil society often repeats the phrase, "Marrakesh trumped Rio,"²⁴ implying that the WTO regime that emerged from the GATT/WTO Ministerial Meeting in 1994, which led to the creation of WTO in 1995, put in place a trade regime which constrains considerably the amount of policy space available for countries to pursue Agenda 21 and the other outcomes of UNCED and WSSD.

Many national governments themselves on the other hand affirm, echoing the UNCED outcomes, that sustainable development can be promoted through trade liberalization and reform, that trade, environmental objectives and development can be mutually supportive and that all that is needed for sustainable development is adequate financial resources to developing countries through debt relief, official development assistance and direct foreign investment.²⁵ Sustainable development, of course, requires enabling, mutually supportive and coherent economic, social and environmental policies at the national level.

Chambers of commerce, representing business interests, as well as other business groups such as the Business Action for Sustainable Development also affirmed at WSSD that "business has come to Johannesburg with a commitment to work with other major groups, governments and agencies to deliver sustainable development."²⁶

The Global Compact, with its emphasis on the voluntary initiatives of business to promote sustainable development through environmental, labour and human rights goals, is recognition of this view, which represents the middle ground in today's debate on sustainable development. The voluntarist approach of business shares common ground with those civil society groups who would prefer less to more government regulation, but recognize that failure to act voluntarily may well precipitate regulatory action.

Suffice it to say for now that, while the WTO regime and many economic stabilization plans agreed to as a condition for loans from international financial institutions, have indeed constrained the policy space available for pursuing the social and environmental

²⁴ Wolfgang Sachs, et. al, The Johannesburg Memo, Heinrich Boell Foundation, 2002
<http://www.boell.de/downloads/rio+10/wsp18.pdf>

²⁵ Government of South Africa, "From Rio to Johannesburg: A Global Deal for the Further Implementation of Agenda 21 towards sustainable development." Non-Paper for Discussion in the Preparations for the World Summit on Sustainable Development, Johannesburg, 2002, p.1

²⁶ Moody Stuart, Sir Mark, Statement to the World Summit on Sustainable Development on Behalf of the Business Council on Sustainable Development, <http://www.un.org/events/wssd/statements/basde.htm>

pillars of sustainable development at the country level, it is up to policy makers to use the space available and to expand it where possible in the pursuit of sustainable development.

For example, many poverty reduction strategies and poverty reduction support credits currently in implementation do not give due consideration to environmental objectives. A 2004 evaluation by the World Bank of the extent to which poverty reduction strategies and poverty reduction support credits take account of environmental considerations shows considerable room for improvement.²⁷ The same conclusion was reached in the 2001 OECD guidelines regarding the insufficient inclusion of sustainable development objectives – notably, environment and gender considerations – in an earlier generation of poverty reduction strategy papers.²⁸ In many instances, such as Uganda and Bolivia, lobbying by environmental ministers, agricultural ministers and sustainable development ministers has successfully led to the inclusion of environmental considerations in poverty reduction strategies. It is a fact that sustainable development strategies can only be pursued in the reality of contemporary political economy, with the engagement of major groups.

Regarding the constraints on policy space as a result of a country becoming a member of the WTO, what needs to be affirmed is that environmental, labour and intellectual property considerations and international policy rulings rightly belong in the appropriate respective forums, such as the United Nations (CSD and UNEP's Governing Council), ILO (labour standards) and WIPO (intellectual property rights), and that the mission creep inherent in the WTO accords needs to be tempered by the mandates of these other bodies. Governments tend to take environmental and labour and other non-trade issues to the WTO because of its relatively greater clout and strong enforcement mechanisms. However, the global community needs to focus on strengthening the influence and clout of these other bodies, so that non-trade issues can be referred to them rather than to the WTO. The division of labour according to specialization, the separation of powers and checks and balances makes sense in global governance as it does at the national level. Nevertheless, the increasing role of WTO in environmental and labour and IP matters is a real and rather complex challenge will be treated below in the chapter on economic objectives in sustainable development.

A major unexploited space opened by WSSD, which provides the potential for policy space for the pursuit of sustainable development is the call for “corporate accountability” that emerged from WSSD. Corporate accountability can be envisioned to include all three pillars of sustainable development. WSSD certainly broke new ground in placing “corporate accountability” on the world agenda. While the concept is not directly on the follow-up multiyear work plan of CSD, countries are free to take up and develop legislation at the national level to put it into place. The subsequent chapters on economic, social and environmental objectives in sustainable development will all deal with the

²⁷ Boejo, Jan, Kenneth Green, Sunanda Kishore, Sumith Pilapitiya, Rama Chandra Reddy, *Environment in Poverty Reduction Strategies and Poverty Reduction Support Credits*, World Bank, 2004 (http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2004/12/16/000090341_20041216111209/Rend ered/PDF/308900PAPER0EDP0102.pdf)

²⁸ OECD Sustainable Development Guidelines, op.cit., p.63, Box 23

question of corporate accountability, as corporate accountability is a cross-cutting theme that stretches across the three pillars of sustainable development.

Policy-makers need to decide in their own political context how to pursue sustainable development within the art of the possible that is political economy. A subsequent chapter will treat the question of the political economy of sustainable development, particularly in the national context, with examples of sustainable development policy solutions to provide inspiration.

Indicators of Sustainable Development

For a national development strategy or national sustainable development strategy to be meaningful or a practical tool for monitoring and managing development, it must rely on appropriate indicators for which reliable data is available at the national level. It is, therefore, advisable that national policy-makers and policy-shapers rely on the set of indicators agreed on by consensus in the United Nations and reflected in the outcomes of the conferences and summits on sustainable development.

Chapter 40 of Agenda 21 called on countries and the international community to develop indicators of sustainable development. Such indicators are needed to increase focus on sustainable development and to assist decision-makers at all levels to adopt sound national sustainable development policies.

The WSSD JPOI, CSD-11 and most recently CSD-13 encouraged countries to continue to work on indicators for sustainable development in line with national conditions and priorities. CSD-13 invited the international community to support efforts of developing countries in this regard.

The third, revised CSD indicator set was finalized in 2006 by an expert group of indicator experts from developing and developed countries and international organizations. It consists of a set of 50 core indicators, which are part of a larger set of some 132 indicators of sustainable development. These indicators and their detailed methodology sheets will be available on the UNDESA website as a reference for all countries to develop national indicators of sustainable development²⁹.

The CSD indicator set is based on the previous two editions, which have been developed, improved and extensively tested as part of the implementation of the Work Programme on Indicators of Sustainable Development adopted by the Commission on Sustainable

²⁹ UNDESA Division for Sustainable Development website:
http://www.un.org/esa/sustdev/natlinfo/indicators/isdms2001/table_4.htm

Development (CSD) at its Third Session in April 1995 and presented to the CSD in 2001³⁰.

UNDESA advises that, from both a statistical and policy perspective, indicators should follow the “SMART” criteria, namely be specific, measurable, attainable, reliable and time-bound, rely on national data but be representative of international consensus.

In conclusion, national development strategies need to take into account Chapter 8 of Agenda 21 on national sustainable development strategies as well as subsequent United Nations legislative outcomes on the NSDS, they need to expand the policy space for sustainable development as well as include adequate indicators of sustainable development.

III. THE ECONOMIC DIMENSION OF SUSTAINABLE DEVELOPMENT

Any discussion of sustainable development needs to begin with the economic dimension, because it is economic growth and development that provides the means and process for achieving progress and prosperity in society. The economic pillar also has often the most clout in national political processes and so influencing sustainable development requires influencing major economic actors such as finance and development ministries, private business and public enterprises.

However, in the sustainable development paradigm, economic growth and development needs to be compatible with social and environmental objectives, because as mentioned earlier, social objectives – the well-being of present and future generations – are the ultimate goal of sustainable development, while the environment is the source of natural resources on which economic activity depends.

Growth needs to be strong, humane and green. Humane growth is inclusive, it tends to employ and provide livelihoods for rather than exclude people and its benefits are shared by all, even if there are inevitable inequalities in societies. Greener growth is less natural-resource intensive for any given level of production. Reducing the natural-resource intensity of development is an integral aspect of sustainability.

Sustainable development discussions often tend to gravitate towards the downstream environmental issues such as greening existing brown industries, whereas they ought to begin with upstream economic issues such as the economic model on which development is based. Consequently, upstream changes would include choosing more humane and

³⁰ This paragraphs and the preceding three this one were drawn from the United Nations Division for Sustainable Development website:

[Uhttp://www.un.org/esa/sustdev/natlinfo/indicators/isdms2001/table_4.htm](http://www.un.org/esa/sustdev/natlinfo/indicators/isdms2001/table_4.htm)

greener technology and inputs from the start of the consumption and production cycle. Social and environmental consequences often follow directly from the choice of economic model.

Development Models and Sustainable Development

The economic model is defined here in the context of sustainable development as the consumption and production pattern, the policy and regulatory regime and the degree of its openness to the global economy that are practiced by any given society.

Choosing an economic model involves dividing responsibilities between the private and public sectors. Most economic models in use today recognize the essential role of the private sector, but differ considerably in their extent of government regulation and corporate accountability. Bilateral donors and international financial institutions (IFIs) generally prescribe an economic model based on a strong private sector and supportive government policy with light regulation that creates an enabling environment for business and ensures openness and integration with the world economy.³¹

Such models are often explicitly written up in poverty reduction strategies, supported by poverty-reduction credits from IFIs and by other tools such as the Policy Support Instrument³². While such a model may be seen as politically correct for purposes of seeking credits from IFIs and bilateral organizations, each country needs to decide for itself, through a transparent, participatory national governance process, the degree of openness of the economy, the exact role of the private and public sectors and the degree of government regulation and corporate accountability that correspond to the national interest. The accumulated experience on neo-liberal policies since the 1990s, which has now been evaluated by the IFIs themselves, shows that minimalist regulation does not lead to optimal social and environmental outcomes, and often not even to optimal economic ones.

Economic development models are clearly not neutral in terms of sustainable development and leave significantly different social and environmental or ecological footprints (impacts).

Typical variables and concepts of interest to a policy-maker in considering economic models are resource intensity, labour intensity and eco-efficiency.

³¹ See for example CIDA Strategy for Sustainable Development's economic pillar (equitable economic development): *Promoting entrepreneurship*: Increased productivity, innovation and employment, and income opportunities, especially for women and rural poor. *Creating an enabling environment*: More effective laws, policies, and regulations conducive to savings, investment, business formation, and responsible enterprise; and sound, effective, and accountable private and public institutions. *Connecting to markets*: Increased ability of developing countries to benefit from the global trading system; and the creation of fair economic and market access opportunities for entrepreneurs, particularly the poor. <http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/RAC-1129144152-R4Q#act1>

³² See *New policy support program gets wider usage*, IMF Survey, February 26, 2007, Vol. 36, No.4, p.1

From a sustainable development point of view, economic models that are less resource-intensive and more labour-intensive are desirable in that they have a lower environmental footprint and a favorable social footprint, since they create jobs, as compared to more resource intensive and less labour intensive models. Much economic growth today is resource-intensive and labour-saving or jobless.

Of course, creating jobs is not enough, which is why the ILO's legislative outcomes and analytical and normative work insist on "decent work" or jobs and forms of work where basic human and labour rights are protected. Growth, therefore, needs to be accompanied by the creation of "decent work" through formal jobs and sustainable livelihoods, whether in the formal or informal sectors. Beyond employment, growth needs to be accompanied by social protection and social integration as agreed at the World Summit on Social Development³³ in 1995.

Jobless and Resource-Intensive Economic Growth

As a result of the spread of the prevailing neo-liberal economic model across the globe, largely through the value chains³⁴ of transnational corporations, which often focus on increasing short-term per share earnings, economic growth over the past 15 years since UNCED has tended to be jobless and resource-intensive³⁵. It has tended to marginalize significant groups of countries and large segments of the population within countries³⁶. It has also been intensive in the use of fossil-fuels and generative of greenhouse gases and

³³ See World Summit on Social Development, Copenhagen, 1995, <http://www.un.org/esa/socdev/wssd/>

³⁴ A value chain may be defined as any sequence of value-adding activities and more specifically as the full sequence and range of activities involved in bringing out a final product. The term, originally coined by management researcher Michael Porter in Michael E. Porter (1985) *Competitive advantage: creating and sustaining superior performance* (The Free Press, 1985) p. 33, is now being challenged by the more nuanced term "value grid", reflecting the non-linear nature of production (Pil, F.K. and Holweg, M. (2006) "Evolving from value chain to value grid." MIT Sloan Management Review, 47(4): 72-80). However, given its broad acceptance, we will rely here on the term value chain. A more detailed definition is "the value chain describes the full range of activities that firms and workers do to bring a product from its conception to its end use and beyond. This includes activities such as design, production, marketing, distribution and support to the final consumer. The activities that comprise a value chain can be contained within a single firm or divided among different firms. Value chain activities can produce goods or services, and can be contained within a single geographical location or spread over wider areas." <http://www.globalvaluechains.org/concepts.html>

³⁵ Although economic theory would predict that companies seeking to maximize short-term returns would have an interest in job creation, if labour is the abundant and cheap factor, in practice companies often export existing capital-intensive technologies to their subsidiaries abroad. There are, nevertheless, some instances of significant job creation through foreign direct investment, as in China and India, where active industrial policy has often emphasized labour-intensive technologies.

³⁶ See UN Department of Economic and Social Affairs, *World Economic and Social Survey 2006: Diverging Growth and Development and the Inequality Predicament*.

has led to considerable pollution and widespread deforestation³⁷. In many countries, it has been actively pursued, often with the support of international agencies and regulatory frameworks, despite these negative social and environmental impacts.

The pattern of growth in most emerging market and developing countries, most notably China and India, has consisted of reproducing the prevailing consumption and production patterns of the industrial countries. The economic globalization since the 1990s has only reinforced and accelerated that trend. The growth of the emerging economies is based on consumption and production patterns largely similar or identical to those that prevail in industrial countries, because they are often based on the very same marketing and value chains of transnational corporations as consumption and production in industrial countries. Economic liberalization has merely permitted the spread of those value chains to encompass more and more of the globe, without radically transforming its ecological or social footprint. Those value chains tend to be based on resource intensive and capital-intensive, labour-saving technologies originally developed for industrial countries with high labour costs.

Moreover, the expansion of the value chains to farther reaches of the globe allows older, more polluting consumption and production processes to obtain a greater “shelf life” in the developing world, where social and environmental regulations tend to be lighter and to grow lighter still with the policy push towards liberalization, proposed by business and supported by international agencies and trade regimes, such as that of the WTO. Although larger developing countries with clout in negotiating foreign direct investment, such as China and India, have pushed for more stringent environmental and social regulation, many smaller countries, such as Mongolia, have sought to attract investment by offering light regulation. As a result of the integration of value chains across borders it is important for the policy maker and policy shaper to view at all times the modern economy in her or his own country as being simultaneously part of the modern global economy as well as the driver of the national economy.³⁸

In setting national policy, however, domestic environmental and social considerations should be given more weight, through the establishment and enforcement of relevant regulatory frameworks, as the country opens up to foreign investment and trade. As discussed further below, encouraging the involvement of civil society and parliaments in policy-shaping can greatly facilitate the integration of environmental and social considerations in economic policy, including strategies for increasing domestic and foreign investment.

³⁷ For an analysis of the impacts of resource-intensive growth and what citizens can do to change it, see James Gustave Speth, *Red Sky at Morning: A Citizen's Agenda for Action* (New Haven, Yale University Press, 2004). Available: <http://www.redskyatmorning.com/>

³⁸ See, for example, Axele Giroud, Vietnam in the Regional and Global TNC value chain, Paper prepared for the DFID Workshop on Globalization and Poverty in Vietnam, Hanoi, 23-24th September, 2002. www.gapresearch.org/finance/asean.html

Sustainable Consumption and Production (SCP) Patterns³⁹

A major contribution of the 2002 WSSD was to bring sustainable production and consumption patterns to centre stage. Transforming consumption and production patterns to make them more sustainable is a sensitive issue because no matter what spin is given to it, there is an element of fundamental change required if significant human and natural benefits are to be derived from the process. In particular, the central issue at stake is diminishing the ecological footprint and improving the social footprint of consumers and producers in the modern economy, whether in industrial or developing countries, while also allowing greater participation in consumption and production by the excluded majority, who are mainly in developing countries.

However, truly diminishing the ecological footprint and improving the social footprint requires significant sacrifices that consumers and producers in the modern global economy have traditionally had difficulty in accepting. Accordingly, the intergovernmental discussions on the matter are stymied by a lack of political will in both industrial countries and in the modern and influential sectors of developing countries. Those discussions tend to focus on success stories of sustainable consumption and production patterns at the margin while avoiding the thorny issue of substantially reducing the ecological footprint of mainstream consumption and production in the modern global economy. Discussions also gravitate towards downstream palliatives and anecdotal success stories in consumption and production, rather than focusing on effecting fundamental change upstream in the basic ways in which consumption and production occur.

However, an encouraging development in recent years is the Marrakech Process for promoting SCP, named after the first meeting of experts in Marrakech, Morocco in June 2003, to draw up a 10-year plan of action for SCP as called for in Chapter 3 of the

³⁹ Relevant extract from UN Division for Sustainable Development website: “‘Changing consumption patterns’ is the subject of [Chapter 4 of Agenda 21](#). At its third session, in 1995, the Commission on Sustainable Development adopted an International Work Programme on Changing Consumption and Production Patterns, which includes five elements: (1) [Trends in Consumption and Production Patterns](#), (2) [Impacts on Developing Countries of Changes in Consumption Patterns in Developed Countries](#), (3) [Policy Measures to Change Consumption and Production Patterns](#), (4) [Voluntary Commitments from Countries/Indicators for Measuring Changes in Consumption and Production Patterns](#), and (5) [Revision of the UN Guidelines for Consumer Protection](#). Discussions on chapter 4 have already taken place at the national and international levels. They have covered definitions and concepts (e.g. eco-space, ecological footprints), policy strategies (e.g. eco-efficiency, Factor 4 and 10), and appropriate policy instruments. Participants in the discussions have been from business and industry, governments at all levels, international organisations, the academic community and NGOs. ‘[Changing consumption and production patterns](#)’ has been the subject of discussion by the Commission at its first, second, third, fourth, fifth, sixth and seventh sessions. In the context of the multi-year programme of work adopted by the General Assembly for the Commission on Sustainable Development in 1997, it will continue to appear, as an “overriding issue,” on the agenda of the CSD each year.”
<http://www.un.org/esa/sustdev/sdissues/consumption/cp1.htm>

Johannesburg Plan of Implementation of WSSD⁴⁰. The 10-year plan is scheduled to be presented to the 2010/2011 cycle of the CSD. The Marrakesh meeting was followed by expert meetings in Costa Rica in 2005 and Stockholm in 2007 and supported by regional meetings in Latin America, Asia and the Pacific, Africa and Europe, and national round tables in China, India, South Africa and Brazil. The Marrakech Process is also supported by seven task forces covering sustainable buildings and construction, sustainable tourism, sustainable products, sustainable public procurement, cooperation with Africa, education for sustainable consumption and sustainable lifestyles.

The Marrakech process has served to build awareness of and share information and approaches on SCP and identified several challenges facing countries such as increasing the consumption of the poor in developing countries, while making the consumption of those with higher incomes in developing and industrial countries more energy and resource efficient; overcoming the image of sustainable products and services as essentially more expensive; the need for a shared vision of sustainable lifestyles; overcoming the rebound effect, whereby efficiency cost gains in sustainable products are offset by increased consumption of them as a result of lower prices; promoting leapfrogging in developing countries, by which they can move directly to more sustainable consumption and production without necessarily reproducing past patterns of consumption and production in industrial countries.

Policy makers and policy shapers at the national level, have a responsibility to place issues of fundamental upstream change in production and consumption patterns on the national and international agenda. Placing issues on the national and international agenda is the first step to addressing them through practical policy measures. SCP should be mainstreamed into national development strategies drawing on, among other sources, the lessons learned from the Marrakech Process. Policymakers should engage in regular dialogue with business and civil society who have an important influence on SCP.

Shaping the Economic Model: The Roles of Business and Civil Society

Business and Industry

Any analysis of the economic objectives in sustainable development in today's global economy needs to begin with a consideration of business and industry as a prime driver

⁴⁰ See DESA Division for Sustainable Development website on the Marrakesh Process: <http://www.un.org/esa/sustdev/sdissues/consumption/Marrakech/conprod10Y.htm>

of the economy⁴¹. Transnational corporations (TNCs) serve as conduits either as suppliers or consumers themselves for 80% of the natural resources traded and consumed in the world⁴². Moreover, of the world's gross domestic product in 2006 of US\$46.9 trillion, over one third of value-added was generated by TNCs, as compared to 24% in 1984 and 16% in 1960. Achieving sustainable development through sustainable production and consumption, therefore, necessarily requires the involvement and engagement of TNCs and domestic private business.

The current discussions of the economic pillar of sustainable development have been influenced by business and industry, particularly through their representative groups such as the World Business Council for Sustainable Development and the International Chamber of Commerce⁴³. They are the eloquent advocates for the prevailing economic model with, to their credit, a clear commitment to a gradualist approach at the margins towards reducing the ecological and social footprint for the value chains that business relies on. The reason is simple: reducing the footprint needs to be reconciled with maximizing shareholder wealth, which is the commonly accepted goal of business⁴⁴.

The Chief Executive Officer of a major TNC frankly defines sustainable growth as “the creation of shareholder and society value while decreasing [the enterprise's] environmental footprint along the value chains in which [it] operates.”⁴⁵ This definition, widely shared in business circles, takes the value chains along which business operates as a given starting point and any reduction in the environmental footprint as a palliative. What is in fact required for truly achieving sustainable production and consumption patterns is in fact a fundamental rethinking of the value chain of operation itself in social and environmental terms. Such a fundamental transformation is probably not in line with the market signals and prices prevailing today when regulatory policy frameworks are growing weaker and market prices do not reflect social and environmental opportunity costs.

⁴¹ This concept is deeply embedded in some cultures. For example, in its synonymous use of the word “Wirtschaft” for business and industry as well as for the economy, the German language recognizes that industry is an integral component of the economy.

⁴² UNCTAD World Investment Report 2002

⁴³ World Business Council for Sustainable Development: <http://www.wbcsd.ch/> and International Chamber of Commerce <http://www.iccwbo.org/>

⁴⁴ Some leading edge firms may not opt for such gradualism. If they have a breakthrough low-carbon technology, for example, they may well wish for government to force more radical change through carbon caps and other regulations. However, the majority of traditional firms, such as automobile manufacturers, would probably prefer a gradualist approach, public statements to the contrary notwithstanding.

⁴⁵ Charles O. Holliday, Jr. CEO Du Pont Corporation, quoted in, Karen J. Watkins, *Sustainability Takes Centre Stage*, April 22, 2002 Chemical and Engineering News, Volume 80, Number 16 CENEAR 80 16 pp. 15-17, 21-22 ISSN 0009-2347, <http://pubs.acs.org/cen/coverstory/8016/8016sustainable.html>

The dialogue paper⁴⁶ by business for the preparatory meetings (Prepcoms) II and IV for WSSD can be seen as a representative business manifesto for sustainable development. In general, the policy prescriptions contained in the paper include permitting a “free and equitable” international market in which trade is not “distorted by subsidies, tariffs and non-tariff barriers”, “aligning food prices with world market levels, removing price distortions, “realistic environmental and health standards” based on “sound science”, “liberalizing international trade and investment without environmental or social conditionality”, “enforcing environmental rules...without erecting obstacles to trade and market access.” Generally, the prescriptions amount to a high degree of laissez-faire and a minimum of policy space for national governments. It is a tribute to the multilateral dialogue process of the United Nations that such an agenda is so clearly and transparently shared with the world, rather than taken up in back-door lobbying with national parliaments and executive branches.

It is natural that business should seek such an agenda, given their commitment to per-share earnings and shareholder wealth. However, it is equally incumbent on other actors in society, namely public authorities and civil society to dialogue with business to represent the views of other segments of society so as to ensure that the national laws governing all economic, social and environmental aspects of sustainable development result from a parliamentary process and protect the interests of all sectors of society rather than those of business and industry alone.

Evidence shows that while self-regulation and reliance on “corporate social responsibility” is essential and useful it is not sufficient, because of the clear agenda of business as described in the manifesto above. Achieving sustainable development, therefore, does require active public policy interventions, which the rest of this note will examine.

Civil Society

Civil society groups widely affirm that the gradual liberalization of the world economy since the end of the Second War, the growth of TNCs and their global value chains, and the creation of the WTO in 1995 have lead to a movement away from the middle-ground of sustainable development towards a world dominated by economic goals above social and environmental ones⁴⁷. Civil society groups call, therefore, for “democratic

⁴⁶ Multi-stakeholder dialogue segment of the second session of the Commission on Sustainable Development acting as the preparatory committee for the World Summit on Sustainable Development: Note by the Secretary General: Addendum: Dialogue paper by business and industry, E/CN.17/2002/PC.2/6/Add.7 9 January 2002.
<http://daccessdds.un.org/doc/UNDOC/GEN/N02/210/93/PDF/N0221093.pdf?OpenElement>

⁴⁷ See Wolfgang Sachs ed. The Johannesburg Memo, Heinrich Boell Foundation
<http://www.worldsummit2002.org>

globalization’⁴⁸. The challenge of political economy as stated before is regaining that middle ground. Civil society is as eloquent as business in bringing forth its point of view on sustainable development, globalization and equity. There are, however, as we saw earlier a multiplicity of views within civil society and ultimately they, too, must in a democratic society influence the legislative process that governs sustainable development.

Market Failure, Externalities and Sustainable Development

Both market failure and externalities are classic justifications for public intervention in markets to ensure social and environmentally optimal outcomes in terms of consumption and production patterns. Market failure can be defined as the “inability of markets to produce economically efficient outcomes because of such factors as imperfect information, unclear property rights, monopoly and externalities (public goods and public bads for which private actors lack incentive to address)”⁴⁹. In the sustainable development context, market failure usually refers to the fact that market prices do not fully reflect the economic values of environmental resources and services. From that perspective, local and global market failure must be distinguished. Local market failure concerns the inability of markets to capture some of the local or national benefits of such activities to protect the global commons as biodiversity conservation or pollution control. Global market failure implies that such measures to protect the global commons as pollution control, restrictions on greenhouse gas emissions, and biodiversity conservation yield external benefits to people beyond the frontiers of the nation state faced with the choice between development and conservation.

Many economic reform programmes of the 1980s and 1990s inspired by the IFIs dismantled the state policy-making and regulatory apparatus and sought to make the world conform to the market model rather than to build on existing policy frameworks in countries to promote balanced economic, social and environmental outcomes through judicious public policy.

The justification, therefore, for public policy intervention in markets, is to produce outcomes that are socially and environmentally desirable to the public as a whole, where unregulated markets alone fail to do so.

⁴⁸ See http://en.wikipedia.org/wiki/Global_democracy

⁴⁹ Natalia Mirovitskaya and William Ascher, *Guide to Sustainable Development and Environmental Policy*, (Durham, N.C. Duke University Press, 2001) pp. 21-22 and see also John Asafu-Adjaye *Environmental Economics for Non-economists*, (New Jersey: World Scientific 2005)

Economic Policy Options for Sustainable Development

Ensuring less resource-intensive and more job-creating, people-centered economic growth, then, is a fundamental challenge for policy-makers. As shown above, in order for such growth to be achieved, some measure of public policy intervention is needed, because of market failure and the externalities involved. In brief, economic growth needs to be accompanied by an active environmental protection policy and an active social policy, to ensure social protection and social inclusion. Subsequent sections of this policy note deal in greater detail with environmental and social policy, including such themes as legislating environmental and social laws and building and enforcing regulatory frameworks. Here, we will consider specific economic policy interventions that can promote less resource intensity and more job creation for any given level of economic output.

For the economic policy maker or policy shaper, several basic tools can serve the purpose of introducing environmental and social concerns into the process of economic policymaking. Such tools include full cost accounting, environmental satellite accounts in national income accounting, and increasing, both through public expenditure and policy incentives for the private sector, the percentage of national output spent on environmental protection as well as on social protection and inclusion. In this section we will approach public expenditure from the point of view of the budget process whereas the subsequent sections of the note on environmental and social policy will examine the content of the environmental and social items in national budgets and how they can best be spent. Finally, as the major economic actors in the modern global economy responsible for an increasing share of world output, transnational corporations as well as domestic business need to be made to adhere to codes of responsibility and accountability in the environmental and social spheres. The final part of this section will look at corporate social and environmental responsibility and accountability.

Full Cost Accounting

In order for economic agents to make sustainable production and consumption decisions, the prices of all resources need to reflect their opportunity cost. In other words, prices need to reflect economic, social and environmental costs, the so-called triple bottom line.

An important analytical tool to reflect relevant economic, environmental and social opportunity costs in economic decision-making is full cost accounting (FCA).⁵⁰

FCA involves taking into account: (1) costs rather than outlays, (2) hidden costs and externalities, (3) overhead and indirect costs, (4) past and future outlays and (5) costs

⁵⁰ See Wolfgang Sachs, ed. *Jo'burg Memo*, pp. 7 and 54.
http://www.worldsummit2002.org/publications/memo_en_with.pdf

based on the lifecycle of a product.⁵¹ FCA analysis is now a fairly wide-spread practice⁵² in public decision making.

The use of full cost accounting can greatly enhance the effectiveness, accuracy and greening of major fiscal policy measures such as (a) abolishing environmentally detrimental subsidies, (b) tax reform, such that the tax burden is moved from labour to resource consumption, pollution and waste, (c) user fees for the global commons, particularly the atmosphere and oceans. Full cost accounting will greatly reduce the environmental impacts of economic decisions.

Policymakers may wish to consider introducing full cost accounting and environmental accounts as part of national development strategies as a means of promoting sustainability.

Environmentally-modified National Income Accounts

Before the advent of sustainable development, traditional national income accounts served as the basis for economic policy making. The international consensus on sustainable development encouraged the development of satellite national income accounts to account for environmental costs of national income. In the past two decades, the concept and methodology for a System of integrated Environmental and Economic Accounts (SEEA) has evolved considerably and the United Nations Statistical Commission is expected to adopt it as a statistical standard in 2012. At that point, the SEEA will graduate from a satellite system to becoming an integral part of the national income accounts. The most comprehensive methodology for SEEA available is the Handbook of National Income Accounts: Integrated Economic and Environmental Accounting 2003, produced by the United Nations Statistical Division, with the collaboration of the European Statistical Office (Eurostat), the IMF, OECD and the World Bank.⁵³

The SEEA measures both flows of environmental variables as well as the stocks of natural assets. The SEEA 2003 consists of four categories of accounts: (1) flow accounts for pollution, energy and materials, (2) environmental protection and resource management expenditure accounts, (3) natural resource asset accounts and (4) valuation of non-market flow and environmentally adjusted aggregates, covering such themes as the depletion and degradation of natural assets.

With SEEA it becomes possible for policymakers and policyshapers to analyze, for example, in physical and monetary terms the impacts of alternate policy regimes and

⁵¹ See Wikipedia article, Full Cost Accounting, http://en.wikipedia.org/wiki/Full_cost_accounting

⁵² See David W. Carter, Larry Perruso, and Donna J. Lee, *Full Cost Accounting in Environmental Decision-Making*, http://edis.ifas.ufl.edu/BODY_FE310

⁵³ United Nations, Integrated Environmental and Economic Accounting 2003 (SEEA 2003) www.unstats.un.org/unsd/envaccounting/seea.asp

frameworks governing economic activity with a direct impact on natural resources, such as forestry and logging, and, most importantly, at macroeconomic level, to make the relationship of economic growth to natural resource depletion and environmental degradation explicit and measurable.

There currently exists a range of encouraging experiences with the introduction and use of SEEA in industrial, developing and emerging market countries. The experience from South Africa, Namibia and Botswana, based on the flow accounts of natural resource use, for example, shows that environmental accounts “improve policy-making by providing better technical information for analysis and indicators...[and] contribute to a productive dialogue among line ministries about alternative, cross-sectoral strategies and associated policy trade-offs.”⁵⁴

Policymakers may wish to introduce, if it does not already exist, a system of satellite accounts on the environment in the national income accounts. Environmental accounts, which seek to quantify the stocks of environmental assets and to assess the depletion of these assets as a byproduct of economic growth, allow policy makers at the macro level, to obtain a clearer picture of the actual costs of economic growth and to design policies to counteract environmental degradation.

Environmental and Social Protection Measures in National Budgets and National Development Strategies

National budgets, including taxation policy, are the main tool of fiscal policy and are typically the domain of ministers of finance and economy. However, in pluralistic societies where budgets are the subject of parliamentary debate, the opportunity arises for environmental and social considerations to be given their full weight in the preparation of the national budget. Budgets are one of the most powerful tools at the disposal of countries to promote sustainable development. There is currently growing interest at international and national level for “green budgeting”⁵⁵. Three kinds of environmental and social measures can be included in the budget and in the national development strategies, namely those that are: (1) expenditure-generating, (2) revenue-generating and (3) budget-neutral.

Expenditure-generating measures include subsidies, grants and tax allowances.⁵⁶ Expenditure-generating measures provide a positive economic incentive for households and firms to make their consumption and production patterns more sustainable. Such

⁵⁴ Lange, Glenn Marie, Rashid Hassan and Alessandra Alfieri, *Using environmental accounts to promote sustainable development: the experience of Southern Africa*, Natural Resources Forum 27 (2003) 19-31 www.columbia.edu/~gl2134/NatResForum03.pdf, p.30

⁵⁵ UN Chronicle Online edition, “Green Budgeting: The Second Committee gets an introduction” www.un.org/Pubs/chronicle/2006/webArticles/ga/2gb.htm

⁵⁶ Barthold, T.A. (1994). Issues in the Design of Environmental Excise Taxes, *Journal of Economic Perspectives* 8 (1) p. 143.

measures include price supports for recycling industries, tax allowances for energy conservation and grants for developing environmentally friendly technology.⁵⁷

Revenue-generating measures include taxes, charges, and fees. Such measures both generate revenue as well as impose a negative economic incentive – a price – for polluting, as compared to expenditure generating measures. Experience has shown that taxes, charges and fees generate revenue but are often not sufficiently high to reduce environmentally noxious activities and promote sustainable consumption and production. Revenue-generating measures include stumpage fees for timber, user charges for public waste disposal, effluent charges on waste emissions, and charging differential taxes for leaded and unleaded gasoline.⁵⁸

Budget neutral measures generate comparable revenue and expenditure and impose a surcharge on environmentally damaging substances or activities and then return that surcharge when the substance is recycled, restored or not used. The state coffers merely serve as an agency that transfers funds from one group to another. Revenue neutral measures include deposit/refund schemes, feebates, distributive credits and tax substitution, e.g. between payroll taxes and pollution taxes. Well-known deposit/refund schemes cover the recycling of glass bottles, aluminium cans and other containers. With feebates, producers or consumers of harmful substances have to pay a certain rate for their activities, no matter what the permitted legal limits are. Consumers or producers of less than the legal limits of the substance receive compensation for their restraint while those exceeding the legal limit are compensated little or nothing. Reforestation rebates on timber stumpage fees and the Swedish nitrogen oxide charge are examples of feebate systems⁵⁹.

The experience with budget measures to encourage sustainable consumption and production is very mixed. An interesting case is provided by economies in transition which after many decades of favouring economic growth at the expense of the environment, have sought in the past two decades to strengthen their environmental legislation and provide budgetary measures to promote sustainable consumption and production, in many cases in anticipation of their accession to the European Union, with its relatively stringent environmental legislation.

The case of Eastern Europe and the CIS⁶⁰ shows that the taxation systems for unsustainable consumption and production tend to be very complex, with a multitude of rates and fees, with limited revenue being generated and limited effect on unsustainable behaviour. One major factor is the fact that the taxes and fees tend to be a small percentage of the total cost of the product or service and producers often have the

⁵⁷ See Barbier, E.B. (1992). *The Nature of Economic Instruments: A Brief Overview*. Gatekeeper Series No. GK 29-02. London: International Institute for Environment and Development (IIED).p.2; and Gale, R., Barg, S. and Gillies, A., eds. *Green Budget Reform*, Earthscan, London, 1995. p.9

⁵⁸ See Barbier, op. cit., p.2; Gale and Barg, op. cit. p.12;

⁵⁹ Barbier, op cit. p.2; Gale and Barg, op. cit. pp.18-20

⁶⁰ Anil Markandya and Zsuzsa Lehoczki, *Environmental Taxation A Review of OECD Country Experience and Prospects for Economies in Transition*

<http://www.rec.org/REC/Publications/PaperSeries/Paper1/experience2.html>

possibility of passing on the cost to the consumer. In one instance, producers in Hungary preferred to pay sewerage fines for high effluent levels rather than undertake the relatively expensive water treatment process. Taxes on gasoline also tend to be a small fraction of the total price of the product. In contrast, the taxes on gasoline in Western Europe, which are high in comparison to the total price of gasoline, have discouraged consumption and encouraged more fuel-efficient vehicles. An important lesson learned is that revenue generating and expenditure generating measures need to be significant in relation to the total cost of the economic activity in order to have an impact on consumption and production⁶¹.

Public Expenditure

On the expenditure side, an important indicator of commitment to sustainable development are the percentages of the national budget devoted to environmental protection and to social protection and integration respectively.⁶² These issues will be dealt with in greater detail below in the chapters on environmental and social objectives in sustainable development. Statistics for these indicators are readily available for industrial and emerging market countries but tend to be fragmentary for developing countries in general.

Environment protection expenditures (EPE) according to the guidelines established by the United Nations System for Economic and Environmental Accounts (SEEA) include those on environment protection activities (EPA) and natural resource management (NRM) activities. Typically, EPA includes activities devoted to protecting the natural environment from the deleterious effects of socio-economic activity while NRM include spending on activities geared to the sustainable use of natural resources for economic and social purposes⁶³. EPE figures are available for OECD countries and selectively

⁶¹ It is a general rule that if a tax measure alters price, then what matters is the price elasticity of supply or demand, depending on where the tax is targeted – to production or consumption.

⁶² Agenda 21, Chapter 33, Financial Resources and Mechanisms, identifies as a policy indicator the ratio of environmental protection expenditures over GDP. Environmental protection expenditures are actual expenses incurred to prevent, reduce, and eliminate pollution as well as any other degradation of the environment. National expenditure on environmental protection is further defined as the sum of: - final and intermediate consumption of environmental protection products by resident units, other than those of the environmental protection producers themselves; - plus capital formation on environmental protection products; - plus gross capital formation on other products required for environmental protection activities; - plus (current and capital) specific transfers by residents units not captured in the items above; - plus (current and capital) financing provided by transfers to the rest of the world, less financing by transfers received from the rest of the world. United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, World Bank, 2005, Handbook of National Accounting: Integrated Environmental and Economic Accounting 2003, Studies in Methods, Series F, No.61, Rev.1, Glossary, United Nations, New York, para. 5.133.
<http://stats.oecd.org/glossary/detail.asp?ID=6511>

⁶³ See, for example the case of a small country seeking to develop its environmental protection accounts in Statistics New Zealand, Environmental Protection Expenditure Account for the Year ended June 2001, (Wellington, July 2002)
<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN016773.pdf>

elsewhere since EPE is not yet a statistical standard adopted by the UN Statistical Commission, which is expected to adopt it in 2012. Nevertheless, it is an essential indicator for sustainable development policy and decision-making.

As a policy goal, increasing the percentage of the national budget devoted to the environmental protection and to social protection and integration, as well as increasing the efficiency of such expenditures, should be considered as part of national development strategies⁶⁴ and the collection of data on EPE by both the public and private sectors should be made a priority of national statistical policy.

Box 1: Environmental Expenditure

in Eastern Europe, the Caucasus and Central Asia

By way of example from a region that includes countries at differential income and development levels, the evidence for Central Asia, the Caucasus and Eastern Europe compiled by OECD shows that, “as a share of GDP, environmentally related expenditure has either stayed constant or decreased in the period 1996-2001. The share of reported environmentally related expenditure in GDP varies significantly among countries, from 0.4% in Azerbaijan to 2.4% in Moldova (2000) and 3.1% in Kazakhstan in 2001. Except at the low end of this spectrum, most EECCA countries seem to devote higher shares of their incomes to environmentally-related expenditure than CEE and EU countries. Even taking into account possible overestimates of some reported expenditure analysed in this report, it seems that most EECCA countries are more committed to improving environmental and water supply quality than is commonly thought. This suggests that it is the low ability to pay due to low income, rather than lack of willingness to pay, that is the main obstacle to higher levels of domestic environmentally-related expenditure. This hypothesis, however, needs to be carefully verified on the basis of better environmental expenditure data and further analysis.”⁶⁵

Peer reviews of environmental expenditures both at the regional and the international level can be a useful reference for setting national environmental expenditure goals.

⁶⁴ There are clearly limits to these increases, which are subject to national political economy, and it may not always be justified to increase these shares, particularly if the funds are not spent efficiently or are wasted. One also needs to keep in mind that this is an input measure and that supplementary output measures are needed to determine the effectiveness of policies.

⁶⁵ OECD, Trends in Environmental Expenditure and International Commitments for the Environment in Eastern Europe, the Caucasus and Central Asia, <http://www.oecd.org/dataoecd/13/5/2385069.doc>. The report examines “environmentally-related expenditure”, which includes “environmental” expenditures (as defined in OECD Pollution Abatement and Control methodology) plus water resource management (mainly drinking water supply and treatment) and some natural resources management expenditures. Wherever possible efforts were made to distinguish between current and capital investment spending, between public and private expenditure, and between expenditure in relation to different environmental media.

However, at all times, it is national needs and priorities that should guide policy-makers and policy-shapers in the choice of a target rather than a need to conform to some regional or international average percentage of environmental spending. A World Bank assessment of public environmental expenditure reviews, too, concludes that environment spending percentages should be “tailored to country circumstances” but do serve to show “gross anomalies” when the levels are too low as compared to other countries or where there are great disparities in environmental spending across regions within the same country⁶⁶.

In dealing with the sustainable management of natural and other environmental assets, one available tool to assist policymakers and policyshapers in assessing national budgets for sustainability is the sustainable budget index – SBI measures the ratio of recurrent government expenditures (excluding spending for education and health) to non-mineral government revenues. A value equal to or less than one indicates sustainable reliance of public consumption on non-renewable sources of revenue (minerals); a value greater than 1 indicates unsustainable reliance. In the study of SEEA in Africa by Lange, Rashid and Alfieri⁶⁷, the experience of Botswana showed that over 1993-2002, the SBI grew from 0.6 to over 1.0, showing that policy choices related to revenue and spending had led from sustainable reliance to unsustainable reliance on non-renewable mineral revenue for government spending. In many oil-rich countries, which rely heavily on revenues from a depleting resource to fund current public expenditure, the experience would be similar, although data is not readily available.

Ensuring Environmental and Social Responsibility and Accountability of Major Economic Actors

Responsibility and accountability needs to be incumbent on all major economic actors, both public and private. It cannot be assumed that public investment will automatically promote environmental and social goals⁶⁸. All investment projects, therefore, need to be subjected systematically to a social and environmental impact assessment. Similarly, public and private corporations, particularly major ones operating across borders, need to be made responsible for promoting and held accountable for achieving desirable environmental and social outcomes. Moreover, public spending on the environment is not enough; corporations need to be provided incentives and regulated so as to increase their attention and spending on environmental and social matters directly connected with their business.

⁶⁶ AuPhil Swanson and Leiv Lundethors, Public Environmental Expenditure Reviews (PEERS): Experience and Emerging Practice, Environment Strategy Paper No.7, (World Bank: Washington D.C., 2003) [http://lnweb18.worldbank.org/ESSD/envext.nsf/41ByDocName/EnvironmentStrategyPaperNo7PublicEnvironmentalExpenditureReviewsExperienceandEmergingPractice2003850KBPDF/\\$FILE/ESP7PEERS2003.pdf](http://lnweb18.worldbank.org/ESSD/envext.nsf/41ByDocName/EnvironmentStrategyPaperNo7PublicEnvironmentalExpenditureReviewsExperienceandEmergingPractice2003850KBPDF/$FILE/ESP7PEERS2003.pdf)

⁶⁷ Lange, Rashid and Alfieri, op. cit. p. 26

⁶⁸ See, for example, Gustavo Faleiros, *Lula's Economic Plan is Unsustainable*, <http://americas.irc-online.org/am/4229>

Corporate social responsibility can be defined succinctly as the obligation of business towards sustainable development, that is, to take into account in all phases of their value chains the interests of society and the environment in addition to those of their shareholders. United Nations legislative outcomes on CSR include Agenda 21, Chapter 30, Section B which referred to 'responsible entrepreneurship' and the Johannesburg Plan of Implementation, para.18, which mentions the need to 'enhance corporate environmental and social responsibility and accountability'.

Business views towards CSR have evolved considerably in the four decades since Milton Friedman declared⁶⁹ that the only social responsibility of business is to increase its profits. The progressive views of business today regarding CSR are summarized in the definition of the World Business Council on Sustainable Development, a coalition of over 120 corporations committed to sustainable development: "Corporate social responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large."⁷⁰

Corporate social responsibility as it is known today is an initiative of private enterprises and began initially as a reaction to the prospect of increasing civil society militancy against globalization of production and financial capital. CSR is a proactive approach involving self-regulation as a way of preempting pressure for legislative regulation either at the international level, in the form of the attempt in the 1980s to introduce a UN Code of Conduct for Multinational Corporations, or at the national level in the form of national labour and environmental legislation. CSR is now very much a part of sound business strategy, and its most eloquent proponent is the International Chamber of Commerce, an important advocacy group for business in the international arena. CSR has become an industry in itself and most major corporations now have CSR departments and senior executives charged with this responsibility.

While CSR is a positive force, it is a complement and not a substitute for national labour and environmental legislation. While such legislation is mostly based on domestic development goals and the interests of various stakeholder groups, it should be informed the outcomes of the major United Nations conferences and summits and other bodies, which represent the global consensus on these matters. CSR is a voluntary initiative of corporations, but has no enforcement mechanisms. In the present configuration of sovereign national states, the only enforcement mechanism can come from national legislation.

National legislation, including in the United States, the home of the majority of transnational corporations, continues to evolve in the direction of greater corporate

⁶⁹ Friedman, Milton, *The Social Responsibility of Business is to Increase its Profits*, by *The New York Times Magazine*, September 13, 1970. Copyright © 1970 by The New York Times Company <http://www.colorado.edu/studentgroups/libertarians/issues/friedman-soc-resp-business.html>

⁷⁰ World Business Council on Sustainable Development, *Corporate social responsibility: Meeting Changing Expectations*, 1999 <http://www.wbcsd.org/DocRoot/hbdf19Txhmk3kDxBQDWW/CSRmeeting.pdf>

accountability on a variety of fronts. Legislation and regulation is nudging business in the direction of greater transparency in accounting, labour and environmental practices.

The Sarbanes-Oxley legislation⁷¹ in the United States is a landmark case in point, as is the regulatory work of the European Commission in the area of corporate governance⁷² in response to a series of corporate financial scandals. The US and EC legislation and regulations can serve as inspiration for broader legislation covering the economic, social and environmental aspects of sustainable development. Although the impetus for such groundbreaking legislation came from wealthy institutional investors who incurred losses because of corporate malfeasance, voters and civil society can through their numbers also place similar pressure on legislators to enact social and environmental legislation.

Countries at all income levels should seek to introduce social and environmental legislation and regulation and corresponding enforcement mechanisms, drawing on the examples of such legislation in industrial countries.

So far, many developing countries in their eagerness to attract foreign investment have refrained from or scaled down environmental and social legislation. For example, foreign mining investors in Mongolia face far less stringent environmental and social legislation than in their home countries with the result that strip mining has destroyed large swathes of Mongolian countryside with no prospects for clean-up and Mongolian labourers work in precarious conditions, with little social or other benefits or protection⁷³. Enforcement of environmental and social legislation in developing countries tends to be weak and institution building efforts need to focus on enforcement capacity of existing legislation as much as on introducing adequate legislation.

For sustainable development, the regulatory framework covers economic, social and environmental laws and regulation. It is important to adopt a critical sustainable development approach to legislation, take stock of existing regulation and seek to develop it further, keeping in mind national needs and international norms and recommendations. Legislative committees should be encouraged to adopt a sustainable development approach to: (1) economic law, (2) labour law and (3) environmental law.

Public policy and the legislation that underlies it should be held up to the same standards required of private business in the area of sustainable development. In Brazil, for example, legislators as well as civil society are concerned that the Plan for Acceleration

⁷¹ The Sarbanes-Oxley Act of 2002 (Pub. L. No. 107-204, 116 Stat. 745, also known as the Public Company Accounting Reform and Investor Protection Act of 2002 and commonly called SOX or Sarbox; [July 30, 2002](#)) is a controversial [United States federal law](#) passed in response to a number of major [corporate and accounting scandals](#) including those affecting [Enron](#), [Tyco International](#), [Peregrine Systems](#) and [WorldCom](#) (recently MCI and now currently part of [Verizon Business](#)) http://en.wikipedia.org/wiki/Sarbanes-Oxley_Act

⁷² See European Commission communication on corporate governance and financial crime, http://ec.europa.eu/internal_market/company/financial-crime/index_en.htm

⁷³ See Olympos Katsiaouni, Nikhil Chandavarkar and Peter Mariott, *Economic and Ecological Vulnerabilities and Human Security in Mongolia*, (Ulan Baator, UNDP: 2005), pp.34-35 http://www.undp.mn/new/index.php?option=com_docman&task=doc_view&gid=4

of Growth introduced for discussion in congress in January 2007 favours economic growth over environmental protection and social protection and inclusion⁷⁴.

Policy makers and civil society need to rely on available indicators to monitor corporate social responsibility and accountability. For example, the percentage of industrial output spent on environmental protection is a good indicator for policy purposes⁷⁵ in terms of monitoring corporate environmental responsibility and accountability.⁷⁶

Percentage of payroll income compulsorily spent on social contributions by employer and employee are a useful policy indicator of commitment to the social pillar of sustainable development. These figures are more readily available for industrialized countries, where they vary tremendously as does the burden sharing between employer and employee. For example, these expenditures range from 15.0 percent, equally shared by employer and employee in the United States to 62.8 percent in France, of which 48.1 percent is contributed by the employer and 20.9 percent by the employee.⁷⁷ In making these comparisons, however, it is essential to recall that more does not always imply better and the efficiency of expenditure is as important a consideration as its level.

IV. THE SOCIAL DIMENSION OF SUSTAINABLE DEVELOPMENT

The underlying view of sustainable development in this note, as noted earlier, is that the social pillar – in the form of the well being of present and future generations – is the ultimate goal of development, while economic activity is the process by which environmental resources are transformed into societal well-being.

A purely laissez faire approach to sustainable development will, as we saw in the previous chapter on the economic pillar, lead to growth at the expense of environmental and social goals. Achieving social objectives in sustainable development – i.e. social development, therefore, does require active public policy interventions.

The United Nations conferences and summits provide a significant corpus of public policy outcomes on social development and inclusive growth which complement those outcomes that have emerged from the forums devoted specifically to sustainable development. Other organizations of the United Nations system, in particular, the

⁷⁴ Gustavo Faleiros, *Lula's Economic Plan is Unsustainable*, <http://americas.irc-online.org/am/4229>

⁷⁵ The same caveat applies here as to the discussion of the public environmental expenditure/GDP indicator mentioned above. Moreover, when one moves to the firm level, environmental expenditure will vary widely by industrial sector – e.g., cement vs. automobiles vs. clothing.

⁷⁶ See Erkki Liikanen, European Commissioner, *Enterprise and the Information Society*, Speech to the Forest-based Industries Forum, 18 February 2003, Brussels, <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/03/95&format=HTML&aged=0&language=EN&guiLanguage=en>

⁷⁷ See by way of example, Geneva Government Department of Economic and Health, December 2006, *Compulsory Social Contributions*, p. 40

International Labour Organization (ILO) have an even larger collection of standards and norms in areas dealing with the social aspects of development. However, their primary focus tends to be on the intersection of economic and social development and only tangentially on the interaction between social development and environmental degradation.

The present chapter, therefore, focuses primarily on the interaction between environmental degradation and social development and possible policy responses that could be incorporated into national development strategies.

Basic Concepts in Social Policy

The sociologist Thomas Humphrey Marshall defined social policy as “the use of political power to supersede, supplant, supplement, or modify operations of the economic system in order to achieve results which the economic system would not achieve on its own.”⁷⁸ The Social Policy Note by Isabel Ortiz in this series defines social policy in a related way as an instrument applied by governments to regulate and supplement market institutions and social structures⁷⁹.

In other words, social policies can be seen as an attempt by public authorities to modify market outcomes to correct market failures and to effect a redistribution of resources between regions, social classes or generations. Social policies can benefit the special vulnerable groups that are the subject of numerous United Nations intergovernmental outcomes, such as people with disabilities, the ageing, youth, indigenous peoples and others. Social policies are also a form of economic governance and can serve as part of counter-cyclical policies to protect individuals in economic downturns. The integration of social and economic policies is thoroughly covered in the social policy note in this series, as well as in considerable existing international legislation and guidelines of the ILO and other bodies. For purposes of this chapter, rather, we will examine how the environmental externalities of economic activities affect social development, and therefore call for specific policy responses. Our focus will be on policies to affect the interactions between society and the environment, which, often rest on underlying unsustainable economic activity.

Connected with the concept of social policies is that of social citizenship, as first defined by T.H. Marshall. Social citizenship implies that rights to social services and other benefits of social policies are provided on the basis of membership in society and not by purchasing power based on performance in the marketplace⁸⁰. The concept of social citizenship can be extended to the environment in terms of rights of individuals to the

⁷⁸ See Marshall, T. H. (1950). *Citizenship and social class and other essays*. Cambridge: Cambridge University Press, and the University of Pittsburg website on welfare states: <http://www.pitt.edu/~heinisch/basic.html>

⁷⁹ Isabel Ortiz, *Social Policies*, National Development Strategies Policy Notes, United Nations Department of Economic and Social Affairs, 2007 http://esa.un.org/techcoop/documents/PN_SocialPolicyNote.pdf

⁸⁰ See Gosta Esping-Andersen, . *The Three Worlds of Welfare Capitalism* Princeton University Press 1990

benefits of the global and local environmental commons, based on membership in society and not by purchasing power. The area of environmental rights is still evolving, and is not yet as established as the field of social and economic rights in terms of binding legislation.

A human right to a clean and healthy environment was recognized by the Stockholm Declaration: “Both aspects of man’s environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights -- even the right to life itself.”⁸¹ In a 1994 report to the UN Commission on Human Rights (UNCHR), special rapporteur Fatma Ksentini called for a UN Declaration on Environmental Rights granting “all persons...the right to a secure, healthy and ecologically sound environment.” Environmental rights are mentioned in the constitutions of several countries such as Hungary and Mongolia, that are presented both as individual rights and governmental responsibilities⁸².

Countries may wish to seek ways to protect further the right of individuals to the environmental commons, regardless of their purchasing power, through specific legislation as well as through constitutional provisions. Such a judicial basis for environmental rights can then provide the justification for public policies for the protection of social well being, including health and livelihoods, where the environmental commons and consequently individual environmental and social rights are threatened by economic activity.

Interaction between the Environment and Society

There is an easily understandable two-way causality between environmental degradation – as a negative externality of economic activity - and social development. On the one hand, environmental degradation such as deforestation or air and water pollution has immediate social impacts. Environmental degradation compromises the health, happiness and livelihoods of those impacted by depleted natural resources or pollution. Air and water pollution, for example, lead to a deterioration in health and reduce life expectancies in affected areas.

As forests thin out, women and children who gather firewood are forced to devote increasing amounts of time and effort to this activity, at great opportunity costs in terms of productive alternative activities foregone. The rate of deforestation is of particular interest to policy-makers and policy-shapers because the cost of deforestation goes beyond the losses of forest products alone. It extends to such indirect costs as soil erosion, the substitution of animal and agricultural residues for cooking that would have otherwise been used for fertilizer, and there is the additional element of the contribution of deforestation to climate change.

⁸¹ Stockholm Declaration of the UN Conference on the Human Environment, 1972.

⁸² Environmental Rights Resources, University of Chicago,
<http://internationalstudies.uchicago.edu/environmentalrights/overview.shtml>

Conversely, poverty, exacerbated by environmental degradation, leads to greater deforestation and air and water pollution as people, unable to afford more sustainable consumption alternatives, chop wood for fuel, burn it and also contaminate rivers and ground water for lack of proper sanitation facilities. Similarly, population growth increases pressure on environmental resources and exacerbates degradation of the environment. Population policies aligned with national priorities need to be an integral part of national development strategies aimed at sustainable development.

However, typically in many countries, the impact of current production practices in industry and in agriculture, including land use patterns, have far greater consequences for environmental degradation and deterioration of social well-being than do the activities of people living in poverty or the growth in population⁸³. In emerging economies, in particular, in cases where economic growth has been prioritized over social and environmental protection, the consequences for the environment and social well-being have been negative⁸⁴.

Among the social consequences of fast growth are increases in premature deaths and cases of respiratory and other illnesses from air and water pollution and toxic chemicals. By way of example, the negative health impacts from exposure to the hazardous materials including heavy metals such as lead, mercury, cadmium, and arsenic contained in electronic waste (e-waste) include damage to the central and peripheral nervous systems, the blood system and kidneys, the endocrine system and to children's brain development.

In today's world the grim reality is that environmental degradation can also lead to absolute and relative deprivation as livelihoods, particularly agricultural ones are compromised, mass international and cross-border migration and consequently social unrest, which is the breeding ground for violent conflict. Violent internal and inter-state conflict is the gravest social impact of environmental degradation.

Low-income countries tend to be more prone to suffer severe social consequences of environmental change than richer ones, whose abundance affords them many compensatory policies and mechanisms which can avert violent conflict. Consequently, the incidence of ecologically induced conflict is far greater in low-income countries.

Degradation of the air, water and land in low-income countries will reduce agricultural production as well as incomes especially of vulnerable social groups increase migration both internal and cross-border and upset existing social capital – the traditional social networks, hierarchy and resource-sharing mechanisms.

These social impacts can engender conflict because of resource scarcity, ethnic rivalries and even lead to civil unrest and violence. Although the international community tends to focus on the immediate causes of conflicts rather than deeper-rooted ones and on the

⁸³ See Environmental Degradation and Social Integration, UNRISD Briefing Paper No. 3, World Summit for Social Development, November 1994.

⁸⁴ CSR Weekly, *China's Environmental Degradation Creating Social Time Bomb*, CSR Weekly Asia. Vol. 3, Week 31, <http://www.csr-asia.com/upload/csrasiaweeklyvol3week31.pdf>

immediate tasks of peace building and peace keeping, it is incumbent on policy-makers and policy-shapers responsible for sustainable development to focus on root environmental causes of social unrest that leads to violent conflict. Instances across the world abound, where at the root of violent conflicts and other forms of social violence are environmental and climatic shocks that threaten livelihoods and consequently undermine and disrupt long-standing social relations.

An investigation carried out by the NGO ActionAid found that climate change -- compared to 30 years ago, rainfall has now decreased immensely -- and the deterioration of social and economic conditions in some densely populated regions of India have made hunger worse amongst the poor and pushed people to commit suicide. The study focuses on significant changes in the weather conditions during the last four to five years which have adversely affected farming⁸⁵.

Policy Responses

Most policy responses to the complex dynamic of interactions between human society and the environment are one-dimensional, seeking to alleviate either environmental degradation or poverty or population growth, without taking into account the intricate interaction between these factors. The first step, therefore, in crafting policies to address the social side of sustainable development is to examine the human society-environment cycle at the national and local levels and to design responses that are holistic.

Consequently, a purely conservationist approach or a purely social approach will not be sustainable. The conservationist approach tends to predominate in many countries and has been the general approach to environmental policy since the mid-nineteenth century.

Policy responses to health issues caused by pollution from fast growth, particularly in emerging economies, which involve the active involvement of industry and business, include saving and seeking substitutes for oil, improving coal burning industrial boilers, developing regional combined circular power plants, increasing energy efficiency in power generation systems, improving overall energy system performance, developing energy saving construction and lighting systems and requiring governmental lead in energy conservation, as well as providing monitoring systems and related service development.

Civil society including in the form of citizens' initiatives can help shape public environmental and health policies to introduce legislation and enforcement mechanisms for such preventive solutions, as those above as well as for palliative solutions such as expanded health care and treatment for those affected.

People can be a major asset in reversing a trend towards environmental degradation. However, they need to be healthy and politically and economically motivated to care for

⁸⁵ Action Aid, *Suicides in Bundelkhand as climate change and oppression push farmers to the brink* http://www.actionaidindia.org/HungerWatch_first_page.htm

the land, as subsistence agriculture, poverty and illiteracy can be important causes of land and environmental degradation. While people have to exploit the environment and natural resources to alleviate poverty and raise their standard of living, such exploitation has its costs. Overexploitation and abuse of natural resources could not only lead to environmental degradation but also exacerbate the very poverty people seek to alleviate⁸⁶

V. THE ENVIRONMENTAL DIMENSION OF SUSTAINABLE DEVELOPMENT

Basic Concepts

Environmental degradation is the damage caused to the biosphere by human activity and results when natural resources are consumed faster than nature can replenish them, when pollution causes irreparable damage to the environment or when ecosystems are destroyed in the pursuit of economic growth. Climate change, currently one of the overarching themes on the global agenda, is the principal long-term consequence of persistent environmental degradation.

The exploitation of natural resources in the pursuit of economic growth takes a heavy toll on the quality and availability of air, water and land resources, through, among other means, air pollution, deforestation, desertification, the extinction of species and radioactivity. Among the prime contributors to environmental degradation are population growth, poverty, intensive agriculture, over-fishing, introduction of invasive species, industrialization and industrial pollution, waste dumping, rising energy use and transportation, urbanization, and a dearth of environmental regulations or an inadequate capacity to enforce them.

Environmental protection seeks to counteract these causal factors, through legislation, policy and their enforcement, so as to reverse their destructive effects and to promote a sustainable use of natural resources and the environment as a whole, including through the regeneration of natural resources, for example through reforestation. Environmental sustainability requires ideally that human activity consume the resources of nature at no more than a rate at which they can be replenished naturally. The 2007 report of the Intergovernmental Panel on Climate Change (IPCC) concludes that humankind has long exceeded this rate of natural replenishment, with disastrous and irreversible effects on the world's environment and climate.

⁸⁶ See UNECA, *Economic and Social Conditions in Southern Africa 2002: Economic Impact of Environmental Degradation in Southern Africa*, (Lusaka: UNECA Southern Africa Office, 2002), p. xi

The IPCC report ⁸⁷ found that the amount of carbon dioxide (CO₂), the major greenhouse gas (GHG), in the atmosphere in 2005 of 379 parts per million (ppm) exceeds by far the natural range of the last 650,000 years of 180 to 300 ppm. In 1950, the CO₂ concentration was 315 ppm. The amount of methane in the atmosphere in 2005 (1774 parts per billion (ppb)) exceeds by far the natural range of the last 650,000 years (320 to 790 ppb). Nitrous oxide concentrations have risen from a pre-industrial value of 270 ppb to a 2005 value of 319 ppb. More than a third of this rise is due to human activity, primarily agriculture. The IPCC concluded that the warming of the climate system is unequivocal and that “most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.” Average temperatures in the Northern Hemisphere during the second half of the 20th century were very likely higher than during any other 50-year period in the last 500 years and likely the highest in at least the past 1300 years.

The IPCC report makes projections based on present trends – whereby atmospheric concentration is increasing at 2ppm per year - and concludes that should present growth of CO₂ emissions continue unchecked atmospheric concentration could reach 800 ppm by 2057. A critical threshold is 450 ppm, corresponding to an increase of mean temperatures by 3 degrees C over the present level, beyond which Greenland and the West Antarctica ice sheets would melt. An international consensus is growing among United Nations member states that policy efforts should concentrate on achieving a global turn around in emissions in the next 10 to 15 years as well as limiting atmospheric concentration to 450 ppm or less and the temperature increase to 2 degrees or less. *The post-Kyoto framework on climate change needs to obtain international agreement for these parameters, particularly on atmospheric carbon dioxide concentration.*

At the extreme, long-term environmental degradation and its concomitant climate change would result in local environments that are no longer able to sustain human populations to any degree and, could make the earth uninhabitable for human life, through such phenomena as declining mountain glaciers, shrinking snow cover, heavier precipitation, more intense and longer droughts, disappearance of coral reefs, rising sea levels, large-scale desertification and deforestation.

In the short-term, environmental degradation leads to declining standards of living, the extinctions of large numbers of species, health problems, drought, water shortages and even violent conflict, as communities compete for diminishing natural resources and many other ills.

Population growth can provide human resources for development, yet contributes substantially to environmental degradation, when it exceeds the environmental support limits. Unless the relationship between the multiplying population and the environmental support system can be stabilized, development programmes, no matter how innovative are not likely to yield desired results. Population growth impacts the environment

⁸⁷Intergovernmental Panel on Climate Change, Report of Working Group One, The Physical Science Basis, Summary for Policy Makers, (IPCC, February 2007), <http://ipcc-wg1.ucar.edu/wg1/wg1-report.html>

primarily through the use of natural resources and production of wastes and causes environmental stresses like loss of biodiversity, air and water pollution and increased pressure on arable land.

Poverty is both a cause and an effect of environmental degradation. The circular link between poverty and the environment is an extremely complex phenomenon. Inequality may foster environmental degradation because those living in poverty, who rely on natural resources more than the rich, deplete natural resources faster as they lack access to other types of resources. Moreover, a degraded environment can exacerbate poverty, because the poor rely for their livelihood directly on natural assets. The dearth of opportunities for productive employment in rural areas and the deterioration of land, water and other resources cause poor people to migrate to towns and cities. Consequently, mega cities are emerging in many parts of Asia, Africa and Latin America, with the sprawl of slums and shantytowns.

The growing migration to cities as well as population growth in them has caused the degradation of the urban environment. The rapid growth of towns and cities has placed enormous pressures on infrastructure services such as energy, housing, transport, communication, education, water supply and sewerage and recreational amenities. Consequently, the natural resource base of towns, including its air, water and land, has been severely depleted, with a substantial deterioration of air, land and water quality and availability, accumulation of toxic and other hard-to-recycle wastes, all of which exacerbate urban poverty in a vicious circle.

In economic terms, environmental degradation results in large part from market failure, namely the lack or poor operation of markets for environmental goods and services. Where private and social costs and benefits diverge, environmental degradation results as a result of the negative externalities of consumption or production. Market failure can also result from a lack of well defined property rights for natural resources and environmental goods and services. Similarly, price controls and subsidies for environmental goods and services – such as subsidized usage rates for water -- can also accelerate the depletion of natural resources, through such activity as the over-consumption and waste of freshwater -- and thereby aggravate environmental degradation. The lack of a price for carbon emissions and perverse direct and indirect subsidies for fossil fuel use have produced the market failure reflected in global warming and climate change .

To assist policy-makers and policy-shapers in seeing where their country stands in relation to others in terms of environmental degradation and environmental sustainability, a number of composite indices exist that have their uses, although methodologically they are controversial. Composite indices in particular are questioned by statisticians as being value-laden and hence not objective, because they involve the selective use and combination of a few economic, social and physical indicators.

However, policy-making is ultimately about choices and values. The following indices⁸⁸ are available for use as reference tools, for setting benchmarks, although they carry no endorsement by the United Nations Statistical Commission. Of course, such indices should not be used exclusively in policy setting and must be supplemented by thorough reviews of a broad range of pure (uncombined) statistical indicators.

The environmental degradation index (EDI), created by Raghendra Jha of the Australian National University and K.V. Bhanu Murthy of the University of Delhi in 2003⁸⁹, is based on quantitative empirical studies using principal components analysis (PCI) and relies on the indicators: annual per capita freshwater withdrawals, printing and writing paper consumed per capita, per capita CO₂ emissions, share of world total CO₂ emissions, and the rate of deforestation. Two other indicators, annual freshwater withdrawals as a percentage of water resources and the rate of deforestation, were discarded as insufficiently significant statistically. Murthy and Jha then calculate a global EDI, which is the sum of the values of all countries, and then rank 174 countries according to their EDI. While the EDI is not endorsed by any intergovernmental forum, policy-makers and policy-shapers should be aware of the ranking of their country and others at a comparative level of development as a reference for objective setting and policy formulation.

The environmental sustainability index (ESI)⁹⁰ is a tool developed by Yale Center for Environmental Law and Policy of Yale University and by the Center for International Earth Science Information Network of Columbia University, using data available for 146 countries. The ESI benchmarks the degree of success for each country in five core components: (1) environmental systems, (2) reducing environmental stresses, (3) reducing human vulnerability, (4) social and institutional capacity and (5) global stewardship.

Although the ESI does not have official intergovernmental status, it can serve as a useful guide to policymakers and policy-shapers, particularly in permitting them to see where their country stands in relation to others of the same region or same income level. Most usefully for policy-makers and policy-shapers, the ESI literature provides a profile on each of the 146 countries, which can serve as a useful input into the dialogue between public authorities and civil society at the national level.

⁸⁸ A broad survey of economic, social and environmental composite indices is provided in UNDP Office of Development Studies, A Survey of Composite Indices Measuring Country Performance: 2006 Update, http://www.thenewpublicfinance.org/background/Measuring%20country%20performance_nov2006%20update.pdf

⁸⁹ Jaghbendra Jha and K.V. Bhanu Murthy, Environmental Sustainability: A Consumption Approach (New York, Routledge, 2006) and “A Consumption Based Human Development Index and a Global Environmental Kuznets Curve” <http://rspas.anu.edu.au/economics/publish/papers/wp2004/wp-econ-2004-03.pdf>

⁹⁰ 2005 Environmental Sustainability Index: Benchmarking National Environmental Stewardship, (Yale Center for Environmental Law and Policy of Yale University and by the Center for International Earth Science Information Network of Columbia University 2005). www.yale.edu/esi

Finally, there is the Environmental Vulnerability Index (EVI)⁹¹, which is being developed by the South Pacific Applied Geoscience Commission (SOPAC), which will quantify the national level the extent of vulnerability of the natural environment to damage from natural and man-made risks. The EVI is intended to help introduce environmental vulnerability considerations into national development planning and management so as to promote sustainable development. The EVI measures ecological vulnerability and supplements other vulnerability indices such as the economic vulnerability index used by the Commission on Development Policy and other bodies of the United Nations in their classification and studies of countries in various vulnerable categories such as least developed, Small Island and landlocked.

In order to support policies related to controlling greenhouse gas emissions, particularly carbon management, it is important for policy-makers to have access to data on the national and global carbon cycles⁹². For example, in countries that whose productive base is largely agricultural and sylvan, policy-makers and policy shapers need access to analytical tools to assess economic and environmental effects of enhancing carbon sink and greenhouse gas abatement measures on agricultural and forest lands⁹³. Some countries such as Australia⁹⁴ have invested considerable resources in national carbon cycle studies and greenhouse accounting with a view to developing carbon policies. *Each country should do likewise within their budgetary constraints and international cooperation and financing in this area should be sought by policy-makers, particularly through association with on-going international scientific and policy studies such as the Global Carbon Project*⁹⁵.

Policy Responses to Environmental Degradation and Climate Change

The world is currently striving hard for consensus on ways to stem environmental degradation and address climate change through adaptation, mitigation, technology and finance. The 24 September 2007 high level event of the General Assembly⁹⁶ was devoted precisely to these four themes. The event served to elevate the discussion on climate change from that of environment ministers to heads of state and government and to build momentum for the Conference of Parties of the United Nations Convention on Climate Change (COP-13) to be held on 3-14 December 2007 in Bali, Indonesia. The Bali

⁹¹ Alder, Jackie, Arthur Dahl, Ursula Kaly, Jonathan Mitchell, Ned Norton, Craig Pratt, Dr Michael Witter, "Report on the environmental vulnerability index (EVI) Think Tank II" 2004
<http://www.sopac.org/tiki/tiki-index.php?page=Environmental+Vulnerability+Index+EVI+Library>

⁹² See Global Carbon Project (GCP) <http://www.globalcarbonproject.org/>

⁹³ See, in particular, the work of the Integrated Sink Enhancement Assessment project of the European Union: <http://www.iiasa.ac.at/Research/FOR/INSEA/index.html>

⁹⁴ Cooperative Research Centre for Greenhouse Accounting (Australia): The Carbon cycle
<http://www.greenhouse.crc.org.au/Research/c.cfm>

⁹⁵ Global Carbon Project <http://www.globalcarbonproject.org/>

⁹⁶ See the website of the High-Level Event: <http://www.un.org/climatechange/2007highlevel/>

Conference is intended as a negotiating session devoted to process, to arrive at a roadmap for completing by 2009 a new framework for addressing climate change in the post 2012 period, rather than as a substantive session dealing with the political issues at stake.

Clearly given the unequivocal evidence found by the IPCC, measures for adaptation alone, although essential in both developing and developed countries, cannot successfully deal with all the projected effects of climate change over the long run as most impacts grow in a compound fashion. Therefore, mitigation measures – particularly those aimed at drastically reducing emissions of greenhouse gases - will also be needed. Mitigation measures tend to be the most politically controversial because they involve transforming through major investments the nature and extent of industrial, agricultural and other production and consumption patterns so as to make them less carbon-intensive.

To be truly effective mitigation requires a major modification in the lifestyles in the rich countries that consume the lion's share of the world's environmental resources. Similarly, for adaptation and mitigation to be effective, particularly in poor countries, these require access to the relevant technologies and additional, predictable and affordable finance. Development finance including ODA needs to cover adaptation measures, which are typically not covered by carbon-offset financing. The UN Framework Convention on Climate Change (UNFCCC) does recognize in its Principle 4 the right of developing countries to pursue sustainable development and that economic development is essential in order to adopt measures to address climate change⁹⁷.

At the national level, efforts to address environmental degradation and climate change pose the following important challenges: (1) the mobilization of the scientific community to mount an integrated programme for methods, standards, data collection, and research networks for assessment and monitoring of soil, water, land, forest, and atmospheric degradation that are relevant to developing countries; (2) the development of environment-use models that incorporate both natural and human-induced factors that contribute to degradation and that could be used for resource use planning and management; (3) the development of information systems that link environmental monitoring, accounting and impact assessment to degradation; (4) the implementation of policies that encourage sustainable environmental resource use and management, and assist in the greater use of environmental resource information for sustainable livelihoods; and (5) the implementation of economic instruments for the assessment of environmental degradation and encourage the sustainable use of environmental resources⁹⁸.

Specific national-level policy responses to environmental degradation and climate change include those measures aimed at promoting the sustainable use of air, water, land and forests. Above all, national budgets must make sufficient allocations for protection and management of natural resources and the environment and to adapt to the impacts of climate change. Policies to reduce emissions of green-house gases include providing incentives for the development of technologies, providing effective carbon price signals to

⁹⁷ UNFCCC, Principle 4, <http://unfccc.int/resource/docs/convkp/conveng.pdf>

⁹⁸ UNECA, *Economic and Social Conditions in Southern Africa 2002: Economic Impact of Environmental Degradation in Southern Africa*, (Lusaka: UNECA Southern Africa Office, 2002), p. xii

*encourage investment in low-greenhouse gas products, technologies and processes, taking strategic investment decisions on energy infrastructure so as to diminish emissions, and, above all, changing lifestyles and production patterns to lower their carbon-intensity, particularly in the building, transport and industrial sectors*⁹⁹.

Environmental protection and combating climate change do have an economic cost in terms of growth foregone. However, as seen above, in the discussion of environmental accounts, economic growth at the expense of environmental degradation and climate change is illusory because it involves depletion of natural assets and decreased long-term well-being. The IPCC estimates that in order to stabilize the atmospheric CO₂ concentration in the target range of 445 to 535 ppm by 2030 which is necessary to avert major disasters the world will need to undertake major mitigation measures and to accept a level of GDP in that year that will be approximately 3 per cent less than in the absence of such measures. The annual growth between 2007 and 2030 would also be some 0.12 per cent lower because of the mitigation measures¹⁰⁰. Indeed, this is a small price to pay in human terms to avert the disasters that would otherwise result.

Faced with widespread environmental degradation, national policies need to aim at the regeneration of land, forests, water and the atmosphere. Given the overwhelming global and local dangers faced by developing and industrial countries from climate change and global warming, policies to bring about a low-carbon economy should be a priority in all countries. This is not purely a North-South or East-West issue. For example, clean energy is desirable in all countries. Air pollution in emerging economies such as China and India is certainly not palatable to national policy-makers or citizens there but it is a fact of life given the cheap availability of coal, the use of existing polluting technologies and the lack of economically viable alternative sources of energy. *The industrial countries, as historical generators of the current atmospheric stock of greenhouse gases, need to play the lead role in funding the transition to cleaner energy sources for all countries and more efficient use of existing fossil fuels where renewable alternatives are not viable in the short term. They also need to take the lead in providing finance for adaptation measures in developing countries, to complement domestic resource mobilization efforts in the latter.*

The Kyoto Protocol's two project mechanism the Joint Implementation (JI), which brings together Annex I partners typically from industrial economies and economies in transition, and Clean Development Mechanism (CDM), which brings together partners from industrial and developing economies, are both means by which the transition to clean energy or the transition to sustainable forestry can be funded with resources from industrial countries in exchange for emission reduction units (ERUs) which can help industrial countries meet their Kyoto GHG emissions reductions targets.

Provisions for the use of existing funding structures and institutions to promote a low-carbon economy such as the Joint Implementation mechanism and Clean Development Mechanism should be an integral part of the environmental strategies of developing and

⁹⁹ Dr. RK Pachauri, Chairman, IPCC, Director General, Tata Energy Research Institute, The IPCC Fourth Assessment Working Group Reports : Key Findings, <http://www.ipcc.ch/585>

¹⁰⁰ Dr. RK Pachauri, op. cit.

industrial countries. Developing countries and economies in transition should introduce policies and procedures to facilitate the presentation and approval of JI and CDM projects and the development of a national carbon market, as the case may be. The examples of Belarus, Bulgaria, Hungary, Lithuania, Poland, Russia, and Ukraine in the case of the JI¹⁰¹ and Brazil, China, India and Mexico¹⁰² in the case of the CDM¹⁰³ are illustrative but not exhaustive. The JI and CDM, however, are largely geared to mitigation measures, rather than adaptation measures, which require supplementary finance from national budgets, ODA and national carbon taxes.

Depending on the productive base of the policy-maker's country, the mix of policy measures to address environmental degradation and climate change needs to address agriculture, land-use, energy and industry with varying emphasis. In largely rural or forest economies, the policy mix would focus on achieving sustainability through policies focused on agriculture, land-use and forestry, with a view to expanding livelihoods while introducing sustainable management practices for agriculture and forestry. In countries with a larger industrial base, the policy mix should give greater weight to such goals as promoting energy efficiency and clean energy use in manufacturing.

The former centrally planned economies in Eastern Europe and the CIS as well as Cuba are test cases where a drastic reduction in greenhouse gas emissions resulted from deindustrialization. A lower carbon economy resulted in these countries less by planned design than by political forces and an opening up to international market forces, which changed an economic system and productive structure. Deindustrialization generated considerable negative social fallout, including widespread unemployment and poverty, but did produce a surplus of carbon credits which economies in transition are now able to trade or exchange for clean development projects. Deindustrialization as such should not be pursued as a policy objective, but policies should aim at reducing the energy and carbon intensity of existing and planned industries. The extensive expansion of coal-fired energy plants in China and India, for example, are a move in the opposite direction.

In industrial countries, carbon trading and cap-and-trade schemes, the market-based mechanisms, which are politically expedient will simply not be enough as environmental policies to bring about the heavy cuts required for achieving a peak in the emissions of greenhouse gases in the next two decades and a subsequent decline, in order to counteract cataclysmic climate change. Mandatory emissions caps that are substantially lower than 1990 baseline emissions will be needed, as well as carbon taxes, as proposed by Governor Arnold Schwarzenegger of the US Federal State of California, which is the seventh economy in the world. Carbon taxes, which have been generally politically unpopular in major industrial countries, and strongly opposed through intense lobbying by industry and oil and coal suppliers, are nevertheless being introduced successfully in

¹⁰¹ UNFCCC: Parties Involved in JI Projects http://ji.unfccc.int/JI_Parties

¹⁰² UNFCCC: Parties involved in CDM Projects: <http://cdm.unfccc.int/Statistics/Registration/NumOfRegisteredProjByHostPartiesPieChart.html>

¹⁰³ See Jimin Zhao, International Organizations and National Carbon Markets, <http://www.gcp-urcm.org/files/A20061205/zhao.pdf>

many cases, as occurred as early as 1991 in Sweden and more recently in the Province of Quebec, Canada in October 2007.

In the latter case, the provincial carbon tax is expected to generate some 200 million Canadian dollars to be used for green projects to reduce dependency on fossil-fuels and cut greenhouse gas emissions, while also discouraging the burning of fossil fuels by raising the effective cost of it to consumers and producers¹⁰⁴. In the case of Sweden, the taxes on carbon and sulphur, compensated by cuts in income taxes, and the taxes on diesel fuel, oil and electricity, compensated by cuts in social security taxes have proved effective in switching the fiscal burden of taxes towards greenhouse-gas emitting activities and away from regular income and social security¹⁰⁵.

Sample proactive policy measures to address environmental degradation and climate change, drawing on good practices from around the world, include:

- *Comprehensive national climate change policies to address adaptation, mitigation, technology and finance. In the High-Level Meeting of the General Assembly on Climate Change of 24 September 2007 heads of state and government as well as senior policy makers from some 170 countries expressed the need for and commitment to such policies at the national, regional and global levels.*
- *Decentralizing the control and management of public natural resources such as forests from the central to the local level and involving local communities, including indigenous groups, in the process.*
- *Developing a national carbon management strategy to include such matters as controlling carbon emissions in urban areas and expanding carbon sinks through reforestation, land use changes and transformation of agricultural practices.*¹⁰⁶
- *Formulating national and local plans for use of water, land, forest and air resources, with the effective involvement of local communities and indigenous groups.*
- *Pricing natural resources at their opportunity cost when planning development projects that rely heavily on specific air, land, and forest and water resources.*
- *Ensuring that environmental impact assessments of all investment projects account for the opportunity costs of natural resources.*
- *Strategies for pricing natural resources at their opportunity cost could include such measures as carbon taxes, as in the case of Quebec above, and the removal*

¹⁰⁴ Environmental Economics: Economists on Environment and Natural Resources <http://www.env-econ.net/2007/10/some-basic-econ.html>

¹⁰⁵ Darren Swanson, Laszlo Pinter, Francois Bregha, Axel Volkery, Klaus Jacob, *National Strategies for Sustainable Development: Challenges, Approaches and Innovations in Strategic and Coordinated Action*, (International Institute for Sustainable Development, Gesellschaft fuer Technische Zusammenarbeit, 2004) http://www.iisd.org/pdf/2004/measure_nat_strategies_sd.pdf, p.xi

¹⁰⁶See Patricia Romero Lankao, *How do Local Governments in Latin America manage global warming*, <http://www.gcp-urcm.org/files/A20061205/lankao.pdf>

of fiscal subsidies for the use of fossil fuels¹⁰⁷, including direct and indirect fiscal transfers to the energy sector through tax rebates and other measures.

- *Promoting through research and extension services less carbon-intensive crop cultivation methods such as no-till farming.*
- *Initiatives to encourage the diversification of agricultural production into drought-resistant, disease-resistant non-traditional crops to ensure food security.¹⁰⁸*
- *Adopting “home-grown” genetically modified crops that are resistant to drought, diseases and pest, and which are proved to be safe for human consumption.*
- *Providing rural households with electricity or bottled natural gas so as to reduce fuel wood consumption and indoor air pollution. The adoption of energy-efficient cooking stoves should be promoted to reduce household fuel wood consumption.*
- *Encourage national and local dialogue on the national and local environmental budgets, with an active involvement of civil society, and seek to incorporate the views of multiple stakeholders from the government, civil society and business.*
- *Counterbalance the pro-carbon lobbying of industry and oil and coal producers with lobbying by civil society devoted to the environment and climate and the mobilization of voters.*

VI. INTEGRATING ECONOMIC, SOCIAL AND ENVIRONMENTAL GOALS IN A NATIONAL DEVELOPMENT STRATEGY

Participative Strategic Planning

A national development strategy is, ideally, a plan for achieving a vision of a future society, which represents the consensus of all segments of the population. Such a participative vision is rarely achieved in the real world, but it is incumbent on policy-makers and policy-shapers to strive for it.

A participative vision is the starting point for a national development strategy that fully integrates the economic, social and environmental pillars. In order for this holistic vision to be brought together, it is important that all groups that share those interests are

¹⁰⁷ Doug Koplow and John Dernbach *Federal Fossil Fuel Subsidies and Greenhouse Gas Emissions: A Case Study of Increasing Transparency for Fiscal Policy* <http://www.mindfully.org/Energy/Fossil-Fuel-Subsidies.htm>

¹⁰⁸ This and the next two bullets are drawn from UNECA, *Economic and Social Conditions in Southern Africa 2002: Economic Impact of Environmental Degradation in Southern Africa*, (Lusaka: UNECA Southern Africa Office, 2002), p. xiii

involved in the visioning and planning process. Too often, the visioning exercises are performed by national and international elites – a small group of policy-makers and policy-shapers jointly with staff from the international financial institutions. This has certainly been the case with the Poverty Reduction Strategy Papers, which, although nominally owned by the countries they cover are in fact prepared by policy-making elites, jointly with IFI personnel, using a limited, boiler-plate vision of development, where sustainability, both social and environmental, receives only lip-service.

This discussion focuses on the experience with PRSPs because they represent the dominant mainstream of planning instruments in low-income countries that can most benefit from a policy note such as this. To introduce sustainability into national development strategies means perforce influencing and changing the course of the PRSP, so as both to increase national involvement in their preparation and the involvement of a broader range of interest groups within the country than is presently the case. If this does not occur, PRSPs will continue to favour primarily neo-liberal economic concerns over the truly social and environmental ones.

Recent evaluations of Poverty Reduction Strategies, including those conducted by the World Bank's Operations Evaluation Department and by the IMF's Independent Evaluation Office, as well as donor evaluations, including those cited in the 2001 OECD Guidelines on Sustainable Development, indicate that environmental considerations have been given short shrift in the preparation of actual PRSPs around the world. While this was particularly true of the first generation of PRSPs, the experience with more recent PRSPs shows that while environmental concerns have been mentioned, their effective integration into the frameworks and their links to financial resources are very limited. Moreover, the preparatory processes tend to be exclusive of broader circles of stakeholders, particularly civil society, although these are superficially invited to some of the meetings to discuss approaches that are usually fully blown.

A recent evaluation of a sample of PRSPs in Ghana, Honduras, Uganda, and Vietnam by the Canadian International Development Agency (CIDA), described in detail in the adjacent box, reveals that, "there is a tendency for PRSPs to reproduce narratives that seek technical solutions and to exclude those that draw attention to politicized aspects of the environment. PRSP narratives project an illusion of natural resources that require better management and enhanced legislation to ensure that poor people benefit, while overlooking highly political struggles over environmental control and rights to resources".¹⁰⁹

From the very beginning, National Development Strategies, including Poverty Reduction Strategies should, therefore, be designed to balance economic, social and environmental considerations. The more participative their preparation, in terms of the involvement of major stakeholder groups, including civil society, academia and business, and their vetting through parliamentary discussion, the greater the chances that social and environmental concerns will be more adequately reflected in them.

¹⁰⁹ Canadian International Development Agency (CIDA) website: <http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/EMA-218131146-PHE>

Box 2: A Bilateral Donor’s Evaluation of Environmental Issues in Poverty Reduction Strategy Papers (PRSPs) in Vietnam, Ghana, Uganda and Honduras

An evaluation by the Canadian International Development Agency (CIDA) of environmental issues in Poverty Reduction Strategy Papers (PRSPs) in Vietnam, Ghana, Uganda and Honduras concludes that in all four countries examined, PRSPs have also created new possibilities for environmental issues to be seriously considered by policy-makers within government. However, much remains to be done. In particular, ‘weaker’ ministries and environmental NGOs have benefited by some, albeit limited, involvement in the PRSP process. In most instances, however, donor support was required to ensure that environmental issues received continued attention once the PRSP consultation and drafting processes were complete.

In all four countries, the PRSP documents did, to different degrees, address environmental issues. The process of mainstreaming environmental issues had, however, experienced several constraints, such as: exclusion of many ministries and civil society from the drafting and financial processes and changing government priorities regarding the environment in particular. These issues hindered the translation of PRSP environmental priorities into implementation programs. Generally speaking, government spending on environmental issues received low priority, especially when evaluated against other development ‘priorities’ such as macro-economic growth and industrialization. Insufficient public capacity to monitor environmental degradation has also hindered attempts to mainstream environmental considerations in decision-making. Citizens interviewed in all four countries expressed doubts over public capacities and resources to monitor and implement environmental regulation.

Opening up PRSPs to deliberation over questions concerning rights, ownership, and control suggests that PRSP processes might need to ask different questions about environmental resources. Rather than exploring what the environmental problems are, such an enhanced PRSP exercise would explore different definitions of environmental problems and would seek to mediate between various different sets of vested interests—between extractive industries, people who live on the land, traditional leaders, the government, and so on—seeking to find ways of working together to mutually benefit from and protect natural resources. Such an approach would suggest that, ultimately, new types of participation may have to be considered. These may include forms of participation that legally enshrine citizens’ opportunities to engage in PRSPs and to express their concerns, coupled with the formalization of governments’ responsibilities to address these concerns.

Source: CIDA website: <http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/EMA-218131146-PHE>

The Essential Role of Parliaments

Increasing national involvement in policy making and the formulation of development strategies requires a stronger role for parliaments and other legislatures in the oversight of public policies and the preparation and implementation of the budget. In many developing countries, constitutions and legislation provide for powerful executive branches, which use their broad discretionary authority to play the preponderant role in setting policies and strategies, often in tight collaboration with IFIs, aid donors and transnational corporations. It is the lack of effective legislative oversight and control that leads to the drawbacks of many poverty reduction strategies as well as their underlying environmental, social and economic policies. Legislatures are further stymied by the politics of patronage. Parliamentarians simply avoid providing alternatives to policies proposed by the executive branch. Individual parliamentarians may be consulted on new policy initiatives by the executive branch on an ad hoc basis, but the initiatives are not brought to parliament at an early stage and their role often involves rubber-stamping the initiatives once fully formulated by the executive branch¹¹⁰.

UNCTAD, in an analysis of poverty reduction strategies in Africa, cautions that: "this substitution of conventional institutions of representative democracy by ad hoc mechanisms could undermine the fledgling institutions of representative democracy taking root in African societies"¹¹¹.

In order for national development strategies, including poverty reduction strategies, to fully reflect environmental, social and economic concerns in a balanced manner, parliamentary sovereignty needs to be strengthened, with ample space for public hearings. The budgetary powers of parliaments should be extended. Parliaments can take part in public expenditure management through votes on the budget, questioning by parliamentarians. Even where constitutions limit the ability of parliaments to amend the budget once submitted by the executive, the parliamentary debate and public hearings introduce a measure of accountability which is often currently lacking.

A study by the German Development Agency (GTZ) and the Canadian Parliamentary Centre on the role of parliaments in the formulation and oversight of PRSPs in Tanzania, Malawi, Niger and Ghana finds that parliaments have a "limited effectiveness in impacting the budget cycle process" and that "executive control over budget planning, formulation and implementation is virtually absolute."¹¹² Another weakness found by the study was a lack of direct contact of parliaments with the people living in poverty that they are supposed to represent and defend.

¹¹⁰ For further discussion of shortcomings of national policy making and legislative processes see the Bretton Woods Project at: <http://brettonwoodsproject.org/art.shtml?x=42245>.

¹¹¹ UNCTAD, *Economic Development of Africa: From Adjustment to Poverty Alleviation: What is New?* <http://www.unctad.org/en/docs/pogdsafricad2.en.pdf>

¹¹² GTZ and Parliamentary Centre of Canada, *PRSPs in Africa: Parliaments and Economic Performance* (Eschborn, 2006) http://www.parlcent.ca/africa/papers/GTZ%20Final%20Publication_EN.pdf p.17

Constitutional assemblies and legislatures charged with changing or amending the constitution should ensure greater policy space for parliaments in the planning, formulation and implementation of national development strategies, including poverty reduction strategies.

Legislators should consider taking a more active role in direct outreach to constituents living in poverty as well as civil society concerned with the environment, including through holding public hearings on matters related to national development strategies at the planning and formulation stages. Parliamentarians should also consider using existing procedures and machinery to organize parliamentary committees and ad hoc groups to review such strategies at the planning and formulation stage as well as to mandate reviews of implementation and impact from the point of view of project stakeholders and beneficiaries who are their constituents.

VII. PROMOTING SUSTAINABLE DEVELOPMENT AT THE INTERNATIONAL LEVEL

Towards a Global Deal on Sustainable Development

Newly independent countries always feel that preserving independence is harder than achieving it. The same goes for sustainable development. Realizing a national consensus on sustainable development or at least workable policy space is hard enough as it is, conserving and converting it into action is a Herculean task. A strong support for national consensus on sustainable development is provided by an active participation by the country in international forums dealing with sustainable development. The more the commitments assumed internationally by the country, through active participation in these forums, the stronger the case that those interested in sustainable development can make for achieving it nationally.

International agreements do provide moral support for national laws, even where they are not binding as in conventions or protocols. Additionally, an active national participation in global governance of sustainable development – both as an overall approach as well as through the organs dealing with the economic, social and environmental pillars individually – is essential because of the cross-border nature of many environmental, social and economic problems.

National participation in sustainable development forums should include more than the environmental ministry, although the participation of the latter is fundamental in the delegation, given that in the sustainable development triangle, the environmental pillar is historically the weakest in most countries.

In deciding on representation at the Commission on Sustainable Development (CSD), a functional commission of the Economic and Social Council (ECOSOC) and the main United Nations organ charged with follow-up to UNCED and WSSD, therefore,

governments should consider going beyond environment and natural resources ministries to ministries of planning, economics and social development or integrated delegations where each of the sustainable development pillars are well represented.

Policy-makers may wish to take up the challenge of those issues that emerged from WSSD, but which could not be included in the 15 year work plan of CSD at CSD-11 in 2003, but which can be addressed in part by taking an integrated approach to the existing agenda: (1) UN System coherence on sustainable development issues, (2) trade and sustainable development, (3) corporate accountability and (4) improved national reporting and sharing of experiences, so that voluntary “peer reviews” might be undertaken and generally building frameworks and political will to seek accountability of those actors that most strongly affect sustainable development, particularly those who consume and produce the most.¹¹³

For example, regarding corporate accountability, the theme can be brought in the 2008-2009 CSD-15 discussions on agriculture and land use because transnational corporations control 80 percent of the land world-wide cultivated for export crops and also control production of nearly all principal toxic chemicals¹¹⁴.

Corporate accountability issues relating to toxic chemicals and wastes and mining can be brought up at CSD-18 and CSD-19 which will deal with transport, chemicals, waste management, mining, and a ten-year programme on sustainable consumption and production patterns.

Accountability issues related to timber transnational companies and national timber enterprises should be addressed at CSD-20 in 2012 and CSD-21 in 2013 which will cover forests, biodiversity, biotechnology, tourism, and mountains.

Finally, the contribution of global fishery corporations to the crisis where 70 per cent of the world’s conventional fish stocks were either fully exploited, severely overtaxed, declining or recovering, can be addressed at CSD-22 in 2014 and CSD-23 in 2015.

Regrettably, many of these accountability issues cannot wait, and national action, through national development strategies to address accountability issues in the jurisdiction of nation states can still be pursued in the meantime.

In the previous chapter, we stressed the importance of achieving a true national consensus on sustainable development embodied in a vision of society at some time in the future, though participative visioning exercises that many governments, with the support of international partners, are undertaking. Achieving such a consensus on sustainable development at the international level is no less important, given the growing awareness of the cross-boundary nature of issues such as the environment, climate change, international migration and contagion from financial crises.

There have been bold attempts at achieving international consensus on sustainable development, the largest single initiative in recent years being the Johannesburg

¹¹³ See Tom Bigg, *WSSD: An Assessment*, Box: Key Outcomes from CSD-11.

¹¹⁴ Kenny Bruno and Joshua Karliner, *From Rio to Johannesburg: The Globalization Decade*, Global Policy Forum, July 24, 2002, www.globalpolicy.org/reform/2002/rioglobalcompact.htm

Declaration and Johannesburg Programme of Implementation, even if it did fall short of the expectations of many in governments and civil society genuinely committed to sustainable development. There are strong centrifugal forces at work in the world today that make consensus on sustainable development much more difficult than even a decade and a half ago when Agenda 21 and the other outcomes of UNCED. The difficulties in negotiations and finally the lack of an agreed outcome from CSD-14 in May, 2007 is a clear indicator of the nature and impact of these centrifugal forces. *And yet the international community and national delegations of countries large and small must not give up trying for consensus on sustainable development.*

Sustainable development at the national level can only be achieved if there is some measure of consensus at the global level on environmental issues such as the containment of greenhouse gases and other emissions, the disposal of toxic wastes, the safe use of nuclear energy, sustainable fishing and other major themes. National social issues are also affected by consensus at the global level on such matters as labour standards, international migration and human rights. National economic issues are very much connected to the amount of policy space allowed in international instruments such as those of the WTO as well as the conditionality of the lending of international financial institutions.

Countries large and small need to participate actively in visioning exercises of global governance, which can guide the work of sectoral global governance entities such as the functional commissions of ECOSOC as well as the governing bodies of the United Nations system.

To provide inspiration for such participation, this policy note will conclude with a discussion of one such global vision put forward by the host country of WSSD, South Africa in 2002.

As host government of WSSD, South Africa fed the hope that the outcome of WSSD would be a “global deal” including (1) fair access to developing country exports to markets in developed countries, (2) adequate instruments for countries of the South to manage the adjustment costs of trade reform, (3) measures to stabilize of international financial flows, encourage longer-term investment in developing countries, provide debt relief where necessary to bring about sustainable development, and improve the quantity and quality of ODA, (4) more open and democratic multilateral agencies, and (5) programmes to ensure that efforts to protect the environment in the North do not shift dirty or unhealthy production processes to the South.¹¹⁵

The Deal was to define a new relationship between the North and South for sustainable development, give effect to the targets in the Millennium Declaration, the Rio principles and Agenda 21 as well as other international agreements, with concrete plans of action, delivery mechanisms, resource plans, targets and timeframes, within an overarching and time-bound “Johannesburg Plan of Action.”

¹¹⁵ Government of South Africa, *From Rio to Johannesburg: A global deal for the further implementation of Agenda 21 towards sustainable development: a non-paper by South Africa*
<http://www.worldsummit2002.org/texts/GlobalDealSouthAfrica.rtf>

In his intervention to the Summit, building on his country's proposed Global Deal, the South African Environment Minister at the time, Valli Moosa, emphasized that world leaders would have to review terms of trade, finance, investment and debt relief, in order to tackle poverty and inequality seriously¹¹⁶.

The WSSD host government's proposal was a call for fundamental upstream change of the kind referred to earlier in this note, covering economic relations between North and South, with strong monitoring mechanisms and institutions for achieving sustainable development. Regrettably, consensus on the deal itself, as boldly defined by South Africa, proved not politically feasible and the JPOI, with its very limited quantitative or time-bound targets, represented the most feasible possible political outcome in an environment beset by forces seeking to move back the sustainable development agenda.

Nevertheless, policy-makers and policy shapers at the national level need to build on the JPOI, while drawing inspiration from the original "Global Deal" proposal, which was far more ambitious than the compromise reflected in the JPOI. As the host government of WSSD pointed out, the JPOI should be seen as a minimum on which to build, rather than a maximum – a floor rather than a ceiling.

A New Framework on Climate Change

Climate change is the most important overarching sustainable development issue to arise in recent years. With the publication in 2007 of the third report of the United Nations Intergovernmental Panel on Climate Change, representing the consensus of some 2,500 scientists from around the world, past conservative scepticism is now vanishing regarding the existence of human-induced and potentially cataclysmic climate change. In the coming years and decades, global climate change and how it affects societies at the country level promises to overshadow all the other sectoral and cross-cutting sustainable development issues that have challenged policy makers and policy shapers up to this juncture.

The most pressing global issue for national policy makers is the negotiation of a successor framework to the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) to cover the period beyond 2012. While the scientific consensus on climate change is heartening, the challenge of achieving actual political consensus on a new framework is a daunting, gargantuan task, but one that policy makers at the national level should approach with an open mind and a spirit of optimism because there is political will as never before to reach an effective solution. The strength of this political will came through very clearly in the 24 September 2007 High Level Meeting of the General Assembly on Climate Change.

¹¹⁶ Statement by Environment Minister Valli Moosa of South Africa, <http://www.worldsummit2002.org/index.htm?http://www.worldsummit2002.org/guide/southafrica.htm>

The stakes in the post-Kyoto regime are very clear, and have been summarized in statements¹¹⁷ by United Nations Secretary-General Ban Ki-Moon and the President Kerim of the 62nd General Assembly, seeking to reflect the views of the overwhelming majority of member states. Building on those statements, as well as views expressed by member states, civil society and researchers, as well as business, the post-Kyoto framework should encompass the following parameters:

- Enhanced leadership by the industrial countries to achieve deep emissions reductions, in view of their historical responsibility for accumulated atmospheric concentrations of greenhouse gases as well as their economic means;
- Incentives for developing countries to act, but without sacrificing economic growth or poverty reduction; and fully consistent with the principle of common but differentiated responsibilities;
- Further engagement in emissions management by larger, fast-growing developing countries who are increasingly contributing to atmospheric concentrations of greenhouse gases and acquiring increasing economic means;
- Significantly increased support for adaptation in developing countries, especially in least developed countries, small island developing states and other low-income countries;
- Strengthened technology development and dissemination; and
- New approaches to financing, including better use of market-based approaches, including an enhanced carbon market to ensure more cost-effective implementation of carbon management transactions and to mobilize the resources needed to provide incentives for developing countries to adopt low-emissions technologies.

These broad parameters should guide the formulation of national positions on climate change negotiations based on the road map established by the Thirteenth Conference of Parties of the UNFCCC in Bali in December 2007.

For least developed countries and small island developing states, national positions will involve seeking technology and finance for adaptation to climate change, since the mitigation burden under the current negotiation strategies falls primarily on the biggest historical and current emitters of greenhouse gases. Small, low-income countries are financially and geographically vulnerable to climate change, while having done little historically or currently to provoke it.

For industrial countries, the greatest cumulative historical emitters of greenhouse gases, committing to deep cuts in emissions, following the examples of the European Union and the proposals of the State of California, will be a global necessity, since the dimensions of the challenge are such that cap-and-trade solutions alone cannot address them.

¹¹⁷See United Nations climate change gateway <http://www.un.org/climatechange/> and DESA Climate change portal: <http://www.un.org/esa/desa/climatechange/>

For emerging market economies who, although not great historical producers of global greenhouse gas emissions, are generating an increasing share of them, seeking the technologies and finance for reducing them drastically while maintaining their economic growth, including through such channels as the clean development mechanism, will prove a necessity as their publics increasingly press for environments free from such ills as air pollution and acid rain.

All states that are parties to the successor framework to the Kyoto Protocol will need to reach consensus on overall goals to be achieved in reducing current and limiting future emissions. In order to limit the global temperature rise to 2C for the 21st century, the point beyond which cataclysmic climate change would start to set in, greenhouse gas emissions would need to peak by 2020 and fall by as much as 85% by 2050 as compared to 2000 levels. They would need to move from a collection of voluntary national targets, as in the Kyoto Protocol, to a single global target.

Once the overall planetary targets are agreed, negotiations would need to centre on ways for emitting countries to share the burden for these deep cuts in emissions among themselves. Relying heavily on carbon market mechanisms to buy emissions credits to satisfy emissions caps and targets, as provided in the Kyoto Protocol, will be less feasible in the post-Kyoto regime because of the sheer scale of the total emissions reductions required in order to avoid cataclysmic climate change. The post-Kyoto instrument, therefore, will need to be far more binding than the Kyoto Protocol and its monitoring and enforcement mechanism stronger still. Above all, the framework will need to include all countries, while recognizing their common but differentiated responsibilities.

Finance mechanisms for addressing climate change would need to be transformed. From short-term carbon-market transactions focused on projects for increasing sinks and transferring low-carbon technologies, the new arrangements would need to address the special needs of developing countries for adapting to climate change impacts such as floods, rising sea levels, soil salinity, reduced yields from rain-fed agriculture, which are not typically covered by current carbon finance mechanisms.

The new agreement would need to recognize that many non-state actors, including airlines and maritime shipping, are major emitters of greenhouse gases. Provisions would need to be introduced, with the active involvement of ICAO and IMO, as the UN agencies responsible for regulating these sectors internationally, to obtain commitments from these actors to reduce emissions and otherwise engage with the new climate regime, including by contributing to financial mechanisms for mitigation and adaptation.

Finally, the new agreement might move from an exclusive focus on absolute emissions levels to an approach that also recognizes more explicitly per-capita emissions and a need for greater convergence in per-capita emissions across the world.

Such an approach would build on the positive and innovative elements of the Kyoto protocol, such as the principle of common but differentiated responsibility and the very concept of legally binding emission reduction commitments, which was new and

unfamiliar in 1997. At the same time, it would transcend some of its limitations to address the more pressing realities of the present juncture in climate change¹¹⁸.

Above all, the new agreement must be fully oriented towards economic and social development and the growth and development aspirations of both middle-income and low-income developing countries – it must be as much a “development agreement” as a “climate change agreement”. Bringing the majority of countries on board to adhere to a consensus on climate change requires no less.

Ultimately, what the IPCC has conclusively demonstrated is that climate change is no longer a scientific curiosity or a distant danger. Climate change is an accelerating and inexorable threat to life on our planet that is well on its way to reaching cataclysmic proportions. Climate change mercilessly ignores all national boundaries. For the nations of the world to respond to climate change and global warming effectively as one community, so that emissions peak in the next two decades and the planetary temperature increase is limited to 2 degrees C, will be the most important global public good of the 21st century. Only by realizing this and acting together on it decisively and boldly through a new climate agreement will humankind survive into the 22nd century. At the same time, the new agreement must allow the policy space to achieve decent livelihoods for all of humanity.

¹¹⁸ For alternative scenarios conceived by researchers on a possible post-Kyoto regime, see Joseph Aldy and Robert Stavins, et al. Resources for the Future Panel Analyzes Alternative Proposals for Post-Kyoto Strategy. Harvard Project on International Climate Agreements, 4 October 2007, http://www.belfercenter.org/project/56/harvard_project_on_international_climate_agreements.html and Christiana Figueres (2007). From tons to trends: transformation of the climate regime. In *Global Environmental Governance: Perspectives on the Current Debate*. New York: Center for UN Reform. 87-101. <http://www.centerforunreform.org/node/251>

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