REFLECTION ON THE CHALLENGE OF SUSTAINABLE DEVELOPMENT:
Patterns of resource use have to be common for all countries

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With the services sector replacing industrialisation as the driver of economic development, the transition to sustainable development now requires shifts in growth pathways rather than modification of on-going industrial processes. The building blocks for the second wave of environmental reform will be shifts in patterns of resource use providing services for human wellbeing, enhancement of services provided by the ecosystem, and a new role for technological and financial services in alleviation of poverty and conservation of natural resources. A new global architecture will be needed to support the development of a shared vision, agenda and kinds of solutions ensuring patterns of resource use that will be common for all countries, as the central objective of environmentally sustainable global growth.

Sustainable Development is at a cross-road, as we move towards analysing why current regimes which focus on management of the environment are dysfunctional, and what might be done about it. One line of enquiry, that responds to changing social demands, politics and policy experience, is to develop a common understanding of the broader goal – what sustainable development means and how to attain it. As this will be a political, rather than just a scientific exercise, clarity on the new vision and its building blocks, integrating the environmental, economic and social pillars of sustainable development, will emerge through dialogue between States in a global conference such as the one Brazil is proposing for 2012.

By seeking patterns of resource use that will be common for all countries, the new paradigm for sustainable development will re-balance the roles of the state, markets and citizens. This approach suggests three key shifts in current environmental, economic and social perspectives. First, with the growing importance of the service sector, and consumer demand in economic growth worldwide, it points to the need to modify patterns of resource use and shift consumption, and not just production, patterns, particularly in developed countries. Second, for developing countries, it focuses on avoidance, rather than reduction, of adverse impacts on the environment through a shift in the growth path by recognising the importance of ecosystem services, and resulting convergence between management of the environment, economic growth and the alleviation of poverty. Third, new innovative market based employment opportunities need to be provided for the poor to shift current activities away from those causing harm to local ecosystems, as the best means for conservation of natural resources. The focus has to be on modifying longer term trends, rather than on-going activities.

The traditional system of international cooperation, in which rule-based and incentive-based multilateral agreements for burden sharing are considered essential to advance

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policies and measures, has proved inadequate to respond to the scale of the challenge. Conflict over natural resources - energy, food and water - will be critical in the coming decade[i]. A vision of environmentally sustainable global growth will have to be supported by a new architecture - paradigm, partnerships, priorities and programmes – that will not rely on single global solutions but encourage local solutions based on national circumstances in ensuring that patterns of resource use are common for all countries.

Limitations of the current paradigm

The current global institutional framework for sustainable development was established to respond to risks posed by the global aspects of pollution as well as the adverse effects on the environment that might result from the future industrialization and urbanization in developing countries. The Stockholm Conference on the Human Environment, in 1972, made a distinction between global and local environmental problems, and recognised the social factors behind many global problems. However, both developed and developing countries were uneasy with the resulting compromise because it implied a trade-off between environment and development. The Rio Conference on Environment and Development, in 1992, continued to treat environment as a separate policy issue, and focussed on multilateral environmental agreements as the way to make environment and development compatible.

Multilateral Environmental Agreements

Science, economics and international law were adopted as the framework for natural resource use, because a negotiated balance of rights and obligations of States was needed in order to reconcile the differing and competing interests of developed and developing countries, around single solutions for global sustainability. The argument was framed in terms of ensuring fairness to the longer term driving changes in the present. While this served to obscure fractious elements of the priorities and concerns, it did little to affect the underlying driving forces of global environmental change[ii].

Environmental science, based on the natural sciences, while resolving uncertainties related to the problem has limitations in suggesting solutions which are based on the social sciences. For example, the first controversy with respect to assessments of the Intergovernmental Panel on Climate Change arose when it sought to develop vulnerability indicators suggesting that the value of human life differs amongst countries at different levels of economic development. Science also projects an illusion of natural resources that requires better management and enhanced legislation to ensure that poor people benefit, while not resolving the highly contentious struggles over control of, and rights to, resources. The unresolved issue for influencing political debate is how science can be part of a more holistic analysis that incorporates other critical perspectives.

Economics also approaches decision-making in a narrow framework of costs and benefits as an analytical tool, and ignores the human costs - value judgements involved in the assumptions that are an integral part of the analysis. The Stern Report is a case in point in illustrating the continuing problems with formulations for burden sharing for producing collective benefits. The weight given to future generations has been criticised as too high (by William Nordhouse of Yale University) and the weight given to the consumption of

the poor relative to that of the rich has been criticised as too low (by Partha Dasgupta of Cambridge University). Both agree that the choices made in the report are inconsistent with each other, as egalitarianism between the future and the past also requires egalitarianism between the rich and the poor. The conclusions of the report actually lead to a redistribution from poorer to richer countries, and raise questions regarding mitigation of climate change that are political, rather than legal or technical in nature[iii].

As the Nobel Prize winner, Joseph Stiglitz, recently pointed out in his address to the International Economics Association, held in Istanbul in June 2008, the key problem in dealing with climate change is how to allocate emission rights, currently valued at about $2 trillion annually, that is 5% of global GDP, and the "only serious defensible principle is equal emission rights per capita, adjusted for past emissions…. as a process of slowly easing in emission rights would increase inequities associated with past emissions". Even if this entails large redistribution, it is not clear why this should be treated differently than other property rights. Stiglitz goes on to argue that climate change will require a new economic model – changed patterns of consumption and innovation, as "only through changes in patterns of demand will adverse effects on developing countries be mitigated".

The multilateral framework was, however, based on the argument that interdependence of rights, responsibilities and solutions required cooperation. Also, the principle of common but differentiated responsibilities that emerged at the Rio Conference, in 1992, did not specify what is to be done and paid for by whom and how much. The result has been an uneasy, and ineffective, compromise. The Oxford Handbook of International Environmental Law, published in 2007, notes that "…international environmental law continues to struggle with the complaint that it reflects the concerns of developed countries more than those of developing countries…in the on-going debates over whether developing countries, for example, should preserve biological resources of global concern or should reduce their greenhouse gas emissions and, if so, how much financial support developed countries should provide for such efforts"[iv] . A recent review concludes that the present system of funding for the environment with its limited involvement of developing countries and time-frames involved has failed to deliver the transformational change required[v]

There are two political problems with the way the issue of global sustainability has been framed, and has evolved, at the multilateral level. First, developing countries continue to challenge the developed country "doctrine" on environmental matters. Their suspicions of developed country motives go back to the Stockholm Conference, where the African countries took the position that the documents prepared for the Conference "give far more weight to the preoccupations of industrialized countries than to the far more serious ones of the developing countries". It was also stressed that the problems to be discussed at the conference are of a political nature[vi]. For example, the energy problem in developing countries, of lack of access to modern energy, is very different to the problems in developed countries, largely around energy security.

Second, the continued stress on re-balancing rights and obligations through negotiated and legally binding agreement as the outcome of international cooperation has further brought out the limitations of this approach. For example, it even resulted in an entity which does not have obligations in its charter, the Commission on Sustainable Development, concluding its session in May 2007 without any outcome. The unresolved issue was time bound targets for energy efficiency (pushed by the European Union based on environmental science) and the provision of financial and technical assistance (pushed by the developing countries based on values of human welfare)[vii].

While considerable progress has been made in identifying issues of common concern, even after forty years of discussion, debate and dialogue around the environment, considerably less progress has been made in developing a shared conceptualisation of how to deal with these issues in the North-South context of burden sharing and the societal transformation that is required. It is now being recognised that the incentives have been ineffective. As regards meeting incremental costs, "the times when it was possible to sweeten a deal for developing countries with placebo funds and voluntary declarations have irrevocably past"[viii]. It is also being recognised that as a legal and a policy measure intellectual property rights are both an incentive and an obstacle[ix]. These topics arise in every serious discussion in the context of implementing multilateral environmental agreements, and are a source of considerable tension preventing the development of a common understanding on patterns of resource use.

Policy approaches

The underlying issue is how we define the policy questions, inform the policy debate and evaluate policy alternatives. For example, the nature of the problem has long been recognised, but not acted upon because of political considerations. The report 'US Priority Interests in the Environmental Activities of International Organizations', prepared by the Committee on International Environmental Affairs of the State Department, in 1970, noted that

"Long range policy planning to cope with global environmental problems must take account of the total ecological burden. This burden tends to increase with population growth and with the level of economic activity, whereas the capacity of the environment to provide essential inputs to production and to absorb unwanted outputs from consumption is fundamentally limited. The problem with managing total ecological burden will remain even after world population is stabilized. Controlling that burden by systematic reduction in per capita production of goods and services would be politically unacceptable. A concerted effort is needed to orient technology towards making human demands upon the environment less severe"[x].

All developed countries have ratified the United Nations Framework Convention on Climate Change, and have agreed to "modify longer term trends", that is, the ecological burden of per capita consumption and production patterns. At the multilateral level, however, the focus is on national emissions and the continued use of coal by China and India to power their efforts to remove poverty. The information provided for the debate diverts attention from the requirement of deeper cuts in developed countries. For

example, the Energy Information Administration has predicted that coal would provide 57 per cent of US electrical power production in 2030, up from 51 per cent today (EIA, 2008)[xi]. However, global attention is sought to be focused on the increasing coal based emissions from China (and India), where three quarters of the electricity generated goes for industrial production and any reduction in emissions will have a direct impact on economic growth, unlike in developed countries where consumption by households accounts for two-thirds of the electricity generated, and reductions will impact only on (wasteful) lifestyles. The policy alternatives discussed are tempered by their political, rather than scientific, economic and legal acceptability.

The recent discussion within the World Bank on sustainability illustrates the problems with current regulatory policy approaches that had their origin in Agenda 21, the set of programmes agreed at Rio in 1992. An independent evaluation of the World Bank's support for environmental sustainability over the past 15 years considered the extent of integration of environmental concerns in economic policies, and concluded that the programmatic approach pays insufficient attention to longer term sustainable development and affecting larger forces. The Advisory Panel highlighted the limitations of approaches focused on current activities, and flagged four areas of strategic importance for promoting sustainable development – transitioning towards a low carbon economy coupled with expanding clean and affordable energy access to the poor; preserving biodiversity while improving rural livelihoods; protecting water resources, coupled with expanding access to water and sanitation; and, improving resource productivity[xii]. This reorientation around the notion of justice reflects an important shift away from merely considering policy inputs and outputs, to a focus on outcomes.

Recent research also shows that legislation has failed to influence corporate behaviour which continues to focus on traditional business objectives, paying little more than lip service to environmental objectives. Regulations have been laxly formulated and consumers influence d, if at all, by media reports. Sustainability has not as yet become a part of business strategy[xiii].

The current financial crisis suggests a sense of urgency, and provides important lessons for global sustainability, in terms of how we frame the issue itself. Just as financial wizards did not understand that their increasingly complex models were getting further away from the real world, scientists, economists and policymakers are being lulled into complacency by global models, scenarios, cost benefit analyses and innovative financial products. For example, despite over fifteen years of intensive scientific research, new market based instruments, innovative policies and huge subsidies, as well as a Protocol at the multilateral level, emissions of greenhouse gases continue to rise in industrialised countries. The institutional architecture, system of global agreements and organisations, policy approaches and strategies that we now have has not provided effective solutions to the fundamental issue, to have patterns of resource use that are common for all countries.

Building block for environmental sustainability: common patterns of resource use

A better understanding is emerging of what sustainable development means, driven largely by the intensive academic research, business concern and policy experience

around climate change. First, current research trends on how to meet global challenges focus on societal dynamics as both the root of environmental problems and the potential solution to them[xiv]. Environmental problems are no longer defined as discrete problems, but are increasingly being understood as symptoms of a particular development path. Seen from this perspective, from an effectiveness point of view, the choice is not between preservation and exploitation of nature, and there is widespread disappointment with the conventional approach to conservation and pollution based on command-and-control promoted during the 1980s and 1990s. Also, from an equity point of view, the current concern is not over the sovereign right to exploit natural resources but rather on the consequences of institutional patterns of resource use that would have to be common for all countries[xv]. Clearly, the way the issue continues to be framed only around the environment is a major reason why effective solutions have not emerged.

Second, with economies increasingly being driven by the services sector, and not just by industrialisation, global environmental change is now being driven by consumption patterns. The International Energy Agency points out that in developed countries on the consumer side of the economy, technological and lifestyle changes combined with higher incomes have significantly altered energy use patterns since the Convention on Climate Change was negotiated in 1992, with over two-thirds of carbon dioxide emissions now coming from the services, households and travel sectors[xvi]. In industrialised countries energy use in manufacturing has remained unchanged in the period 1990 – 2004. While buildings consume 40% of the electricity generated, energy consumption has increased by 50% in the services sector, by 35% in households, and by 25% in transportation, as a result final energy use - and emissions of carbon dioxide - have each increased by 14 % over this period in those countries[xvii]. This analysis suggests that the individual is the driver of environmental change, and all countries need to follow a qualitatively different economic growth path to control pollution. Behavioural changes and new technologies will play a key role in the transition to sustainable development.

Third, challenging conventional assumptions that focus only on production processes and regulation throws up new commercial solutions to chronic environmental problems. For example, McKinsey research shows that the growth of worldwide energy demand can be cut in half or more over the next 15 years, without reducing the benefits that energy's end-users enjoy - and while supporting economic growth – by focussing on demand side management[xviii]. Similarly, well managed trade in wildlife products, as against a ban, not only promotes species conservation but also provides cash and food for the world's poorest people – these groups, and their business, should be seen as a solution, not a problem[xix]. The key stakeholders in deliberations on the new policy architecture will be business groups and citizens, along with governments.

The United Nations 'Human Development Report, 2007/8, Fighting Climate Change: Human Solidarity in a Divided World', concludes that the "fundamental challenge is the way we think about progress. …..carbon intensive economic growth is symptomatic of a deeper problem…that the economic model which drives growth, and the profligate consumption in rich countries that goes with it, is unsustainable". Such a perspective suggests a much deeper cut in resource use patterns in developed countries than in

developing countries, including the fast developing ones, so that the ability to raise living standards is not constrained.[xx]
Therefore, the outcome of international cooperation will not be negotiated commitments to modify planned activities in developing countries, but broad consensus on directional shifts in the global economic growth pathways, with industrialised countries taking the lead for patterns of resource use to be common for all countries.

Building block for economic sustainability: importance of ecosystem services
Focusing on economic and welfare gains from ecosystem services that result from shifts in economic growth pathways can lay the basis for long term growth. The Millennium Ecosystem Assessment, published in 2005, argued that "most resource management decisions are most strongly influenced by ecosystem services entering markets…the most important public policy decisions affecting ecosystems are often made by agencies and policy arenas other than those charged with protecting ecosystems". For example, it noted that "forest management is influenced more strongly by actions outside the forest sector, such as trade policies and institutions, macroeconomic policies, and policies in other sectors such as agriculture, infrastructure, energy and mining, than those within it".[xxi]

The way the issue is framed around ecosystem services will determine strategic goals related to economic growth, impact on other policy arenas and alter policy objectives. For example, there could be recognition of the limited capacities to absorb waste with payments for allocation of the available space (carbon dioxide, chemicals); as an integral part of the incomes of the poor (forests); economic and social gains from new products (benefit sharing between biotechnology and biodiversity); and, augmentation of water supply and agricultural productivity (watershed management). In this framework, for example, in dealing with climate change, emissions trading would not be a "flexibility mechanism" supporting cost-effectiveness of policies but rather an "allocation mechanism" supporting sustainable development.

The annual losses of biodiversity and ecosystems are typically estimated as equivalent to a few percentage points of global GDP. As in the case with climate change, this involves ethical choices involved in particular between present and future generations and between people in different parts of the world. If we re-express the losses in terms of social wellbeing, then the argument for reducing such losses gains considerable strength. It has been recently estimated that we are losing forest ecosystem services with a value equivalent to around $28 billion each year[xxii]. National accounting systems need to be more inclusive and measure the significant human welfare benefits that ecosystems provide. This shift would help policymakers adopt the right measures and to design appropriate financing mechanisms for conservation. The fundamental requirement is to develop an economic yardstick that is more effective than GDP for assessing the performance of a country in terms of human well-being.

Building block for social sustainability: poverty alleviation, conservation, markets
The livelihoods of the rural poor and the conservation and sustainable use of natural resources are so intimately intertwined that they are best addressed through an integrated approach, irrespective whether the primary motivation is development or environmental

conservation. It is estimated that environmental wealth accounts for 26 per cent of the total wealth of low-income countries, versus 13 per cent of wealth in middle-income countries and only 2 per cent of wealth in developed countries[xxiii].

The adoption of the Millennium Development Goals by the United Nations underlines the reality that after over 50 years of public programmes the world still has nearly $4billion poor, who subsist on less than $2 a day, and climate change is already making a direct human impact that will make each of the MDG's harder to reach. On the other hand market creation provides new opportunities to pursue the two objectives in tandem, particularly for the poorest of the poor who depend on agriculture. The Food and Agriculture Organisation estimated in 2008 that agriculture accounts for 30 per cent of GDP in developing countries, in fifty least developed countries agriculture is the backbone of the economy, and agricultural growth is four times more effective in reducing poverty than growth in other sectors. With nearly 963 million people affected by chronic hunger, promoting low cost sustainable farming practices to ensure enough food for all requires emphasis to be placed on soil and water conservation and afforestation – market based incentives for forest conservation will impact on mitigation of and adaptation to climate change.

The recent World Conservation Congress, organised by the IUCN in Barcelona in 2008, discussed non-regulatory longer term approaches to restoring, protecting and sustainably using natural resources that can lead to new livelihood and economic opportunities and renewed environmental vitality. A transition is taking place from a donor-driven NGO-Corporate Social Responsibility-Government dominated command-and-control framework to one where governments, capital markets and technology companies see the poor as consumers, and as part of core economic activities. New business models, investment opportunities and technologies can stimulate new production practices that lead to sustainable management of the environment. Market creation for biodiversity is an example of lessons learned about overcoming obstacles to conservation.

A shift is taking place from the widely held perspective that market based solutions cannot lead to alleviation of poverty and to the conservation of natural resources – which are two sides of the same coin. It is now recognised that the 'Bottom of the Pyramid' provides new growth opportunities for innovation and entrepreneurship, with new products, services and payment models to make finance and technology affordable and accessible to the poor. The recent independent evaluation of the International Finance Corporation concludes that economic growth, poverty reduction and environmentally and socially sustainable development can have mutually reinforcing development and financial benefits[xxiv]. However, new conceptual frameworks and strategies tailored to social value creation, where the objective is for the maximum number to benefit from the effort, are yet to be developed.

It will be important to create self sustaining pathways out of the vicious circle of poverty and related degradation of natural resources. For example, removal of trade barriers will provide market access to poor countries attracting investment and creating jobs and removing dependence on exploitation of natural resources. Market creation through

benefit sharing of biotechnology, afforestation and the new employment opportunities at the local level will increasingly be seen as the preferred strategy for conservation of natural resources.

Re-designing global governance: new vision, agenda and kinds of solutions

The context in which sustainability has been discussed at the multilateral level has changed. In 2005, for the first time since the dawning of the industrial age, developing countries accounted for more than half of global GDP at purchasing-power-parity (PPP), and China's GDP is expected to surpass America's before 2050. The response at the multilateral level to this seismic shift in economic power and demand has largely been of a scarcity mentality as a zero-sum game, rather than develop a shared vision where everyone can become better off. The challenge at the global level is demand-side management, to increase resource productivity – using fuel, water and raw materials more productivity[xxv]. International institutions need to be reoriented to address these challenges.

We need a new agenda, as the present decision-making arrangements have outlived their utility. At the United Nations Conference on Environment and Development (UNCED), in 1992, the objective was integration of environment in development at the sector level, with a focus on regulation over the production of goods. The World Summit on Sustainable Development (WSSD), in 2002, laid emphasis on policy level approaches for the "cross sectoral aspects of sectoral issues", including modification of consumption and production patterns, but, after a contentious discussion, merely established " a framework of programmes", rather than seek modification of longer term trends.

While there has been little advance at the substantive level, at the institutional level the role and function of the Commission on Sustainable Development, established at UNCED, were modified by the WSSD to support new kinds of solutions, in three key areas. First, the focus shifted to innovative measures, rather than merely dicusss on-going activities. Second, the top-down approach, based on national commitments of governments, was supplemented with a focus on the regional level and partnerships with the private sector. Third, a re-balancing of the relationship between formal and informal institutions was initiated for sharing experiences and best practices, going beyond discussions around governmental initiatives. However, no common understanding has emerged on the implications of these shifts, as different groups of countries selectively stress the economic, environmental and social dimension of sustainable development. This deficit in global governance is most likely to be met through networks led by the developing countries, which will be hardest hit by new challenges like climate change.

The key drivers for sustainable development are shifts in patterns of natural resource use, enhancing ecosystem services, and new opportunities for the poor that conserve the natural resource base of economic growth. The new framework will lead to a very different discourse at the national policy level and with the public at large. There will also be different links to global sustainability to ensure patterns of resource use are common for all countries, for making the transition to global sustainability.

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