In Quest of Sustainable Development

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Overarching Concerns
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Acronyms

CFC	chlorofluorocarbon
CSD	United Nations Commission on Sustainable Development
CSER	corporate social and environmental responsibility
FSC	Forest Stewardship Council
GDP	gross domestic product
GNP	gross national product
ICT	information and communication technology
IFI	international financial institution
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
NGO	non-governmental organization
ODS	ozone-depleting substance
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
SA	social accountability
SIF	social investment fund
TNC	transnational corporation
TRIPS	trade-related intellectual property rights
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNRISD	United Nations Research Institute for Social Development
US	United States
USSR	Union of Soviet Socialist Republics
WCED	World Commission on Environment and Development
WRI	World Resources Institute
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization

Summary/Résumé/Resumen

Summary

World leaders met in Johannesburg in late August 2002 to review progress in implementing outputs of the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro a decade earlier. They were also asked by the United Nations General Assembly "to reinvigorate global commitments to sustainable development". The 2002 World Summit on Sustainable Development (WSSD), however, faced a seemingly impossible task.

In order to be endorsed by UNCED as an overarching global goal, the term "sustainable development" had to be sufficiently ambiguous to accommodate many widely differing interpretations. Participants had conflicting interests, divergent perceptions, unique historical and environmental contexts as well as often incommensurable values. The Johannesburg Summit provided an opportunity to highlight several of the conflictive political economy issues behind recent unsustainable processes. This paper attempts to contribute to debates about possible policies to ameliorate them by a brief review of research into the social dynamics of environmental change.

Contradictory trends

Several worrisome global environmental trends have been well documented and widely publicized. Greenhouse gas emissions from human activities continue to accumulate in the atmosphere contributing to unwanted climate change. Biodiversity necessary for maintaining Earth's life support system is being eroded at unprecedented rates. The world's remaining tropical forests are rapidly shrinking. Soil erosion threatens to degrade much needed agricultural land. Marine and coastal ecosystems are being degraded and ocean fisheries are endangered. Fresh water stress threatens livelihoods in many regions. This listing of environmental woes could be endlessly extended.

Optimists can cite several apparent more positive global trends. Depletion of the atmospheric ozone level has been vastly slowed. Metropolitan air and water pollution have been slowed or reversed in several high-income countries. Environmental gains by rich countries, however, have been accompanied by increased environmental degradation in poor ones. Unsustainable patterns of production, consumption and waste disposal in rich countries are driving environmental damage and social polarization in poor ones as their impacts are transmitted through trade, finance, various forms of compulsion and a host of other mechanisms.

Recent global environmental and socioeconomic trends have been mixed, but in many respects threatening for the kind of sustainable development envisioned by the Brundtland Commission and the Earth Summit. Global post-1950 economic growth (as conventionally measured) slowed significantly after the 1970s. This fall was most pronounced for low- and middle-income countries of Africa and Latin America. This was partially offset in global averages by continued rapid growth in low-income East Asian countries with large populations such as China.

Of more concern for sustainable development than rates of GDP growth, however, is the quality of growth. Modern production-consumption patterns appear to be increasingly non-sustainable both socially and environmentally. The rate of global population growth has been slowing and world population was projected to stabilize at about 9 or 10 billion people by the end of the twenty-first century. But increasing per capita production and waste is threatening life-supporting natural ecosystems everywhere.

According to most estimates, income inequalities between rich and poor increased during the 1990s both within countries and among them. Different criteria, indicators and time periods for estimates of income can lead to contradictory conclusions. For example, by using "purchasing power parity" (PPP) estimates of income and weighting countries according to their

populations, it is possible to manipulate the data to suggest lessening global inequalities. PPP dollars, however, have to assume price relationships similar to those prevailing in the United States for poor countries with very different resource endowments and socioeconomic structures. If PPP dollars were really a good all-purpose estimate of incomes, then the foreign debt burden of low-income countries could be reduced by over three fourths, and of middle-income countries by over one half, merely by recalculating them in terms of PPP dollars.

In reality, the implications for sustainable development are minimal, whether national and international statistical indicators show marginal improvements or deterioration of income inequalities and rates of poverty. There are always some losers and some beneficiaries accompanying "development" and "globalization" processes. Many social indicators such as life expectancy and literacy rates have improved on average, but this conceals many situations in which they have worsened. Low-income losers seldom receive adequate compensation to maintain their livelihoods even where overall gains for their societies may be much greater than losses.

Macro-level environmental and socioeconomic indicators, trends and comparisons can be useful for some purposes, such as calling public attention to problems that seem to have been neglected but rather successfully dealt with in other contexts. For example, levels of health, nutrition and education of the poor are much higher in some poor countries such as Sri Lanka and Cuba than they are in other countries with much higher average per capita incomes. For other purposes such as proposing effective policy reforms to address such problems, they tend to be poor guides. Policy analysis requires a holistic integrated approach that skilfully relates historical processes with interacting contexts at all levels. A major portion of this paper, therefore, is devoted to reviewing local case studies where contexts are most varied and subject to change.

Policies for sustainable development

Policies are purposeful courses of action toward perceived goals. They are inevitably conflictive. Moreover, their impacts tend to be ambiguous in dynamic systems. Their outcomes are influenced by many unforeseeable internal and external factors as well as the divergent intentions and interests of some of their supporters. Public policies ostensibly aimed at advancing sustainable development have had many positive impacts as well as frequent negative ones. Positive policy responses to projected environmental and socioeconomic degradation help explain why prophets of imminent gloom and doom have often been mistaken.

Local-level democratic decentralization has been incorporated as a goal of sustainable development. At the same time, global concentration of technological, military, financial and political power has been rapidly increasing by most criteria. This contradiction is supposedly overcome by implementation of subsidiarity principles whereby decisions and resources are ascribed to the lowest (most decentralized) level possible. What these levels are in practice, however, leaves room for infinite debate and conflict. Moreover, decentralization, in the absence of reforms in national and international policies and institutions accompanied by a redistribution of resources, can be counterproductive.

There is a widely held perception that nation-states have lost their capacity to influence their societies and that they are all subordinate to impersonal transnational forces such as world financial markets. This is a distorted view. Subordinate states, dependencies and colonies never had the possibility of determining their own development strategies. Now all the world's strong nation-states are enmeshed in a world system, which could not survive without their active military, technological and political support. They are not going to tolerate possibly system-threatening deviations by subordinate countries or among themselves any more easily than they have done in the past.

Recent efforts to build partnerships for sustainable development between United Nations organizations, large transnational corporations (TNCs), governments and some NGOs should not be expected to make much of an impact. A few big TNCs now control many of the world's

financial resources and its capacity to produce new modern technologies essential for states' political-military power. They largely influence policy and ideological agendas everywhere through their control of mass media but they are helpless without the military and political protection of a few powerful nation-states.

Powerful corporations now claim to be able to bring about sustainable development through their exercise of "corporate responsibility" and observance of a "triple bottom line", integrating the goals of monetary profits with those of promoting social well-being and environmental protection. This is nonsense in the present world order. It would have to imply public laws, institutions, regulations, accounting practices, tax structures, subsidies, etc., that would all support sustainable development goals. Popularly based democratic social forces would have to be dominant or crucially influential everywhere. Such a vision is considered utopian by most observers. It certainly would not resemble "capitalism" as we know it.

So, what could be done at Johannesburg to advance sustainable development? Probably not much, given the current international context. Advocates of a better world, however, could try to advance a modest agenda that, if taken seriously, could have radical implications.

In the first place, WSSD could reaffirm the importance of agreeing on common goals but with differential responsibilities. There is a danger that social components of sustainable development will be eroded at the expense of what are commonly regarded to be ecological ones. Universal human rights, social justice with greater equality, poverty elimination, democratic popular participation for all, the quest for relatively autonomous national markets and development, the rights of countries to design and implement their own development strategies, etc., are as much integral parts of sustainable development as are greenhouse gas abatement, access to cleaner air and water, preservation of biodiversity and the like. In any event, all these goals imply value judgements and political negotiations. Means of approaching them will have to differ widely in divergent contexts. There are no global recipes for action.

Democratic decentralized governance is essential, but it is no panacea. Great care must be taken when promoting decentralization in different contexts. How to advance toward this goal in a world of ever growing inequalities presents a major dilemma. Privatization of property rights as now practised usually leads to more concentration, not less. The distinction between "private" and "public" property and between "local", "national" and "cosmopolitan" identities is always extremely blurred and controversial. Emphasis on global problems but local solutions when promoting sustainable development can be counterproductive unless local governments are able to exercise the political power and mobilize the necessary resources that are required to redirect the unsustainable processes negatively affecting them. This implies profound reforms nationally and internationally.

"Neoliberal" strategies with free trade are anathema for sustainable development in many contexts, although less so in others. In general, trade regulated not by popularly based governments but by institutions depending primarily for support on TNCs and other business interests will primarily benefit the rich at the expense of the poor and of the natural environment. Markets can make good servants but they are poor masters.

Reform of property rights to support sustainable development is a core issue. Property rights and obligations are about social relations in access to desired goals and services by different social classes or groups. They largely determine the distribution of wealth, income and power. Land reforms granting real power to those who depend directly on land, water and associated natural resources for their livelihoods are essential in many contexts. So too are reforms of tax structures, social and environmental regulations, subsidies, etc., all of which constitute part of the bundles of rights and obligations associated with property ownership or tenure. WSSD cannot do much about this except to call attention to the crucial need for the international community to be supportive of reforms in property rights that would contribute to sustainable development. Such reforms should lead to a more equitable distribution of land and other

natural resources. They would also imply strict democratic regulation of TNCs in order to direct them toward these goals.

The biggest challenge facing WSSD is how to find and mobilize the social forces capable of bringing about needed policy and institutional reforms. This should be a major theme. Answers would have to vary widely from place to place and time to time. If they are to be effective they will have to include the poor and powerless, and especially the propertyless working classes.

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Résumé

Les dirigeants du monde entier se sont réunis à Johannesburg fin août 2002 pour évaluer dans quelle mesure les conclusions de la Conférence des Nations Unies sur l'environnement et le développement, tenue à Rio de Janeiro dix ans plus tôt, avaient été mises en œuvre. Ils étaient aussi invités par l'Assemblée générale des Nations Unies à "redynamiser l'engagement pris au niveau mondial en faveur du développement durable". Le Sommet mondial de 2002 sur le développement durable, cependant, se trouvait devant une tâche apparemment impossible à remplir.

Pour être adoptée par la CNUED comme objectif général, l'expression de "développement durable" devait être assez ambiguë pour laisser place à de nombreuses interprétations différentes. Les participants avaient des intérêts contraires, des perceptions divergentes, des valeurs souvent sans commune mesure et venaient de contextes qui, par l'histoire et l'environnement, ne pouvaient en rien se comparer. Le Sommet de Johannesburg a été l'occasion de dégager d'évolutions récentes, très peu marquées par le souci de durabilité, plusieurs enjeux conflictuels de l'économie politique. Ce document tente d'apporter sa contribution aux débats sur les politiques susceptibles de renverser le cours des choses par un bref tour d'horizon des recherches effectuées sur la dynamique sociale du changement environnemental.

Des tendances contradictoires

Plusieurs évolutions inquiétantes touchant l'environnement mondial sont maintenant avérées et les résultats des études auxquelles elles ont donné lieu ont été largement diffusés. Les gaz à effet de serre émis par l'activité humaine continuent de s'accumuler dans l'atmosphère et contribuent à des changements climatiques que personne ne souhaite. La biodiversité nécessaire à la conservation des systèmes de maintien de la vie sur la Terre est réduite comme elle ne l'a jamais été dans le passé. La superficie des forêts tropicales que compte encore la planète diminue rapidement. L'érosion des sols menace des terres agricoles dont la population a cruellement besoin. Les écosystèmes marins et côtiers sont peu à peu dégradés et les ressources halieutiques menacées. Le manque d'eau douce compromet les moyens d'existence dans de nombreuses régions. La liste des maux dont souffre l'environnement pourrait s'allonger à l'infini.

Les optimistes peuvent évoquer plusieurs tendances apparemment plus positives. L'appauvrissement de la couche d'ozone atmosphérique a été considérablement ralenti. La pollution de l'air et de l'eau dans les métropoles a été freinée ou même arrêtée dans plusieurs pays à revenu élevé. Cependant, les progrès accomplis dans les pays riches sont allés de pair avec une accélération de la dégradation de l'environnement dans les pays pauvres. Par les circuits du commerce et des finances, diverses formes de contraintes et quantité d'autres mécanismes, des modes non viables de production et de consommation et d'élimination des

déchets dans les pays riches entraînent une détérioration de l'environnement et une fracture sociale dans les pays pauvres.

Bien que contrastée, l'évolution récente de la situation environnementale et socio-économique du monde menace à bien des égards le développement durable qu'envisageaient la Commission Brundtland et le Sommet de la Terre. Si l'on mesure la croissance économique selon les critères conventionnels depuis les années 1950, on constate qu'elle s'est nettement ralentie après les années 1970. C'est dans les pays à bas revenu et à revenu intermédiaire d'Afrique et d'Amérique latine que cette baisse a été le plus prononcée. Elle a été partiellement compensée dans les moyennes mondiales par le maintien d'une croissance rapide dans les pays à bas revenu et très peuplés de l'Asie orientale, comme la Chine.

Mais il y a plus inquiétant pour le développement durable que les taux de croissance du PIB: la qualité de la croissance. Les modes de production et de consommation modernes semblent être de moins en moins axés sur la durabilité, d'un point de vue tant social qu'environnemental. Le taux de croissance démographique s'est ralenti à l'échelle mondiale et, selon les projections, la population mondiale devrait se stabiliser à environ 9 ou 10 milliards d'habitants vers la fin du XXI^{ème} siècle. Mais l'augmentation des déchets produits par habitant menace partout les écosystèmes naturels dont dépend la vie.

Selon la plupart des estimations, les inégalités de revenu entre riches et pauvres se sont creusées pendant les années 1990, tant à l'intérieur des pays qu'entre eux. Les périodes, critères et indices différents utilisés pour évaluer les revenus peuvent aboutir à des conclusions contradictoires. Par exemple, en se servant des dollars "à parité de pouvoir d'achat" (PPA) pour estimer les revenus et en pondérant les pays en fonction de leur population, il est possible de manipuler les données de manière à suggérer une réduction des inégalités dans le monde. Ce faisant, cependant, on part forcément de l'hypothèse que les rapports de prix dans les pays pauvres sont semblables à ceux qui existent aux Etats-Unis, bien que leurs structures socio-économiques et leurs ressources soient très différentes de celles des Etats-Unis. Si les dollars PPA étaient vraiment un bon moyen d'estimer les revenus en toutes circonstances, on pourrait réduire la charge de la dette extérieure des pays à bas revenu de plus des trois quarts et celle des pays à revenu intermédiaire de plus de la moitié, simplement en la recalculant en dollars PPA.

En réalité, que les indices statistiques nationaux et internationaux fassent état d'une très légère amélioration ou d'une aggravation des inégalités de revenu et des taux de pauvreté, les conséquences pour le développement durable sont minimes. Les processus de "développement" et de "mondialisation" feront toujours des perdants et des gagnants. Derrière l'amélioration moyenne de nombreux indices sociaux tels que l'espérance de vie et les taux d'alphabétisation se cachent bien des situations dans lesquelles ils se sont aggravés. Les perdants économiquement faibles reçoivent rarement une indemnisation leur permettant de garder leurs moyens d'existence, même là où le bilan global pour leur société est très nettement positif.

Les indices environnementaux et socio-économiques, tendances et comparaisons au macroniveau peuvent être utiles à certains égards, notamment attirer l'attention du public sur des problèmes qui semblent avoir été négligés mais qui ont été réglés de manière assez satisfaisante ailleurs. Par exemple, les niveaux de la santé, de la nutrition et de l'éducation des pauvres sont, dans certains pays pauvres comme Sri Lanka et Cuba, bien supérieurs à ceux d'autres pays où le revenu moyen par habitant est beaucoup plus élevé. Mais, à d'autres égards, ce sont de piètres guides qui ne renseignent guère, par exemple, sur les réformes politiques propres à régler les problèmes. L'analyse des politiques suppose une démarche globale et intégrée, qui sache établir des liens entre une évolution historique et des contextes qui s'interpénètrent à tous les niveaux. Une grande partie de ce document vise donc à rendre compte d'études de cas menées sur le terrain, dans les contextes les plus variés et ouverts au changement.

Les politiques favorables au développement durable

Une politique est une succession de mesures délibérément axées sur certains objectifs. Les politiques sont forcément conflictuelles. De plus, leurs conséquences sont assez ambiguës dans des systèmes dynamiques. Leurs résultats sont influencés par de nombreux facteurs imprévisibles, internes et externes, ainsi que par les intentions et intérêts divergents de certains de leurs partisans. Les politiques publiques ostensiblement conçues pour favoriser le développement durable ont eu de nombreux effets positifs mais aussi fréquemment des retombées néfastes. Les interventions positives visant à empêcher une dégradation annoncée de l'environnement et de la situation socio-économique contribuent à expliquer pourquoi les prophètes de malheur se trompent souvent.

L'un des objectifs fixés au développement durable a été la décentralisation, passation de pouvoirs à la démocratie locale. En même temps, et selon la plupart des critères utilisés, on a assisté à une rapide concentration du pouvoir technologique, militaire, financier et politique dans le monde. Cette contradiction est censée être résolue par l'application des principes de subsidiarité, par lesquels décisions et ressources sont transférées au niveau le plus bas possible (le plus décentralisé). La nature réelle de ces niveaux laisse place cependant à des débats et des conflits sans fin. De plus, en l'absence de réforme des politiques et institutions nationales et internationales et d'une redistribution des ressources, la décentralisation peut avoir des effets contraires au but recherché.

Beaucoup estiment que les Etats nations ont perdu le pouvoir d'influencer leur société et sont tous livrés à des forces transnationales impersonnelles telles que les marchés financiers. C'est une vision déformée des choses. Les Etats subordonnés, les dépendances et colonies n'ont jamais eu la possibilité de déterminer leurs propres stratégies de développement. Aujourd'hui, tous les Etats nations forts du monde sont imbriqués dans un système mondial qui ne pourrait pas se maintenir sans leur actif soutien militaire, technologique et politique. Ils ne seront pas plus enclins qu'ils ne l'ont été dans le passé à tolérer de la part de pays subordonnés ou dans leurs rangs des écarts susceptibles de menacer le système.

Il ne faudrait pas s'attendre à ce que les efforts déployés depuis quelque temps pour nouer des partenariats pour le développement durable entre des institutions des Nations Unies, de grandes STN, des gouvernements et certaines ONG aient un grand retentissement. Une large part des ressources financières du monde et de la capacité mondiale de production des nouvelles technologies essentielles au pouvoir militaro-politique de l'Etat sont aujourd'hui entre les mains de quelques grandes STN. Par le contrôle qu'elles exercent sur les médias de masse, elles pèsent sur les politiques et l'ordre du jour idéologique partout dans le monde mais elles sont impuissantes sans la protection militaire et politique de quelques puissants Etats-nations comme les Etats-Unis, ceux de l'Union européenne et du Japon.

De grandes sociétés prétendent aujourd'hui pouvoir instaurer un développement durable en exerçant leurs responsabilités d'entreprises et en étant attentives à leur "triple bilan", soit en alliant aux objectifs de profits économiques ceux de l'amélioration des conditions de vie et de la protection de l'environnement. C'est un non-sens dans l'ordre mondial actuel. Il faudrait, en effet, des lois, des institutions, des réglementations, des pratiques comptables, des structures fiscales, des subventions qui, toutes, favorisent la réalisation des objectifs du développement durable. Il faudrait que des forces sociales démocratiques jouissant du soutien populaire soient dominantes ou du moins très influentes partout. La plupart des observateurs considèrent comme utopique cette vision des choses, assez éloignée assurément du "capitalisme" tel que nous le connaissons.

Dans ces conditions, que pourrait-on faire à Johannesburg pour faire progresser le développement durable? Probablement pas grand-chose, étant donné le contexte international actuel. Ceux qui croient en un monde meilleur pourraient essayer de faire adopter un programme modeste qui, pris au sérieux, pourrait avoir un profond retentissement.

D'abord, le Sommet mondial pourrait réaffirmer l'importance de s'entendre sur des buts communs tout en différenciant les responsabilités. Les éléments sociaux du développement durable risquent de reculer au détriment de ceux que l'on attribue généralement à l'écologie. L'universalité des droits de l'homme, la justice sociale et la réduction des inégalités, l'élimination de la pauvreté, la participation de tous en démocratie, la recherche de marchés nationaux et d'un développement relativement autonomes et le droit des pays d'arrêter et d'appliquer leur propre stratégie de développement font autant partie intégrante du développement durable que la réduction des émissions des gaz à effet de serre, la lutte contre la pollution de l'air et de l'eau, la préservation de la biodiversité, etc. Tous ces objectifs résultent de jugements de valeur et impliquent des négociations politiques. Les moyens de s'en approcher varieront forcément beaucoup selon les contextes. Il n'y a pas de recette universelle en la matière.

Une gouvernance démocratique et décentralisée est essentielle, mais ce n'est pas une panacée. Il faut être très prudent et attentif au contexte lorsqu'on prône la décentralisation. Comment s'en rapprocher dans un monde où les inégalités ne cessent de se creuser? Le dilemme est de taille. Loin de freiner la concentration, la privatisation des droits de propriété à laquelle on assiste actuellement l'accélère. La distinction entre propriété "publique" et "privée" et entre identités "locales", "nationales" et "cosmopolites" est toujours très floue et sujette à controverse. Plaider pour des solutions locales aux problèmes mondiaux peut avoir des effets contraires au but recherché si les gouvernements locaux ne sont pas capables d'exercer le pouvoir politique et de mobiliser les ressources nécessaires pour changer le cours d'évolutions qui leur sont contraires et nuisibles au développement durable. Cela demande de profondes réformes aux niveaux national et international.

Les stratégies "néolibérales" et le libre-échange sont fatales au développement durable dans de nombreux contextes, moins dans d'autres. En règle générale, un commerce dont les règles sont fixées non pas par des gouvernements issus de la volonté populaire mais par des institutions essentiellement tributaires du soutien des STN et d'autres intérêts économiques profite surtout aux riches, aux dépens des pauvres et de l'environnement. Les marchés peuvent être de bons serviteurs mais ce sont de mauvais maîtres.

La réforme des droits de propriété dans un sens favorable au développement durable est un enjeu crucial. Les droits et obligations liés à la propriété touchent aux rapports sociaux, par l'accès des diverses classes ou groupes sociaux aux objectifs et aux services souhaités. Ils déterminent dans une large mesure la répartition des richesses, des revenus et du pouvoir. Dans bien des pays, il faut une réforme agraire qui donne un pouvoir réel à ceux qui vivent de la terre, de l'eau et des ressources qui en proviennent. Il faut aussi une réforme de la structure fiscale, des réglementations sociales et environnementales, des subventions, etc. Or, ce sont tous là des éléments de l'ensemble des droits et des obligations liés à la propriété ou à l'occupation de biens. Le Sommet mondial ne peut pas faire grand-chose à ce sujet si ce n'est d'attirer l'attention sur la nécessité impérieuse pour la communauté internationale de soutenir des réformes des droits de propriété allant dans le sens d'un développement durable. Ces réformes entraîneraient une répartition plus équitable des terres et d'autres ressources naturelles. Elles soumettraient également les STN à un strict contrôle démocratique qui les obligerait à travailler à la réalisation de ces objectifs.

Le grand casse-tête du Sommet social est de trouver et de mobiliser les forces sociales capables de mener à bien les réformes politiques et institutionnelles nécessaires. Ce devrait être un thème majeur. Les réponses à la question des moyens à employer devront varier selon les lieux et les moments. Pour être efficaces, elles devront inclure notamment les pauvres et les sans-pouvoir, en particulier les classes laborieuses sans biens.

Solon L. Barraclough a été directeur de l'UNRISD de mai 1977 à janvier 1984 et consultant principal à l'Institut jusqu'à sa mort en décembre 2002. Ce document a été préparé pour la conférence de l'UNRISD sur le thème L'économie politique du développement durable: conflits,

participation et mouvements écologiques, qui s'est tenue en 2002 parallèlement au Sommet mondial sur le développement durable (Johannesburg, Afrique du Sud).

Resumen

Los dirigentes mundiales se reunieron en Johannesburgo a finales de agosto de 2002 para examinar los progresos realizados con respecto a la aplicación de las conclusiones de la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo (CNUMAD), celebrada en Río de Janeiro diez años antes. La Asamblea General de las Naciones Unidas también les instó a que "reforzaran los compromisos mundiales con el desarrollo sostenible". Sin embargo, la Cumbre Mundial sobre el Desarrollo Sostenible (CMDS) de 2002 hizo frente a una tarea aparentemente imposible.

Para que la CNUMAD respaldara el término "desarrollo sostenible" como objetivo general primordial, éste debía ser lo suficientemente amplio como para contemplar interpretaciones muy diversas. Los participantes tenían intereses contrapuestos, percepciones divergentes, entornos históricos y medioambientales singulares y, con frecuencia, valores totalmente distintos. La Cumbre de Johannesburgo brindó una oportunidad para poner de relieve algunas de las cuestiones conflictivas de orden político y económico subyacentes a los recientes procesos insostenibles. Este documento pretende contribuir a los debates sobre posibles políticas encaminadas a mejorar dichos procesos, examinando sucintamente la dinámica social del cambio medioambiental.

Tendencias contradictorias

Algunas tendencias medioambientales preocupantes a escala mundial se han documentado y difundido ampliamente. Las emisiones de gases invernadero procedentes de la actividad humana siguen acumulándose en la atmósfera, contribuyendo a un cambio climático no deseado. La diversidad biológica necesaria para preservar la vida en el planeta se está erosionando a un ritmo sin precedentes. Los bosques tropicales que aún quedan en el mundo están reduciéndose con gran rapidez. La erosión de la tierra amenaza con degradar una gran parte de la superficie agrícola tan necesaria. Los ecosistemas marinos y costeros están minándose, y la pesca oceánica corre peligro. La disminución de los recursos de agua dulce amenaza los medios de vida en muchas regiones. La lista de preocupaciones medioambientales podría ampliarse constantemente.

Los más optimistas pueden citar algunas tendencias mundiales que parecen más positivas. La reducción de la capa de ozono se ha hecho mucho más lenta. La contaminación del aire y del agua en zonas metropolitanas se ha revertido en algunos países de altos ingresos. Sin embargo, al compás de los logros ambientales en los países ricos, ha aumentado la degradación medioambiental en los países pobres. Los modelos insostenibles de producción-consumo y de eliminación de residuos establecidos en los primeros están provocando daños medioambientales y polarización social en los segundos, ya que sus efectos se transmiten a través del comercio, la economía, varias formas de coacción y otros muchos mecanismos.

Las recientes tendencias socioeconómicas y medioambientales a escala mundial han sido de diversa índole, pero en muchos aspectos han amenazado el tipo de desarrollo sostenible previsto por la Comisión Brundtland y la Cumbre para la Tierra. El crecimiento económico mundial que tuvo lugar después del decenio de 1950 (tal como se evalúa convencionalmente) se ralentizó en gran medida después del decenio de 1970. Esta caída fue más pronunciada para los países de bajos y medianos ingresos de África y Latinoamérica. Esto se compensó en parte en los promedios mundiales por el rápido y continuo crecimiento de los países de bajos ingresos de Asia oriental con poblaciones muy numerosas, como China.

Sin embargo, un aspecto más preocupante para el desarrollo sostenible que las tasas de crecimiento del PNB, es la calidad del crecimiento. Los modelos actuales de producción-

consumo parecen ser cada vez más insostenibles desde los puntos de vista tanto social como medioambiental. La tasa de crecimiento de la población mundial se ha ralentizado, y se prevé que la población mundial se estabilizará en unos 9,000 o 10,000 millones de personas al final del siglo XXI. Pero el incremento de la producción y los residuos *per cápita* está amenazando los ecosistemas naturales que preservan la vida en todo el mundo.

Según la mayor parte de las estimaciones, la desigualdad de ingresos entre ricos y pobres aumentó en el decenio de 1990, tanto dentro de los países como entre los países propiamente dichos. Diferentes criterios, indicadores y períodos de tiempo para las estimaciones de los ingresos pueden conducir a conclusiones contradictorias. Por ejemplo, al utilizar las estimaciones de ingresos sobre la base de la "paridad del poder adquisitivo" (PPA) y ponderar los países según sus poblaciones, pueden manipularse los datos para mostrar una reducción de las desigualdades mundiales. Sin embargo, la PPA en dólares debe suponer relaciones de precios similares a las predominantes en Estados Unidos para los países pobres con estructuras socioeconómicas y niveles de recursos muy diferentes. Si la PPA en dólares fuera realmente una estimación adecuada de los ingresos, válida a todos los niveles, entonces la carga de la deuda externa de los países de bajos ingresos podría reducirse en más del 75 por ciento, y la de los países de medianos ingresos en más de un 50 por ciento, simplemente calculándolas de nuevo en términos de PPA en dólares.

En realidad, las consecuencias para el desarrollo sostenible son imperceptibles, independientemente de que los indicadores estadísticos nacionales e internacionales muestren una disminución o un aumento mínimo de las desigualdades de los ingresos y las tasas de pobreza. Los procesos de "desarrollo" y "mundialización" siempre perjudican a unos y benefician a otros. Muchos indicadores sociales como la esperanza de vida y las tasas de alfabetización han mejorado en promedio, pero esto oculta muchas situaciones en que han empeorado. Las personas perjudicadas con bajos ingresos casi nunca reciben una indemnización adecuada para mantener sus medios de vida, aun cuando los beneficios generales para sus sociedades superen con creces las pérdidas.

Los indicadores, tendencias y comparaciones socioeconómicas y medioambientales a nivel macro pueden ser útiles para algunos efectos, como llamar la atención pública hacia algunos problemas que parecen haberse desatendido, pero que en otros contextos se han abordado con éxito relativo. Por ejemplo, los niveles de salud, nutrición y educación de la población pobre son mucho más elevados en algunos países desfavorecidos como Sri Lanka y Cuba que en otros países con ingresos promedio *per cápita* mucho más elevados. Para otros fines como proponer reformas de política eficaces para abordar tales problemas, suelen ser guías insuficientes. El análisis de la política requiere de un enfoque holístico integrado que vincule hábilmente los procesos históricos con contextos interrelacionados a todos los niveles. Por consiguiente, una gran parte de este documento está dedicada a examinar casos de estudios locales en el terreno cuyos contextos son muy variados y susceptibles de cambio.

Políticas para el desarrollo sostenible

Las políticas son iniciativas emprendidas resueltamente para lograr objetivos percibidos. Son inevitablemente conflictivas. Además, sus efectos suelen ser ambiguos en sistemas dinámicos. Sus resultados están influidos por numerosos factores internos y externos impredecibles, y por las intenciones e intereses divergentes de algunos de sus defensores. Las políticas públicas aparentemente encaminadas a impulsar el desarrollo sostenible han tenido muchos efectos positivos, pero, a menudo, también negativos. Las respuestas de política positivas a la degradación socioeconómica y medioambiental pronosticada contribuyen a explicar por qué las previsiones pesimistas, con frecuencia, han sido erróneas.

La descentralización democrática local se ha incorporado como objetivo del desarrollo sostenible. Al mismo tiempo, la concentración mundial del poder tecnológico, militar, financiero y político ha crecido a un ritmo acelerado, según la opinión mayoritaria. Esta

contradicción está supuestamente superada por la aplicación de principios de subsidiariedad, por lo que las decisiones y los recursos se atribuyen al nivel más bajo (más descentralizado) posible. Sin embargo, el significado de estos niveles en la práctica da lugar a innumerables debates y conflictos. Además, la descentralización, en ausencia de reformas en las instituciones y en las políticas nacionales e internacionales con la consecuente redistribución de los recursos, puede ser contraproducente.

Hay una amplia percepción de que los estados-nación han perdido su capacidad de influir en sus sociedades y que todos ellos están subordinados a fuerzas transnacionales impersonales como los mercados financieros mundiales. Esta visión es distorsionada. Los estados subordinados, las dependencias y las colonias nunca han tenido la oportunidad de determinar sus propias estrategias de desarrollo. En la actualidad, todos los estados-nación influyentes del mundo están integrados en un sistema mundial, que no podría sobrevivir sin el apoyo activo tanto militar como tecnológico y político. Por lo tanto, como en el pasado, se mostrarán intolerantes con las desviaciones de países subordinados o entre ellos mismos, que puedan amenazar el sistema.

No debería esperarse que los esfuerzos desplegados recientemente por los organismos de las Naciones Unidas, grandes empresas multinacionales, gobiernos y algunas ONG con miras a crear asociaciones para el desarrollo sostenible, tengan consecuencias importantes. Algunas grandes empresas multinacionales controlan actualmente una gran parte de los recursos financieros del mundo, al igual que su capacidad para producir nuevas tecnologías modernas, fundamentales para el poder político-militar del Estado. Influyen sobremanera en los programas políticos e ideológicos de todo el mundo, al controlar los medios de comunicación, pero dependen totalmente de la protección política y militar de algunos estados-nación poderosos como Estados Unidos, Japón y los pertenecientes a la Unión Europea.

En la actualidad, las empresas influyentes afirman poder lograr el desarrollo sostenible ejerciendo la "responsabilidad empresarial" y la observancia de un " balance social", que integra los objetivos de los beneficios económicos con los derivados de la promoción del bienestar social y la protección medioambiental. Esto es absurdo en el orden mundial actual. Tendría que suponer leyes públicas, instituciones, regulaciones, prácticas contables, estructuras fiscales y subsidios, entre otras cosas, que apoyaran los objetivos del desarrollo sostenible. Las fuerzas sociales democráticas de carácter popular deberían ser dominantes o muy influyentes en todo el mundo. A juicio de la mayoría de los observadores, se trata de una visión utópica. Está claro que no se asemejaría al "capitalismo" según lo conocemos.

Así pues, ¿qué podría hacerse en Johannesburgo para promover el desarrollo sostenible? Probablemente no mucho, en vista de la situación internacional actual. Sin embargo, los defensores de un mundo mejor podrían esforzarse por impulsar un programa sencillo, cuyas consecuencias podrían ser drásticas si se tomara en serio.

En primer lugar, la CMDS podría reafirmar la importancia de llegar a un acuerdo sobre unos objetivos comunes, pero con responsabilidades diferenciales. Cabe el riesgo de que los componentes sociales del desarrollo sostenible se minen a expensas de los considerados frecuentemente componentes ecológicos. Los derechos humanos universales, la justicia social junto con una mayor igualdad, la eliminación de la pobreza, la participación popular democrática para todos, la búsqueda del desarrollo y de mercados nacionales relativamente autónomos, y los derechos de los países a formular y aplicar sus propias estrategias de desarrollo, entre otras cosas, son partes tan integrantes del desarrollo sostenible como la disminución de los gases invernadero, el acceso a una atmósfera y agua más limpias, la preservación de la diversidad biológica y otros aspectos similares. En cualquier caso, todos estos objetivos suponen juicios de valor y negociaciones políticas. Los medios para su consecución tendrán que variar ampliamente en los diferentes contextos. No hay soluciones universales válidas para todos.

La gestión de gobierno descentralizada y democrática es fundamental, pero no la panacea. Deben tomarse grandes precauciones al promover la descentralización en diferentes entornos. El modo de alcanzar este objetivo en un mundo caracterizado por crecientes desigualdades constituye un gran dilema. La privatización de los derechos de propiedad tal como se practican actualmente, lejos de disminuir la concentración, provoca su aumento. La distinción entre propiedad "privada" y "pública", y entre entidades "locales", "nacionales" y "cosmopolitas" siempre ha sido sumamente confusa y polémica. Poner énfasis en los problemas mundiales y ofrecer soluciones locales a los mismos al promover el desarrollo sostenible puede ser contraproducente, a menos que los gobiernos locales puedan ejercer su poder político y movilizar los recursos necesarios para reorientar los procesos insostenibles que están afectándoles negativamente. Esto supone profundas reformas nacionales e internacionales.

Las estrategias "neoliberales" con el libre comercio son una anatema para el desarrollo sostenible en muchos contextos, aunque no tanto en otros. Por lo general, el comercio no regulado por gobiernos populares, sino por instituciones que dependen en primer instancia del apoyo de las empresas multinacionales y de otros intereses comerciales, beneficiarán principalmente a los ricos a expensas de los pobres y del entorno natural. Los mercados pueden ser buenos sirvientes, pero son malos patrones.

Reformar los derechos de propiedad para apoyar el desarrollo sostenible es una cuestión fundamental. Los derechos y obligaciones en materia de propiedad giran en torno a las relaciones sociales, en lo que concierne al acceso a los objetivos y servicios deseados por diferentes grupos y clases sociales. Determinan en gran medida la distribución de las riquezas, los ingresos y el poder. Las reformas agrarias que otorgan un poder real a los que dependen directamente de la tierra, el agua y los recursos naturales asociados para su subsistencia son esenciales en muchos contextos. También lo son las reformas de las estructuras fiscales, las regulaciones sociales y medioambientales, y los subsidios, entre otras cosas, que forman parte del conjunto de derechos y obligaciones asociados con la propiedad o la tenencia. La CMDS no puede hacer mucho a este respecto, salvo poner de relieve la necesidad fundamental de que la comunidad internacional apoye las reformas de los derechos de propiedad que contribuirían al desarrollo sostenible. Dichas reformas deberían propiciar una distribución más equitativa de los recursos agrarios y de otros recursos naturales. También conllevarían una estricta regulación democrática de las empresas multinacionales con miras a orientarlas hacia el logro de estos objetivos.

El desafío más importante al que se enfrenta la CMDS es el modo de hallar y movilizar las fuerzas sociales que puedan conseguir la introducción de las reformas institucionales y de política necesarias. Esto debería ser un tema clave. Las respuestas tendrían que variar en función de los lugares y de los períodos de tiempo. Para ser eficaces, deberán incluir, entre otros, a la población pobre y sin poder, y en particular a las clases trabajadoras que carecen de propiedad.

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I. Introduction

Nearly everyone endorses sustainable development. Who could possibly oppose it in public when it is defined to mean economic growth of a kind that can persist indefinitely into the unforeseeable future, benefiting all humankind while respecting the limits to growth imposed by planet Earth's non-expandable ecosystem?

According to several international reports, conventions, resolutions and declarations, sustainable development is supposed to promote equity between and within nations, to eliminate dire poverty, to encourage democratic participation together with observance of the Universal Declaration of Human Rights, and to minimize destructive conflicts, while at the same time protecting and enhancing the natural environment for the use and enjoyment of present and future generations. It embodies age-old aspirations for a just and prosperous world for all, while recognizing that past and present development trends are not socially and ecologically sustainable.

The term sustainable development was widely adopted by mainstream development agencies following the publication in 1987 of *Our Common Future* by the World Commission on Environment and Development (WCED), chaired by the then prime minister of Norway, Gro Harlem Brundtland. The WCED used the term as a unifying theme in presenting its environmental and social concerns about worrisome trends toward accelerated environmental degradation and social polarization in the 1970s and 1980s. It stated that "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. … Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must be logically extended to equity within each generation" (WCED 1987:chapter 2, paragraphs 1 and 3).

Aspirations, ambiguities and contradictions

Since the publication of *Our Common Future*, several leading international development organizations have declared sustainable development to be their overarching goal, and explicitly acknowledged the tight interdependence of environmental and socioeconomic issues that have to be resolved in order for development to continue. Within the United Nations system, this close interdependency had already been emphasized by the United Nations Conference on the Human Environment (Stockholm, 1972) and the subsequent creation of the United Nations Environment Programme (UNEP).

Before the 1990s, however, the term sustainable development was not widely used to highlight the interrelationships between environmental protection, social equity and economic growth. Of the major international development organizations, the International Institute for Environment and Development (IIED) was one of the first to adopt the term in this integrated sense in the mid-1970s. The World Watch Institute and the World Conservation Union (IUCN) were also calling for sustainable development in the 1970s and 1980s. Their emphasis, however, was primarily on environmental protection. They tended to relegate to others the serious discussion of how to reconcile environmental goals with those of social justice, equity and economic growth (Barraclough 2001).

The 1992 Earth Summit

The United Nations Conference on Environment and Development (UNCED) was held in Rio de Janeiro, Brazil, in June 1992 after two years of intensive preparation. Heads of state, or senior government officials representing them, from 179 nations participated with United Nations officials, scientists, civil society and local government representatives, business leaders and many others. The conference, also known as the Earth Summit, attempted to put sustainable development at the top of the international agenda for the twenty-first century. It produced five major documents toward this end.

The Rio Declaration on Environment and Development enunciated 27 principles dealing with nations' rights and responsibilities in pursuing sustainable development. Among other desiderata, it urged nations to adopt appropriate integrated policies and to cooperate internationally in pursuing economic growth, eradicating poverty, reducing disparities in living standards worldwide and promoting environmental protection. It asserted that all of these goals were prerequisites for approaching sustainable development. It affirmed the sovereign rights of nations to exploit their natural resources but without causing damage to others. Nations should take a precautionary approach in protecting the environment when serious or irreversible damage seemed likely to result from their activities even if scientific uncertainty still persisted. Nations should strive for socially and ecologically sustainable consumption and production patterns. Polluters should in principle bear the costs of pollution. Full participation of women, indigenous peoples and other social groups should be assured. Peace, development and environmental protection were declared to be interdependent and indivisible.

Agenda 21 was meant to be a programme of action for sustainable development worldwide extending into the twenty-first century. It attempted to provide a blueprint for action "by governments, United Nations organizations, development agencies, non-governmental organizations and independent sector groups, in every area in which human activity impacts on the environment". While lacking force of international law, WCED organizers hoped that adoption of its provisions would provide a strong moral obligation to ensure full implementation. Agenda 21's nearly 300 published pages are divided into 40 chapters grouped into four sections: (i) Social and Economic Dimensions; (ii) Conservation and Management of Resources for Development; (iii) Strengthening the Role of Major Groups; and (iv) Means of Implementation. Its preamble states that the proposals respect the Rio Declaration on Environment and Development. It cites the worsening of recent socioeconomic and environmental trends and calls for integration of concerns about the environment and development. A fully integrated approach, it asserts, could lead to "fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future" (United Nations 1993).

The Earth Summit also produced a Statement of Principles on Forests, a United Nations Framework Convention on Climate Change and a Convention on Biological Diversity. The statement on forests recognizes the importance for sustainable development of the conservation and management of forests. It is non-binding and meant to be a guide for countries formulating forest strategies. The two conventions, however, were supposed to have the force of international law when ratified by the required number of countries.

The climate change framework convention recognized that human activities accompanying industrialization and population growth were releasing unprecedented (in recent geologic time) quantities of carbon dioxide and other greenhouse gases into the atmosphere. Part of the carbon dioxide and some other gases are removed by natural processes that deposit them in terrestrial and ocean "sinks", but a part accumulates in the atmosphere producing a "greenhouse effect". Human-caused (anthropogenic) greenhouse gas emissions are contributing to climate change that could have serious negative impacts for present and future generations. The convention acknowledged that great uncertainties are involved. Invoking the precautionary principle of the Rio declaration, the framework convention committed governments to take measures to stabilize greenhouse gas emissions and to ensure the functioning of natural processes that can help remove them from the atmosphere.

The framework convention also recognized that developed countries account for a major portion of current greenhouse gas emissions and have generated an even higher proportion during the past century, although they only include about one fifth of the world's population. The framework convention commits them to take the lead in stabilizing emissions and in helping developing countries to do so as soon as possible through technological and financial aid.

The Convention on Biological Diversity follows a similar pattern. It recognizes that maintaining biological diversity is critical for human welfare, but that this diversity is being dangerously eroded by human activities. It commits countries to take appropriate measures to protect biodiversity.

Ambiguities and contradictions

The five Earth Summit documents are remarkable in that most of the world's governments endorsed them. They acknowledged the serious threats to human societies posed by accelerating environmental degradation, growing socioeconomic inequities and destructive conflicts. They emphasized the close interrelationships among these processes and the need to devise integrated strategies to reverse unsustainable negative trends. Particularly notable was the adoption of the framework climate and biodiversity conventions. These were intended to become legally binding international treaties. They therefore tended to be less rhetorical and potentially more operational than the Rio declaration and much of Agenda 21, although their legalistic language makes them rather inaccessible to lay readers.

Nearly all international declarations and plans of action, such as those emerging from the Earth Summit, are necessarily full of ambiguities and contradictions. In many ways, they resemble utopias designed by committees (Wolfe 1980). Several of the concerns, aspirations and pet programmes of all the participants are somewhere included while their phobias are carefully avoided. All the participants can return home to interpret sustainable development in a manner acceptable to their constituents. In fact, many governments and their principal support groups have little desire to promote greater social equity, democratic participation or environmental protection if this results in the loss of crucial support by some affected groups.[1]

Agenda 21, for example, urges an integrated approach. It attempts to accomplish this in the first section by dealing with social and economic issues such as international cooperation, trade, poverty, production-consumption patterns, population dynamics, health, human settlements and political processes. Then in the second section, it seems to assume that these highly conflictive issues can be resolved in a harmonious manner. It devotes 12 chapters to management and conservation of resources such as the atmosphere, forests, land, biological diversity, oceans, fresh water, wastes and so forth. It proposes primarily technocratic measures that could bring about improvements in the management of resources. In the third section, it turns to the issues of participation and mobilizing political support. It devotes seven chapters to the importance of participation by women, youth, indigenous people, non-governmental organizations (NGOs), local authorities, business enterprises, workers, scientists and farmers. The final eight chapters are devoted to the means of implementation such as financing, technology transfer, education, training, research, international organizations and laws.

However, this falls short of being an integrated approach. All of these issues have to be integrated in policy arenas at all levels, from local to national and global. It neglects the distribution of property rights, the huge divergences in power and resources, conflicts of interest and the incommensurable values among diverse participants. It also plays down the tremendous uncertainties surrounding any speculations concerning the future.

A unified approach would have to concentrate on conflicts, trade-offs, possible compromises and uncertainties at least as much as on assumed complementarities and allegedly "win-win"

[1] The extreme malleability of the term sustainable development helps explain why it became so popular and widely used after the Earth Summit. In part this can also be explained by the international political climate. Following the collapse of the Union of Soviet Socialist Republics (USSR), its state collectivist system was widely discredited. With the virtual end of the Cold War, rich industrial powers became less concerned that growing inequities between rich and poor countries, and between the rich and poor within countries, would lead to political mobilizations weakening the capitalist-dominated world system. Governing elites worried more about stimulating economic growth and less about growing inequalities. Moreover, the problems of ecological degradation were becoming increasingly evident nearly everywhere. This stimulated important political mobilizations, mostly but not only in rich countries. This support of environmental protection tended to be led by urban middle-class professionals. Much of the explanation for the popularity of the term sustainable development, however, is its ambiguity. Its diverse advocates can interpret both development and sustainability to imply very different objectives, priorities and policies in practice (Barraclough 2001).

policies. Also, it would have to recognize that conservation policies—no matter how well intentioned—will inevitably produce losers as well as winners. If the losers are among the poor, sustainable development as defined by UNCED would require that they receive adequate compensation to maintain or improve their livelihoods. This seldom happens in practice. According to the polluter-pays principle enumerated in the Rio declaration, compensation should come from those promoting and benefiting from the developmental and environmental policies that contribute to the losers' deepening poverty.

Conflicts and contradictions accompanying attempts by governments, international organizations and development agencies to implement some of the Earth Summit recommendations have been legion. The United States government's 2001 repudiation of the Kyoto Protocol on Climate Change (which it had signed but not ratified), and its implicit withdrawal from the Framework Convention on Climate Change (which it did ratify), is only one example among many.

In practice, sustainable development has been widely interpreted since Rio as meaning primarily environmental protection together with economic growth. Equity issues usually receive only minor attention. There is a great deal of rhetoric about poverty reduction and aiding vulnerable groups. Poverty reduction, however, is commonly assumed to result principally as a by-product of economic expansion. Agenda 21's imperative to reform production-consumption patterns to make them more compatible with equity and conservation goals, especially in high-income countries, has for the most part received only lip service.

The World Summit on Sustainable Development

A report by the United Nations Commission on Sustainable Development (CSD) on progress made five years after WCED was incorporated into a United Nations General Assembly resolution in 1997. It noted a number of positive achievements but expressed deep concern "that the overall trends with respect to sustainable development are worse today than they were in 1992" (United Nations General Assembly 1997). The same resolution called for a comprehensive review of Agenda 21 in the year 2002.

In late 2000, the General Assembly decided "to organize the 10-year review of progress achieved in the implementation of the outcome of the United Nations Conference on Environment and Development in 2002 at the summit level to reinvigorate the global commitment to sustainable development" (United Nations General Assembly 2001). It accepted South Africa's offer to host this World Summit on Sustainable Development in Johannesburg. The same resolution said that the summit, including the review process, "should ensure a balance between economic development, social development and environmental protection as these are interdependent and mutually reinforcing components of sustainable development". It invited "relevant organizations and bodies of the United Nations...to participate fully in the ten-year review".

Balancing economic development, social development and environmental protection anywhere is a big challenge. This is the case even when dealing with relatively homogeneous societies and geographic regions in which there is broad agreement about what these terms imply. The World Summit on Sustainable Development (WSSD), however, has to deal with the whole planet's environmental and cultural diversity. It is partitioned among some 200 far-from-equal nation-states each claiming sovereignty over its inhabitants and natural resources. Obviously, crude national quantitative indicators of interacting socioeconomic and environmental processes cannot by themselves shed much light on sustainable development issues. In-depth case studies, in particular historical contexts focusing on interacting socioeconomic and environmental systems, are required to gain insights into the social origins and impacts of ongoing socioeconomic and environmental processes. The roles of relevant social groups, policies and institutions have to be better identified at local, subnational, national and

international levels in order for the WSSD to suggest realistic approaches to more sustainable development.

The United Nations Research Institute for Social Development (UNRISD) commissioned the present paper as a contribution to discussions at the WSSD. Following this introductory section, section II reviews a few overall environmental and socioeconomic trends since the Earth Summit. This section also speculates about principal issues to be discussed at WSSD. The section is largely based on recent documents from international development and environmental organizations or agencies. Section III discusses several responses to ecological degradation and initiatives to reverse or ameliorate their impacts by selected social actors. Section IV speculates about the principal options and dilemmas confronting local communities, national governments, international organizations and other social actors, and considers the extent to which environmental, economic and social goals can be reconciled in different policy arenas.

II. Overall Trends and Issues

There can be little dispute with the assertion that economic development, social development and environmental protection are interdependent and essential components of sustainable development. Recent trends, however, suggest that they are often far from mutually reinforcing. Interrelationships among them are extremely complex and often highly contradictory. In the modern world, outcomes in particular subnational, national and international contexts depend on interactions among diverse socioeconomic and ecological systems at all levels. How to make economic development, social development and environmental protection mutually supportive at local, national and global levels is the major challenge facing participants in the WSSD.

Economic development, social development and environmental degradation (or enhancement) are all social constructs. They are necessarily rather vague concepts, as they imply normative values about what constitutes socioeconomic progress and environmental health. Different societies and different social groups within them interpret these concepts in somewhat divergent ways. This complicates the task of attempting to make them mutually supportive. Political processes are always central for conflict resolution. To the extent that values of different social actors are incommensurable (that they cannot be reduced to a common monetary or some other scale), political negotiations to resolve conflicts become much more difficult.

As seen above, United Nations conferences and declarations have reflected a broad international consensus about what some of these normative development and environmental goals should be. They suggest how progress (or lack of it) toward reaching them might be assessed, although they necessarily are worded vaguely enough to gloss over many disagreements. There has been little progress in reconciling these interdependent objectives of sustainable development in particular social and ecological contexts. Making them mutually reinforcing would require profound policy and institutional reforms at all levels. It would also imply major modifications in what the concept of economic development means in practice.

A quick review of international reports summarizing available data and analyses on social and economic development trends together with those on environmental degradation supports the assessment of the United Nations General Assembly in 1997 that, despite some positive achievements, overall trends with respect to sustainable development had become more unfavourable than they had been in 1992 (United Nations General Assembly 1997). In several rich developed countries, there have been some improvements in environmental indicators such as urban air and water pollution, deforestation and exposure to hazardous wastes. These positive trends have accompanied rising average per capita incomes. In poor countries, these same environmental indicators often show worsening trends. This has led to the hypothesis of

an "environmental Kuznets curve". According to this theory, environmental conditions improve as per capita income rises following an initial deterioration during a country's transition from low- to middle-income status.

This hypothesis, however, fails to take into account the negative effects that rich country production-consumption patterns transmitted through their trade, financial and geopolitical policies can have on the global environment and on environmental degradation in developing countries. Ecologists have devised the concept of the "environmental footprint" to measure such negative impacts globally. The impacts of production and consumption in rich countries on the atmosphere, fresh water, ocean fisheries, forests, soils, coastal areas and the like outside their frontiers, as well as within them, have to be included when assessing environmental trends in a globalizing world. If this is done, the better environmental record of high-income countries than of poor ones seems to be something of an illusion.

Rich Organisation for Economic Co-operation and Development (OECD) countries, for example, are estimated to require on average over four times as much biologically productive area per person to support their consumption as do the mostly lower-income countries not in the OECD. The difference between countries in sub-Saharan Africa and the United States or Canada jumps to over 10 times. A large proportion of the "footprint" originating in rich countries is to be found in poorer ones. Developing countries are supplying the rich with many raw materials that are commonly produced in socially and environmentally destructive ways, while absorbing negative impacts of the pollution and waste generated at all stages from initial production in the South to final consumption in the North (WWF 2001).

Unsustainable trends?

Overall environmental and socioeconomic trends by themselves can shed little light on the dynamics driving them or on what might be done to make development more sustainable. At best, they provide warnings of dangers that must be confronted. An OECD report likens them to traffic lights (OECD 2001). Red lights dominate.

As the multiple social and environmental relationships and processes involved are interdependent, a systems approach is indicated for interpreting trends and for suggesting policy responses. Presumably this is why the World Resources Institute (WRI) together with the United Nations Development Programme (UNDP), UNEP and the World Bank, have adopted an ecosystems framework in assessing environmental trends (WRI 2000). Their report rather arbitrarily subdivides our planet's global ecosystem into five major overlapping subsystems: agro-ecosystems, forest ecosystems, freshwater systems, grassland ecosystems and coastal ecosystems.

According to the indicators used in the report, the state of these five ecosystems is alarming and the trends are mostly negative. Significantly, the WRI report was titled *People and Ecosystems: The Fraying Web of Life* (WRI 2000**)**. It remains ambiguous as to whether people are extraneous or intrinsic to the five major ecosystems being discussed. This, however, is crucial for determining whether policies to approach sustainable development can be principally ecosystem specific or have to be more global. One supposes from reading the text that they are both. In a "globalizing" world, the impacts of human activities transcend these five ecosystems. They cannot escape, however, from being an integral component of the global ecosystem provided by Earth's biosphere that includes all five. In 2001 these same international organizations plus several others launched a Millennium Ecosystems Assessment to be completed in 2005.[2] This should provide a better view of recent trends.

[2] See www.millenniumassessment.org/en/index.aspx, accessed in August 2002.

Environmental degradation

The following is a brief summary of a few global and regional environmental trends since the 1992 Earth Summit. They support the UN General Assembly's conclusion that, on the whole, the situation is becoming worse.[3]

Climate change

The Intergovernmental Panel on Climate Change (IPCC) has concluded that increased concentrations in the atmosphere of carbon dioxide and other greenhouse gases since the advent of the industrial revolution have already resulted in significant global warming and increasing climatic instability. It believes that the average increase in temperature could amount to an unprecedented 1.5 to 6 degrees Celsius during the twenty-first century (a more recent report by climatologists predicts a probable rise of about 3 degrees Celsius [Wigley and Raper 2001]). This would be accompanied by a significant rise in sea level and more frequent extreme climatic disturbances. Some regions will receive more precipitation while others will suffer severe droughts and desertification. According to the IPCC, since the eighteenth century four fifths of the increase in atmospheric carbon dioxide and other greenhouse gases can be attributed to industrial activities using fossil fuels.

The trends in greenhouse gas emissions since UNCED remain alarming. The OECD's reference scenario assumes that energy use will continue to increase until 2020, but at a diminishing rate in relation to gross domestic product (GDP) growth. It suggests a 33 per cent increase in total energy use in the OECD countries in spite of a 20 per cent gain in energy use efficiency from 1980 to 2020. The OECD countries now account for over 50 per cent of total emissions of greenhouse gases. An increase in energy use of over 60 per cent is projected from non-OECD countries (about 36 per cent from developing countries and over 12 per cent from Eastern Europe and the former USSR). This would make them a major source of carbon dioxide emissions by 2020 (OECD 2001).

Unless new renewable sources of energy are used, or spectacular gains are made in efficiency, there will be a corresponding increase in total carbon dioxide emissions. Per capita emissions in the OECD countries will remain many times higher than in developing ones. Moreover, even stabilizing greenhouse gas emissions at 1990 levels will not prevent further atmospheric accumulations: this would require a 50 per cent or more reduction in current emissions, which seems to be politically out of the question. The main message concerning climate change is the need for adaptation, as it is already too late for prevention. Future change could possibly be attenuated by timely reductions in greenhouse gas emissions now, although systemic responses are highly uncertain.

Not all trends are as pessimistic as those concerning greenhouse gas emissions. Acid rain, for example, remains a serious problem, but in most developed and some developing countries considerable progress has been made in reducing the industrial emissions of sulphur and other chemicals that were causing it. Public regulation was primarily responsible for this reduction.

Protecting the ozone layer of the atmosphere is another example. The Montreal protocol on reducing the use of chlorofluorocarbons (CFCs) and other ozone-depleting chemicals has led to a very significant reduction in release of ozone-depleting substances (ODS) into the atmosphere. UNEP (1999) asserts that without the protocol's effective implementation, concentrations of ODS (principally CFCs) since 1986 would have been over five times higher than they are at present. Nonetheless, the maximum extents of seasonal ozone holes over the Antarctic and Arctic regions continue to expand. This is principally due to the long time these chemicals can remain active in the atmosphere. Assuming continued effective control, the ozone layer is not expected to recover before 2050 (see box 1). There are also many complex interactions between climate change and the ozone layer that are not yet well understood.

[3] See UNEP (1999), WWF (2001), WRI (2000), OECD (2001), UNDP (2000) and UNDP (2001).

There are still great uncertainties about the magnitude and impacts of climate changes traceable to human activities, but the effects could potentially be devastating for ecosystems and human societies. Ocean circulation may be affected. For example, some scientists predict that global warming would be accompanied by serious cooling in northwestern Europe if the Gulf Stream's flow of warm water from the tropics were to be interrupted.

Box 1: International efforts to reduce ozone depletion

In September 2000, satellite measurements revealed that the hole in the ozone layer over Antarctica had reached a record 28.3 million square kilometres (some one million more square kilometres than the previous record in 1998).

Under the 1987 Montreal protocol, governments have agreed to phase out chemicals that destroy stratospheric ozone, which is essential for shielding humans, plants and animals from the damaging effects of harmful ultraviolet light. Scientists predict that the ozone layer will start to recover as a result of reduced CFC emissions, as long as the protocol remains in force.

The quantity of harmful ozone-layer-depleting gases released into the atmosphere by developed nations has fallen dramatically since 1987. In addition, developing countries (minor polluters in comparison) are committed to a freeze in the production and consumption of CFCs at 1995–1997 levels. In 2002, they were required to freeze halons and methyl bromide, with continued reductions in all major ozone-depleting substances (ODSs) between 2003 and 2005.

However, ODSs remain in the atmosphere for decades. In addition, global climate change is thought to be affecting the ozone layer's healing process, an issue that remains to be addressed by the international community.

Source: UNEP 2001.

Biodiversity

Current rates of biodiversity loss probably exceed those of any period of Earth's history since the last "great extinction event" some 65 million years ago. That event spurred the extinction of countless species including the dinosaurs. It was followed by a proliferation of new species including the flourishing of mammals and eventually of Homo sapiens. Scientists can only speculate about the significance of current species extinctions. According to some estimates, 25 per cent of Earth's 4,000-plus species of mammals, 11 per cent of its 9,000-plus bird species and numerous species of plants, fungi, fish, insects and so forth are seriously endangered. Many have already disappeared (UNEP 1999).

The UNCED convention on biodiversity constituted official recognition by most of the world's governments of the dangers to human societies posed by decreased biodiversity. Sceptics continue to belittle the potential harm caused by the loss of obscure species not directly useful to humans, many of which they consider to be pests. Out of some 300,000 estimated plant species, for example, only about 200 are widely used for the crops producing most of the food on which humans depend. Ecologists, developmental biologists and geneticists, however, point to the need to maintain complex ecosystems and as large a gene pool as possible to meet future contingencies. Some societies hold the preservation of all forms of life to be a fundamental social value and duty. For those holding this view, the maintenance of biodiversity is a goal in itself irrespective of utilitarian considerations.

Current biodiversity loss is primarily caused by human activities. Habitat loss, degradation and fragmentation, such as that resulting from tropical deforestation, are leading causes. Atmospheric, aquatic and terrestrial pollution, the introduction of harmful exogenous species, overexploitation of ecosystems such as ocean fisheries, human-induced climate change and several other processes are also contributors. The UNCED convention on biodiversity

committed governments to devise and adopt precautionary strategies. As yet, however, biodiversity loss continues unabated in most countries and is probably accelerating globally.

Deforestation

Globally, forests continued to be cleared for other uses, fragmented and badly degraded during the 1990s at about the same rate as in the 1980s before UNCED. Nearly one third of Earth's land area is still considered forest. About half of these forests are in tropical regions and half in temperate or boreal ones. Most current net deforestation is taking place in tropical forests of developing countries. About 17 million hectares of tropical forests are being lost yearly, amounting to an annual loss of the 0.9 per cent of remaining tropical forest area. There has been some net gain in forest areas and volumes in temperate zones during recent decades, but it amounts to less than one tenth of the estimated forest losses in tropical regions.

Deforestation is a principal proximate cause of biodiversity loss. It also contributes to climate change by releasing carbon dioxide and other greenhouse gases stored in forest trees, plants and soils. Forests play crucial roles in regulating local and regional climates through water absorption and transpiration, soil protection, photosynthesis and numerous other processes. Forests are home to unique indigenous cultures. They are principal sources of food, fuel and fibres by resident and neighbouring populations estimated to total over 200 million people. They also supply timber pulp and other forest products for the world's forest industries, making them a crucial component of industrial country consumption-production systems. Exports of forest products are an important source of foreign exchange for several developing countries, although seldom a sustainable one given widespread destructive management. Some governments have also found that protected forests can help attract tourists, bringing foreign exchange to local and national economies.

Not all deforestation is undesirable. Many of the world's most productive farmlands and urban developments are located in once-forested areas. But present trends toward rapid deforestation in tropical regions that are ill-suited for other land uses are inimical for sustainable development.

In July 2001, a conference on climate change in Bonn, Germany, agreed to modify the Kyoto protocol to permit countries to offset some of their industrial carbon emissions against carbon estimated to be stored in forests and some agricultural areas. This was a politically astute compromise. Nearly all countries except for the United States (the world's biggest emitter of greenhouse gases) have now signed the Bonn agreement. The science behind the compromise permitting generous credits for carbon storage in forest and agricultural "sinks", however, remains controversial. Several specialists warn that forest "sinks" can only make a small short-term contribution to reducing atmospheric carbon dioxide concentrations and that they are not long-term substitutes for cuts in industrial emissions (Read et al. 2001). Others are somewhat more optimistic, at least concerning short- and medium-term prospects (Wofsy 2001; Pacala et al. 2001). Both agree that, at best, forest and agricultural carbon storage sinks can provide a little more time for new technologies reducing greenhouse gas emissions to be developed and widely applied.[4]

Farmland degradation

Serious soil erosion has affected over one third of the world's croplands during the past half-century. Some eroded soils are deposited by wind and water in other agricultural areas, enriching their productivity, but much is irrevocably lost for agriculture. Eroded soils become less productive and often have to be abandoned. Yields can frequently be maintained or increased by application of costly chemical fertilizers, but this remedy is usually not within reach of poor peasants. Because of high costs and other constraints, it is not always an option

[4] Recent research suggests that accelerated plant growth is stimulated by increased moisture and higher atmospheric levels of carbon dioxide. This implies that plant growth in general and not merely forests may be important sinks to absorb at least part of increased carbon dioxide in the air (Lovett 2002).

even for commercial farmers. Land degradation in arid, semi-arid and subhumid areas results in desertification by definition. Salinization has negatively affected the productivity of much irrigated cropland. Many good agricultural areas are being lost to urban expansion and other land uses.

In spite of these negative trends, agricultural production globally has kept up with increasing effective demand. It has done this with almost no net increase in cultivated areas or in the relative prices of agricultural products in world markets. Much degraded land was taken out of crop production. This was partially compensated by converting forest and grassland areas to cropland and by rehabilitating "wastelands" in many developing countries. At the same time, yields were increased, mostly on commercial farms, by more intensive use of modern inputs of fertilizers, herbicides, pesticides, improved seeds and the like. In developed countries, more intensive use of external inputs accompanied modern farm practices. This accounted for most of the increase in agricultural production.

Many modern intensive farming practices are reaching their limits in several areas. Evidence of these limits has appeared recently with epidemics of "mad cow" and "foot-and-mouth" disease in Europe. Declining rates of land productivity growth have been noted more generally. But lower average rates of yield increase can also be attributed to slower growth of effective demand and decreasing public support for agricultural research and expansion. The dangers and uncertainties for future increases in agricultural production posed by land degradation, water shortages and overintensive use of chemicals are real and should be taken very seriously. However, genetic engineering and other frontiers of biotechnology offer opportunities as well as dangers. There appears to be no imminent threat of global food supplies not keeping pace with growing effective demand that accompanies rising average incomes and continued population growth.

Still, about a billion people, mostly in rural areas of developing countries, remain undernourished worldwide. Their hunger cannot be attributed principally to declining land productivity, although this is often a contributing factor. Inequitable social relations, such as highly skewed distributions of property rights and public policies that adversely affect the poor, usually provide more pertinent explanations of hunger than does land degradation.

Fresh water

Shortages of fresh water are widely predicted to reach crisis dimensions in the near future. Already, one third of the world's population lives in countries suffering moderate or severe water stress (UNEP 1999). Fresh water consumption per capita doubled during the twentieth century and now exceeds replacement in several regions. About three fourths of present fresh water use is for irrigated agriculture, but urban and industrial demands are increasing more rapidly than are agricultural ones.

Global warming is exacerbating fresh water problems in many countries by changing both the geographic and seasonal distribution of rainfall. In some countries the seasonal availability of water coming from natural reservoirs provided by mountain glaciers and snowfields is already seriously affected (Postel 2001). Rivers and underground aquifers are becoming increasingly overexploited and polluted nearly everywhere. International conflicts over water rights are proliferating.

Nonetheless, there is no global shortage of fresh water. The major problems arise from its inequitable distribution in relation to needs, its careless, wasteful use and the poor management of watersheds. The frequently announced imminent "fresh water crisis" illustrates clearly the key roles of social institutions and of public policies in determining the nature and impacts of this dimension of environmental degradation.

Marine and coastal ecosystems

Oceans cover about 70 per cent of Earth's surface and support a major part of the planet's biodiversity (see box 2). Over one third of the world's people are concentrated in coastal areas, and a major portion now live in large coastal cities (UNEP 1999). Marine and coastal ecosystems are becoming increasingly polluted, overexploited and endangered (see boxes 3 and 4).

Box 2: Marine biodiversity

Over two thirds of Earth's surface is covered by oceans, and the marine realm is considerably more diverse than the terrestrial one. It contains 31 of the world's 32 animal phyla. In addition, scientists believe that the deep sea floor might contain as many as a million undiscovered species. Tropical coral reefs may be compared to rainforests[a] in terms of the variety of species found within them. Marine ecosystems reveal a remarkable diversity of environments and features not found on dry land, such as fluid boundaries, three dimensionality and buoyancy. Among other unique products utilized by humans, the oceans are proving to be an exciting source of new anti-viral and anti-tumour medicines. But for these reasons, among others, they are still a largely open-access resource outside the jurisdiction of states. Whereas protected areas have existed on land for more than a century, there is no tradition of preserving marine ecosystems.

[a] Rainforests, the humid tropics in different parts of the world, are the principal global repository of biodiversity. It has been estimated that over half the number of species on Earth exist in rainforests.

Source: Blaikie and Jeanrenaud 1996.

Box 3: The human and environmental costs of overfishing

Some traditional marine communities in India have perfected an understanding of the aquatic ecosystem and the fish harvesting artefacts appropriate to their task (catching enough fish to sustain a meagre livelihood). The tropical seas off Kerala are marked by the multitude of species that are widely dispersed in the commons, each relying on a complex prey-predator relationship for survival. Traditional fishing technologies evolved to suit the local environmental conditions. In particular this meant "passive" fishing techniques, which did not pursue shoals, therefore avoiding disturbing the natural milieu, and the use of nets designed exclusively for trapping a specific species (size) of fish.

Since 1947, fishing evolved from the subsistence occupation of a caste-bound community into a multifaceted tool of development, with the potential to increase the fish harvest, improve the socioeconomic conditions of fisherfolk, augment export earnings and generate new employment opportunities. However, the development model that was applied to Kerala had destructive effects, not only on the ecological resources of an area, but also on the social conditions of fisherfolk.

Modernization introduced "active", capital-intensive and indiscriminate fishing. As these new methods were originally very profitable, it also meant a rapid increase in the number of people exploiting the coastal waters. The state supported the destruction of its coastline with attractive subsidies for the mechanization of the industry. These hardly ever went to genuine groups of fisherfolk, however, as local businesspeople were quick to see the money to be made from the trade.

Nearly all species of harvestable fish declined in this period and the industry as a whole began to show profit losses. This did not, however, prevent the continuation of overfishing, as the bigger trawlers continued to make money, and the others pinned their hopes on a bumper catch in the near future to wipe out their losses. Fish, which was once considered the poor person's protein in the state, became less available and more expensive for the local community.

The collective action of the fisherfolk themselves finally alerted the government to the destructive effects of its development policy. However, it was not until 1989 that changes were made. Among other measures, a total trawling ban during the monsoon season (July-August) was followed by large catches down the whole coast.

This is not the end of the struggle between human and marine livelihoods on the Kerala coast. At the beginning of the twenty-first century, the artisanal fisherfolk stand with an uncertain future ahead of them.

Source: Kurien 1991.

Box 4: The social and ecological costs of the shrimp industry

During the last two decades, shrimp aquaculture has become a major sector of fish farming in terms of space occupied and of market value. Nonetheless, it makes only a very small contribution toward meeting human needs for food. And although shrimp exports may contribute to short-term economic growth, little attention has been paid to the long-term negative environmental and social implications of the industry on the livelihoods of vulnerable groups in tropical regions.

Fish provide nearly a quarter of the worldwide consumption of animal protein and ocean stocks are declining. In comparison to commercial aquaculture such as shrimp farming, aquaculture to meet the food requirements of local populations has received little investment. A major portion of the shrimp industry caters to luxury demand (and is exported to Japan, the United States and Western Europe), but it has been subsidized by international and national lending agencies citing food security as justification. Furthermore, the main areas of expanding aquaculture are in countries such as India and Bangladesh, with important parts of their populations in need of food.

Shrimp aquaculture is an inefficient way to produce food (both in terms of calories and protein); shrimp are fed fish derivatives to about three times their harvested weight and only about 17 per cent is converted into consumable flesh. Intensive shrimp farms are very prone to the propagation of pollution and disease, affecting local ecosystems and impacting on the health and well-being of local people. Ponds can only be used for a maximum of 10 years before they become too polluted for production. The environment that is left behind inhibits the spontaneous regeneration of vegetation, making the area unusable for agriculture or other fishing activities.

Tropical coastal regions are among the most densely populated areas in the world. Shrimp farming deprives local people of their traditional access to land, water and other resources. Environmental and social effects extend far beyond the villages invaded by shrimp farms. In many ways these consequences are similar to what happened earlier with the expansion of other monocultures such as banana, cotton, cocoa, tea, coffee and sugar in developing countries. Although it has been argued that the industry creates jobs, labour costs take a miniscule proportion (7 per cent) of the investment needed. Workers are hired for the eight-month period of production, after which their contract ends.

Furthermore, any employment gains through the aquaculture industry must be balanced against loss of livelihood by other users of coastal resources. Local farmers, livestock holders, woodcutters, fuelwood gatherers and fisherfolk are among those competing for resources. The effects spread beyond the immediate area used for shrimp production, and flooding of crops, salinization and pollution of land and water, and destruction of mangrove swamps are all regular consequences of this industry.

Local people usually receive no compensation for lost resources and livelihoods. According to several case studies, social cohesion and security frequently diminish in villages penetrated by commercial shrimp farming. Outside ownership of shrimp farms, and the perception by villagers that traditional land rights have been violated, can lead to internal social divisions and theft. All these factors highlight shrimp aquaculture, like other monoculture expansions, as a telling example of the negative consequences of the unregulated impact of global markets and disparate consumer income on local populations, their environment and livelihoods.

Source: Barraclough and Finger-Stich 1996.

The oceans include the world's major fisheries. Ocean fish catches increased from 50 million tonnes annually in the early 1950s to 97 million tonnes in 1995. Fish are a principal source of protein for one fifth of the world's population. Industrial high-technology fishing, however, has overexploited nearly two thirds of the world's marine fishing grounds causing fish populations in some of them to collapse. Industrial fishing has also ruined the livelihoods of countless artisanal fishing communities, mostly in low-income countries.

It appears probable that current rates of fish capture cannot be increased much in spite of growing effective demand. If the current careless management of ocean fisheries persists, they probably cannot even continue production at current levels. Fish and shellfish production from aquaculture expanded very rapidly in the 1990s. In part, marine fisheries can be supplemented by aquaculture, but this also poses many very difficult environmental and social problems.

Overfishing, however, is only one of several negative trends affecting marine and coastal ecosystems. Industrial pollution, from coastal runoff or deposited from the atmosphere, is already seriously affecting plankton growth and other components of marine food chains. Coral reefs are dying at a rapid rate in many regions. Overexploitation of ecosystems, pollution and changing water temperature seem to be major causes (UNEP 1999; Jackson et al. 2001).

The oceans are getting warmer due to the greenhouse effect (Barnett et al. 2001; Levitus et al. 2001). They have apparently absorbed much of the additional heat generated since excess greenhouse gases began to accumulate in the atmosphere. This has delayed the onset of atmospheric and terrestrial warming, but it is likely to make climate change more acute during the coming years. The Arctic ice sheet, for example, seems to have thinned by over one third in recent decades. If the glaciers covering Greenland, Alaska and the Antarctic continent were to melt, , sea levels would rise by several metres. It is no wonder that countries with extensive coastal lowlands, such as the Netherlands, Bangladesh and many small island states, are particularly concerned about global warming. Not only would they confront rising sea levels, but also increasing violent coastal storms. The last El Niño events in the Pacific were particularly severe. There is some evidence that this was associated with climate change.

Environmental trends in urban settings

Over half of the world's people now live in urban areas. In most industrial countries, urban populations exceed 80 per cent of their total populations. Moreover, the distinction between rural and urban lifestyles is becoming increasingly blurred in rich countries. Only a small proportion of their rural residents still depend primarily on agriculture for employment. In developing countries, urban populations are increasing much more rapidly than are rural ones. Most of their projected population increase will be in urban areas. On average, nearly two thirds of their populations are still rural, with a high proportion engaged in some form of agriculture. But this conceals huge differences among countries and regions. About three quarters of all Latin American and Caribbean people reside in cities, while in much of Asia and Africa the proportion is the reverse.

Most energy-intensive industrial production and consumption takes place in metropolitan areas. In many upper-income developing countries rural populations are decreasing in absolute numbers. This is mainly due to rapid rural to urban migration during transitions from predominately agricultural production systems to urban-centred industrial and service economies. Most urban employment in many developing countries is found in unregulated informal urban sectors with precarious livelihoods.

To a large extent, urban populations drive all the environmental degradation trends mentioned earlier. This is because energy-intensive production and consumption tend to be concentrated in cities. Industrial activities, dense populations and mercantile consumption with increasing quantities of waste give rise to a series of additional environmental problems in urban settings, especially in developing countries. Nearly a billion people live in shantytowns and slums. They lack access to adequate shelter, sanitary facilities, clean water and waste disposal. Air and water pollution are ubiquitous in the rapidly growing low-income urban neighbourhoods of developing countries. Their residents are exposed to toxic wastes and frequent natural disasters. Noise pollution and traffic congestion add to these woes.

There are many divergent situations. This makes it virtually impossible to provide accurate quantitative estimates of overall environmental trends in the urban settings of developing countries. There seems to be a general consensus, however, that they are predominantly non-sustainable. Environmental conditions—polluted air, contaminated water, exposure to dangerous wastes and quality of life—are deteriorating for hundreds of millions of urban residents.

Economic and social development

We briefly review below recent overall economic and social trends based on easily accessible United Nations and World Bank data. Emphasis is placed, however, on conceptual and methodological problems in interpreting these data for analysis of sustainable development issues.

The multiple interdependent goals of sustainable economic and social development implied by United Nations declarations, conventions and plans of action were summarized in the introduction. In practice, however, most development agencies, governments, business and financial institutions, NGOs and the mass media adopt a more simplistic view of what economic and social development imply. These terms are widely interpreted to mean catching up with the rich developed countries in production-consumption patterns and living standards. Pursuit of these moving targets dominates their development policies.

Economic growth trends as conventionally measured

In practice, economic development is commonly equated with technological modernization and the growth of output as indicated by gross domestic product (GDP) per capita.[5] Social development is widely assessed by social indicators of health, education, nutrition, gender relations and a few other dimensions of social well-being. These economic and social indicators can be very useful when carefully used and interpreted. If carelessly or tendentiously used, however, they can be extremely misleading for assessing sustainable development trends and issues.

Most economists dealing with development issues acknowledge the crucial importance of social goals, such as the elimination of serious poverty, improved health and education, and the provision of other public goods, such as access to clean air and water and the preservation of peace and personal security. They recognize that economic development implies investments in "social capital" (the institutions regulating social relationships in production, consumption and other activities), "human capital" (the skills, knowledge, health and freedom of choice required for individuals to contribute to—and to benefit fully from—economic growth), "natural capital" (the resources provided by Earth's ecosystem), as well as "man-made capital" (the tools, machines, infrastructure and so forth required for production and distribution).

GDP, however, only takes into account explicitly investments in some forms of "man-made capital" by allowing for capital gains and depreciation in national accounts. Depletion, depreciation or improvements of natural, human and social capital are for the most part neglected. Sometimes they are treated perversely. For example, revenues from timber exports generated by destructive logging of tropical forests in areas unsuited for other land uses add to GDP. There is no offsetting entry, however, for the lost value of the destroyed forest and its multiple long-term environmental and socioeconomic services. The value added in production processes emitting toxic wastes usually enters GDP as a gain with no costs deducted for the damage caused by toxic by-products. If these wastes are later cleaned up at substantial cost, this enters national accounts as another value added. The social and human costs to society of poverty in poor health and unskilled workers, or the lost livelihoods of poor peasants and slum dwellers displaced by development projects, seldom figure as costs in GDP estimates.

[5] As conventionally measured, GDP attempts to estimate the monetary value at market prices of economic output destined for final consumption or investment. It is the sum of "values added" by rather arbitrarily defined economic sectors, such as agriculture, industry, commerce, services and so forth, that comprise a national economy. GDP can be a very useful measure for many purposes. GDP estimates, however, can be very misleading indicators in the pursuit of sustainable development. According to neoclassical economic theory, market prices can be the best guide to an optimum use of resources if one can assume that there is perfect competition, perfect information and an optimum distribution of income and wealth (Coase 1988). This is a long way from reality anywhere, especially in the present-day global economy. The poor have little influence on market prices. Moreover, GDP estimates fail to take into account explicitly the depletion of natural resources and the health of the ecosystems upon which all economic activity must ultimately depend. Neither GDP estimates nor commonly used social indicators by themselves can reveal much about the adequacy of social institutions to sustain economic growth. GDP per capita is not a reliable indicator of the skills and knowledge of the people who must carry out economic activities, and toward whose benefit these activities should presumably be directed in a world order dedicated to sustainable development.

It would be unrealistic, however, to expect GDP, the UNDP Human Development Index or any other single indicator to reflect adequately the various dimensions of sustainable socioeconomic development. Uncertainties dominate speculations about the future. Incommensurable values as well as the essentially qualitative nature of many social goals, costs and benefits prevent their reduction to a meaningful single monetary scale. There are no reliable comparable data available for most developing countries even for many components of GDP as conventionally measured, to say nothing about those data that would be required to construct a more inclusive composite economic development index than GDP. Taking into account the many limitations of GDP per capita and other commonly used indicators of economic and social development, what do they tell us about recent trends?

Economic growth

World economic growth in the 1990s measured in terms of GDP per capita amounted to about 1.1 per cent annually (UNDP 2001). It ranged from 5.9 per cent in East Asia and the Pacific, 3.4 per cent in South Asia, 1.7 per cent in Latin America and the Caribbean, 1.5 per cent in the OECD countries, to –0.4 per cent in sub-Saharan Africa and –3.4 per cent in Eastern Europe and the Commonwealth of Independent States (CIS). Of course, world growth rates of GDP are largely determined by those in high-income OECD countries. These accounted for about four fifths of total world output in 1999 but for only one fifth of the world's population.

These economic growth rates during the 1990s have to be put in a longer-term perspective to suggest trends. Reconstruction of the badly war-damaged economies of Japan, the USSR and most of Europe helped fuel an unprecedented postwar expansion of the world economy from the late 1940s into the 1970s. From 1965 to 1980, world GDP grew at an average annual rate of over 4 per cent. In low- and middle-income countries during this period, GDP growth rates averaged 6 per cent (about 4 per cent per capita). Average annual growth rates were 6 per cent in Latin America, 7 per cent in East Asia, about 4 per cent in sub-Saharan Africa and nearly 4 per cent in South Asia. In the 1980s and 1990s overall world growth rates slowed markedly. Rapid growth of nearly 10 per cent annually continued, however, in China and several other East Asian developing countries. Growth also exceeded 1965–1980 rates in South Asia including India (Singh 2000) (see table 1).

Table 1: Trends in GDP growth, selected regions, 1965–1999
(average annual percentage growth)

Category	1965–1980	1980–1990	1990–1999
Low-income economies	4.8	4.4	2.4
Middle-income economies	6.5	3.2	3.5
High-income economies	3.7	3.1	2.4
World total	4.1	3.2	2.5
Lower- and middle-income economies by region			
East Asia and Pacific	7.3	8.0	7.4
Eastern Europe and Central Asia	-	2.4	–2.7
Latin America and Caribbean	6.0[a]	1.7	3.4
Middle East and North Africa	-	2.0	3.0
South Asia	3.6	5.7	5.7
Sub-Saharan Africa	4.2	1.7	2.4

- signifies not available; [a] Latin America only

Source: World Bank (1987, 2000).

Since the oil crisis and the devaluation of the United States (US) dollar in the early 1970s, the world economy has been subject to the increasing instability of financial and commodity markets. Those developing countries depending primarily on basic commodity exports to generate foreign exchange have faced deteriorating terms of trade during most years. Prices of their exports have tended to fall in relation to those of their imports from industrialized countries. These trends were intensified, especially in many African and Latin American countries, by huge and growing debt burdens. Servicing foreign debts commonly devoured an important part of available foreign exchange from all sources including new debts to service and restructuring of old ones. Capital flight worsened these problems.

The principal explanation for the slowdown in world economic expansion and in many of its major geographic regions since the 1970s was inadequate effective demand (Singh 2000). The technologies and resources existed to attain much higher rates of GDP growth both in OECD "developed" countries and in "lagging" developing ones. Increasing effective demand sufficiently to support rapid economic growth, however, would imply policies and institutions in both rich and poor countries capable of matching actual and latent production capacities not only with actual market demands but also with unmet social needs and aspirations.

That economic growth rates of 4 to 6 per cent annually can be reached and maintained for several years has been amply demonstrated in numerous countries. There is no convincing evidence, however, that the policies of "structural adjustment" imposed on most developing countries since the 1970s by the international financial institutions (IFIs) and other creditors are the best means of promoting such economic gains.

Structural adjustment for poor countries has commonly implied deflationary fiscal and monetary policies, liberalization of their imports and exports as well as of internal markets, deregulation by their governments of capital movements and privatization of state-controlled economic activities. In situations where the state is hopelessly corrupt or incompetent, such measures may be necessary or even salutary for growth. Frequently, however, they can have very perverse effects. Governments can do a great deal more to promote sustainable growth than abandon their responsibilities to "market forces": China, India and other fast-growing East and South Asian countries have followed very different economic strategies than the orthodox neoliberal ones recommended under the so-called Washington consensus (Singh 2000). For that matter, today's high-income developed countries might still be underdeveloped if their governments in earlier times had followed the advice that their present governments are giving to developing countries.

Quality of growth

The key questions in relation to sustainable development, however, have much more to do with the quality of economic growth than with its mere pace. Rates of GDP growth by themselves tell nothing about quality. Does growth of output provide greater equity, broad-based employment with higher incomes for the poor, enhanced public services, improved living levels, participation for hitherto excluded social groups and better environmental protection? Or is rapid GDP growth accompanied by increasing inequalities of wealth and income, continued serious poverty, accentuated social conflicts, marginalization of many social groups and accelerated environmental degradation?

There are plenty of contemporary and historical examples of negative trends as well as positive ones accompanying economic growth. Increased economic output commonly implies faster depletion of natural resources, the generation of more polluting wastes, increased use of energy from fossil fuels for production, transportation and distribution, and numerous other burdens for the world's ecosystems.[6] It also often implies marginalization and impoverishment of social

[6] The important measure for assessing ecological issues is not mere output (the values added in production processes until final consumption) but "throughput" (the total of energy and materials used and wastes generated). Throughput is much larger than output.

groups whose customary resources, employment or markets are appropriated by other more powerful interests to speed "development".

Negative environmental and social trends, however, may be associated with low or negative rates of GDP growth as well as with rapid positive ones. This makes it all too easy to marshal "convincing" statistical and anecdotal evidence to support Panglossian scenarios in which the dominant trends are toward sustainable development or, alternatively, toward imminent social and ecological catastrophes. For an example of the use of essentially the same data to support laudatory instead of mildly critical interpretations of recent socioeconomic and environmental policies and trends, one need only compare the UNDP *Human Development Report* for 2001 with its 11 previous annual issues beginning in 1990.

One has to move far beyond looking at trends. The principal issues facing those trying to promote sustainable development involve determining what might be done by whom. These questions have to be faced at all levels from local to global. Otherwise, it is not possible to imagine alternatives designed to reconcile the conflicting interests of different social actors in approaching sustainable socioeconomic and environmental goals. This implies analyses in specific contexts of interacting social systems and Earth's complex ecosystems. It involves interdependent social institutions, policies and ongoing social and ecological processes. Obviously, economic growth must be a necessary component. GDP and its growth as conventionally measured will have to be qualitatively and quantitatively redefined in practice for economic growth to become sustainable. But how and by whom?

Global inequality

According to neoclassical economic theory, national and global competitive markets should lead to a convergence of income levels among and within nations. Marxist theories predict growing socioeconomic polarization until the capitalist system is replaced by a more "rational socialist" one. Historical evidence can be interpreted to support either trend depending on the criteria, countries, data and time periods selected for analysis (see O'Rourke 2001).

Trends toward greater inequalities in the distribution of income and assets among countries as well as within them during the last three or four decades, however, are convincing and alarming. They should be of great concern for international organizations and governments that say their overarching mission is to promote sustainable development.

Reasonably comparable data on income levels among countries and the distribution of income within them are inherently difficult to generate and interpret. Is GDP (or GNP) per capita an adequate proxy for comparing the levels of income between different countries? If so, how should incomes denominated in each country's national currency be compared among countries?

Until recently, this was usually done by converting incomes into US dollars at official exchange rates (or at some proxy for "real market rates" if these differed widely from official ones). In the 1980s the World Bank began to publish supplementary data that attempted also to show the value of national currencies converted to US dollars at "purchasing power parity" (PPP). PPP dollars represent an attempt to express the values of national currencies that indicated their actual purchasing power for typical consumers in relative prices of similar goods and services in the United States. If Indian rupees are converted to dollars at the market exchange rate, for example, maids, barbers and other services, as well as many home-produced or bartered goods such as foods, clothing and shelter are much cheaper (or often costless in monetary terms) for consumers in India than in the United States. At PPP rates, however, the dollar converted to rupees would presumably reflect similar purchasing power in India as in the United States as these goods and services would be valued in terms of US relative prices (see box 5).

Another problem in making international estimates of trends in income distribution among countries is whether each country should be considered as an independent sample or whether

its income should be weighted by its population. For many purposes of comparison, weighting income growth by the numbers of people seems to be an obvious choice. For some purposes, however, such as assessing the impacts of national policies, it may be more appropriate to give changes in incomes of small countries with few people the same weight as large populous ones (Wade 2001).

Box 5: Purchasing power parity

Per capita incomes in most developing countries range from one third to over three fourths higher when expressed in PPP US dollars than they do when local currencies are converted to US dollars using official or market exchange rates. Naturally, using PPPs makes distribution of income between rich countries and poor ones appear much less skewed than it would if exchange rates are used. For the least developed countries category, GDP average per capita in 1999 was estimated at nearly 1,200 PPP US dollars, while at exchange rate conversion to dollars it was only about 300 US dollars per capita. Price relations in high-income OECD countries are quite similar to those in the United States. Their conversion to PPP US dollars makes little difference in their income levels.

Both ways of converting national currencies have theoretical advantages and disadvantages. It depends on what one is trying to compare, for what social groups and for what purposes. For comparing living levels of typical consumers in different countries, the PPP measure is theoretically superior to the exchange rate one. For comparing the strength, outputs and modernization of national economies, however, PPP measures can be very misleading. It is perhaps significant that international agencies and creditors advocating wide use of PPP US dollars in comparing incomes among countries would never try to use PPP rates in purchasing locally produced goods and services or accept PPP rates for repayment of developing country foreign debts. If they were to do so, over half of Mexico's or Brazil's foreign debt in US dollars would simply vanish.[a]

[a] The practical difficulties of establishing comparable PPP US dollar data are also very formidable. Methodologies differ. In order for national accounts to be consistent between sectors and at different levels of aggregation, the statistical exercise can be complex. Until the 1990s, independent country studies to estimate PPP rates had only been carried out in a few developing countries. Estimates for the others were based on regressions that required many questionable assumptions. There have been some studies recently to establish PPP rates in more developing countries, but many are still missing. In view of the practical and conceptual problems encountered in estimating PPP US dollars in developing countries, one wonders if many of the intercountry comparisons in the UNDP Human Development Report are not misleading.

Comparison of available data on global income distribution among countries suggests little change between 1970 and the late 1990s if incomes are weighted by population and measured in PPP US dollars. China, India and a few other fast-growing Asian developing countries such as Indonesia, Malaysia, the Republic of Korea, Thailand and Viet Nam make up nearly half of the world's total population. Their incomes per capita have been growing considerably more rapidly than the world average. Growth of their incomes when weighted by population and by PPP conversion rates are sufficient to cancel out growing inequalities between most other low- and middle-income countries and the high-income ones that generate most of the world's GDP. Other measures of change in global income distribution all show rapidly worsening distribution among countries. Income gaps are much greater if exchange rate measures of income are used instead of PPP ones in comparing countries (Wade 2001; UNDP 2001).

Two recent analyses of world income distribution trends between and within countries have been based on World Bank data from household surveys carried out in most of the bank's member countries. To the extent these data are comparable and are representative of national populations (always questionable assumptions, especially for household surveys in poor countries with unreliable demographic and economic data), their findings show severe worsening of world income distribution between 1988 and 1993. These data suggest that the poorest decile of the world's people received a little less than 1 per cent of the world's income in 1988 but only two thirds of 1 per cent of world income in 1993—a fall of 27 per cent of their minute share in five years. The richest decile's share of world income during this same period rose from 48 per cent to 52 per cent, an increase of over 8 per cent (Wade 2001) (see table 2).

Table 2: World income distribution

Income distribution	1988	1993	% change
Gini coefficient[a] (world)	63.1	66.9	6.0
Poorest decile's per cent of world income	0.88	0.64	–27.3
Richest decile's per cent of world income	48.0	52.0	8.3
Median as per cent of poorest decile	327.0	359.0	9.8
Richest decile's per cent of median	728.0	898.0	23.4

[a] 0 = perfect equality; 100 = extreme inequality

Source: Wade 2001.

World income distribution seems to have been worsening rather rapidly since the 1970s. The World Bank, the UNDP and most other international and national development organizations focus their rhetoric and a few of their programmes on reducing poverty, not inequalities. Calling attention to the fact that inequality is a major cause of poverty by definition is brushed aside as being naive. Warnings that growing inequalities have frequently been associated with wars, violent social conflicts and revolutions are deemed to be oversimplistic or even subversive.

Equality of opportunity is advocated as a better approach to poverty elimination than is redistribution of income and wealth. Perhaps, but equality of opportunity is commonly interpreted to mean merely formal equality before the law, having little to do with the global distribution of wealth and income. In fact, many agencies and economists try to justify gross inequalities of wealth and income by asserting they provide necessary incentives for innovation, savings and investment.

Who owns the world?

This could be the title of a useful publication, as it is a fundamental question for sustainable development. Good research could possibly untangle some of the complex social relations, chains of command, deceits and political and military constraints associated with the distribution and control of the world's assets. At present, estimates are mostly conjectures based on debatable assumptions and poor information from diverse sources that are seldom very comparable. Nonetheless, a few trends are discernable.

The distribution of property rights always lurks behind any questioning of income distribution. Surprisingly, *The Economist* published Wade's provocative essay cited here (Wade 2001). Nonetheless, it felt it necessary to add a dissenting editorial note and to devote part of its subsequent issue to the benefits brought to society by the innovative and risk-taking new rich. Like the church and other reformers before the French Revolution, and later in Victorian Britain, *The Economist* recommends philanthropy as the best remedy for social tensions accompanying growing global inequality. The rich should conceal or avoid overconspicuous consumption and devote their riches to good works promoting cultural, social and scientific advancement.

The global concentration of wealth ("assets" in economists' current parlance) is even harder to measure and interpret than is the distribution of income. Control of land and other wealth was originally secured by custom and force. In modern nation-states it depends largely on the enforcement of legal codes (still based on custom and force) regulating property rights and contracts. Legal codes vary greatly from one country and time to another. Their observance and enforcement are even more variable, especially in many developing countries with weak judicial institutions. Also, owners of assets may conceal this for tax reasons, for example, or they may exaggerate their wealth for various purposes. Financial structures of transnational

conglomerates can be extremely complex, making it almost impossible for outsiders to identify ownership and control of their operations, affiliates, joint ventures and strategic partnerships.

Increasing concentration of world finance, production and trade in a few large transnational enterprises has been taking place since the 1950s. By the late 1990s, the top five corporations had revenues twice as big as the sum of the 100 poorest countries' GDP. While corporate gross revenues are not directly comparable with GDP (which includes only "value added" in a country), these data dramatize the economic weight of large transnational corporations (TNCs) (UNRISD 2000).[7]

All these estimates are rather speculative. Different sources, often using different criteria, provide widely varying estimates and projections. For example, United Nations Conference on Trade and Development (UNCTAD) data suggest that, in 1999, "some 63,000 corporations with some 800,000 affiliates accounted for one third of total world exports" (UNCTAD 2000). Another source tells us: "As the millennium begins, the world's top 200 corporations account for 28 per cent of global economic activity: the top 500 account for 70 per cent of world trade and the top 1,000 companies control more than 80 per cent of the world's industrial output" (Mooney 1999:75). Other researchers present similar data (Anderson and Cavanagh 2000).

In spite of fuzzy concepts and questionable data, a few recent trends seem clear. Control of world finance, trade and modern technologies, and production of tradable commodities, services and natural resources, are becoming increasingly concentrated in fewer and bigger global TNCs. Corporate mergers and takeovers were estimated to have exceeded $3 trillion in 1999 alone (Mooney 1999). Huge oligopolies of only five or 10 firms with the major market share of revenues dominate many sectors of world production and trade. Their oligopolistic control is reinforced by patents giving them exclusive property rights for a couple of decades over new technologies, which they have financed or purchased from others. Protection of trade-related intellectual property rights (TRIPS) is now one of the functions of the World Trade Organization (WTO).

Domestic politics in both rich and poor countries naturally influenced how governments responded to growing criticisms of TNCs. Also, during the Cold War geopolitical competition for influence in developing countries allowed political support to be mobilized in the United Nations for a closer scrutiny of TNCs. This contributed to the establishment of the United Nations Centre on Transnational Corporations (UNCTC) in the early 1970s. Its mission was to monitor TNCs and to promote an international code of conduct. The Centre was closed soon after the collapse of the USSR. Developing countries became more interested in attracting TNCs' investments than in regulating their impacts.

During the 1980s and 1990s, NGO-led networks and coalitions became increasingly vocal in denouncing socially and environmentally harmful TNC projects and practices (Murphy and Bendell 1999). They were sometimes able to attract influential support among consumer groups, labour unions and politicians. This put many large TNCs on the defensive. Their profits could be endangered by bad publicity, consumer boycotts and tough regulatory restrictions. The new information and communication technologies (ICTs) had facilitated TNC-led globalization. But ICTs had also stimulated global alliances of their critics (O'Neill 1999).

TNCs responded to mounting criticisms from environmentalists and human rights advocates with diverse strategies. A few of their top officers, and even some stockholders, shared environmental and social concerns with their critics. They were constrained from abandoning destructive practices by the need to expand and make maximum returns. Otherwise, they risked being replaced, or their enterprises taken over by others. A few were able to improve profits while also adopting socially and environmentally more friendly practices, but their

[7] Values added of large corporations would range from only about one third to one fifth of their gross revenues, according to some estimates (Wolf 2002).

success always depended crucially on the external socioeconomic context. A response of several large TNCs was to seek partnerships with governments, international agencies and NGOs to promote sustainable development.

Since the late 1990s, the United Nations and the TNCs together with some NGOs have given a great deal of publicity to a partnership approach. These partnerships would include voluntary corporate codes of conduct and an ethic of corporate responsibility for social well-being and environmental protection. Self-monitoring and self-policing of compliance are all promised in order to reverse earlier negative trends and images.[8]

Cleaner technologies and ecoefficiency together with socially benign treatment of employees, customers and other stakeholders are proposed by several TNCs to reverse past negative social and environmental trends. Prophets of technological solutions to environmental and social degradation claim that modern biotechnologies such as genetically modified seeds and animals could make possible the elimination of hunger. More efficient uses of fossil fuels and their eventual replacement by fuel cells and renewable sources of energy could solve greenhouse gas and other pollution problems. Recent advances in nanotechnologies, they hope, would enable humans to become much less dependent on the exploitation of natural resources. Modern ICTs could bring needed skills and knowledge to the world's poor, thus enabling them to benefit from, and participate fully in, the coming century of plenty. Prior redistribution of income and wealth to poor people and poor countries, these technological optimists say, is politically unrealistic. Moreover, they believe it would remove the necessary incentives and stifle the innovations and investments needed to bring about this emerging corporate-led, neoliberal technological utopia. Ecotechnology enthusiasts seem to assume that if ecoefficient technologies are available, market forces helped by corporate good intentions could somehow bring about their use for sustainable development. They fail to analyse how institutional and policy reforms would be required to subordinate the needs of financial speculators and corporate managers to maximize short-term profits to longer-term social goals. More realistically, others see technological innovations as providing opportunities but not solutions. They acknowledge the need for deep structural reforms.[9]

Other observers have more critical views of the potential of modern technologies to harmonize production and consumption patterns with sustainability and social justice. They have perhaps even a greater awareness of the dangers posed by recent environmental and social trends. They point out that technological advances in the past have been accompanied by growing inequalities, poverty and environmental destruction. Their most pessimistic scenarios foresee these new technologies accelerating a corporate-led slide into an environmental, social and political catastrophe (for example, Mooney 1999). These issues will be discussed in later sections.

Social indicators

"Social development", like the term "development" more generally when applied to human societies, has come to mean "progress" in approaching certain social goals.[10] It is shorthand for complex processes of historical change. Institutions regulating social relations in production, distribution and other activities are all restructured during social development. It is a normative concept that implicitly includes economic and environmental as well as other social dimensions. Different social actors have many conflicting objectives. Diverse societies may endorse similar overarching goals, such as those currently implied by sustainable development, but their elites

[8] See Utting (2000a, 2000b, 2002a) and Richter (2001).

[9] For example, Hawken et al. (1999), UNDP (2001), and Lovins and Link (2001).

[10] The term development to describe economic and social progress was apparently borrowed from biology in the nineteenth century. It differs, however, from the biological concept describing how an organism develops from inception through growth, maturity, reproduction and eventual decline and death. For some social scientists, social development is akin to the biological concept of evolution. Attempts to differentiate between "social", "economic" and "political" development were sources of further confusion (Barraclough 2001).

may have very different views about priorities and the means for approaching them. For many social groups, social development simply means overcoming poverty.

Social development, like economic development, is commonly interpreted in developing countries to mean catching up with the already rich and developed. This implies improved living standards, including better access to food, shelter, education, health, security and a clean environment. For many, it also suggests access to the lifestyles prevalent in rich industrial countries. For social groups that are excluded from many of societies' privileges and benefits, social development implies their being respected and included in society on equal terms with the more privileged. For many others, however, it still means only lifting average living standards for the whole national society without challenging and reforming established power relations between social classes, ethnic and religious groups, men and women, or among countries.

There are several widely used indicators of progress toward social development. A good composite index in theory should be average life expectancy at birth, reflecting access to nutritious food, sanitation, health services and so forth. Access to education can be indicated by literacy rates, school enrolments and the like. Gender discrimination is reflected in different levels attained by males and females. Difference between social or occupational classes, income levels or ethnic groups can reflect various kinds of social discrimination and prejudice.

Such data are usually compiled from varied sources in each country and aggregated at national levels. National aggregates are used for international comparisons among countries to show overall levels and trends. National-level data are also aggregated by geographic regions, income levels and other criteria in attempts to analyse and explain differing levels and trends. One has to appreciate, however, that these data are at best crude indicators of changes in the social relations that constitute the crux of social development.

The data themselves are often very questionable, especially for underdeveloped countries. Poor countries have few resources for data gathering or analyses. Reliable registration of vital statistics such as births and deaths at local levels may be virtually non-existent or partial. Lack of good demographic data often implies that sample household surveys sponsored by international agencies may be samples of an unknown larger universe. This makes extension of their findings to national levels highly problematic. Also, the surveys may not be comparable from one place and time to another. National censuses and surveys present similar problems. The quality of data for several developing countries have improved in recent years, but in others, they have deteriorated. In either case, comparisons over time are full of uncertainties, as are comparisons between countries.[11]

Another problem in assessing trends in social welfare is that indicators of poverty, health, education, access to services and so forth are commonly expressed in terms of percentages of a larger population. World population more than tripled during the last century. In developing countries, population increased by two thirds during only the last quarter of the twentieth century. Assuming that 30 per cent of their population was undernourished in 1975 and 25 per cent undernourished in 2000 (not an unreasonable assumption), this meant a 17 per cent decrease in the rate of undernutrition in only 25 years. This seems like good progress. The number of hungry people in these developing countries, however, would have grown by over 300 million, or by well over one third. Moreover, if China and a few other large countries in

[11] Many indicators, such as life expectancy and literacy rates, have built-in ceilings. Biological constraints make exceeding an average life expectancy at national levels of over 80 years improbable. Literacy cannot exceed 100 per cent. This means that countries with initial low rates of life expectancy or literacy can show much faster progress than those where average length of life or literacy are already high. This need not imply faster social development for the former than for the latter. Moreover, national or other aggregates conceal vast differences among social groups and subnational regions. Correlations of social indicators with GDP per capita (no matter how estimated) and among themselves, may appear very robust for all 170 (more or less) countries reporting data. If these countries are subdivided into a few subgroups by income level or some similar criteria, however, these correlations can almost vanish. There are several good comprehensive discussions of these and many other difficulties (for example, McGranahan et al. 1985). These well-known problems are all too often brushed aside when analysing social trends.

Asia making rapid progress in improving nutrition of the poor are omitted, there was no gain in the proportion of people who were adequately nourished in most developing countries. The interpretation of trends can be very deceptive at aggregate global, regional and national levels. Improvements in social conditions at these aggregate levels may conceal serious deteriorations for various countries and social groups.

The United Nations High-Level Panel on Financing for Development presented global data purporting to show tremendous progress in economic and social levels during the last half century (Zedillo et al. 2001). Income per capita in PPP dollars supposedly increased by over 250 per cent worldwide and by over 300 per cent in developing countries between 1950 and 2000.[12] When one recalls that the world's 200 wealthiest individuals have assets valued as being equal to the annual income of its 2.5 billion poorest people, one questions what these averages mean. Indicators of life expectancy, poverty, literacy and infant mortality all appear to have improved dramatically, especially in developing countries. Population increased by 3.5 billion people, almost all in developing countries, during the last half-century. If the data of the high-level panel are translated into numbers of people suffering deprivation under these same headings, the overall trends look less rosy.

During the last 50 years, the world's population increased by some 240 per cent. If one looks at social welfare trends in low-income regions and countries such as those in sub-Saharan Africa and the former Soviet Union and Eastern Europe, they are extremely depressing. The apparent good results in reducing poverty for developing countries as a whole can largely be attributed to China and a few other Asian countries (see table 3).

Table 3: Income poverty by region, 1987–1998

Regional groupings	Population below the poverty line[a] *(per cent)*			People living in poverty *(millions)*		
	1987	**1993**	**1998**	**1987**	**1993**	**1998**
East Asia and Pacific	26.6	25.2	15.3	417.5	431.9	278.3
East Asia and Pacific (excluding China)	23.9	15.9	11.3	114.1	83.5	65.1
Europe and Central Asia	0.2	4.0	5.1	1.1	18.3	24.0
Latin America and the Caribbean	15.3	15.3	15.6	63.7	70.8	78.2
Middle East and North Africa	4.3	1.9	1.9	9.3	5.0	5.5
South Asia	44.9	42.4	40.0	474.4	505.1	522.0
Sub-Saharan Africa	46.6	49.7	46.3	217.2	273.3	290.9
Total	28.3	28.1	24.0	1,183.2	1,304.3	1,198.9

[a] The poverty line is calculated at $1.08 per day at 1993 PPP.

Source: The World Bank 2000.

Table 4 presents estimates of overall trends during recent decades for a few social and economic indicators for all developing countries and for least-developed countries. These data suggest huge differences among regions and other intercountry groupings. Looking at individual countries would, of course, show even wider divergencies.

[12] PPP dollars had to be estimated for 1950 on the basis of very heroic assumptions. Published estimates for only a few (mostly OECD) countries first began to appear in the 1970s. Retrospective calculations are even more problematic than current ones. Moreover, the PPP measure, as shown earlier, presents many theoretical and practical problems in comparing incomes across countries and over time.

Table 4: Human poverty in developing countries

	Average life expectancy *(years)*		**Infant mortality rate** *(per 1,000 live births)*		**Adult literacy**[a] *(%)*	**Male literacy** *(%)*	**Female literacy** *(%)*
	1970–1975	**1995–2000**	**1970**	**1998**	**1970**	**1998**	**1998**
All developing countries	55.6	64.4	110	64	46	80.3	64.5
Least-developed countries	44.2	51.6	150	104	26	61.4	41.0

[a] Estimates of male and female literacy separately not available for 1970.

Source: UNDP 1991, 2000.

One can emphasize "impressive progress" or "daunting problems". The 2001 *Human Development Report* calls attention to impressive progress made during the last three decades. It highlights the potential of modern technologies in agricultural biotechnology, pharmaceuticals, and information and communication to contribute to the elimination of poverty (UNDP 2001). The report recognizes that technology offers no "silver bullet". It states that "technology itself has become a source of economic growth" (UNDP 2001). But for whom and at what social and environmental costs?

Earlier *Human Development Reports* were more realistic and sceptical. Based on essentially the same UNDP data, a former administrator of UNDP wrote:

> The world is becoming increasingly polarized between the rich and the poor—both between and within countries. Poverty amid abundance is a growing problem that poses grave dangers. … In the past 15 years, per capita income has declined in more than 100 countries. ... The risk of a huge global underclass undermining global stability is quite real. ... Among the 4.4 billion people living in developing countries around the world, three fifths live in communities lacking basic sanitation, one third go without safe drinking water, one quarter lack adequate housing, one fifth are undernourished; and 1.4 billion live on less than $1 per day (Speth 1999).

In any case, concentrating on national and multinational aggregates either as ratios or in absolute numbers in looking at trends in living standards or social welfare misses fundamental issues. These have to do with the social dynamics generating socially undesirable outcomes in specific contexts and what might be done to make social change more supportive of sustainable development. This always requires in-depth studies relating each case to broader historical, socioeconomic and ecological contexts.

Some issues for the WSSD

Mahatma Gandhi went to the heart of the sustainable development dilemma over 70 years ago. In 1928 he wrote:

> God forbid that India would ever take to industrialization after the manner of the west. The economic imperialism of a single island kingdom [England] is today keeping the world in chains. If an entire nation of 300 million [sic] took to similar economic exploitation, it would strip the world like locusts.[13]

Today India and China, with populations of over 1 billion each, and the entire world with a population of over 6 billion (projected to increase to some 9 billion in the twenty-first century) are trying to follow this tiny island kingdom's path.

Paul Erlich's formulation that anthropogenic environmental impact is a function of population, affluence and technology (I=PAT) is well known among ecologists and environmental activists. This is essentially a definitional truism. It has very limited explanatory or predictive power. It omits social relations (institutions) and purposeful courses of action by diverse social actors (policies) from the equation. Unlike Gandhi, Erlich brushes aside power relations and deliberate policies as explanatory factors. Social relations and policies, however, are always crucial in determining demographic change, production-consumption patterns and technological trends. Of course, such abstract formulations miss the complexities of the real world. Geography, values, "culture" more generally and specific ecosystems have to be considered. Care has to be taken, however, to avoid falling into "cultural" or "geographic" determinism. Calling attention to the crucial role of institutions and policies is essential when dealing with sustainable development issues.

[13] M.F. Gandhi, *Young India* (1928), cited by Bandopadhyay and Shiva (1988).

Following the CSD's suggestion,[14] this brief discussion of some underlying issues and dilemmas attempts to follow the format of Agenda 21. The preamble of Agenda 21 emphasizes the need to integrate development and environmental concerns. It calls attention to the central role of national governments and of international collaboration to deal with global problems.

The summit offers an opportunity to review critically, in the light of experience since Rio at local, national and international levels, the social and economic policies recommended in Agenda 21. The Rio document recognizes that policies will have to be adapted and modified by each country taking into account its unique circumstances. Nevertheless, the neoliberal agenda for macroeconomic stabilization, liberalization, privatization and decentralization seems to be implicitly accepted as the norm. These assumptions need to be questioned.

Integrating sustainable development into institutions and policies

The first section of Agenda 21 deals with the social and economic dimensions of sustainable development. Its seven chapters discuss international cooperation, poverty, production-consumption patterns, demographics, health, human settlements and integrating development and environment in decision making. This is not a very homogeneous mix of issues. The common thread uniting them is the overriding role of national and international processes, institutions and policies in influencing outcomes for social welfare and the environment in developing countries.

International cooperation in promoting sustainable development is viewed in Agenda 21 as a matter of promoting international trade, pursuing macroeconomic stability through "sound policies", providing adequate financial resources, better governance, and so forth. Recent trends, however, suggest that more important for developing countries pursuing sustainable development goals may be reducing "conditionalities" imposed by rich trading partners and creditors that often prevent governments of poor countries from pursuing alternative strategies better suited to their conditions. Terms of trade may be far more important for them than freer trade. Reduction or elimination of their foreign debts may be crucial for combating poverty. So too may be reforms designed to redistribute wealth and income to benefit the poor, such as redistributive land reforms in many developing countries. International trade can often be very beneficial for GDP growth. In many policy and institutional contexts, however, it may also increase social polarization and poverty, while in other contexts it may contribute to poverty alleviation. Increased trade with greater industrialization and economic growth are usually associated with increased atmospheric pollution. Transport is estimated to contribute over one fourth of global greenhouse gas emissions and is projected to contribute 40 per cent by 2020.

In reviewing interrelations between demographic trends and sustainable development, the WSSD should also consider issues of international migration. Developed countries now seek scientists and engineers from poor countries, but this contributes to "brain drain". Rich countries sharply restrict migration of the unskilled and needy from poor trading partners. Liberalization of international trade in goods and services together with unregulated capital movements can lead to massive displacements of low-income families who have lost their customary livelihoods. The neoliberal model is not even coherent on its own terms if "free trade in services" does not include the services of those displaced by development. Governments of poor countries have few policy instruments available to deal with these problems other than tariffs and regulation of capital flows. It is unrealistic politically to expect rich countries to open their frontiers to poor migrants from abroad. In this case, however, they should not insist on poor countries accepting their goods, services and investments without restrictions.

[14] The CSD's documentation in preparing for the WSSD suggests that discussions should focus on Agenda 21. Climate change, biodiversity, desertification and other topical issues are all included in Agenda 21. They are also the responsibility of other United Nations bodies created especially to deal with these issues. Thus, they should not receive undue attention by the summit at the expense of other Agenda 21 issues that are also very important, according to the CSD. Unfortunately, the issues of sustainable development are not really separable in practice.

Demographic trends are now believed to point to a stabilization of world population at about 9 billion by the latter half of the twenty-first century. Some recent studies project world population diminishing to 8.5 billion by 2100 (Lutz et al. 2001). Populations will become older and in many countries such as China, populations may even decrease. This will not in itself contribute to sustainable development unless "redundant" people are provided with useful and satisfying roles in society. It is difficult to imagine how this could happen in poor countries that pursue neoliberal development strategies unless there is increased migration of their workers to richer countries.

Agenda 21 recommends capacity building (education, health, infrastructure and so forth) together with participation of local people and their communities to promote sustainable development. It suggests decentralization of many central government functions to local governments to facilitate participation. This is, of course, desirable by definition where feasible, if local communities are reasonably just and democratic. Often, however, they are controlled by small elites such as large property owners and so forth. Moreover, even if reasonably democratic and participatory, how can local governments of poor regions acquire the economic resources and political authority needed to deal with the new responsibilities assigned to them? They require the support of strong central states to deal with transnational investors, aid agencies, NGOs and to redistribute available resources nationally.

A central challenge, as Agenda 21 emphasizes, is to make production-consumption patterns compatible with sustainable development goals. How can this be approached? The rich countries will have to take the lead. But there are few signs that they are prepared to do so if this implies offending the special interests profiting from present production-consumption patterns, or other sacrifices affecting the lifestyles of their citizens.

Changing national accounting systems to reflect social and environmental costs as proposed in Agenda 21 could have educational benefits. It would probably accomplish little else if the accounting systems of business and financial enterprises were not also changed to reflect such costs. The practical problems associated with such accounting reforms are formidable. They would imply a radical restructuring of the whole world system. Contradictory interests, incommensurable values and great uncertainties make such reforms unlikely in the near future (Barraclough and Ghimire 1995).

Promises and contradictions of ecoefficiency

The 14 chapters of Agenda 21 under the heading "Conservation and management of resources for development" deal with well-known environmental problems such as pollution, deforestation, biodiversity, land degradation, water scarcity and so forth. Each chapter was prepared in part on the basis of inputs from specialized agencies or organizations. They tend to emphasize the technocratic approaches to each problem. The broader social-economic-political dimensions dealt with in section 1 of the agenda, and to some extent later in section 3, are not integrated into these 14 key chapters. How to do so is a challenge for the Summit. Good technical initiatives to stop harmful deforestation are likely to be ineffective, for example, if macroeconomic policies and institutional structures that drive deforestation processes in the pursuit of short-term profits remain intact.

The emphasis throughout this section of Agenda 21 is on improving the efficiency of resource use. For example, fossil fuel consumption per unit of output in each industry and in overall GDP could be decreased enormously. The technological opportunities already exist, but each increase in efficiency of resource use in practice is likely to stimulate greater use of the resource. This is known as the Jevons Paradox. The nineteenth-century British economist William Stanley Jevons, who was a founding father of modern neoclassical economics, formulated this paradox in his work on the coal question in 1865 (Foster 2000). He found that gains from greater efficiency in the use of coal tended to be overwhelmed by greater use of the resource (or of a close substitute, such as petroleum).

This paradox is well illustrated by data in the OECD's *Environmental Outlook*. Between 1980 and 2000, energy use in OECD countries relative to their GDP decreased by about 10 per cent, and it was projected to decrease to 80 per cent of 1980 levels by 2020. By 2000, however, overall use of energy increased almost twice as much as intensity of use had improved. By 2020 energy use is projected to be nearly 35 per cent above 1980 levels, much more than cancelling out the gains in efficiency. Similar trends are shown for generation of municipal waste and extraction of fresh water (OECD 2001:22, figure 1).

The OECD report recommends removing harmful subsidies that encourage overuse of scarce resources and the generation of undesirable wastes. It also proposes applying a fuel tax and a chemical use tax. Under the assumptions of its model, these measures would have positive impacts, but only modest ones for five undesirable environmental processes related to energy (OECD 2001:24, figure 2).

Science and technology have the potential to contribute to sustainable development. To take advantage of this potential, institutions, policies and international power structures will all have to be reformed. Without reforms in social relations at all levels, new technologies seem more likely to accelerate social polarization and ecological degradation than to promote sustainable social and environmental goals.

Mobilizing political support

Policies and institutions that integrate sustainable development goals into international, national and subnational development strategies require political decisions and trade-offs that may be conflictual. How to mobilize the social forces (the organized interest groups and the broader social support these organized interest groups can muster) that can and are willing to make sustainable development a political priority at all levels is a fundamental challenge for the WSSD.

Agenda 21 recognized this need to mobilize social forces, at least implicitly. Its third section is titled "Strengthening the role of major groups". Its preamble states that the success of Agenda 21 depends on "the commitment and genuine involvement of all social groups. ... One of the fundamental prerequisites of sustainable development is broad-based public participation in decision making. ... This means moving towards real social partnership in support of common efforts for sustainable development."

The seven chapters of this section of Agenda 21 identify and discuss the potential roles of seven very disparate and overlapping groups. These include women, children and youth, indigenous people, NGOs, local authorities, workers and trade unions, business and industry, the scientific and technological community, and farmers. Just what criteria were followed in prioritizing these seven social groups is not clear. People have multiple identities. At an abstract global level one can imagine any number of social groupings according to vulnerabilities, occupations, assets, incomes, common interests, values, perceptions, ethnicities, nationalities and so forth that could potentially be mobilized to support specific sustainable development goals in particular political forums. These same groups, however, have many conflicting goals, interests and perceptions.

The seven groups prioritized in Agenda 21 seem to have been selected using very diverse criteria. At least, they constitute a recognition of the need for political mobilization if progress toward sustainable development is to be made. By emphasizing potential common values and interests while neglecting conflictive ones, however, Agenda 21 fails to deal with the principal political issues that confront the WSSD.

The most relevant social groups for advancing sustainable socioeconomic and environmental goals have to be identified in each concrete context where decisions are taken. So too do the contradictory interests, goals and values of the diverse social actors. Who would be affected

favourably or unfavourably by reforming institutions and initiating policies proposed to make patterns of consumption, production and economic growth more socially and environmentally sustainable? How could conflicting values and interests be reconciled? Which groups could be able and willing to take effective initiatives? What could be done at local levels within the constraints imposed by national and global policies and power structures? How could local-level initiatives contribute to positive changes at national and international ones, and vice versa? Which trade-offs and compromises are possible that would not endanger the whole sustainable development vision? These are a few of the issues the WSSD will have to confront.

Implementing sustainable development

Assuming that the political difficulties of adopting sustainable development strategies can be overcome, how can they be implemented effectively? The last section of Agenda 21, "Means of implementation", attempts to deal with this question. Its eight chapters discuss financing, technological transfers, science, education, national and international cooperation in capacity building, international institutions, international legal instruments and information for decision making.

Of course, discussions of implementation mechanisms remain abstract and hypothetical until there are firm political decisions to move ahead in specific contexts. Agenda 21 makes many useful proposals. They are necessarily very general in the absence of a political consensus about needed reforms in production-consumption patterns, social relations and power structures.

A key issue seems to be how to advance toward sustainable development goals from very different initial contexts. International policies and institutions that fail to recognize adequately great inequalities and diversities among and within countries, and the need for each political entity to design its own strategy and path, cannot contribute to sustainable development. Implementation efforts that attempt to impose a neoliberal or any other single development model on developing countries are not sustainable.

III. Responses to Environmental Degradation and Unsustainable Development

Research on the social origins and impacts of environmental degradation reinforces the now widely recognized conclusion that it is a systemic issue. It has to be addressed simultaneously at local, national and transnational levels. Identification of precipitating or immediate causes, driving forces, root causes, aggravating factors, ultimate causes and so forth only has operational meaning when related to specific historical and ecological contexts. Cross-country statistical analyses based on macroeconomic models at can only suggest some of the issues to be investigated critically in specific situations. These models may be highly misleading for identifying problems and remedies in particular countries and localities.

Both the social causes and the impacts of environmental degradation are largely determined by institutionalized social relations as well as by the policies of diverse social actors. In this respect, identifying the roles of social actors, processes, structures and interactions in contributing to environmental degradation and in determining its impacts on diverse social groups and ecological systems is an essential step toward proposing remedial actions. These are to some extent different for each locality, country, region and time. As was seen in the examples mentioned earlier, property relations are always a crucial factor.

Ecological degradation, like sustainable development, is a social construct. There are no absolute benchmarks of what constitutes a "natural environment" against which degradation can be measured. The impacts of human activities are an integral component of "natural ecosystems". Perceptions of environmental health, and of sustainable development more broadly, require value judgements. These are based on divergent experiences, and often on

incommensurable values. For practical purposes of proposing policy and institutional reforms to promote more sustainable development in international forums, the Universal Declarations of Human Rights and the goals of sustainable development can provide a useful conceptual framework. But it must be recognized that these universal goals are subject to many contradictory perceptions and interpretations by different participants. Representatives of diverse societies and of their multiple class, ethnic and cultural subgroups will have to clarify among themselves what constitutes environmental degradation and unsustainable development in specific contexts. Otherwise they cannot hope to agree about meaningful remedial actions.

In this respect, the various regional and subregional meetings (preparatory committee meetings, or prep-coms) sponsored by the United Nations Commission on Sustainable Development in preparation for the 2002 WSSD in Johannesburg should be particularly helpful.[15] They affirm the need for a holistic approach in addressing issues of ecological degradation. Moreover, they suggest that social issues such as reducing inequalities and poverty among and within nations, as well as promoting production and consumption patterns that are compatible with socially and ecologically sustainable economic growth, should be given the highest possible priority.

The neo-Malthusian paradigm blaming population growth, production-consumption levels and inappropriate technologies for environmental degradation seems to be increasingly recognized as a definitional truism. It is of limited help in designing reforms in specific contexts. Issues of policy and institutional reforms at all levels, promoting socioeconomic and ecological sustainability in concrete contexts, should be the central issues debated at the WSSD.

Attention should be given at the summit to the role of military conflict and the preparation for armed conflict in stimulating non-sustainable development. The environmental and social degradation associated with recent wars dwarf those of the Bhopal and other widely publicized environment disasters. Military expenditures were estimated to have accounted for about 4 per cent of world GDP in the 1990s. There has been little serious research on the impacts of military activity on the natural environment, social welfare and other aspects of sustainable development. Military expenditures and waste provide a major short- and medium-term stimulus to economic growth and employment. Their longer-term impacts by sustainable development are more questionable. Of course, as the problem is systemic, it would be logically impossible to assign precise weights of cause and effect to any one component of the world system such as the military.

The role of wars and violent social conflicts in contributing to unsustainable development deserves to receive more critical attention. The commonly held view that civil and international conflicts arise in large part from competition for control of scarce natural resources has considerable historical support. This implies a conceptual framework of values that legitimized the pursuit of human greed over the fulfilment of human needs. Values, institutions and ongoing processes of social change constantly interact. The challenge for the summit is to promote mutually reinforcing institutional and policy reforms together with an inversion of the scale of socially accepted values that now give priority to greed over need.

The long history of failed efforts by philosophers, humanists, moralists and other visionaries to change social values through exhortations based on logical reasoning or divine revelation leaves little room for optimism. Perhaps a more holistic approach can have better success. The contradictions between human survival and recent trends that primarily serve short-term interests of the powerful become increasingly obvious. Organized pressures for sustainable development from hitherto excluded social groups, allied with those among the powerful who see their own longer-term self-interests endangered, offer rays of hope.

[15] The reports of these preparatory conferences can be found at www.johannesburgsummit.org/html/prep_process/regional.html, accessed in August 2002.

The crucial role of public policies

Some two centuries ago, Malthus argued that rapidly expanding populations would soon be checked by slower-growing food supplies accompanied by famines, plagues and violent conflicts. Since then, the world population has increased nearly tenfold. Food supplies, however, have grown even more rapidly. There are more people today suffering from hunger, insecurity and extreme poverty than any time earlier, but the proportion of humanity who are desperately poor and doomed to experience short and brutal lives has apparently decreased.

Several other environmental calamities forecast by diverse authorities during the last two centuries have not yet occurred to the extent feared. "Exhaustible natural resources"—soils, minerals, fossil fuels and so forth—have not been exhausted. Some, such as "proven reserves" of fossil fuels, appear to be even more abundant. Natural "sinks" absorbing atmospheric and other pollution generated by human activities have proved more resilient than many early environmentalists had predicted. Moreover, trends toward increasing pollution have in some cases been reversed. "Renewable resources" such as forests and biodiversity have been badly abused, but as yet, at least, environmental catastrophes from such overexploitation have been mostly concentrated in particular localities, affecting principally the poor.

There are many reasons why the predicted environmental disasters did not materialize to the extent feared. Important among them were policy responses. The reassuring trends just mentioned have led to widespread optimism about environmental and social issues. This is especially notable among many business and political leaders as well as economists rationalizing existing distributions of power, income and wealth. Economists are particularly prone to view the natural environment simply as another "factor of production" that, when scarce and expensive, can be substituted by man-made capital and new technologies. This environmental optimism was reflected at UNCED in several basic documents (for example, World Bank 1992). It contributed to the mild evasive wording of Agenda 21 and other outputs of the conference, as discussed earlier in this paper.

Well-organized special interest groups at all levels profit immensely by supplying fossil fuels to expanding industrial economies. They fear that environmental concerns could result in greater public regulation that would endanger their short-term interests. These special interest groups are faced with mounting evidence from the scientific community of the dangers posed by ever-increasing greenhouse gas emissions, although the scientists also emphasize many uncertainties. Opponents to emissions-control welcome rationalizations of their activities from so-called "experts" and "intellectuals". A good example is the United States administration's rejection in 2001 of the Kyoto protocol on the reduction of greenhouse gas emissions and its denial of the probable contribution of human activities to global climate change.

An illustration of this tendency is the enormous popularity in some news and feature media of the pronouncements by a hitherto obscure Danish statistician. His book, *The Skeptical Environmentalist* (Lomborg 2001a), attempted to cast doubts on the seriousness of global environmental degradation. Notably, the British weekly, *The Economist*, widely read in business and political circles, highlighted Lomborg's arguments in two different articles in 2001 and another even more prominently in 2002.[16] Media exposure in *The Economist* and elsewhere provoked angry responses from environmentalists as well as critical comment in several scientific publications.[17]

Lomborg correctly criticized many of the speculative calamitous claims by some conservation enthusiasts. He cited a wide array of international and national statistics suggesting apparently contrary trends on average in many countries. Uncertainties and other qualifications found in original scientific papers had been omitted by many environmental activists in order to attract media attention as well as to make a stronger case with the public.

[16] See *The Economist*, 4 August 2001(a); 8 September 2001(b); 2 February 2002.

[17] For example, *Scientific American*, 20 January 2002; Michael Grubb's book review in *Science*, 9 November 2001.

Environmental activists had also failed to mention data that did not support their case. Lomborg and his supporters, however, indulge in similar neglect of uncertainties and contradictory evidence themselves when it comes to using debatable statistics in support of their own more optimistic positions. More seriously, they fail to emphasize how misleading national and global data can be for identifying and quantifying negative impacts on particular groups and regions of social processes generating environmental degradation and social polarization. They dismiss the uncertainties, ambiguities and contradictory trends that lie behind the data they cite. Moreover, they attempt to help resolve policy dilemmas faced by political leaders dealing with issues of social polarization and environmental degradation.

Lomborg proposes to do this by quantifying supposed impacts rather arbitrarily in terms of monetary costs and benefits (an approach *The Economist* warmly endorses). This ignores the fundamentally political nature of the issues. It is impossible in practice to reduce these issues meaningfully to purely monetary or any other single scale because of uncertainties and incommensurable values. Also, pricing systems necessarily reflect established patterns of income, wealth and power (poverty-stricken consumers in need of food, clean water, shelter, education and so forth contribute little to "effective demand"). Recognition of uncertainties, incommensurabilities and the uniqueness of each historical context are inconvenient for making broad generalizations with confident predictions and recommendations.

A principal reason why the warnings of Malthus and others to their contemporaries of impending environmental disasters were frequently mistaken was their underestimation of the role of policies. Action through social organizations can often stop, mitigate or avert the harmful impacts of environmentally degrading processes. Policy, by definition, implies a purposeful course of action by a social actor (agency). Policies can help modify deeply embedded social relations (institutions) and behaviour. And policies can provide rules with sanctions and incentives for encouraging the invention and diffusion of technological innovations as well as the reform of social relations.

Lomborg and his colleagues fail to stress the importance of public policies in averting widely predicted ecological disasters. Purposeful courses of action by governmental organizations at local, national and international levels have played a decisive role, for example, in reducing urban air and water pollution in rich industrial countries and in some cities in poor ones. Lomborg and others tend to ascribe such relative environmental successes principally to market forces generated by individual producers and consumers attempting to maximize their income.[18] Pursuit of individual self-interest, however, can best contribute to satisfactory social outcomes only under certain conditions. These include a widespread perception of an equitable distribution of power, wealth and income, together with truly democratic participation in public affairs and respect for universal human rights. In other words, exclusive reliance on undirected market forces to bring about sustainable development has to presuppose the prior attainment of the goals of sustainable development as a starting point. This is hardly a realistic assumption.

Here, we are primarily concerned with the origins and impacts of public and private policies that protect or harm the natural environment directly or indirectly. Custom and legal traditions distinguish between private and public organizations and their policies. Nation-states, together with governmental agencies, dependencies, subordinate and affiliated bodies supposedly represent the interests of the whole society—the public interest. Government and interstate organizations of all kinds are commonly considered to be public even if many of their policies may be stimulated by narrow private interests. Business enterprises are usually treated as being private or public depending on their legal ownership and control. Civil society organizations

[18] Ideologues of market fundamentalism maintain that self-regulation through the pressures of "impersonal" market forces closely resembles "self-organization" in nature. Why markets should be considered more "self-organized" than states, business organizations, unions and other human institutions is not explained. Perhaps it is a legacy from a period when both state and religious bodies claimed divine origins. Now, however, market fundamentalists seem more prone to claim divine inspiration than do many state leaders and officials.

(NGOs and so forth) are usually considered as private even though some are financed largely by the state. A few are nearly exclusively dedicated to the public good. In practice, distinctions between public and private policies can often become extremely blurred.

Public policies respond in large part to political pressures from the state's support groups and from others viewed as potential state supporters or dangerous opponents. So-called decision makers, even in authoritarian states, are constrained by their needs for eventual broad political legitimacy. Policy reforms by governments usually require impetus from powerful social forces (that is, organized interest groups and their broader constituencies identified with the perceived interests of social class, status, ethnicity, religious affiliation, region and so forth). Private organizations have purposes and policies ranging from expansion and profits of business enterprises to the altruism of a few NGOs. Distinguishing between profit-seeking enterprises and non-profit NGOs, however, is not always helpful. How private or public organizations act in practice often depends as crucially on specific contexts and circumstances as on their legally defined goals.

A key question confronting those trying to promote sustainable development is who could help bring it about. What social forces would be willing and able to initiate and implement needed policy and institutional reforms? This is a daunting challenge for the WSSD.

Answers always differ from one context to another. Some courses of action by states and other organizations are designed to stop destructive deforestation or to reduce greenhouse gas emissions. Such environmental protection policies frequently fail. They may be inadequate or counteracted by contradictory policies. Obligations by many poor states to service publicly held foreign debts, for example, may cancel out potential benefits from many conservation policies. Policy failures are frequently worsened by perverse impacts unforeseen by those promoting the policy. Also, some supporters of public policies to reverse environmental degradation may foresee that the policy, if adopted, would have perverse impacts that would be contrary to its declared objectives, but would please key supporters. Such policy hypocrisy is commonly encountered around complex environmental and socioeconomic issues. The absence of public policy concerning many crucial issues is in itself a policy of doing nothing and hence of promoting more unsustainable development.

Policy initiatives are commonly discussed according to the issues that they attempt to address, such as deforestation, urban pollution, climate change and so forth. In this section, however, we attempt to group policy initiatives apparently taken at local, national and international levels. As will be seen below, this grouping of policies also presents ambiguities and contradictions.

Local-level initiatives and constraints

Interdependent policies at different levels

A mantra of many environmentalists is "think globally, act locally". The British Broadcasting Corporation's (BBC's) excellent programme on the environment, *Our Planet*, is subtitled *Global Issues, Local Solutions*. A recent IIED publication, *Equity for a Small Planet*, prepared for the WSSD, emphasizes the need for good local governance in order to approach sustainable development (Satterthwaite 2002).

This emphasis on local action, local solutions and local government is salutary if it is interpreted to mean that sustainable development policies ultimately have to be implemented by agencies in specific localities at particular times. Moreover, in principle, the reforms have to enjoy some measure of local support and cooperation. In the same vein, one of the most thoughtful mid-twentieth century United States politicians, Tip O'Neill, famously stated that "all politics is local". He certainly did not mean that national and international policies are of secondary importance. After all, he was one of the most powerful national-level politicians in the United States for over two decades. But he knew that United States politicians have to count on local constituencies in order to be effective.

The danger posed by slogans primarily emphasizing local solutions and actions is that the national and international origins of most present-day environmentally and socially degrading processes tend to be forgotten by poorly informed well-to-do audiences in the North. Giving primacy to the local can be interpreted to imply that the behaviour of poor people and poor countries is the primary culprit. This can contribute to a "blame-the-victim" syndrome. National and global actions are as urgent as local ones. In many local contexts, they are a precondition for "local solutions". Policies at all levels are to a large degree interdependent.

Almost always and everywhere there is something that local residents, their organizations and local governments could do better to protect the livelihoods of the poor and their natural environment. But the limits on what local groups can do are often very narrow. Sometimes there are almost no possibilities at all for constructive local initiatives that could be undertaken without provoking more violent repression, leaving people worse off. This is frequently forgotten by progressive outsiders often romantically extolling the benefits of decentralization and democratic local governance.

The benefits of democratic decentralization are great and are a key goal of sustainable development. Advocates of decentralization, however, often neglect the prevalence of inequitable repressive local power structures and the acute scarcity of resources in many localities, even if those available locally were equitably distributed. Such issues require national and international actions as well as local ones. Pressures from militant local organizations such as labour unions or neighbourhood associations can, in some circumstances, hasten national reforms, but it is often a long slow process punctuated by setbacks and violent repressions.

Local power structures

It is well known that the majority of the world's poorest people reside in rural areas of developing countries. What is less appreciated is that while many of these rural poor live in remote regions with low-quality natural resources, many others live or work in rich agricultural regions dominated by highly productive, capital-intensive, large commercial enterprises. Much of the worst poverty in the United States during the twentieth century was found in some of its richest commercial agricultural areas. The Mississippi Delta operated by large plantations was a good example. The same paradox is found today in many developing countries. High concentrations of very poor tenants and workers are found on or near large, rich agro-industrial estates in Latin America and Southern Africa, and in Asian countries such as the Philippines. In such circumstances, land, capital, credit, markets, transport and political power all tend to be concentrated in the hands of authoritarian local elites. Local initiatives to protect the environment and relieve poverty in such contexts are unlikely to be initiated by local governments.

There are always exceptions. When there are local government initiatives toward sustainable development in a large commercial estate context, however, they are unlikely to be really local. Elites generally have local, national and, in some cases, cosmopolitan identities. Their responses to environmental and poverty issues reflect more than local perceptions and concerns. What and who is local? In discussing local responses to environmental degradation, what is meant by local is a crucial question.

Initiatives taken by subordinate workers, tenants and others in socially polarized rural areas tend to be highly conflictive. Popular movements are often brutally suppressed where local authorities believe their use of violence will be backed or tolerated by the national state and other powerful outside organizations. Where the state may be more sympathetic to collective initiatives by the poor, however, positive changes toward sustainable development can sometimes emerge following prolonged struggle. Opponents to reform rely heavily on fomenting divisions among popular movements that always include groups with divergent as well as convergent interests in reform.

Similar dilemmas are found concerning poverty in urban centres. Mexico City, São Paulo, Manila or Mumbai, for example, have rich financial and commercial centres with steel and glass towers resembling those of New York, Paris or Tokyo. These metropolitan localities boast average per capita income far higher than national averages. A high proportion of urban residents, however, are desperately poor. They are crowded into slums and squatter settlements with highly inadequate public services.

Local initiatives and programmes to improve livelihoods and control environmental degradation at the level of metropolitan governments tend to reflect the concerns of each city's political and economic elites and vocal middle classes. Their policies are sometimes modified by strong pressures from organized groups of the poor, depending partly on national and international contexts. Nonetheless, urban sustainable development policies usually benefit the urban non-poor disproportionately in spite of their declared objectives.[19]

Policies to protect livelihoods and the environment of the poor can be more effective if they are designed, negotiated and implemented with the active democratic participation of those who are the intended beneficiaries (see box 6).

This is now widely repeated conventional wisdom. The poor and their civil society organizations need to be active participants. This view is supported both by practical experience and in theory. But for this to happen in a way supporting sustainable development, several very profound and difficult obstacles have to be overcome first.

Box 6: Popular participation and conservation

I will not stop cutting down trees
Though there is life in them
I will not stop plucking out leaves,
Though they will make nature beautiful
I will not stop hacking off branches,
Though they are the arms of a tree
Because—
I need a hut

Cherabandaraju, an Andhra Naxalite, translated from Telugu by C.V. Subbarao
From the epigraph of Gadgil and Guha (1995)

As expressed in the verse above, there exists tension between the concept of nature as an exclusive form of beauty and the more practical interaction between people and their environment. European Romanticism heralded nature as an exalted ideal around the time of the industrial revolution, when survival divorced from natural forces first seemed possible. Today, environmentalists argue that not only was the idea that the machine might replace nature scientifically wrong, it was also a root cause of many of our current ecological problems. In the search for solutions to today's environmental degradation, successful schemes attempt to preserve the link between human survival and ecological conservation, involving those who most directly experience it. Two experiments with alternative management philosophies incorporating the participation of local populations in India are presented in Gadgil and Guha (1995).

[19] For a comprehensive discussion of UNRISD's research on such urban issues, see Westendorff and Eade 2002.

Uttar Pradesh

The destruction of forest habitat in India has led to acute shortages of essential materials all over the country. The present system of management of public forests is failing to meet both conservation requirements and the subsistence needs of the local populations. India's forests continue to have a subsistence function for many villagers whose demands for fuel and fodder cannot be met by the resources of privately owned land. Women are having to walk increasing distances for fuel wood and graziers are taking their livestock over a much wider area to forage. Many woodworking artisans have been forced to abandon their occupation altogether due to the unavailability of raw material.

Two large experiments in local participation in forest conservation are, however, proving successful in India.

The *van panchayats* are a major network of publicly owned village forests in the hill districts of Uttar Pradesh. Each *van panchayat* elects its own managing committee and assumes control of the forest, with the power to regulate its use by villagers: to close the grazing access in certain seasons; to impose restrictions on the amount of firewood an individual household can gather; to prevent people from other villages from using the forest; and to thwart encroachments on the woodland for dwelling or cultivation. Usually, a full-time watchman is appointed, paid from contributions by the villagers.

Several studies have commented on the relatively healthy state of *panchayat* forests; oak forests, in particular, are invariably well managed. It is acknowledged that there are several areas in which the system could be improved, but *van panchayats* have proved an ecologically viable and socially acceptable system of resource management and a salutary reminder of the potential of local popular participation in preserving the environment. As of 1985, there were 4,058 *van panchayats* in Uttar Pradesh, covering 469,326 hectares.

West Bengal

A quite different system of popular participation in forest management has been crafted in the state of West Bengal. In 1972, the district forest department recognized its failures in reviving the degraded sal forests in the southwest of the state. Traditional measures of surveying and policing had alienated the people from the administration, resulting in frequent clashes between forest officials and villagers. The new scheme involved villagers in the protection of land. In return for their help, villagers were given employment in silvicultural and harvesting operations. They receive 25 per cent of the final harvest and are allowed to use the forest for fuel wood and fodder collection. The response has been positive and the sal forests have undergone a remarkable recovery; by 1993, a previously worthless forest was valued at 125 million rupees.

Following the success of this scheme, village forest protection committees were started in other areas. Schemes involving local populations came to account for the management of half of the forest area in the district. Not only have the schemes restored degraded forest—reintroducing trees such as mahua, kusum, amla, neem and karanj to the woodland—they have also benefited villagers economically, resulting in a significant reduction in seasonal migration out of these areas. Restored to effective control over their environment, people are no longer forced to become ecological refugees.

Both management systems illustrate that popular participation in conservation is essential to containing (and may even reverse) ecological degradation. However, it is important to note that popular participation can only work effectively if all members of the community are considered stakeholders. A broadly equitable society is fundamental to guaranteeing conservation of the environment's shared resources.

Source: Gadgil and Guha 1995.

Finding resources for local initiatives

Decentralization of decision making and of resources from municipal governments to low-income neighbourhoods or communities in which the poor are concentrated seems an obvious requirement for sustainable development. This kind of devolution is inevitably strongly resisted by those who would have to surrender some of their control over wealth and power.

Low-income residents are usually poorly organized, with little real control over their neighbourhoods. Criminal mafias often dominate. Some local governments of poor neighbourhoods, however, may enjoy active participation of low-income residents and their organizations. How will they be able to command the necessary resources and outside political support needed for the implementation of effective programmes? Poor urban neighbourhoods have extremely limited resources to use or convert into monetary capital for sustainable development purposes. They may have large available workforces, but these can only be mobilized for developmental purposes under certain circumstances. In poor countries, adequate

material incentives to mobilize these workforces often cannot be made available. Only in certain revolutionary contexts, such as China in the 1950s and Cuba in the 1960s, can alternative "moral" incentives be effective in mobilizing labour to support development efforts.

Hernando de Soto and his colleagues have estimated that the poor in developing countries have assets in "illegal underground economies"—in the forms of land, shelter, improvements, tools, enterprises and so forth—worth trillions of dollars and many times the value of all foreign aid and investments (de Soto 2000). They believe that by providing the poor with secure property rights over these assets and removing bureaucratic obstacles to the poor becoming capitalist entrepreneurs, development would take off and poverty soon eliminated.

Such estimates of monetary value of the assets of the poor are dubious, as are the possibilities of a burst of sustainable equitable economic growth arising from granting the poor legal property rights over these assets. Even forgetting these obstacles, however, how could the creditors, merchants, speculators and bureaucrats that now have local claims over these assets, directly or indirectly, through debts, contracts, legal titles, patronage and a host of other instruments be persuaded to cede them to the poor? De Soto's solution would require a profound social revolution. One wonders if the conservative dignitaries, such as Baroness Thatcher and Milton Friedman who endorsed de Soto's book, have really reflected on the political implications of his recommendations. Attempts to provide the poor with legal ownership over assets they use or create have usually encountered violent reactions in both urban and rural settings (Westendorff and Eade 2002; Barraclough 1999a).

A large proportion of the world's poorest people dwell in resource-poor rural regions. As was seen earlier, many were forced to migrate from better-endowed areas appropriated by others. The hundreds of thousands of displaced peasants in Latin America forced to migrate to ecologically vulnerable forest frontiers are an example. Those already in poor regions face diminishing control over their natural resources and institutions. As in urban slums, decentralization of sustainable development policies to poor rural communities poses many dilemmas. In order to be supportive of sustainable development, decentralization would have to be accompanied by the poor attaining some degree of political power nationally and access to non-local resources that could not be found or mobilized in these communities. This again is very conflictive, but otherwise democratic participation is virtually excluded.

Research on deforestation in the highlands of Guatemala further illustrates some of the difficulties raised by local power structures (Utting 1993). In Totonicapan, the indigenous community had managed its forests and other natural resources sustainably for centuries. When armed bark strippers and timber thieves threatened their livelihoods, the community's unarmed forest guards were powerless. The police, however, sided with the thieves, not the victims. Even so, this community did better than the indigenous residents of Panzos some 200 kilometres to the east a few years earlier. When their land was coveted by commercial interests, they applied for legal titles under existing agrarian legislation. Notified that their titles were ready, community members assembled in town to receive them. There, they were accused of guerrilla sympathies and assaulted by the armed forces. Dozens of unarmed peasants were killed. Many fled to the mountains where they barely survived during ensuing decades (Barraclough and Ghimire 2000; Valenzuela de Pisano 1996). Such anecdotes illustrate how difficult it can become to promote sustainable development policies in an unsupportive national and international context.

A case study of the Usambara mountains in Tanzania reveals how a community had lost a large portion of its traditional access to natural resources through land alienation for commercial agriculture and logging as well as for national forest and game reserves (Mascarenhas and Maganga 1991). A growing population controlling a shrinking area defended its livelihood primarily by adopting more intensive agriculture. Community members entered new markets, sought off-farm work elsewhere for some family members and changed consumption patterns, but without lowering living standards. They enjoyed some technical and other support from sympathetic state agencies.

In the same country and time, however, the Rufiji district experienced severe deforestation even though it was much less densely populated and its population was decreasing due to out-migration. The state agencies were less sympathetic and the community less cohesive. Each case has to be analysed in its context before generalization can be attempted. Any approach ignoring the uniqueness of each case would probably be counterproductive for sustainable development. This is perhaps one generalization that is almost always valid.

The degradation of urban Mar de Plata in Argentina accompanying declining ocean fish stocks is another example. It provoked policy responses by the city's labour unions, numerous civic groups, businesspeople, local governments and politicians (Allen 2001) (see box7). There was little that could be done locally to protect and restore these ocean fisheries. They were being overexploited by fleets of high-tech industrial fishing boats from Europe and elsewhere. Strong national policies to protect fish stocks in Argentine territorial waters could have helped. On the contrary, the Argentine government—seeking more exports and foreign investments—encouraged the overfishing by adopting neoliberal policies. A similar disaster for local fisheries occurred in Senegal for similar reasons (UNEP 2002). Collective action and protest by artisanal fisherfolk in Kerala, India, was a little more effective (see box 3). Their gains were precarious and dependent on active and continued support by popularly based state and national governments (Kurien 1991).

The responses of the poor in developing countries are too highly varied and determined by particular contexts to be neatly classified. Adaptations of livelihood strategies and consumption patterns to changing circumstances are universal, but this is about the only generalization that can be made concerning them. Living levels in some places and times decline, and in others improve.

Generating alternative sources of livelihood for or by a poor community usually requires new investment, new technologies, new markets and other conditions that are hard to meet. Moreover, new sources of livelihood may or may not be consistent with sustainable development goals. Collective action by poor and oppressed groups is a necessary prerequisite in most situations for approaching sustainable development goals. It is by no means a sufficient one. Collective action by the poor can in many circumstances provoke violent repression leaving its participants worse off than before. Frequently, their goals are not sustainable either socially or environmentally. In the longer term, however, collective organization and action are indispensable in positive reforms.

Box 7: The Argentine "fish war"

In 1991, the Argentine government adopted structural changes that opened up the economy to global market forces. For the first time, fishing rights were granted to foreign long-range fleets and Argentine national enterprises entered partnerships with European enterprises. These factors led to the depletion of fish stocks, in particular the Argentine hake, which until then had been the main commercial species.

The measures the government then employed to alleviate the crisis highlight the complexities of implementing environmental regulation policies. Following the collapse of hake populations, the Argentine government attempted to impose a system of closed seasons and quotas in defence of "national interests". Local firms and workers joined forces with the state of Mar del Plata to form a coalition to fight the measure. They demanded the expulsion of foreign fleets.

In January 1998, a new law was introduced with the aim of promoting the "sustainable development of the fishing industry". This proposed the preservation of natural resources and the promotion of the use of national labour by abolishing the previously unrestricted fishing rights and the establishment of a new system of individual transferable quotas to be allocated to each vessel or enterprise within the maximum sustained yield (Barraclough 2000:58). While heated negotiations continued, preventing the implementation of the quota system, increasing uncertainty about the sustainability of hake populations resulted in a "rush to fish", which aggravated the depletion of the stocks.

The national media gave massive coverage to the so-called "fish war". Although the local industry reclaimed its exclusive rights over the fisheries, it was too late—hake populations had collapsed already. The locals opposed the government's attempts to introduce sustainable fishing laws, which would threaten their own livelihoods. But the root cause of the depletion of fish stocks in Argentina was the opening up of the seas to foreign long-range fleets in the early 1990s. Increasingly, restructuring processes are leading to over-exploitation of certain areas and natural resources.

Source: Allen 2001.

Migration

A common local-level response to threatened livelihoods has always been migration. This is how Homo sapiens populated Earth. The rural-urban exodus is part of the demographic transition accompanying urbanization, industrialization and modernization processes. This migration is in part due to the economic and social attractions of urban life and in part due to the expulsion from the countryside of large sectors of the poor peasantry. Land enclosure is occurring under varied guises in most developing countries. The enclosures in Brazilian Amazonia since the 1960s have been described as the "most massive in history" (Hecht and Cockburn 1990). Social conflict, exploitive repression and alienation or degradation of natural resources all interact to expel the rural poor to cities. Broad generalizations about whether push or pull factors predominate are not very helpful as this depends on particular contexts.

The urban and rural poor occasionally have the possibility of migrating abroad to a country that offers them opportunities to improve their livelihoods in some way. Rich countries, however, have well-enforced laws restricting immigration. To the extent it is permitted, the rich and the better educated are favoured. Entry of poor uneducated workers is particularly difficult. These restrictive immigration policies in rich countries are likely to become increasingly rigorous in the face of growing problems of unemployment, declining pay for the unskilled and the difficulties of culturally integrating many immigrant groups. The neoliberal utopia of free movement between countries of goods, services and capital never was based on the real world. It is most blatantly exposed as hypocrisy when poor countries are told to liberalize their markets for foreign goods, capital and certain services, but to keep their unskilled poor at home. The remedy, however, is not market fundamentalism but popularly based sustainable development strategies adapted to diverse contexts.

Neoliberal policies now imposed by rich countries on poor ones are inimical to approaching sustainable development. Local-level responses to social polarization together with environmental degradation accompanying such degenerative development processes have to be able to adapt to an infinite variety of historical and environmental contexts in order to be effective. National and international institutions and policies need to be flexible enough to encourage local-level equity, innovation, participation and productivity. Global problems may require local solutions, but local solutions usually require national and global policy and institutional reforms.

National policy responses

The role of nation-states

The right of sovereign nation-states to exploit their own natural resources pursuant to their own environmental policies was affirmed by UNCED. This right was reaffirmed in 2002 by the Sixth Conference of the Parties of the Convention on Biological Diversity. Several NGOs claim that this seems to violate the convention itself (WRM 2002).

Nation-states provide the legal basis for the present world system. The United Nations boasts 191 sovereign member states. These include nearly all the world's population, most of its land area as well as its coastal ocean waters. The deep seas, the atmosphere and remote inhospitable land such as in Antarctica are still legally global commons, but recent trends have been toward their privatization.

The present system of nation-states and of interstate relations, generally held to have begun in Europe in the middle of the seventeenth century, remains the dominant political institution organizing society. It provides the legal basis for public and private policies at all levels. It has a theoretical monopoly over the use of legitimate violence and of formulating and enforcing legislation. Local institutions are considered to be subordinate to the nation-state, while global and regional public sector institutions are dependent upon interstate support. Coherent state policies and institutions are central for approaching sustainable development.

The nation-state is said by many observers to be losing its customary powers to direct and regulate socioeconomic affairs. Modern transport and information technologies have left obsolete many traditional mechanisms used by states to enforce their policies. This is particularly true for some policies designed to protect infant industries, the environment, diverse social groups and so forth. Moving goods, capital, services, information or people across national frontiers has become cheaper and easier than before. Rigorous state policies to regulate such movements are becoming more difficult for developing countries to enforce. State regulation often becomes extremely difficult unless there is close interstate collaboration. This is particularly evident concerning financial movements that escape control of individual states.

That globalization associated with the widespread use of new technologies has led to a serious erosion of state power, however, is more debatable. Some states seem to have become more powerful as a result. Many weak low-income states today were even weaker in the past in relation to the great colonial powers. The nineteenth-century opium wars forced China to open its markets to British opium dealers and other commercial interests. Early twentieth-century military occupation by the United States of several small, weak Latin American republics was in part to collect debts and ensure cheap access to their resources and markets. Threats of economic sanctions and other instruments of gunboat diplomacy intimidated weaker states. This does not suggest that these states had more control over their destinies in the past than they do now. In any case, the majority of today's sovereign nation-states were simply colonial possessions of great powers or components of unstable empires and federations that disintegrated during the last century. Most of these states were constituted during the last few decades. To say that these new weak states have lost power to direct their destinies because of recent globalization trends seems rather exaggerated. Most never had such powers.

Some states have clearly increased their capabilities to influence socioeconomic trends during recent globalization processes. Rich OECD countries account for only one fifth of the world's population but for four fifths of its economic output. The United States alone accounts for over one fourth of world GDP, nearly half of its military spending, control over a major share of modern technology, but less than 5 per cent of its population.

Nation-states, however, seem to have lost power to implement individually progressive or popularly based policies. The disapproval of investors and others influencing global markets would be turned against them, in cooperation with the governments of the United States, the European Union, Japan and most other developed countries opposing any questioning of the dominant present-day system of monopoly capitalism.

To become consistent with sustainable development, globalization requires increasing transnational regulation of economic processes through both interstate and non-state democratic institutions. Rich industrial states, and especially the United States as the only remaining superpower, can decisively influence the agendas and activities of international bodies. In doing so, powerful nation-states continue to act in pursuit of perceived national interests very much like empires and nation-states have done throughout history. The high aspirations associated with the ideals of the United Nations have not been realized in practice.

Environmental protection policies

Virtually every country now has some kind of legislation ostensibly designed to protect certain aspects of the natural environment. Governments requesting support from the World Bank or the International Monetary Fund are practically required to prepare poverty reduction strategy papers, while UNEP, the UNDP and other international agencies also urge them to prepare environmental protection plans.

Contrary to widespread opinion, current government concern over environmental degradation did not originate in 1972 after the Stockholm Conference on the Human Environment. This conference, and UNCED two decades later, may have helped spread environmental awareness

but they had both been spawned by growing concerns about increasing evidence of environmental degradation and its social impacts.

Environmental concerns and policies to deal with them are as old as human history. Colonial powers in the nineteenth and twentieth centuries had ambitious environmental programmes to protect nature from the subjects in many of their colonies, especially in Africa. They were often applied hypocritically to alienate land and other natural resources from control by the indigenous people depending on them for their livelihoods. In the name of protecting nature, huge areas were seized and reserved for parks, game reserves, forests and so forth, excluding customary users. Many peasants were forced to provide labour for soil and water conservation programmes that in reality contributed nothing to meeting avowed objectives. The urban poor were frequently expelled from the slums that were their homes in the name of sanitation and the suppression of various urban blights. Memories of these repressive colonial environmental protection policies left a deep distrust of environmental programmes in numerous newly independent states.

Environmental protection agencies and policies have been relatively successful in helping to check or reverse a few unsustainable trends such as urban air and water pollution in several countries, but especially in relatively high-income ones. Other trends in these same rich countries, such as ever-increasing greenhouse gas emissions, continue to worsen. Much depends on the mobilization of political support around specific environmental issues. Where broad-based multiclass support has emerged, including important low-income, elite and middle sectors as potential beneficiaries, strict environmental policies have been feasible. Clean water, good sewage disposal and minimal health services in poor slums, for example, benefit the poor while also protecting the better-off from the spread of epidemics. Diminishing urban air pollution in Los Angeles by strict emission standards was feasible in part because most of the poor could still afford to own and drive a car. Some cities that were successful had good public transportation. High vehicle emission standards would not be feasible policy in Mexico City or Mumbai where the poor have to depend on highly polluting buses and other motorized vehicles to move around in the absence of efficient and affordable alternative means of transport.

Environmental agencies tend to be relatively weak in comparison with other state programmes that have powerful, well-organized constituencies. State ministries for commercial agriculture, industries, finance, the military and the like are usually much stronger. Which interest groups dominate always depends on specific circumstances.

Environmental policies are frequently ineffective in developing countries because they cannot be applied effectively by the state. Strict forest protection legislation is useless, for example, without political and administrative means to implement it. In the Brazilian Amazonia, national legislation stipulating that landowners should leave at least half of their area in forest is mostly ignored. Conflicting claims to land are backed by overlapping legal titles in a context of local power structures in which large estate owners and speculators predominate. These social relations exclude indigenous and other low-income peasant and worker majorities from real participation in governance. In any case, where legislation requiring half of each property to remain forested is actually enforced, it can easily be legally circumvented. The original owner, after clearing half the forest for pasture, can sell the remaining forested half to another owner, perhaps a close relative, who in turn can do the same until all the remaining forest disappears (Diegues 1992; Barraclough and Ghimire 1995).

Social conflicts generated by national policies ostensibly intended to protect forests, wildlife and other natural resources have been mentioned throughout this paper. One could easily cite many hundreds more examples. National environmental protection policies are often contradictory among themselves as well as with macroeconomic ones. They frequently cannot be effectively implemented.

Rampant contradictions arise between national-level economic "development" programmes driven by well-organized interest groups, and the programmes required to reverse

environmental degradation and protect livelihoods of low-income groups in diverse subnational localities. There are also numerous contradictions between a nation-state's environmental policies and its dominant social and macroeconomic policies. The latter are usually aimed at protecting the interests of mostly wealthy state support groups and speeding economic growth, not at protecting the livelihoods and environment of the poor.

Nonetheless, on balance, the efforts of nation-states to adopt and implement environmental protection policies have often been positive. Such policies can contribute to eventual progress toward sustainable development goals even when they fail. They can help increase awareness of issues and they can highlight contradictions. The refusal of the United States to participate in the admittedly defective and inadequate, but still progressive, Kyoto protocol is disheartening for advocates of more sustainable development. Bringing to the forefront major contradictions between present destructive trends and longer-term sustainability may contribute to social forces advocating more profound systemic reforms. It may also help to call attention to some major weaknesses of the protocol. Among these are the implicit assignments of private property rights to the atmosphere instead of affirming that it is a global commons to be administered democratically. This would also imply that the rights to emit greenhouse gases would be assigned on a per capita basis instead of on current or historical rates of pollution per country.

Macroeconomic contradictions

Multiple contradictions between global trends and the requirements for more sustainable development have been highlighted throughout this paper. Such worrisome trends have been particularly evident for those developing countries where ruling elites willingly embraced, or were persuaded or forced to adopt policy packages of structural adjustment. The IFIs and a few leading donor governments pushed these neoliberal policies, which tended to have deflationary and many other negative socioeconomic and environmental impacts in most developing country contexts. Each case was different. Policies of decentralization, liberalization and privatization (and social safety nets, which were added later) were invariably recommended as major components of the Washington consensus. Such policies were simply unrealistic and ill-adapted to the needs of particular developing countries if their governments were truly attempting to promote relatively equitable, autonomous and sustainable economic growth.

All present-day so-called developed countries have made use of government policies selectively in order to protect their industries and agriculture. They have regulated trade, finance, prices and so forth in various ways at different times.[20] In the real world, history is always much more complex and contradictory than neoliberal and other abstract models can suggest.

Capitalist Switzerland and socialist Cuba, for example, are sometimes both acclaimed for having been leaders in adopting policies that promote sustainable agriculture.[21] In both countries, the natural environment is rather carefully protected and the welfare of small farmers and farm workers is a central concern of several national policies.

Contrary to free market ideals, Switzerland's farmers and farm workers receive what are probably the highest direct state subsidies[22] per capita anywhere (Barraclough 2000). The Swiss state has historically been extremely concerned with maintaining a high capability for quickly

[20] The metaphysical myth of unregulated markets eventually leading to optimum prices and resource allocation with sustainable growth is propagated both by the naive and by cynical interested parties. This is no place to criticize such market fundamentalism in depth. One only has to recall the policy dissonance within nation-states everywhere whether their elites claim to be guided by the neoliberal or some other utopian model such as all-embracing state planning or libertarianism.

[21] See Rosset (1998), Pretty (1999) and Rosset (2001).

[22] The term "subsidy" can be very misleading. Subsidies imply government grants to promote activities deemed helpful for promoting national interests. They assume a wide range of forms under multiple disguises. Some economists define a subsidy as the difference between the subsidized price and the free-market equilibrium price. As argued earlier, this concept of subsidy is not useful for most purposes. Whether a grant or other help is considered to be a subsidy or an investment is a political issue. The problem for sustainable development is to distinguish between good and bad subsidies and to encourage the former and eliminate the latter. No modern economy would function without massive subsidies. According to World Bank estimates, over half of many developed countries' central government expenditures were classified as subsidies and unrequited transfers (World Bank 2000:table 17). These subsidies and unrequited transfers amounted to over one third of GDP in some OECD countries.

increasing domestic food production in case war or some other disaster curtailed the possibility of importing food, on which the country is highly dependent. Democratic participation of the rural poor in elections helps make them politically relevant, while history gives rural voters disproportionate weight nationally. Also, pressures of well-organized commercial farmers, agro-industries, peasants and environmentalists help make such subsidies politically feasible. The country's high average per capita income facilitates the government's policies favouring sustainable agriculture.

In socialist Cuba, environmental degradation, social polarization and marginalization were associated with pre-revolutionary capital-intensive production and processing of sugar and a few other export crops. This commercial agriculture for export primarily benefited foreign investors, and a small domestic elite. Its negative legacy for the poor endowed the revolutionary forces with concern for social justice and the environment. Many social inequities were quickly diminished following the revolutionary victory in 1959. Several environmental protection measures were also initiated. Nonetheless, environmentally unsustainable, capital-intensive, high-tech agriculture continued to dominate large-scale farming during the three ensuing decades. Pre-revolutionary Cuban agro-exports and agro-imports had been integrated into United States markets. After the revolution, the Cuban economy became increasingly integrated into the Soviet bloc. Sugar exports continued to be a priority and to depend on capital-intensive, high-tech, agro-industrial production practices.

The collapse of the USSR precipitated a serious economic crisis. Agricultural output fell by almost two thirds between 1990 and 1995 in the absence of crucial imported inputs such as petroleum, chemical fertilizers, pesticides and feed grains. A major effort was undertaken to increase food production using environmentally sustainable technologies supplemented by the introduction of limited market incentives and the subdivision into smaller cooperatives of many large state farms. These policies were rather successful in halting further overall decline of output and of increasing the production of many key basic foods (Barraclough 1999b; Rosset 2000; Funes et al. 2002).

Cuba's agricultural output in the late 1990s, however, remained less than half of what it was before the USSR collapsed. Like most neighbouring Caribbean and Central American countries (and also like Switzerland) it remains highly dependent on food imports. Cuba's inputs and imports are impeded by the United States embargo at a great cost to the Cuban economy. Since 1992, food availability per person has had to be sharply curtailed. The rationing system, however, helped avert worse acute hunger and malnutrition although the gap widened between food consumers with access to US dollars and those without.

If the embargo were ended, Cuba would soon have to revert to many environmentally unsustainable agricultural practices in order for Cuban sugar and other agricultural exports to be competitive in world markets. Continued policies giving top priority to sustainable agriculture depend not only on political will nationally, but also on reforms in the global agro-industrial system.

Social safety nets

Social policies were required to protect low-income groups whose poverty became more visible, and in many cases worse, during structural adjustment. Big aid donors and creditors realized that social protests stimulated by restrictive macroeconomic policies and deterioration of social services threatened the continuation of neoliberal policies in many poor countries. A few donors had promoted social investment funds (SIFs) in selected developing countries since the 1960s, but they only became mainstream donor policy after the 1980s. Donor contributions financed semi-autonomous SIFs to be administered outside the constraints of traditional state bureaucracies. SIFs were supposed to make social investments benefiting the poor rapid and efficient. In theory at least, such investments would have been chosen with the participation of the poor and in accord with their priorities.

In practice, these social safety nets were seldom very effective in reaching the poor, and especially the poor majority located in rural areas. SIFs turned out to be as vulnerable to corruption and political manipulation as other state agencies. Most developing countries lacked the capacity and infrastructure to administer SIFs efficiently. Donor support for SIFs often undermined needed help for making established state ministries more efficient and accountable. Instead of being driven by the demands of the poor, SIF agendas were more often set by the availability of donor funds and also by the priorities of their administrators (Barraclough 2000).

The most effective social safety nets for the poor in poor countries have almost always been secure access to the natural resources required to maintain livelihoods. Massive agrarian reforms in countries such as China (including Taiwan Province of China), the Republic of Korea and Viet Nam were prerequisites for future accelerated development. They raised the threshold of mass rural to urban migration by providing potential migrants with at least marginally better security and livelihoods in rural areas. Popularly based development strategies helped stimulate investments in rural infrastructure and rural industries. The same held for many agrarian reforms in Latin America and elsewhere. In spite of frequent abuse, corruption and deviations from declared objectives, land reforms proved to be effective in extending social safety nets. Social safety nets in low-income developing countries somehow have to provide the rural poor with secure access to land, water and other natural resources vital for their livelihoods. This almost always implies compulsory redistributions to the poor of assets previously controlled by the rich. Such redistributions and the degrees of compensation for those whose lands are expropriated have to be sanctioned and enforced by state policies (Barraclough 1999a).

National policy dissidence is evident nearly everywhere. The state has to respond to support groups and clienteles with diverse and often conflicting interests, values and goals. A dominant development model, however, usually emerges to give some kind of national strategic coherence. Such strategies can often be better detected by hindsight than foresight. Since the 1980s, neoliberal models have been dominant. Transitory strategic coherence about development goals and policies at national levels, however, seldom means that such national strategies were also coherent with the goals of sustainable development.

Global policy incoherence

Limits to interstate governance

There is no world government. The United Nations is an organization of sovereign nation-states each with its own perceived national interests and objectives. The seventeenth-century European interstate system exists now on a global scale. Each country in the United Nations General Assembly has a formally equal vote regardless of its size, population and wealth. The General Assembly, however, has no enforcement powers.

The United Nations Security Council is more relevant for international policies. Here, the United States together with four other big victors of the Second World War are permanent members having veto and limited enforcement powers over some key United Nations activities. Real power in such interstate bodies, however, depends mostly on resources together with economic and military strength. It remains concentrated in the hands of a few industrially or militarily strong nations. These are now largely dominated by the United States, which for a brief and transitory historical moment, is the world's only superpower.

UNCED reached a formal consensus about the broad goals of sustainable development, as was seen in the first section of this paper. These goals, however, are open to highly divergent interpretations. What policies do they imply for governments and other organizations, in practice, in diverse specific contexts? Uncertainties and divergent interests together with incommensurable values and perceptions make agreement at global levels impossible about the

purposeful courses of action each state and other major social actors should follow to approach sustainable development goals.

The possibilities and constraints facing diverse actors at all levels imply the need for real participation by all "stakeholders" in the analyses and negotiations leading to policies. The concept of "stakeholder ownership" pushed by the World Bank is a timid step in the right direction. In the bank's view, however, the broad parameters for policy are constrained by the "technical" limits of what is possible within the limits of the existing global financial, economic and political system. Reforms that the bank deems realistic and acceptable would require only marginal changes in social relations. Sustainable development, however, requires systemic reforms leading to a redistribution of power, income and wealth. Approaching sustainable development implies profound structural changes ensuring poor people's and poor countries' rights and opportunities to pursue this goal.

A very brief review of a few proposed international responses to environmental degradation suggests some of the difficulties. Attempts of interstate organizations, transnational business corporations and NGOs to promote business responsibility, ecoefficiency, codes of conduct and standards illustrate global strategic incoherence.

Business responsibility and ecoefficiency

The growing concentration of global trade, finance and, to a lesser extent, production under the control of a relatively few large TNCs was briefly discussed in the second section. TNC activities, especially in developing countries, are frequently associated with processes generating social polarization and environmental degradation. This has provoked sharp criticism from many NGOs and politicians.

A few large TNCs have responded to their self-perceived vulnerability to demands for stricter public regulation and consumer boycotts by proclaiming policies of corporate social and environmental responsibility (CSER). These voluntary corporate policies of greater responsibility include partnerships with public organizations and NGOs, codes of conduct, multistakeholder initiatives, minimal social and environmental standards and so forth.

Experience to date of voluntary initiatives to promote CSER has not been very encouraging. One successful initiative has been the Forest Stewardship Council (FSC), founded in 1993 as an international labelling scheme. By late 1991, a little over two million hectares (about 1 per cent of forests outside of protected areas) in over 300 logging operations had acquired FSC certification. Experience with other initiatives such as Social Accountability 8000 (SA 8000) and ISO 14001 have been similarly ambiguous. So too have TNC agreements with international trade secretariats and company codes of conduct. TNCs seem far more ready to adopt policies affecting particular practices such as sanitation or worker safety measures than to accept union demands for collective bargaining and respect for human rights (Utting 2002b).

Protagonists and prophets of multistakeholder business responsibility depict it as a promising highway toward sustainable development. They claim that TNCs committed to CSER would take seriously their need to adhere to a corporate "triple bottom line". By this, they mean that corporations pursuing sustainable development would give the same weight to improving social conditions and protecting the environment as they would to maximizing profits. They fail to explain, however, how this would be done in practice or what criteria would be used to judge social and environmental performance.

In what are now rich capitalist countries, rules emerged (enforced through convention and legislation) over several centuries to regulate the activities of business enterprises, their obligations to owners, other investors and consumers. Among other things, such rules codified accounting practices, property rights, contracts and financial transactions of business enterprises. These rules are still evolving. Witness, for example, the recent legal changes in

proposed OECD countries intended to deal with creative accounting practices, money laundering and intellectual property rights in an increasingly interdependent world system.

How improved social and environmental standards should be incorporated into the bottom line of profits and returns on investment is not intuitively apparent. Imposing constraints on corporate profit making from unsustainable social and environmental practices, through state legislation with penalties for violators, has proved effective in the past in countries where there has been a strong supportive institutional framework. Voluntary initiatives by TNCs exclude this kind of solution in principle. As in earlier times, however, large efficient TNCs attempting to enforce voluntary CSER may eventually call for state regulation themselves in order to check competition from unscrupulous rivals.

In any case, no matter how committed a large corporation's managers may be to good ecological and social principles, they will have to remain competitive or they will soon be replaced. This places sharp limits on observance of a corporate triple bottom line in a context that gives priority to short-term profits and that does not penalize negative social and environmental externalities.

The possibility of combining corporate profits, social improvement and environmental protection in a single numerical index should be rejected on both conceptual and practical grounds. As emphasized throughout this paper, uncertainties and incommensurabilities make such an index theoretically useless. It would blur conflictive political issues while pretending to sharpen them. Many vital environmental services provided by Earth's natural life-support system cannot be valued in monetary terms. Without clean air and water, fertile soil, a supportive climate, photosynthesis and so forth, life on earth as we know it would simply disappear. Such major components of our planet's life-support system are not mere factors of production that could be substituted by others. Instead, they are preconditions for sustainable production and consumption systems by human societies.[23]

Similarly, improving the social conditions of TNCs' direct stakeholders can sometimes offer only limited help in approaching socially sustainable development goals. It cannot substitute for full employment, provision of adequate public goods and high-quality sustainable economic growth. These all require popularly based development strategies.

New technologies and ecoefficiency

Technological innovations and their diffusion have constituted driving forces contributing to social change since the beginning of history. At the same time, innovations in social relations have been a major force driving technological inventions, new technologies and their diffusion. This complex mutual interdependence between technology and institutions is frequently forgotten by analysts giving the highest priority to one or the other in explaining history (for example, Fukuyama 2002; Shiva 1992).

UNRISD's research into the social impacts of the so-called green revolution illustrated this interdependence of technology and institutions in numerous countries where case studies were carried out.[24] Clearly, the social impacts of the new high-yielding rice and other foods were largely determined by the institutional context of each country and locality. But these institutional contexts were also being modified by the diffusion of these and other new technologies. The green revolution experiences of the 1950s, 1960s and 1970s have been widely documented, discussed and debated.

[23] Some NGOs and public agencies are experimenting with construction of satellite national accounts that attempt to show how GDP would be affected if environmental externalities were taken into account. This can be a useful educational exercise, but little more. It has to be based on assumptions that ignore uncertainties and incommensurabilities. Such estimates also have to assume some degree of substitutability between natural capital on one hand, and man-made and human capital on the other. In any case, as noted in section II, they would not affect TNCs' bottom lines if accounting practices and legal codes were not correspondingly reformed (Barraclough and Ghimire 1995). There may be limited substitutability at the margin, allowing prices to be arbitrarily estimated for some components. One should recall, however, that over half of Earth's primary production is estimated to already be appropriated by human uses (Haberl et al. 2002).

[24] See Pearse (1980) as well as more than 26 other volumes published based on this UNRISD research programme.

UNRISD's conclusions about their frequently contradictory impacts depending principally on institutional and policy contexts are now widely accepted.

Spectacular new developments in information technology, nanotechnology and biotechnology during the late twentieth century have stimulated many speculations about their implications, good and bad, for human societies. Similar speculations about the social impacts of interactions between institutions and technologies were probably made by some visionaries since the beginning of human history. Optimists have projected horns of plenty benefiting all, while pessimists have emphasized countless all-too-apparent dangers. Since history has provided abundant examples of benefits for some and the reverse for others, resolution of the issue always remains ambiguous.

Utopias (wonderful places) or dystopias (awful places) stimulated by technological changes have been staple themes for science fiction writers. They have also provided metaphors over the centuries for prophets and for political leaders attempting to mobilize support for their policies. Sir Thomas More's sixteenth-century story about the island of Utopia with its perfect society was said to have been inspired by the fifteenth-century European discoveries of the rest of the world and its wonders. These same discoveries, however, were made possible in large part by advances in European navigational and armament technologies. These discoveries were accompanied by plunder, conquest, impoverishment and virtual extermination for many indigenous peoples, as well as more benign consequences for others. Diffusion of new technologies has invariably been accompanied by contradictory social impacts in the past. Technological optimists asserting that the obstacles to sustainable development in the early twenty-first century can be overcome principally by adoption of new technologies should be asked to bear the burden of proof.

Actually, one now finds very few serious proponents of purely technological solutions to social problems. Ambiguous consequences emerged from mid-twentieth-century programmes to end hunger by introducing green revolution technological packages in poor countries. Even more ambiguous were results of efforts to end industrial societies' dependence on fossil fuels by switching to energy obtained from nuclear fission and, eventually, nuclear fusion. These recent experiences as well as earlier ones have left many specialists more cautious about technological "magic bullets" and more aware of the roles of socioeconomic structures and environmental constraints. Misleading simplifications about possibilities for technological solutions to social problems come mostly not from scientists but from salespeople, politicians and other promoters of particular causes and special interests. The weaknesses of the solutions serious technological optimists propose are to be found primarily in their vagueness about the social forces that might make effective the profound systemic reforms that would be necessary for the new technologies to contribute toward sustainable development.

Some of the discussions taking place about the possibilities offered by new technologies to approach more sustainable development were mentioned in section II. So too were several of the obstacles associated with these same technologies. One of the most eloquent, comprehensive and optimistic presentations of possibilities offered by new technologies already known and sufficiently tested to be used in practice in certain contexts was made in the recent book, *Natural Capital* (Hawken et al. 1999), which will be briefly discussed a little later.

The 1999 issue of Dag Hammarskjöld Foundation's *Development Dialogue* was dedicated to analyses and speculations of social implications of a few new technologies. The title of this issue was *The ECT Century: Erosion, Technological Transformation and Corporate Concentration in the Twenty-First Century* (Mooney 1999). In contrast to Hawken et al., Mooney came to depressingly pessimistic conclusions about the social and environmental impacts of many of the same new technologies.

At first glance, a reader gets the impression that the authors of these two publications hold very contradictory conceptual frameworks and factual evidence. Closer examination, however, reveals that the authors are in basic agreement on many core issues. Mooney imagines the

dreadful consequences that could occur if the new technologies are used primarily for private profit within the present global institutional context. Hawken et al. also believe the new technologies could be disastrous for society if adopted in the absence of profound policy and institutional reforms. The major difference between the two analyses seems to lie in their optimism concerning fundamental changes in human relations and policies. Their assessments of the possibilities of the new technologies to contribute to social forces attempting reforms, and about the interest groups that could take a lead in bringing them about, differ widely.

Mooney foresees continued global erosion of biodiversity, soils, other natural resources, specialized indigenous knowledge, equity and human rights. He emphasizes that new technologies introduced into a context of inequitable, unjust institutions (social relations) exacerbates the gaps between the rich and the poor. He considers the likely impacts of new technologies in existing social contexts, and focuses on the probable social consequences of improvement and diffusion driven by the search for short-term private profit of four new technologies: biotechnologies, nanotechnologies (the purposeful manufacture of molecules), informatics and neuroscience. He emphasizes that these technologies are all vulnerable to oligopoly control by a few big high-tech TNCs.

Mooney fears that vanishing biological resources together with the spread of these new technologies will accelerate global control of people's livelihoods by techno-bureaucracies primarily created and motivated by a search for private profits. These techno-bureaucracies, in tandem with large corporate investors, are seen by the author as the core components of the social forces driving socioeconomic and political changes in the early twenty-first century. The social concerns about human rights, poverty elimination and environmental protection at the core of sustainable development are likely to be left by the wayside unless powerful countervailing social forces are mobilized. The author proposes a United Nations "human rights/erosion inventory", an "international convention for the evaluation of new technologies" and a special session of the United Nations General Assembly—"conservation, control and use". He apparently hopes that such United Nations initiatives could contribute to mobilizing needed counteracting forces.

Hawken et al., share a great deal of Mooney's pessimistic assessment of past socioeconomic and environmental trends. They warn that

> without a fundamental rethinking of the structure and the reward system of commerce, narrowly focused ecoefficiency could be a disaster for the environment by overwhelming resource savings with even larger growth in the production of the wrong products, produced with the wrong processes, from the wrong materials, in the wrong place, at the wrong scale, and delivered using the wrong business models (Hawken et al. 1999:21).

They fear that ecoefficient production by itself could become an enemy of a durable economy. They go on to present four interdependent principles of natural capitalism and for a "new" Industrial Revolution.

The authors recognize that, in the past, capitalism often contributed to harmful social and ecological degradation. They believe the planet's life-support system is really invaluable because there can be no substitute. Their rough estimate of the monetary value of current annual environmental services to the global economy would be about the same as annual global GDP. This contribution depends on natural capital that is being depleted. Business and other accounting systems, they say, will have to be reformed to reflect environmental and social costs and to reward productive investments in "social" and "natural" capital. Also, they write, "economic and environmental sustainability depends on redressing global inequalities of income and material well being" (Hawken et al. 1999:9). They propose the need for systemic reforms to encourage the further development and wide diffusion of new technologies already available. Radically improved productivity of all resources could increase employment worldwide while reducing poverty and pollution. Biomimicry (using nanotechnology) could

help eliminate all waste. A service and flow economy would lead to new producer-consumer relationships, new values and reformed property rights encouraging a shift in emphasis from the quantity of goods and services to one on quality and well-being. Finally, there would be massive investments in natural capital so that the biosphere could produce ecosystem services and natural resources.

The authors detect hopeful trends toward adoption of these principles of natural capitalism (by trends, however, they seem to mean some enterprise somewhere has successfully applied one of the new technologies). They do not attempt to identify the social actors who could and would bring about the needed structural reforms, but they seem to imply that corporate entrepreneurs and technocracies would have leading roles.

The authors call this new social system natural capitalism. This claim seems to be based on the fallacious notion that the essence of capitalism consists principally of markets and on respect for private property rights. In a historical perspective, however, the system they propose seems as distant from capitalism as capitalism does from feudalism. Utopianism would be a more accurate term to describe the social transformation they foresee. Such utopian dreams of social justice are also needed to provide hope and energy to struggle for a better society.

IV. In Search of Strategic Coherence

This paper has noted an absence of the strategic coherence among policies at all levels that could contribute to more sustainable development. But the task of building a coherent global strategy would still encounter conceptual ambiguities; divergent interests, values and perceptions; uncertainties; contradictory processes and trends; and conflicting policies. Can the WSSD contribute to a more coherent global strategy?

Toward common goals with differentiated responsibilities

"Common but differentiated responsibilities" was the diplomatic phrase adopted at the 1992 Earth Summit to cover up some of the huge differences among governments about sustainable development issues. Representatives of many nation-states and of other social groups and organizations at UNCED correctly perceived vastly divergent resource endowments, distinct histories and institutions, divergent levels of industrialization and wealth, and highly varied power relationships among states and their social groupings. This meant that perceptions, needs and capacities in respect to approaching sustainable development would necessarily vary widely with each place and time.

A broad agreement about sustainable development goals is feasible if one does not try to be too specific. The policies and institutional arrangements appropriate for approaching such general goals will inevitably depend on each particular situation. Recognizing explicitly these vast divergences in needs, opportunities and capacities at the WSSD is a prerequisite for forging a coherent global strategy by international organizations to approach goals of sustainable production-consumption patterns, equitable social justice and environmental protection.

In the current global context, a coherent strategy to approach sustainable development led by the United Nations probably should focus primarily on reaffirming certain common goals. These have already been endorsed at several levels. They include more sustainable production-consumption patterns, greater equity with social justice, and the protection and enhancement of Earth's ecosystems. Appropriate policies and institutions to approach these goals will necessarily diverge widely for each country, locality and time. An attempt to impose any particular sets of policies and institutions, such as those implied by the Washington consensus or structural adjustment, are foredoomed to be incoherent.

As has been shown throughout this review of analyses, data and case studies, so-called best practices may in reality be worst practices for advancing toward sustainable development, depending on particular contexts. Trade liberalization may encourage economic growth in one context but be negative in another, but in any event is unrealistic if it implies market fundamentalism. Democratic decentralization of the state's administrative functions and its resources to local communities is one of the goals of sustainable development. The impacts of such decentralization, however, may be needlessly harmful if done in a context of authoritarian, abusive and highly inequitable local power structures.

More fundamentally, the United Nations is not a world government but an intergovernmental body. It depends on member governments for financial resources, political direction and support. Member governments have equal votes, but they possess exceedingly unequal influence and power. Member governments tend to use the United Nations to advance their own perceived national interests instead of the ideals of the United Nations Charter.

In the present global context, the United States is the world's dominant power. It is closely allied on most fundamental issues with other rich OECD states, including the European Union and Japan, as well as more transitory trading partners or clients. In such a situation, it is not realistic to view policies advanced through the United Nations, the regional and international financial institutions and other intergovernmental bodies as necessarily supporting the goals of sustainable development. These organizations are not yet democratically accountable to the world's peoples, and especially to the poor and powerless. Policies of international organizations will tend to support the existing global system. They could, however, promote reforms that would provide this system with greater popular legitimacy.

A coherent global strategy in support of sustainable development cannot be primarily prescriptive, telling governments what policies they should implement. On the contrary, such a strategy should aim to encourage governments and other organizations to adopt policies and institutional reforms that directly contribute to reaching sustainable development goals, including those incorporated from the United Nations Millennium Declaration and the Universal Declaration of Human Rights. Such a strategy should also highlight contradictions between policies of both public and private organizations at all levels, on one hand, and the goals of sustainable development, on the other.

Intergovernmental organizations such as the United Nations and the IFIs have to depend ultimately on the political will and financial, economic and military clout of their most powerful members to finance and enforce their policies. This dependency on a few big powers could be reduced to the extent these international organizations can evoke voluntary cooperation. Such cooperation can sometimes be increased by exposure to public pressures stimulated by efforts of public interest groups to name and shame non-cooperating governments, private corporations or others.

A principal implication of these observations is that the goals of sustainable development as well as the opportunities and obstacles for approaching it should be openly discussed on a continuing basis in decision-making arenas at all levels. Local neighbourhoods and municipalities, trade unions and consumer groups and countless other subnational, national and international organizations should keep discussions of sustainable development high on their agendas. The WSSD could help facilitate such critical discussions of these issues by explicitly recognizing their importance and calling for international support.

Representatives of some rich-country governments have suggested that the WSSD should not discuss trade and human rights issues as these had been comprehensively dealt with in other recent international summits. This is a mistaken view. Issues of international trade and of observance of universal human rights are at the heart of the concept of sustainable development, together with those of environmental protection, social justice, and sustainable patterns of production and consumption. Of course, these issues have been dealt with in other

forums, but not primarily with a focus on sustainable development as the overarching goal. Multilateral agreements and treaties dealing with the protection of the natural environment and universal human rights, for example, should not be subordinated to trade agreements negotiated in the WTO or other bodies without a principal mandate to deal with these issues. On the contrary, they require new institutional arrangements that would provide international organizations dealing with social, environmental and sustainable production-consumption issues with the necessary resources and the same status as those dealing with trade and financial matters. How to do this should be a topic discussed at the WSSD.

Dilemmas in striving for decentralized democratic governance

Equitable democratic participation of all people in governance at all levels is an integral component of the concept of sustainable development. It is affirmed in the Universal Declaration of Human Rights as well as the United Nations Millennium Declaration. This implies, among many other things, decentralization of decision making, administration and resources to the lowest feasible level of government. This subsidiarity principle, however, is extremely difficult to apply in practice in a corporate-driven, globalizing world system. On the contrary, control of financial-economic resources and modern technology is becoming more and more concentrated in the hands of a few big TNCs based in and protected by rich nation-states.

The key questions inherent in attempts to apply subsidiarity principles in practice are as old as human history. Who (that is, which social actors) makes the rules at each level of governance? How do diverse social groups share the costs and benefits associated with development processes? What social forces would be able and willing to undertake the policy and institutional reforms needed to promote more sustainable development?

As emphasized throughout the preceding pages, decentralization of government that is not accompanied by a corresponding decentralization of effective political and socioeconomic power and resources can be inimical for approaching sustainable development. Authoritarian and/or exploitive local power structures may be reinforced. Resource-poor communities may be left to solve their own problems with no authority or means for doing so. Organizations with concentrated economic power, such as some large TNCs, may gain easier access to cheap local natural resources, labour and possibly emerging markets. With mere governmental decentralization, in most contexts TNCs would be better able to minimize threats of countervailing power mobilized by progressive national public agencies, labour confederations, consumer organizations, NGOs and political parties.

The challenge of achieving greater popular participation through democratic decentralization should be high on the sustainable development agenda. Greater emphasis should be placed, however, on this being an integral part of a much broader process of policy and structural reforms at all levels. Climate change, biodiversity loss, observance of universal human rights, greater socioeconomic equity and sustainable production-consumption patterns, for example, are all global issues that should be integrated with those of decentralization. These issues all interact. They have to be confronted in a holistic manner in local, national and international political arenas.

The summary of a report by the International Forum on Globalization devotes a chapter to "The case for subsidiarity: Bias away from the global toward the local" (International Forum on Globalization 2002). It calls for economic systems favouring local production and marketing. It also recommends democratic regulation of financial markets and explicit accounting for natural capital.

These goals are fully supported by arguments raised in the present paper. The International Forum on Globalization report, however, pays insufficient attention to how this might be done in practice. What forces could contribute in concrete situations? The report brushes aside some of the difficulties of decentralization discussed in earlier sections of the present paper. It dismisses them as being criticisms that can be overcome in practice. The report proposes

sharply limiting corporate power, making economies more responsive to human needs. All this is necessary and desirable. But what social forces are going to be willing and able to attempt to take on these essential challenges?

Contesting neoliberalism and market fundamentalism

An old saying tells us that markets make good servants but poor masters. This is consistent with the case studies and other research reviewed in this paper. Market fundamentalists take the reverse viewpoint. World markets are deemed to be the best ultimate arbitrators in determining resource allocation and economic activities.

Many of those advocating liberalization of markets for goods and services, and of capital movements, would deny being market fundamentalists. They accept the need for selective regulation of international movements of people (immigration) and of capital movements. Many would accept policies to provide temporary protection for selected vital national industries. A few neoliberals also criticize granting monopoly rights for a couple of decades to the holders of TRIPS when this contributes to making needed drugs unaffordable to the poor. They would also accept the need for selected subsidies and the usefulness of prudent public deficit spending during recessions and the prohibition of trade in narcotic drugs, for example.

Nevertheless, there is a tendency for neoliberals and even of some of their social democratic critics to fall back on market fundamentalist logic in defending or rationalizing many neoliberal policies. A good example would be the structural adjustment programmes prescribed for many developing countries by the IFIs and other creditors or donors. These almost invariably call for liberalization, privatization and reduction of government deficit spending. As was seen throughout this paper, these policies have frequently led to socioeconomic impacts that were not supportive of sustainable development.

The research reviewed above suggests the need for a more pragmatic and nuanced approach to policy and institutional reforms. Decision makers should critically analyse proposed policies in specific contexts. Such analyses are required in order to assess the probable impacts of these reforms for diverse social groups, and hence for the social, economic and environmental goals of sustainable development. There should be no dogmatic presupposition about these benefits and disadvantages being associated with particular ideological labels. Selected regulatory measures, such as tariffs and subsidies to protect small food producers, may be necessary in some situations but only a second-best solution in others. One has to inquire about the consequences of alternative approaches to protection and subsidies in each specific case.

A recent report by Oxfam, *Rigid Rules and Double Standards: Trade, Globalization and the Fight against Poverty* (Oxfam International 2002), illustrates the dangers of unintentional acceptance of some market fundamentalist premises even by progressive and fierce critics of neoliberal policies. The Oxfam publication makes many excellent points. In particular, it criticizes protection by developed countries of their agricultural and textile markets at the cost of poor countries. The worst offenders include the European Union, Japan and the United States. High subsidies to domestic producers together with other measures restricting market competition from producers in developing countries contradict neoliberal advocacy of free trade. Moreover, high subsidies to producers in developed countries cannot possibly be countered by compensatory ones in poor countries. The Oxfam analysis recognizes the multiple complications and obstacles faced by developing country governments attempting to use trade as a powerful motor to reduce poverty. In this, it is a very useful contribution. But it leaves unanswered the criticisms market fundamentalists often make of "soft neoliberals" willing to compromise doctrines of free trade with political realities. On the contrary, Oxfam seems to accept some market fundamentalist premises in condemning all protectionist regulations and subsidies inhibiting access by poor-country exporters to rich-country textile and agricultural markets.

By focusing principally on trade, Oxfam's report can give the impression that it also sees obstacles to trade as the principal ones faced by poor countries trying to eliminate poverty. It seems to suggest that barriers to agricultural and textile exports from poor to rich countries should be viewed as the central issue in the pursuit of sustainable development. This tends to legitimize powers given to the WTO to enforce the opening of developing-country markets to competition from TNCs and other rich-country-based suppliers of goods and services. In criticizing rich-country selective protectionism and subsidies, it implicitly seems to accept neoliberal premises in favour of free trade as a goal in itself. This would limit the policy options available to governments of all poor countries that are trying to develop coherent sustainable development strategies.

The Oxfam analysis could be maliciously interpreted by market fundamentalists as endorsing world market prices as the theoretical norm against which subsidies and other trade policies should be judged. World market prices are real and have to be taken into account. Similarly, risks of war, corruption, mafias and the like are also real. This does not imply that they are somehow a metaphysical norm against which price distortions and subsidies should be ultimately measured.[25] On the contrary, the world price system reflects existing power relations and distributions of wealth. It has to be regulated and tamed to become a good servant of sustainable development. This implies that good protectionist measures and subsidies would have to be a component of many public policies that are strategically coherent with the goals of sustainable development.

A level playing field for poor and rich countries is unattainable in the existing world system. The big explicit subsidies rich countries customarily offer to their producers could easily be replaced by others that would be consistent with WTO rules if there was sufficient political pressure from special interest groups or other constituents. Poor countries will often have to use selective protectionist measures to advance toward sustainable development goals. There is no way that they could match the implicit and explicit subsidies and other support available to producers in rich countries.

Reconciling property rights with sustainable development

The research reviewed above highlights the central role of property rights in dealing with issues of sustainable development. This is virtually a definitional truism. Property rights comprise the rules regulating the terms of access by individuals, social groups and organizations to socially valued resources. They are often described as bundles of rights and duties associated with property ownership, tenure or usufruct. These rules have been institutionalized through custom and law in order to structure social behaviour in relatively predictable ways. They tend to reflect power relationships among diverse social groups in their access to resources.

Much confusion arises from oversimplification of the complex social relationship implied by property rights. In the view of some careless observers, this entails primarily a relation between owners (or other forms of access to property) and property, rather than one that involves other social actors. As was discussed in earlier chapters, dichotomies between private and public property can be highly misleading. In the modern nation-state organized world system, there is necessarily an explicit or implicit state presence in all property relations. Property regimes, however, should be regarded as subsystems of a broader society. Their practical implications of state, public, private, common or other forms of property ownership, tenure or possession can differ widely from one context to another.

Economists tend to emphasize the importance of clear and secure property rights in order for economies to function at all predictably. Long-term contracts, investments and plans depend crucially on relatively secure property rights. Equally important for sustainable development, however, is a widespread perception of legitimacy and relative justice in dominant property

[25] Walden Bello (2002a, 2002b) makes excellent critical comments on the Oxfam campaign to make trade fair.

regimes. Otherwise, social institutions regulating access to property are likely to become very unstable, especially during periods of rapid social change. The demise of the institution of human slavery in Europe and the Americas during the nineteenth century is a good example.

Inequitable and insecure rights to land and other resources contribute to the negative impacts of social processes inimical to sustainable development. Indigenous peoples, poor nomads, peasants, fisherfolk and rural workers in developing countries frequently find the natural resources on which their livelihoods depend being alienated. They are directed toward other development priorities as seen by modernizing elites. Migrants to marginal lands attempting to survive without secure land rights are blamed for degradation of forests, soils and water. Urban shantytown squatters and slum dwellers usually have no legally recognized rights to land, shelter, food, water, sanitation or other necessities.

Highly inequitable property rights stimulate the destructive exploitation of soils, forests, water, mines, petroleum and other resources for the profits, political power and social status of relatively small elites. These in turn depend on support by clienteles and allies who also benefit to some extent. Social polarization increases, often accompanied by deepening poverty by some low-income groups together with at least marginal gains by others. At the same time, the concentration of wealth and power at national and international levels continues. So too do global processes of environmental degradation together with the spread of wasteful non-sustainable production-consumption patterns.

Reforming property rights to become more supportive of sustainable development cannot by itself reverse these processes. Interacting systemic forces, of which property rights are only one component, drive global processes of environmental degradation. Moreover, feasible and needed reforms will be somewhat different in each specific local and national context.

In many of the situations looked at earlier, mere respect of customary usufruct rights by the state to land and water could help slow land alienation. Even where customary rights are inequitable, respecting them can contribute to the poor obtaining some kind of compensation providing alternative livelihoods. In rural settings in which the control of land and other resources is highly concentrated, comprehensive redistributive agrarian reforms may be required. Urban squatters would benefit from acquiring secure rights to their assets.

In the contexts of most developing countries, such reforms of property rights are extremely difficult. In localities where they are most needed, local power structures reflect the vested interests of propertied elites and not those of low-income majorities. National legislation and the state are theoretically the ultimate arbitrators of disputes over property. The state, however, depends on support from well-organized foreign and domestic propertied interest groups. Its autonomy is always constrained, even when undertaking popularly based strategies with widespread public support.

Where progressive political coalitions presumably representing the interests of the weak and poor gain political control of the state, popularly based development strategies in support of sustainable development become more feasible. However, they are frequently soon diverted or corrupted under pressures from still-powerful domestic interest groups supported by foreign investors, TNCs and governments. Moreover, even where the political will exists, the state may lack the trained personnel, organizations and resources required to smoothly carry out complex reforms of property rights, such as agrarian reforms, urban renewal benefiting the poor and progressive tax systems.

A coherent international strategy in support of sustainable development would have to take into account the centrality of property issues. It has to recognize the difficulties and dilemmas faced by states and other organizations attempting to reform them. Like other development issues, each specific case is different. A coherent global strategy has to be extremely flexible,

emphasizing common goals, including respect for universal human rights and democratic decentralized participation.

The growing polarization of wealth, income, control of new technologies and political power somehow have to be checked and reversed. This necessarily implies reforming the rules regulating access to property. It also requires democratic regulation of economic activities more generally. In the present world context, this requires popularly based state-initiated or state-sanctioned reforms at all levels. These in turn require a supportive strategy by international organizations.

True social and environmental responsibility by TNCs can only be attained in a regulatory framework that provides them with the necessary incentives and penalties. A genuine triple bottom line implies profound systemic reforms at all levels in economic and financial organization, accountability, objectives and performance norms. But such reforms affecting only TNCs and other big business enterprises would be insufficient to support sustainable development. There would have to be complementary reforms in macroeconomic and social policies and institutions. The WSSD should recognize the need for a coherent global strategy to encourage popularly based national and subnational policies in support of common sustainable development goals. Such policies, however, would have to be adapted to the exigencies of highly diverse contexts of time and place.

At global levels, attempts should be abandoned to impose similar policies and institutions everywhere that would support the so-called Washington consensus or post–Washington consensus. A high priority, however, should be placed on the encouragement of production and provision of so-called public goods required for sustainable development. Universal access to adequate food, clean water, shelter, health services, education, a non-polluted environment and other basic needs should be made available for all irrespective of income or status. For example, TRIPS that hamper access to vital medicines and the like for the poor have to be reformed.

The WSSD cannot spell out how this could be done in diverse contexts. It could, however, recognize the need to evaluate policies and institutions in terms of their observable positive or negative impacts on diverse social groups in relation to these goals.

Who could bring about needed reforms?

The biggest challenge for the WSSD lies in mobilizing effective political support for approaching its goals. What social forces would be willing and able to initiate the required policy and institutional reforms? Highly motivated interest groups and effective broad coalitions in support of sustainable development goals differ widely from one context to another. Effective pro-sustainable development social forces will have to include the rural and urban poor as active participants. Simplistic class analyses have frequently been misleading as a guide to policy in the past. They tend to neglect social fragmentation and the conflicting interests among and within groups such as peasants, urban workers and others constituting the poor. But broad common interests still exist among the rural and urban poor. Their class-based organizations, such as trade and industrial unions, peasant leagues and the like, have been and remain crucial in struggles to reform policies and institutions to benefit the poor. Recent research in developing countries brings out sharply some of the opportunities they offer and the constraints they face.[26]

The WSSD should give top priority to the challenge of political mobilization to support sustainable development, in particular the fundamental issue of property rights. In the present world context, the summit will not be able to come up with any politically acceptable recommendations questioning the foundations of the present neoliberal-dominated system. It might, however, be able to highlight some of its contradictions with the goals of sustainable development.

[26] See, for example, Törnquist (2002).

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