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ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

Integrated Assessment as a Tool for Achieving Sustainable Trade Policies

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Abstract: Integrated – economic, environmental, and social – assessment tools can provide a clear indication of both the positive and the negative impacts of trade liberalisation from which effective policies to reduce the negative impacts, and strengthen the positive ones can be developed. Assessments feeding into the policy development process can promote increased integration of environmental and social considerations into macroeconomic policies and decision-making, leading to a more sustainable use of resources and increased social welfare. Although assessment tools are available, there is a need to encourage their greater adoption and use, as well as to develop and apply improved country- and sector-specific tools. This paper reviews the opportunities and challenges of promoting wider application of assessment tools and of international adoption of more proactive policies to support sustainable development.

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1. Background

Since 1950, the global economy has more than quintupled in size, and today it continues to expand, growing by 5 per cent in 1999. World trade and foreign investment have both grown much faster than global GDP over the past 25 years, serving as primary drivers for global economic growth. This process, often referred to as globalisation, involves the integration of national economies into a single market for goods and services and for capital and investment flows. By and large, globalisation has emerged as trade and investment liberalisation policies have become prominent features of restructured national economies throughout the world. Through a greater reliance on outward-oriented development strategies, these policies have substantially removed national market boundaries and have increasingly linked countries into a single world economy.

Trading more intensively and frequently than in the past, developing countries now increasingly rely on trade to propel their economic development. Through growing membership in the World Trade Organization (WTO) – 141 countries are now members – and in a wide array of regional trade agreements, countries are seeking to more fully participate in a globalised economy. Governed by rules established under the WTO agreements, trade has become an increasingly central global economic activity, particularly during the past decade. World exports increased over the past 50 years from about US\$ 350 billion in 1950 to US\$ 5.5 trillion in 1999 (WTO, 2000). Trade in goods and services grew twice as fast as global GDP in the 1990s, with the share attributable to developing countries amounting to 27 per cent, accounting for almost 50 per cent of their aggregate GDP (WTO, 1999). With the decline in official development assistance (ODA) by nearly 20 per cent in real terms since 1992 (UNDP, 1999), many developing countries now consider trade as being the major source of income required to meet their basic needs and to finance their development programmes.

Recognising that the benefits of trade can strongly contribute to the improvement of basic living standards, many of the world's developing countries have sought active participation in the global trading regime (World Bank, 1996). Over the past two decades, the World Bank and the IMF have allocated over US\$ 30 billion to structural adjustment programmes in some 70 countries, assisting them to open their economies to take advantage of prospects offered by international trade (Abaza, 1996). National experiences with structural adjustment programmes have been mixed, nevertheless, trade liberalisation elements of restructuring programmes have provided countries with a wide range of trade-related benefits (Conway, 1991). In many developing countries this has been reflected in the rapid generation of increased domestic employment, income growth, and foreign exchange earnings. Furthermore, trade liberalisation facilitates countries' increased imports of strategic goods and services, can attract foreign direct investment and technology transfer, and helps finance basic infrastructure needed to support national objectives and development priorities. It can also benefit a nation's natural and environmental resource base, as increased trade-related fiscal revenues can provide national governments with additional financial resources to support environmental protection, conservation and remediation efforts.

Recently, however, there has been increasing concern over the potential negative impacts of trade liberalisation on environmental and natural resources, particularly in developing countries aspiring to promote economic development through increased

trade. (Pearce and Warford, 1993). The increased trade and investment in natural resource-based economic sectors is placing unprecedented pressures on the world's ecosystems. Countries have found that economic activities supporting rapidly expanded trade can result in serious environmental degradation when complementary environmental policies are not in place (UNEP, 1999A). Unless appropriate action is taken, such degradation can spark a progressive spiral of decline for national development. Pollution of air, water and soil, and unrestrained natural resource exploitation, may grow to levels that jeopardise sustainable development efforts. Trade could thereby become unsustainable with its future potential significantly compromised since trade benefits related to investment, industrial development, employment, income growth and enhanced social development could be substantially offset by negative environmental impacts.

Trade liberalisation driven by macroeconomic policies and trade-related economic reforms, including structural adjustment programmes, may have environmental and social impacts, both negative as well as positive. A clear analysis of these impacts is needed so that corrective policies to reduce negative impacts can be developed and future trade and environment policies which are mutually supportive and contribute to sustainable development can be designed.

The United Nations has recognised “sustainable development” as a three dimensional paradigm comprising balanced and interdependent economic, environmental, and social aspects (OECD, 1995). Sustainable development formed the foundation underlying the United Nations Conference on Environment and Development (UNCED) in 1992 in which governments adopted Agenda 21 detailing the “New Global Partnership for Sustainable Development in the 21st Century” and the Rio Declaration on Environment and Development (United Nations, 1992).

2. The Impacts of Globalisation

With the recent acceleration of global trade, countries throughout the world have benefited from more investment, industrial development, employment and income growth. These benefits are widely recognised, however, they are developing unevenly across and within countries, and some countries are finding that free trade has resulted in more costs than benefits (World Bank, 1996).

Many proponents of free trade argue that it should provide economic, environmental and social benefits to all participating countries. Indeed, according to economic theory, trade could be advantageous to all countries if markets were perfect and capital was not internationally mobile (Lankoski and Lankoski, 1999). However, in today's global economy, environmental and social costs are not generally reflected in market prices making markets imperfect. Furthermore, capital is highly mobile across the globe. Under these conditions unregulated trade can be harmful to countries, resulting in environmental damage and social dislocation. This occurs as mobile capital seeks global absolute advantage, rather than national comparative advantage. Because many developing countries that today offer absolute advantage also tend to have low environmental and social standards, negative environmental and developmental impacts within these countries can be substantial (Johnstone, 1996).

2.1 Social and Economic Impacts

For the world as whole, the globalisation of markets for goods and services has led to significant growth in world exports over the past 20 years. Aggregate data on world trade (WTO 1999B) exhibits a dramatic increase in world merchandise exports from US\$ 2 trillion in 1980 to almost US\$ 5.5 trillion in 1999. However, a more detailed analysis shows striking disparities between countries. During this period, while merchandise exports from developed countries nearly doubled, exports from Africa and Western Asia actually decreased by 16 per cent. For many developing countries, the average trade deficit in the 1990s was higher than in the 1970s by 3 per cent of GDP, while the average growth rate was lower by 2 per cent per annum. Moreover, the share of world merchandise exports attributable to developing countries decreased from 29 to 24 per cent between 1980 and 1990. Although this figure has risen to 27 per cent in 1999, this was mostly due to export growth from East Asian economies – the market share of other developing regions remained constant or declined.

Globalisation has sharpened competition among enterprises and between countries. Only 33 countries achieved a sustained three per cent annual growth in per capita GNP during 1980-96 (UNDP, 1998). In demanding global capital markets, only countries with higher established levels of macroeconomic stability and financial credibility are able to attract foreign direct investment (FDI). Because few developing countries meet these criteria, FDI has been strong in some regions but stagnant in others. Although developing countries now attract over 30 per cent of global FDI annually, amounting to over US\$ 120 billion, over 70 per cent of this total flows to only 10 countries and the amount flowing to least developed countries is on the decline, amounting to less than US\$ 4 billion in 1998 (UNCTAD, 1999). In the latter countries, comprising one-fourth of the world's population, prospects for sustained economic growth and employment generation are threatened by lowered availability of ODA funds and an extremely limited ability to attract foreign investment. Improving economic fundamentals in these countries remains problematic, mainly because they are overwhelmed by high external debt payment and servicing requirements. As a percentage of GNP, debt increased from 33 per cent in 1990 to 41 per cent in 1995 for developing countries, and was 113 per cent for LDCs in 1995 (UNDP, 1998).

The gap between the North and South continues to widen. The fifth of the world's population living in the highest income countries has 86 per cent of world GDP, 82 per cent of world export markets and 68 per cent of foreign direct investment, while the bottom fifth, in the poorest countries, has about one per cent in each category (UNDP, 1999). Moreover, although over 84 per cent of the world's population live in developing countries, they share only 17 per cent of the world's income and consume only 20 per cent of its resources (UNDP, 1998). Against this background, income inequality is growing – the ratio of income between the richest and poorest 20 per cent of the world population more than doubled from 30:1 to 80:1 between 1960 and 1995, and the gap between the rich and poor within many countries is also growing (UNDP, 1998). Poverty remains endemic with about 1.3 billion or about 30 per cent of the world population living on less than US\$ 1 per day – and it is projected that this number will rise to 1.9 billion by 2015 (World Bank, 1998).

These trends suggest that trade liberalisation policies and agreements may not be providing developing countries, and poorer communities within them, with an

equitable share of the benefits that derive from free trade. They may also be falling short of addressing the special needs and concerns of least developed countries. In particular, they may not be helping to create a favourable economic environment in least developed countries needed to encourage foreign investment, and provide new and expanded opportunities for exports. Certainly, these developments must occur before global poverty can be arrested. President Thabo Mbeki of South Africa addressing an international gathering of businessmen and investors in the United States in May 2000 stated that the failure of globalisation to effectively address the needs of developing countries was one of the main reasons behind his countries high unemployment rate and lack of foreign investment. Mbeki, who has taken the lead in developing nations' attempts to restart trade talks at the WTO, said "Developing countries want to be part of the rule-making process so that our needs can be recognised and addressed", adding "many of us are punished by the development and promotion of trade structures which benefit the wealthy countries and continue to impact negatively on developing countries" (UN Wire 2000).

2.2 Environmental Impacts

Evidence seems to suggest that in addition to contributing to the marginalisation of the least developed countries' economies and failing to alleviate poverty dominating a large percentage of the world population, globalisation may also result in natural resource depletion and environmental degradation (Pearce and Warford, 1993). Accelerated economic growth, accompanied by economic restructuring, trade liberalisation programmes and population growth has caused increased pressures on environmental and natural resources. For example, with the advent of global markets for agricultural goods accompanied by market distortions – including domestic support, export subsidies and tariffs – significant over-production of agricultural commodities has characterised markets over much of the past two decades. This has resulted in steadily declining prices, in real terms, for many commodities. In developing countries, reduced prices often influence producers to increase output in order to maintain a steady income stream. Raising output encourages more intensive farming practices – using more fertilisers, water and pesticides and the overuse of productive land – as well as the use of marginal and previously forested lands for production. These practices contribute to soil degradation, erosion, water resource depletion, pollution and ultimately desertification and deforestation, two of the world's most pressing environmental problems.

This seems to indicate that increased trade-related pressures on resources contribute significantly to natural resource depletion and environmental degradation in many parts of the world. Intensive agricultural production is becoming more prevalent resulting in roughly 6 million hectares of cropland being lost to severe soil degradation annually, with associated productivity losses now exceeding 20 per cent in a number of developing countries (WRI, 1999). Water pollution from agricultural and industrial activities is also increasing with 20 per cent of the world population currently lacking access to safe drinking water and 50 per cent lacking access to safe sanitation systems (UNEP, 1999B). Soil degradation has affected two thirds of the world's agricultural land in the last 50 years (WRI, 2000). Urban air pollution is now affecting over 1.4 billion people and associated emissions of carbon dioxide increasingly contribute to global climate change (WRI, 1999). Deforestation continues unabated, with nearly 15 million hectares of forests being lost each year to increased agricultural activity, biomass fuel consumption and timber harvesting

(WRI, 1999). Fisheries are no longer sustainably managed. Nearly 70 per cent of the world's marine fisheries are overfished or fished at their biological limits, and twenty per cent of the world's freshwater fish are extinct, threatened or endangered (WRI, 1999).

There is now mounting and incontrovertible evidence that the world faces serious environmental challenges, and as UNEP's *Global Environment Outlook 2000* demonstrates, full-scale emergencies now exist in a number of areas (UNEP, 1999B). In addition, a new UN report on global ecosystems to be released in September 2000 reveals startling data showing that half the world's wetlands have been lost in the past century, 58 per cent of coral reefs are imperilled by humans, 80 per cent of grasslands are suffering from soil degradation, 20 per cent of drylands are in danger of becoming deserts and ground water is being significantly depleted worldwide (UN Wire, 2000).

It must be stressed that environmental problems should not be exclusively attributed to globalisation. However, the role of trade liberalisation – the main engine for globalisation – in causing today's environmental problems should be assessed. Preliminary assessments indicate that when environmental and developmental considerations are not integrated into macroeconomic policies and decision-making processes, global trade can magnify unsustainable patterns of economic activity and resource exploitation in countries seeking to maximise export earnings from their areas of absolute and comparative advantage. In addition, affected countries' environmental problems are no longer limited to national boundaries – transboundary pollution, land degradation and fresh water conflicts are increasingly common occurrences. At the same time, as countries are increasingly adopting trade liberalisation policies, traditional economic practices and activities essential for the diversification of their economies, food security, social and cultural cohesion, and the preservation of their social and cultural heritages may be affected.

2.3 The Need for Policy Coherence

In an integrated world economy, trade, financial, economic, social, environmental and development policies take on global dimensions and increasingly interact with each other. This interdependence of policies is at the centre of the policy debate on globalisation that is taking place in countries worldwide. In order to reap the benefits of trade liberalisation there is a growing awareness that more integrated policy-making is needed to promote a more equitable sharing of the benefits of free trade and to preserve and protect the environment.

The need for a comprehensive approach to coordinated policy-making has been, and continues to be, recognised by the international community through major UN Conferences, particularly UNCED and the United Nations Commission for Sustainable Development (CSD), which called for an integrated approach to sustainable development, recognising the interdependence and mutual supportiveness of economic and social development and environmental protection. Progress in these fields is needed for improved performance of the global economy. Key priorities are poverty alleviation, environmental protection and avoiding the economic marginalisation of many developing countries, and of poorer communities within many countries. Addressing these priorities requires not only coordinated policy-making at the national and international levels, but also greater international cooperation to assist countries saddled with debt, poverty, natural resource depletion

and environmental degradation, and limited institutional and financial capacities to establish and support national sustainable development programmes.

3. Environmental Assessment as a Tool for Sustainable Development

Environmental Assessment (EA) is a systematic procedure to examine how a particular activity has and will impact the environment. EA could provide a tool for integrated policy development – whether at the local, national or global level – where economic, environmental and social development goals could be reconciled. For analyses of economic development, including trade, several forms of this basic procedure have been, and continue to be, developed for different applications and for different levels of decision-making.

3.1 Project-based EA

Until about 30 years ago, nature was generally assumed to offer an infinite supply of physical resources to be exploited as required for human benefit. Large development projects were assessed purely in financial terms, without taking into account environmental and social externalities and market distortions. Since the early 1970's, however, there has been increased international recognition of the inseparability of the environment and both economic and social development.

In recent years, despite the adoption of a multitude of multilateral environmental agreements (MEAs), and the introduction of national environmental policies by most countries, the world remains far from achieving many of the sustainable development goals that governments set for themselves in Agenda 21 and the Rio Declaration of UNCED in 1992. Alongside growing awareness of the need to address environmental concerns, EA methodologies were developed and introduced in the early 1970s to help screen large development projects against environmental criteria in order to help identify and mitigate negative environmental impacts of those projects. Since then, requirements for EA to be conducted for major projects have been incorporated in the legislation of an increasing number of countries, and most development assistance institutions and multilateral banks incorporate EAs as part of their lending operations.

Principle 17 of the 1992 Rio Declaration states that *“environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.”* Today, the need to undertake EA for development projects is universally recognised by governments, and increasingly this is being done. But more significantly, through the development and use of **Strategic Environmental Assessment (SEA)** the environmental impacts of broader sectoral activity – both current and projected – are now beginning to be assessed so that environmental considerations can be effectively integrated in national macroeconomic and sectoral policies, plans and programmes.

Although there is no internationally agreed definition of SEA, it is generally defined to be a process for identifying and assessing the environmental consequences resulting from the implementation of policies, plans and programmes (UNEP, 1996). While it is still useful to undertake ex-post SEA on existing policies, plans and programmes, it should be emphasised that for such an assessment to be effective it is essential that such it should be undertaken ex-ante on proposed policies, plans and

programmes (UNEP, 1996). It should be emphasised that there is evidence which indicates that it is difficult to limit SEA to only address environmental considerations in the narrow sense of the word without including social and economic considerations, as this could be met by resistance from policy and decision makers. Including the development dimension may therefore prove to be a more acceptable approach to take in order to allow for a balanced assessment process.

3.2 SEA to Manage National Trade Activity

Trade-driven activities are unlikely to proceed in a sustainable manner when economic and trade policies have been developed without taking environmental considerations into account. Environmental concerns must be integrated into trade policies and complementary environmental policies must be put in place to ensure that environment and trade policies are mutually supportive and that economies evolve along a sustainable development path. SEA can guide this process by presenting decision makers with policy options that can advance trade objectives while protecting natural and environmental resources. Many governments are now committed to developing mutually supportive trade and environment policies. Increasingly, they recognise that SEA has a central role to play in catalysing a process to develop economically efficient and cost-effective trade and environment policies. These efforts will certainly require increased capacity of governments to assess the impacts of trade liberalisation policies on their natural and environmental resources and development priorities, and to formulate national policies and measures to address negative impacts and strengthen positive ones.

The integration of environmental considerations in macroeconomic policies in general, and trade policies in particular, raises a number of concerns, especially for developing countries. Satisfying environmental objectives through domestic environmental policies has cost implications at the national level. Their implementation raises concerns about market access and competitiveness since they will raise costs for nationally produced goods relative to similar goods produced in other countries where such policies remain absent. Because globalisation creates pressures to maintain competitiveness, reducing government inclinations to improve national environmental standards, many observers believe that nations can improve such standards only through a multilateral process, where similar measures are adopted by competing nations (Zarsky, 1997). This suggests that multilateral trade and environment policy regimes must play a stronger and complementary role in promoting sustainable development, otherwise proactive policies at the national level may not materialise.

There continues to be considerable resistance, primarily from developing countries, to integrate environmental considerations into multilateral trade agreements. This resistance stems from concerns developing countries have that environmental standards may be used as a form of disguised protectionism by discriminating against imports of like products based on the environmental characteristics of the process and production methods (PPMs) used to produce them in order to shield domestic industry from foreign competition. For many products, because improvements in the environmental performance of PPMs are more readily achieved, and their costs more easily absorbed, by developed countries, developing countries fear that the introduction of environmental measures into multilateral trading systems will ultimately result in reduced market access for their exports.

Although there continues to be a lack of international consensus on whether and how to integrate environmental considerations in multilateral trade negotiations and policies, many countries now seek to independently perform environmental assessments of trade agreements. Countries are increasingly recognising the importance of conducting these assessments, particularly ex-ante assessments, so that they will be aware of the national implications of prospective trade agreements. This would permit them to develop clear strategies for the negotiation of multilateral trade agreements.

3.3 Environmental Assessment of Multilateral Trade Policy

Environmental assessment is now regarded by many countries as an important tool to guide them in the negotiations of multilateral trade agreements to support their national sustainable development priorities. Indeed, given the links between globalisation and the environment, Rio Principle 17, mentioned above, would suggest that environmental assessments should be undertaken for multilateral trade policies that will influence national activities likely to have an adverse impact on the environment.

Charged with the responsibility to follow-up on the decisions adopted at the 1992 Rio Earth Summit, the CSD continues to convene annual meetings which seek to make recommendations to governments on how to operationalise the Rio Principles. In the area of trade, environment and sustainable development, the CSD, during its 3rd and 4th sessions, has recommended that ***“UNEP and UNCTAD carry out further work and report on the development of a framework to facilitate the assessment of the environmental impact of trade policies, taking into account the special needs of developing countries and countries with economies in transition”***. More recently, during its 8th session in May 2000, the CSD noted that EA is being used by many countries and that some are developing other assessment tools. Within this context, the CSD noted the work of UNEP and UNCTAD on assessments of trade policies, stressing that such assessments should be conducted with a view to promote sustainable development. This has been further endorsed by environment ministers at the Global Ministerial Environment Conference convened in Malmö Sweden in June 2000.

Environmental assessments should be undertaken by governments either individually or cooperatively to examine the potential future environmental impacts of international trade policies during their development and well before their adoption. Now many developed countries including the United States, Canada, Norway and the European Community, are either conducting or intending to undertake environmental reviews of future WTO agreements to examine the potential future environmental and related developmental impacts of prospective international trade policies. Certainly, developing countries and countries with economies in transition would benefit from similar assessments.

To date, there is no internationally agreed upon framework for the assessment of trade measures or agreements. Different approaches and methodologies have been developed and proposed by different institutions. The first formal EA methodology for the assessment of trade policies was proposed by the Organisation for Economic Cooperation and Development (OECD, 1994). The OECD methodology outlines how any prospective trade measure associated with a multilateral trade policy or agreement

– e.g., tariff, non-tariff, domestic support, intellectual property or investment measure
– can be examined to project its future environmental impacts (resource, pollution and human health effects) on national economies. To achieve this, it assesses how these environmental effects may result from trade-related economic effects of a trade measure, the latter including scale, structural, product, technology, income and regulatory effects. The usefulness of the OECD methodology is limited, however, by its very general nature; providing an abstract framework for assessment rather than a detailed methodological approach. It also fails to examine the developmental impacts of prospective trade measures, which would need to be considered in a comprehensive integrated assessment.

During 1995, efforts began in North America to develop an EA methodology to project the environmental effects of the North American Free Trade Agreement (NAFTA). The Commission for Environmental Cooperation (CEC) completed its development of this methodology in 1999 (CEC, 1999). The methodology attempts to assess both ex-ante and ex-post effects through the use of quantitative data – statistics and models – for four categories of environmental impacts: land, air, water and biota. The approach places emphasis on environmental impacts with less attention to social and developmental impacts. Furthermore, the CEC methodology was designed specifically for NAFTA and therefore its scope is of limited applicability.

Later during 1999, the development of a “Sustainability Impact Assessment” methodology was initiated by the European Union to assess the sustainable development impacts of prospective WTO measures expected to emanate from a new round of trade talks (Kirkpatrick et al., 1999). Unlike the OECD and CEC methodologies, the EU framework attempts to undertake a more broadly defined EA by integrating a review of social and developmental impacts into an environmental assessment. This framework undertakes a basic screening procedure to identify potential multilateral trade agreements or measures that are in conflict with environmental, developmental and social objectives, and proposes mitigating and enhancing measures to promote sustainable development. This methodology was applied to the potential impacts of the trade rules expected to emerge in future WTO negotiations, with a specific focus on the European Union but also considering impacts on developing countries. However, results are being viewed with reservation as the framework has a pro-trade liberalisation bias built into the analysis from the start, limiting consideration of alternative scenarios to free trade such as slower trade liberalisation, no-further trade liberalisation or trade of a different form and scope (Richardson, 2000).

In a number of instances, work has been done based on quantitative analyses using computable general equilibrium (CGE) models to project the effects of trade policies. CGE models can be adapted to create a multi-sectoral model focusing on the environmental impacts of trade liberalisation, as in the case of the Trade and Environment Equilibrium Analysis (TEQUILA) which was applied to pollution emissions in Mexico. Additionally, the Global Trade Analysis Project (GTAP, 2000) uses a CGE model to analyse the impacts of trade on production patterns at country and sectoral levels and can be altered to create a model that computes environmental impacts. However, difficulties do exist with quantitative models, including but not limited to, data availability and the valuation of non-economic data.

Limits also exist in the applicability, scope, depth and precision of economic models. No single model can completely capture direct and indirect effects, including distributional effects. To make accurate inferences from analytical studies, practical approaches need to be adopted to consolidate the results of different quantitative models, including CGE models, and the results of empirical country- and sector-specific studies.

While there have been a number of analytical studies on the environmental impacts of trade liberalisation resulting from CGE modelling efforts, there have been few empirical ones. The outcome of analytical studies indicates that scale effects of trade liberalisation are often detrimental, while technology and income effects can be beneficial. As for structural and product effects, analyses do not provide conclusive evidence to their environmental and developmental implications (Panayotou, 1999).

In the past, environmental and developmental objectives were often viewed to be mutually exclusive – either could be advanced but only at the expense of the other. However, these two objectives can be simultaneously achieved through the development of mutually supportive trade and environment policies. Integrating these differing objectives and policies could result in win-win scenarios wherein, for example, more trade can contribute to more ecologically efficient production of goods, or the removal of trade distorting subsidies can reduce environmental damage stemming from the over-production stimulated by those subsidies. In both cases a protected natural environment sustains enhanced social welfare.

As single criteria analysis methods are unable to produce indications of how well policies are likely to simultaneously meet environment and development objectives, current research in the area of EA methodologies seeks to integrate multicriteria analysis methods (MCA) into quantitative models to operationalise the objective of formulating “mutually supportive trade and environment policies”. MCA allows policy makers to accommodate different stakeholder objectives by adopting a set of multiple criteria for analysis. For example, MCA can be used to estimate the extent to which a prospective policy or set of policies will satisfy economic, environmental and social objectives. After running the analysis for many different policy mixes, policy makers must examine the trade-offs that each policy mix generates. Empirical studies should be referenced to appreciate the implications of these trade-offs.

4. Challenges for the Development of Strategic Integrated Assessment of Trade Policies

Strategic Integrated Assessment of Trade (SIAT) as a tool to screen and evaluate international trade policies against environmental, social and economic sustainable development criteria is only beginning to be developed. The SIAT development process must respond to many challenges before it can become a practical tool in the trade-environment-development policy-making process. Challenges facing the development of SIAT methodology include, access to baseline information on environmental, social, and economic aspects and the integration of forecast modelling, valuation techniques and cost benefit analysis. At the same time, SIAT must be easy to use and be a flexible tool that can be adapted to different users’ needs.

Operationalising the Rio Principles is the key challenge facing the international community as it seeks to achieve sustainable development. Thus far, most of the Rio Principles have been statements of best endeavours. If countries were to pursue a sustainable development path, modalities for operationalising the Rio Principles should be set and agreed upon through a multilateral process. SIAT is one tool which can be used to translate these principles into action, or in other words they should be the guiding principles for an effective EA process (George, 1999). Thus integrating the Rio Principles in SIAT and operationalising them would make SIAT a more effective tool for decision-making to achieve sustainable development.

4.1 Adopting an Integrated Approach to Assessment

Defining what “environment” encompasses has been the subject of extended debate. It is clear that environmental concerns go far beyond air and water pollution. They extend more generally to the degradation of environmental resources and to the depletion of natural resource endowments – both renewable and non-renewable. The definition of the environment therefore includes natural resources, the mainstay that many countries, particularly developing countries rich in natural resources, rely on economically. Decisions related to the environment are intimately linked to making “economic” choices about resource allocations which ultimately affect “social development”. Therefore, economic and social aspects need to be linked to environmental decision-making.

Narrowly defined, most EAs have focussed only on the environment, while economic assessments continue to be undertaken independently as a matter of routine to guide the development of trade policies that can maximise the potential for economic development. Yet little emphasis has been placed on conducting assessments of social policies and integrating environmental, economic and social assessments together to project the net impacts of trade policy reform. There has recently been, however, increasing recognition of the need to conduct social assessments alongside environmental and economic assessments, in particular to examine the extent to which trade can raise national incomes to help alleviate poverty in developing countries.

A review of the effect of trade liberalisation on income convergence between countries has been made by in a recent WTO report (WTO: Nordström, Ben-David and Winters, 1999). The review found that trade liberalisation reforms can provide an important contribution toward the economic growth of less developed nations – i.e., countries with lower per-capita income levels than their trading partners – and hence can also support alleviation of poverty in developing countries. However, trade liberalisation in itself should not be viewed in isolation as the most important policy direction for long-run growth. Although trade can serve as a conduit for growth, the capacity of countries to benefit from trade is determined by a wide range of other factors such as investment, education, infrastructure, access to technology and many other essential ingredients for sustainable economic development that protects and enhances endowments of natural and human capital. This implies that assessments of trade policy must be made in connection with those of non-trade policies to project potential developmental impacts of existing policies and to identify compensatory or flanking policies needed to address predicted negative environmental and social impacts of trade policy reform.

Flanking policies are particularly important to avoid increased environmental degradation and natural resource depletion (UNEP, 1999) and increased domestic per-capita income divergence (WTO: Nordström, Ben-David and Winters, 1999) commonly observed in countries where they have been absent at the onset of trade liberalisation. Nevertheless, flanking policies should not be considered as the best option for reducing negative impacts of trade policies. A better option would be to work towards the ex-ante design of trade policies that have overall positive environmental and social impacts, with minimal negative ones, so that the need for flanking policies is largely reduced.

In recognition of the linkages between the environment, social and economic dynamics, there have been calls for integrating all three into a single assessment process and for such assessments to be mainly conducted ex-ante. Agenda 21 emphasises the essential need for this integration; it recommends that governments *“ensure the integration of economic, social and environmental considerations in decision-making at all levels”*. The primary task is to develop a methodology to assess policies, plans and programmes, from the outset, to influence the development and formulation of sectoral policies such as trade, investment, agriculture, or even policies related to technology and intellectual property, against sustainable development principles.

4.2 Promoting Mutually Supportive Trade and Environment Policies

SIAT should be designed to promote the formulation of complementary trade and environment policies to achieve sustainable development. To do this the SIAT process will need to succeed in bringing about greater policy coordination between these two policy regimes, which traditionally has been, and continues to be, lacking.

Growing support for major MEAs reflects universal recognition that many of today's environmental and social problems have global origins and dimensions – many of them resulting, at least in part, from the globalisation process itself. Given the growing recognition of the links between environment and development and to the commitments made by governments at UNCED to address emerging environmental and developmental problems, it would have been expected that recent trends towards environmental degradation and deteriorating social welfare should have been reversed, or at least slowed down, and economic activity shifted to a more sustainable pattern. It is thus critical to examine why a greater sustainability of economic development has not already materialised, and to identify what corrective actions can be taken at the international and national levels to reverse environmental degradation and declining social welfare where they are occurring.

Despite many ex-post efforts to address the world's environmental and social problems, there has been very little effort to integrate ex-ante environmental and related social concerns into multilateral economic and trade agreements and structural adjustment programmes, that so often play a driving role in forming and shaping development trends and the environmental and social conditions that result directly from them. Because this integration is not occurring, a myriad of MEAs continue to be developed and implemented separately and in isolation from the very trading systems they must influence in order to meet their objectives. For example, despite international adoption of numerous MEAs – including the Vienna Convention for the Protection of the Ozone Layer, the Basel Convention on the Control of Transboundary Movements of

Hazardous Waste and their Disposal, the Convention to Combat Desertification, and the Biodiversity Convention and the recently concluded Biosafety Protocol – global commitment to the environmental cause remains fragmented because these MEAs are at best only weakly linked to multilateral trade agreements. Thus, MEAs often aim to mitigate problems that could be largely avoided in the first place had environmental considerations been integrated ex-ante into macroeconomic policies and multilateral trade agreements.

Importantly, in its preamble, the WTO recognises that trade should seek to protect and preserve the environment and UNCED's Rio Declaration underlines the importance of ensuring that trade and environment are mutually supportive. In the presence of market failures associated with environmental and natural resource allocation, there is growing opinion that trade and environment objectives can only be attained when policies pertaining to those two disciplines are developed coherently in an integrated fashion to correct market shortcomings. Unfortunately, progress in moving from isolated to integrated policy-making has been limited. At the national level in most countries, trade policy and environmental policy are developed separately by distinct sets of policy regimes, and at the international level, WTO trade agreements and MEAs are elaborated independently. Furthermore, as coordination between WTO negotiators and national environmental policy makers is poor, there is a mutual lack of understanding of the linkages between trade rules and domestic environmental policies.

Isolated policy-making is a common cause of policy failure. In recent years, for example, commodity prices have declined thus reducing export earnings of resource dependent developing countries and contributing to increased pressures on natural resources to meet their foreign exchange needs. One of the reasons contributing to this price trend is the subsidization of agriculture and fisheries sectors, particularly by developed countries, which evidence suggests has global environmental and trade implications. Efforts should be made to identify and reduce environmentally adverse and trade distorting subsidies, and design policies to reform them. When policy failures, such as those associated with subsidies, become evident, the shortcomings of policy development are generally identified, but only after substantial losses of natural and environmental resources have occurred. This also results in social welfare decline over an extended period as corrective policies are costly and considerable time is needed for remediation. Furthermore, environmental damage is sometimes irreversible. This suggests an urgent need for better tools to facilitate more integrated policy-making.

SIAT if properly designed can play an important role in promoting coordination and harmonisation of trade, environmental and developmental policy objectives at the national and international level. At the national level, SIAT should be used as a tool to ensure, and continuously maintain the coordination of activities between sectoral ministries when formulating and implementing their activities, including the negotiation and implementation of international agreements whether these relate to the trade, environment or development. At the international level, greater efforts are needed to build coherence between trade and environment policy regimes. The fear is, that without such coherence, trade restrictive measures, under the guise of environmental protection, may be used for trade protectionist purposes. As referred to in Rio Principle 12 *“Trade policy measures for environmental purposes should not*

constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade”.

In many instances environmental assessment has been confronted by lack of scientific certainty with respect to the implications of undertaking a specific activity, for example, the consumption of a particular commodity or the release of a genetically modified organism into the environment. Rio Principle 15 states that ***“in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”*** Although many governments now argue that such measures should include trade measures, extensive debate continues over the use of a precautionary approach in the absence of scientific knowledge, and over whether such an approach can be invoked to restrict trade of a specific product or constrain a particular programme or activity.

There are many opportunities for states to use trade measures to protect the environment and human health. When used justifiably, these measures can provide strong and much needed mechanisms to address critical environmental problems. Trade measures to achieve environmental objectives are contained in about 20 of the roughly 200 MEAs that exist today (UNEP-IISD, 2000). Moreover, the WTO Agreement on Sanitary and Phytosanitary Standards allows member states to use trade measures to protect the environment (and human health) when such use can be justified. The WTO Agreement on Technical Barriers to Trade also permits countries to apply trade-restrictive measures for environmental purposes. Under both agreements, the use of trade measures is open to challenge from other member states through the WTO dispute settlement process. Within this context, by providing a means to validate and justify the use of trade restrictive measures for environmental purposes, SIAT may be used as a tool to bridge the gap and make concrete linkages between international trade and environment policy regimes, resolve conflicts and discourage purely protectionist manipulations of trade measures for environmental purposes.

Market access and the ability of all countries to compete in international markets has been a main concern, particularly of developing countries seeking to keep their exports competitive in world markets. In this context, although environmental standards can promote sustainable management of natural and environmental resources, developing countries may not have the capacity to comply with them. Efforts should thus be made to enhance the capacities of developing countries so that they can improve their supply infrastructure, diversify their exports to value-added products where environmental costs can be more readily absorbed, and access and compete in international markets on an equitable basis alongside developed countries. The widening technology gap between developed and developing countries needs to be redressed if developing countries are to be able to adopt new environmental standards for international trade. Increased access to environmentally sound technologies and enhancing the capacities of developing countries to develop and adapt technologies to meet their own requirements and development priorities should be included in the capacity building programmes provided to developing countries. SIAT can help identify capacity building needs of developing countries to meet environmental standards before they are adopted in international agreements so that

practical modalities can be established within such agreements to meet these needs before environmental standards are applied to developing country exports.

4.3 Defining the Scope of the Assessment

In addition to the environmental, social and economic components which need to be included in the assessment, it has been argued that the scope of the assessment should also include a fourth institutional component (Nilsson, 1997). The environmental component covers issues dealing with the carrying capacity of land, regenerative capacity of renewable resources, assimilative capacity of pollutants, and addresses issues related to non-renewable resource consumption. The social component includes issues related to equity, education, health, food security, and traditional and cultural values. The economic component includes income stability, employment, rate of inflation, debt and balance of payment related issues. The institutional component includes governance, property rights legislation, and commercial practices issues. If the main objective of the assessment is to achieve sustainability, these four components should be covered by the assessment. The relative importance the assessment would give to each component would be country-specific, determined by the development priorities and other socio-economic considerations of the country concerned.

The geographical scope of the assessment should be defined according to the extent to which impacts are expected to extend, including transboundary implications. Activities undertaken at the national level may have direct or indirect effects on neighbouring countries or the global environment. SIAT should therefore aim to raise awareness among governments of the environmental, social and economic implications of trade policies not only at the national level, but also at the regional and even the international level. This follows Rio Principle 2 which states that: ***“States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”*** Certainly, because trade policies may also have potential transboundary impacts, the scope of SIAT analysis could require extensions to neighbouring countries and trading partners.

A versatile and flexible assessment methodology should be designed, allowing the user to define the purpose and scope of the assessment. The scope of the assessment has several dimensions, including environmental, geographical and policy confines. SIAT may therefore focus on a specific sector, geographical area, or even a particular ecosystem. SIAT should also specify the set of policies to be evaluated, not only to include direct trade policies, but to also include trade-related policies such as macroeconomic policies, structural adjustment programmes, and investment policies as well as an analysis of cross-sectoral linkages. In addition, it is essential that SIAT considers trade policy interactions with existing national policies, whether command and control, market-based, or voluntary initiatives undertaken by the private sector.

4.4 Deciding on Most Appropriate Timing to Influence Policy- and Decisionmaking

The timing of an assessment will impact its policy influence and effectiveness. Strategic assessment is meant to be undertaken at the outset of formulating and developing a policy or a plan in order to effectively influence it. However, a SIAT methodology should allow users to perform ex-post assessments of trade policies. This may be required in case ex-ante assessment was not conducted or in case it is needed for monitoring and evaluation purposes. The latter allow users to monitor previously performed ex-ante assessments and to evaluate the impacts of existing policies that have been in place for some time so that such policies can be effectively revised or possibly renegotiated.

Ex-ante assessments are critical for optimising the linkages between trade liberalisation, development and the environment. However, they cannot be reliably performed without access to empirical evidence on the dynamics of trade-environment-development linkages deriving from ex-post assessments. Success in undertaking ex-ante assessments will thus largely depend on previous experience and understanding gained from ex-post analyses of the environmental impacts of trade.

An ex-ante review should be conducted as early in the policy-making process as possible, so that the results of the review can be integrated into the process. Agenda 21 emphasises the need for countries to ***“shift time horizons in programme planning and implementation to permit an enhancement of their ability to respond to new longer-term challenges rather than concentrating only on immediate problems”***. This can be achieved using ex-ante analyses which allow relevant environmental and social issues to be brought forward and considered in the formulation of trade policies and at an early stage of negotiations so that negative impacts can be addressed. Ex-ante assessments can, therefore, assist countries identify their position with respect to a specific trade agreement. They can also enable countries to develop and introduce policy measures required to meet the obligations of an adopted and ratified agreement and facilitate its implementation, while ensuring that environmental and developmental considerations are not being compromised in the process.

4.5 Incorporating the Valuation of Environmental and Natural Resources

Due to market and policy failures, current market prices do not always reflect the real value of traded commodities, nor the use of natural and environmental goods and services. Policies that internalise environmental costs should be developed and applied in order to capture the real value of producing and consuming goods and services. In view of the cost and market access implications of internalising environmental costs, operational modalities for realizing this objective need to be put in place.

In order to provide a proper analysis of the costs and benefits of the proposed policy and trade-offs between the various alternatives and policy options, the assessment should include a cost benefit analysis which reflects the cost and benefits of human-made capital as well as natural capital. Though it is acknowledged that valuing the environment is not an easy task, experience indicates that unless approximations of costs and benefits of the proposed policy and possible options are known, it remains difficult to establish trade-offs and prioritise options, and hence convince policy

makers of the preferred policy option. Attempts should therefore be made to quantify, to the extent possible, the economic and social costs of environmental degradation, the benefit of environmental enhancement, and the costs and benefits of utilising natural resources. This includes the value of biodiversity, clean water, fertile soil, watersheds, and forests. It should be stressed that though environmental and natural resource valuation techniques – developed to assign values to resources for which no markets exist – remain imperfect, they still can provide useful analyses to point to optimal policy options. They provide essential tools for capturing the value of natural resources being utilised, for internalising environmental costs and thus guiding the allocation of resources to meet sustainable development objectives.

Perhaps one of the most critical principles to be applied in the world's markets is that of cost internalisation. Rio Principle 16 states that “*National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments.*” The internalisation of externalities is an important step towards curbing environmental degradation for both developed and developing countries. It involves the incorporation of external costs and benefits in the decision-making calculus of producers and consumers with the objective of altering behaviour towards socially preferable outcomes – i.e., generating the most optimal and dynamically efficient resource allocations while respecting sustainable development constraints.

Incorporating environmental and natural resources values into SIAT would assist in internalising environmental and social costs and in providing an estimate of the complete costs and benefits of a trade policy or agreement. As discussed earlier, however, the resistance governments have to internalising costs stems from concerns related to market access and loss of market share of traded commodities. As a result, countries are reluctant to internalise costs unilaterally for fear of losing competitiveness in international markets, particularly in the short-run. That is why, as referred to earlier, a multilateral process will likely be needed to promote greater cost internalisation.

It is in the interest of all countries to internalise national environmental externalities whenever cost-benefit analysis indicates a net benefit in doing so. SIAT analyses can thus raise the awareness of governments to benefits of internalising national environmental externalities, and promote the willingness of governments to enter into multilateral discussions on how such costs might be internalised internationally. SIAT may also help identify what special and differential trade measures will be needed to support developing country efforts to move towards greater cost internalisation. For example, the elimination of escalating tariffs by developed countries would allow developing countries to diversify exports from raw commodities – where margins are often too low to accommodate cost internalisation – to value-added goods where higher margins and product differentiation permits environmental costs to be more easily absorbed within a good's cost and pricing structure.

There is evidence indicating that those developed countries unilaterally adopting cost internalisation measures are among the most competitive. Empirical studies show that cost internalisation creates market incentives for increased research and development and innovation in environmental technologies, resulting in more efficient production methods that encompass reduced resource consumption and waste minimisation.

Instruments of cost internalisation include: property rights, environmental taxes and charges, regulatory measures, technology standards, institutional arrangements, education and training, information dissemination, and voluntary action by the private sector. Once costs are internalised, market forces can make heavily polluting and wasteful industries obsolete and encourage environmentally sound ones. The task for industries to implement full-cost pricing is to take into consideration the cost of pollution in their accounting procedures and to adopt related pollution prevention practices. Governments must remove distortionary subsidies such as tax incentives for extractive activities and set the right level of charges for resources such as water and energy.

In countries where environmental and related social costs have not been internalised, and where capital flows are attracted *en masse* by the existence of both absolute and comparative advantages, environmentally sound limits to production intensities fail to materialise in local markets and environmental degradation is exacerbated. Attempts should therefore be made in SIAT to identify environmental and social externalities, quantify them to the extent possible and internalise such costs into decision-making when assessing the trade-offs between environmental, social, and economic aspects of a project, activity, programme or policy.

SIAT can also be used to provide indications of the overall effect of a trade policy on sustainable development and economic growth, to be reflected in systems of national accounts. Agenda 21 highlights the need for countries to “***expand existing systems of national economic accounts to integrate environmental and social dimensions in the accounting framework***”.

Current systems of national accounts provide misleading information on national economic growth. Decisions are taken narrowly on the basis of incomplete projections of GDP growth, while social and environmental indicators are neglected. Thus traditional systems of national accounts ignore the considerable cost of natural resource use/depletion, environmental degradation and related losses of social welfare. Earnings made possible through the depletion and degradation of environmental and natural resources are thus treated entirely as contributions to national income and losses of natural capital are not accounted as costs. Even counted as positive are the costs of relief and rehabilitation of the natural environment when, in many cases, its destruction could have been avoided in the first place. Environmental and Natural Resource Accounting (ERA) is a tool which attempts to rectify the system of national accounts by reflecting the depletion and degradation of natural resources resulting from development activities. SIAT should provide an effective tool for the assessment of natural resource depletion and degradation resulting from a trade policy which can feed into the system of national accounts and thus provide policy and decision makers with the true cost and benefit of a trade policy.

With resource valuation properly integrated into SIAT analysis, SIAT results should lead to the development of policy packages, including the design and application of market-based instruments to complement command and control measures to address and rectify negative environmental and social implications of trade. Designed in this manner, SIAT could generally indicate areas where market and policy failures need to

be corrected, and thereby assist decision makers identify policy measures and market reforms needed to support sustainable trade policies.

4.6 Ensuring Stakeholder Involvement

SIAT should involve decisions on who will undertake the assessment, who should be consulted and to whom to report results. Although an assessment of a trade agreement or related measure will mainly be the responsibility of the government, stakeholder consultation and participation of main actors, including the private sector, are important elements of an effective assessment. It is important that a framework for stakeholder involvement is set before SIAT work begins. As emphasised in Agenda 21, ***“One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making.”*** A wide participatory approach not only contributes to a better understanding of the potential impacts of a trade agreement and to the identification of appropriate complementary policy measures or alternative options; it also ensures transparency and national “ownership” of the process and its outcome. Moreover, bringing different stakeholders together promotes coordinated policy development and integration.

An assessment process should include representatives of relevant government departments currently managing the sectoral activity that will be affected by the policy in question, the private sector, affected communities, academia, and national research institutions. The involvement of the private sector is particularly important since many of the actions needed to sustainably manage trade may include the adoption of voluntary initiatives and measures to be implemented by civil society and private enterprises.

An increase in participatory involvement leads to a clearer recognition of stakeholder concerns allowing policy makers to address them. Finally, there is no doubt that stakeholder involvement takes time and resources and thus costs money, however, experience indicates that its short- and long-term benefits outweigh these costs.

4.7 Respecting Indigenous Knowledge and Culture

According to Rio Principle 22 ***“Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development”***. This principle clearly acknowledges the important role indigenous people and local communities can play in achieving sustainable development. To solicit the support and contribution of local communities in environmental protection and conservation activities, they will need to be engaged from the outset in activities affecting their lifestyles and livelihoods. Wherever relevant, their participation in SIAT should be encouraged.

Indigenous knowledge, is embedded in the community and is unique to a given culture or society (UNESCO, 1999). It includes knowledge and cultural skills that have been developed outside the formal educational system, handed down from generation to generation, and enabling indigenous communities to survive in a balanced way with their natural and social environments. Indigenous knowledge is

generally not captured and stored in a systematic way – neither is it protected in any way by intellectual property rights – thus the danger exists that indigenous knowledge, and perhaps even related cultural values and practices, may become lost through the process of globalisation.

The value of cultural diversity should not be overlooked as globalisation proceeds. Indigenous knowledge makes unique contributions to sustainable development, and greater efforts should be undertaken to strengthen the capacity of local people to develop their own knowledge-base and related technologies, practices and approaches to meet the challenges of sustainable development. SIAT should thus identify key indigenous knowledge-bases where they exist, assess their value and risk of loss, and examine how the globalisation process might promote – rather than diminish – their continued existence, use and transfer to future generations.

4.8 Supporting an Equitable Distribution of Costs and Benefits

The globalisation process offers significant opportunities for improving living standards and creating a global community strengthened by international cooperation and partnerships. Globalisation has, however, been characterised by distorted markets and trade rules that do not sufficiently provide a level playing field for all subscribing nations and thus the benefits of globalisation have not been shared equitably. This is resulting in a growing polarisation between people and countries benefiting from globalisation and others that are passive recipients of its negative trends – in particular, growing income disparities, natural resource depletion, environmental degradation and associated health hazards. In order to help reverse these negative trends, SIAT should assist policy makers to identify the imbalances of current and projected trade related activities, both at the national and international levels.

Poverty and environmental degradation partially result from markets that externalise the environmental and social costs of economic activities. As mentioned earlier, SIAT should attempt to the extent possible to assign values to environmental and natural resources so that policies can be designed to properly internalise these costs. SIAT should help identify the causal linkages between poverty and environmental variables, to derive better estimates of the degree to which environmental protection can contribute to poverty alleviation and the extent to which other issues must be addressed to achieve this goal. When environmental externalities are present, Rio Principle 16 recommends that these costs be compensated uniquely by those responsible for their generation: ***“the polluter should, in principle, bear the cost of pollution”***.

The need to ensure that environmental degradation and resource depletion resulting from globalisation are minimised, is not only important to help alleviate poverty today, it is also essential if future generations are to maintain sustainable living conditions and livelihoods. Rio Principle 3 clearly refers to the responsibility nations have in this regard: ***‘The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations’***. SIAT should provide empirical data needed to improve nations’ understanding of the carrying capacities of their environmental and natural resource bases so that development today remains within sustainable limits.

At the international level, countries should seek to cooperate on equitable terms to reduce environmental degradation and reduce growing income inequality. This is emphasised in Rio Principle 7 “*States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem*”, and Principle 5 “*All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world*”.

However, countries are not equally responsible for environmental damage, they do not currently benefit uniformly from the globalisation process, and they are not similarly positioned to assume financial and technical responsibilities to assist other countries in environmental protection and poverty alleviation efforts. The different responsibilities of countries is recognised in Rio Principle 7: “*In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command*”.

SIAT should identify the special needs of developing countries in relation to the expected outcome of the proposed trade agreement, thus facilitating the design of specific measures and provisions in a trade agreement in order to properly account and provide for such needs. It should be a tool to identify the positive and negative impacts of trade liberalisation agreements so that countries, developing countries in particular, can assess their financial, technological, institutional and other capacity-related needs for environmental protection and poverty alleviation. Specifically, these needs may include capacity building, preferential treatment under trade agreements, debt relief, investment, technology transfer and development assistance. Once identified, developing countries can seek to ensure that these needs are met through international mechanisms including, inter-alia, multilateral trade agreements, economic integration agreements and environmental conventions. Developed countries have acknowledged their responsibility to help meet these needs, through Rio Principle 7 quoted above and Principle 6 which states that “*The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority*”. In accordance with this principle, in a number of WTO Agreements, special conditions are applied to developing countries' implementation requirements and special allowances made to provide them with enhanced opportunities for market access. However, much more needs to be done to cater for the special circumstances of developing countries and countries in transition to market economies.

4.9 Monitoring and Follow-up

Traditionally, monitoring and evaluation have not been part of the EA process. Once projects were approved, monitoring of their implementation was seldom undertaken. However, current practice now stresses the need to make subsequent reviews of the assessment exercise to examine whether anticipated predictions are correct, remedial action needs to be implemented, and whether unexpected impacts have emerged that require additional corrective action.

SIAT should include monitoring and follow up as part and parcel of the assessment exercise. Agenda 21 emphasises the importance of conducting such reviews at the national level, recommending *“monitoring and evaluating the development process systematically, conducting regular reviews of the human resources development, economic and social conditions and trends, the state of the environment and natural resources”*. Monitoring and follow-up is critical to determine if environmental considerations have been effectively integrated in trade policy. Such a review may point to the need to modify the trade policy or agreement, or to develop flanking environmental policies or measures to correct the negative impacts of multilateral trade policy.

5. Future Directions for SIAT: The Role of UNEP

Any widely acceptable SIAT methodology must be flexible to permit country specific analyses and empower countries to individually define SIAT objectives and interpret results within their own national context. SIAT must be designed to take into account the circumstances of countries, including their development priorities, stage of development, national capacities and social, cultural, environmental and economic conditions. Despite the differences that exist between countries, there is now general agreement that a framework methodology is needed. The framework methodology would provide a basis which users could reduce or expand on based on particular interests, needs and priorities.

UNEP continues to play an important role in international efforts to develop SIAT.

In 1999, based on demands for technical assistance from a number of developing countries to initiate their own assessments of trade policies in preparation for a future round of WTO trade negotiations, UNEP established an international working group comprising a multi-disciplinary team of environmental, social, economic, and trade experts to develop a structured, yet flexible framework methodology. Resulting from this group’s work, the UNEP Reference Manual for the Integrated Assessment of Trade-Related Policies was prepared.

The Reference Manual provides a general approach and framework for integrated (economic, environmental and social) assessments comprising a menu of options through which a user can develop a methodological approach to integrated assessment that responds to a particular situation and set of priorities. The Reference Manual helps negotiators, policy makers and practitioners to assess trade and trade-related policies against widely accepted sustainable development criteria. By enhancing decision makers’ understanding of potential environmental impacts – and related developmental and economic implications – of these policies, the Reference Manual aims to facilitate the negotiation, formulation and implementation of trade policies and agreements.

The expert group reviewed the first draft of the manual in December 1999 in Geneva and refined the outline during a second meeting in March 2000 in Imbabura, Ecuador. A briefing session was organised at the margins of CSD-8 in New York to present an outline of the manual and receive feedback from governments and NGOs on its objectives and content. A revised version of the manual was reviewed by the expert group in June and November 2000 in Geneva, and the UNEP Reference Manual for the Integrated Assessment of Trade-Related Policies was published in June 2001.

UNEP's work on SIAT benefits from its work in the area of environmental assessment since its establishment in the early 1970s. Throughout this period, UNEP has and continues to work closely with governments to assist them in their efforts to enhance their institutional and human capacities for integrating environmental considerations in development planning and decision-making. Moreover, in 1992 the UNCED specifically requested UNEP to include in its work the *“further development and promotion of the widest possible use of environmental impact assessment, including activities carried out under the auspices of the United Nations specialised agencies”*.

As a result of this work, the UNEP EIA Training Resource Manual was prepared and launched in June 1996. The main objective of the manual is to enable trainers, particularly, in developing countries and countries with economies in transition to develop tailor-made training courses for different target groups. Widespread acceptance and use of the first edition of the manual has helped build local capacity to develop EIA procedures and legislation, conduct EIAs, and monitor and evaluate the implementation of EIAs. Based on field trials and requests from governments, UNEP is revising its EIA Training Resource Manual to include a module on SEA. Additionally, experiences with EIA, particularly from developing countries, will be compiled and published as a collection of case studies to supplement the revised manual.

The application of environmental assessment at the sectoral level has also been a priority at UNEP in recent years. From 1997-1999, UNEP worked closely with Bangladesh, Chile, India, the Philippines, Romania and Uganda on projects to identify the impacts of trade and trade liberalisation on specific sectors of particular importance to these countries and to use economic instruments to sustainably mitigate negative impacts. These projects were entirely country-driven – conceived, designed and conducted by national teams of practitioners. Project studies encompassed new solution-oriented research on unique trade-related environmental problems and their social and economic implications in diverse sectors.

Importantly, country projects involve multi-stakeholder participation to identify the dynamics involved in environmental degradation, and to develop widely acceptable national response strategies. Each country project concludes by recommending a set of practical measures – comprising command-and-control regulations, voluntary initiatives and economic instruments designed to meet national conditions – that significantly reduce trade-related environmental degradation while not negatively affecting trade. The projects do not end with published studies; their final component involves pilot implementation of proposed measures undertaken by national authorities in collaboration with each project's national team and with technical assistance from UNEP. In response to country demand, in 2000 UNEP launched a new round of six country projects on trade liberalisation and environment in Argentina, China, Ecuador, Nigeria, Senegal and Tanzania scheduled to reach completion in early 2002.

International coordination and cooperation must be strengthened to support efforts to enhance countries' capacities to deal with trade-environment-development related issues. In this light, in 1999 UNEP and the WTO Secretariats agreed on a framework of cooperation which builds on the on-going work and emphasises the importance of

continued collaboration between the two organisations. Additionally, country demand for, and participation in, jointly supported UNCTAD-UNEP activities on trade, environment and development has been strong, and many countries have expressed their interest in seeing such activities broadened in scope and expanded to reach a wider range of beneficiaries. In response, UNEP and UNCTAD have initiated a joint task force to strengthen the capacities of countries, particularly developing countries and countries with economies in transition, to address trade-environment-development issues at the national level and to participate effectively in trade-environment-development deliberations at the international level.

The UNEP-UNCTAD Capacity Building Task Force on Trade, Environment and Development (CBTF) is conceived to combine the unique strengths of UNEP to build capacities on environmental aspects of trade, and of UNCTAD to build capacities on the development aspects of trade. By enhancing synergies between UNEP and UNCTAD, and drawing on the two organisations' technical expertise and comparative advantages, the CBTF will more efficiently make resources available to a wider range of beneficiaries. The latter include the Least Developed Countries (LDCs) for which a special CBTF programme has been developed centred on providing coordinated support to LDCs to enable them to develop and implement national strategies for sustainable development by integrating environmental concerns in national trade and development policies.

CBTF activities seek to complement each other, and taken together they make up a holistic and fully integrated package focused on achieving capacity building objectives. Thematic research and country projects, through a self-initiated learning by doing process, directly enhance the capacities of practitioners to assess and manage real problems in recipient countries. Training raises awareness and broadens the information base on critical trade, environment and development issues. Policy dialogue and networking reinforce the learning process by allowing CBTF beneficiaries to exchange ideas, experiences and perspectives and to develop partnerships through which expertise is shared and transferred. CBTF activities will also contribute to increase the number of centres of excellence on analysing trade, environment and development issues in developing countries and countries with economies in transition. Additionally, through the CBTF initiative, collaboration will be enhanced with the WTO and other relevant international and non-governmental organisations.

6. Conclusion

Globalisation has positive as well as negative impacts on economic, environmental and social systems. The challenge is to manage globalisation in a way that captures its benefits, while minimising its negative impacts. In order to meet this challenge and to promote the use of SIAT to achieve sustainable development objectives, several developments are essential. A practical and flexible framework methodology for SIAT, which can be adapted to national requirements, needs to be designed through a transparent and participatory approach. Awareness raising of the need to undertake integrated assessment at the national and international levels should be enhanced to encourage a greater commitment from governments to assist in the development of a framework for SIAT and eventually institutionalise its use and application. At the national level, the capacities of governments, national research institutions, industry, the private sector and NGOs need to be further strengthened to address trade-

environment issues. Moreover, it should be emphasised that the assessment of trade liberalisation policies and the development of policy response packages to promote sustainable development should be undertaken by a multidisciplinary team of experts from relevant government departments, national research institutions, private sector, academia and industry. At the international level, to assist with the development and application of SIAT, there is a need for improved international cooperation and technical assistance in this field, including the exchange and dissemination of experiences and best practice. Moreover, it needs to be stressed that the assessment of trade liberalisation policies, should be viewed as a continuous planning, review and evaluation process in order to ensure long-term sustainability.

SIAT, once properly designed and applied, should be regarded not only as a tool to identify the negative impacts of policies, but more importantly as a tool to promote sustainable development. It should thus establish the relationship and linkages between globalisation and the environment as well as related social and economic implications. Through a clarification of these relationships, SIAT can provide an appreciation of the trade-offs involved in policy-making, and can thus help identify those policy options which can enhance the positive, and avoid the negative, impacts of trade liberalisation in order to maximise the net development gains of trade and trade liberalisation. As a tool that integrates environmental, social and economic aspects of national development planning and policy-making, SIAT should provide a platform for greater interaction and coordination at the national level between relevant government institutions. Furthermore, it should assist governments in supporting national development priorities and propose local solutions to development challenges by indigenous expertise and local communities.

In meeting the environmental and developmental challenges of globalisation, there is a need for greater international commitment to translate the sustainable development principles and recommendations agreed upon by the international community into concrete policies and actions. Although there is no lack of knowledge and tools to accomplish this, there is a need to encourage greater adoption and use of these tools, particularly integrated environmental assessment tools, which can provide the basis for sound policy development and implementation. Strategic integrated assessments should be adopted and used globally for the development and formulation of international agreements and programmes, including multilateral trade agreements, multilateral environmental agreements as well as aid policies and programmes, investment, and macroeconomic programmes including structural adjustment and debt relief. The development and application of integrated assessment can only be achieved through the concerted effort of the international community motivated by a genuine will to shift to a new development paradigm which realises the objectives of sustainable development.

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