

Draft

**TRADE AND ENVIRONMENT:
SELECTED ISSUES OF CONCERN FOR AFRICA**

**Report prepared for the
United Nations Economic Commission for Africa**

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ABBREVIATIONS

ACP	Africa Caribbean and Pacific countries (also known as Lome Convention countries)
CBD	Convention on Bio-Diversity
CBI	Netherlands Export Promotion project
CDM	Clean Development Mechanism
CFCs	Chlorofluorocarbons
CITES	Convention for the International Trade in Endangered Species
CTE	Council for Trade and Environment (of the WTO)
DDA	Doha Development Agenda (see DWP)
DSB	Dispute Settlement Body
DWP	Doha Work Programme (see DDA)
EC	European Community
EGS	Environmental Goods And Services
EPOPA	Export Promotion of Organic Products from Africa
EU	European Union and for purposes of WTO refers to the European Economic Community
GATT	General Agreement On Tariffs And Trade
GMOs	Genetically Modified Organisms
HBFCs	Hydrobromofluorocarbons
HCFCs	Hydrochlorofluorocarbons
IMF	International Monetary Fund
IPRs	Intellectual Property Rights
ISO	International Standards Organisation
JAL	Japan Organics Standards Body
LDCs	Least Developed Countries
MEA's	Multilateral Environmental Agreements
NGO's	Non Governmental Organisations
NTBs	Non Tariff Barriers
ODS	Ozone Depleting Substances
OECD	Organisation For Economic Cooperation And Development
PCBs	Polychlorinated Biphenyls
PIC	Prior Informed Consent
PPMs	Production Process Methods
POPs	Persistent Organic Pollutants
SA	South Africa
S&D	Special and Differential Treatment
SDT	Special and Differential Treatment
SHC	Second Hand Clothing
SIDA	Swedish International Development Agency
SPS	Sanitary and Phyto Sanitary measures
TBT	Technical Barriers to Trade
TRIPs	Trade Related Intellectual Property Rights agreement of the WTO
UEPB	Uganda Export Promotion Board
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme

UN-ECA United Nations Economic Commission For Africa
UNEP United Nations Environmental Programme
US United State of America
WAEMU West African Monetary Union
WB World Bank
WTO World Trade Organisation
ZAR South African Rands

EXECUTIVE SUMMARY

The concept of sustainable development has helped bridge the divide between the objectives of environmental protection and promotion of economic development. The work of the series of major United Nations sponsored conferences of the 1990s dealing with issues such as environment, habitat, water and population has given sustenance to the idea that policies to protect the environment need not be in conflict or indeed be separated from the pursuit of trade and development policies and that far from being a North-South issue, the trade-environment interface should be a shared goal that warrants international cooperation.

But, in the meantime, tensions between trade, development and environment objectives continue to manifest at the level of traders, producers and consumers and pose serious challenges for policy makers. This is nowhere more evident than with respect to the many differences that now bedevil international trade agreements, notably those stemming from the Uruguay Round and the WTO on the one hand, and those deriving from the multilateral environmental agreements (MEAs) with trade provisions and implications on the other.

Integration of environmental policies with trade and development objectives has not been straightforward: absence of analytical tools, lack of hard data and information and relative novelty of the policy challenges has made it difficult to operationalise the concept of sustainable development. But it cannot be denied that extensive research and analysis at the interface of development and environment has helped clarify some basic principles and goals of environmental management and regulation. A good example of the progress in developing analytical tools and methodologies has been the gradual spread and acceptance, at the policy formulation phase, of the tools of Environment Impact Assessment. This is a rapidly evolving area in which agencies such as UN-ECA continue to make important contribution. Likewise, the work and tools developed by UNEP (in the area of environmental planning) and UNCTAD (in identifying and promoting eco-friendly exports) are also helping broaden the knowledge base to help integrate environment, trade and development policies.

The linkages between international trade and environment protection policies can be reduced to three main factors: first, to the extent that international trade affects pattern of production and consumption and to the extent that they impact the environment, international trade will inevitably affect the environment. Second, production and consumption in one country can affect the environment in other country/countries as, for example, in the case of cross-border spread of acid rain. Third and related to these considerations is the fact that international trade policies can be used to affect environmental outcomes and consequences, as is the case with respect to, for example, a variety WTO Agreements.

Looking ahead, as population continues to grow and as a more economies join the ranks of industrialized countries, the demand for natural resources will rise, as consumption levels outpace population and income growth. Although global population growth has been declining since the 1970s, the total number of people

added to the world population (a smaller percentage of a larger total) will average over 60 million per year for several decades. Much of this growth –estimated at close to 95 per cent-- will occur in developing countries. This fact alone suggests that developing countries, no less than others, have a major stake in defining the direction of the policies to be pursued. The fact that they are major producers of many of the critical non-renewable resources further underscores the importance helping define and design future trade and development policies.

Population growth of this scale raises many questions, but most of all about the capacity of the agricultural systems worldwide to meet the demands of a global population expected to reach 10 billion by 2030. Is it physically feasible to produce sufficient grain and other foodstuffs to provide adequate nutrition for between 9-10 billion people over the next two decades? Is there adequate land suitable for agricultural and food production? If, as is likely to be the case, increased food production will require intensification of production, what will be the ensuing claims on water, fertilizers, pesticides and other inputs? And what will be the implications for soil erosion, chemical runoff and pesticide pollution? In addition to increased land requirement, a rising population will require more space for urban, residential and industrial development. But these needs will also result in rising claims on farmland, forests and natural ecosystems. Will the world's ecosystems have the carrying capacity to meet these claims? The pessimism implied in many of these questions must, however, be tempered by the undoubted potential and scope for more rapid development of technologies that will raise efficiency of resource use, pollution control and improved planning to integrate concerns of environment on the one hand and development on the other.

As important producers and exporters of primary commodities, a sector particularly vulnerable to the vicissitudes of changing market access rule and their application, most countries in Africa have become acutely aware and concerned with implications of the growing and increasingly powerful “green” lobbies and movements that are now driving market access policies in the developed country markets. To be sure, the drivers of such policies and measures have diverse motivations and range from consumer groups seeking “eco-friendly” or green labelling requirements to industry lobbies seeking greater protection and higher margins by shifting many of the costs of compliance with new rules to the producers. This is particularly the case as regards the requirement to shift inspection and certification at the point of entry rather than, as heretofore, at the point of departure.

Among important commodities in many African exports include the horticultural sector ranging from flowers to fruits and vegetables, fisheries and meat products. Given the strong comparative advantage that exists in these sectors (as well as other food and beverages items, notably coffee, tea, cocoa), they have the potential to yield significant increases in export earnings. The impressive growth in the last five years in these sectors, particularly to Asia, has the potential to significantly diversify the destination and markets of such exports and lessen dependence on Europe. But these sectors are also defined by declining terms of trade and diminishing returns so that, unless countries strive to add value to these exports and diversify into manufactures

and semi-manufactures, the long-term impact on employment, growth and poverty levels will at best be marginal.

Despite the successive rounds of trade liberalisation and preferential market access, African countries continue to face a plethora of non-tariff barriers, many of them invoked in support of domestic environmental considerations. Market liberalisation notwithstanding, access conditions have become more demanding as pressures from consumers and producers in the developed countries promote specific sectoral and environmental agenda via trade rules and instruments.

On the other hand, trade and investment liberalisation policies and measures adopted by African countries, either in the context of structural adjustment policies and/or implementation of Uruguay Agreement, have exerted far reaching consequences on Africa's development performance: far from unleashing market led investment and revival of growth, it has contributed in direct and indirect ways to a regression in development performance and rise in poverty levels.

It is taken as given that the process of trade and investment driven globalization and integration will intensify: the integration is taking place at a variety of levels, including through faster diffusion of technologies, through faster regional integration and through the evolution of institutions, rules and norms in support of globalisation. In parallel, the interface and complexity of investment, trade and environment measures will rise as many issues heretofore considered as being in the domestic domain become cross-border.

As predominant exporters of primary commodities, African exporters are particularly vulnerable to arbitrary application of sanitary and phyto sanitary rules; these rules, as applied, often tend to be non-transparent and in violation of the spirit of existing trade rules. Of even greater concern is the fact that Governmental established standards and regulations, which fall under the discipline of the WTO Agreement on Technical Barriers to Trade (the TBT Agreement), represent only a relatively small part of environmental requirements; private-sector standards, eco-labeling schemes and voluntary codes of practice, including those of NGOs, constitute the majority of environmental measures. These considerations have highlighted the need to effectively involve African countries in developing new regulations and standards for products of key export interest to them.

Likewise, notwithstanding the clear provisions of a number of regional and international legal instruments prohibiting cross-border shipment of hazardous wastes and related products, a nexus of corporate interests, lax domestic surveillance and screening procedures ensure that trade in such goods continues at a brisk pace. Much can and should be done at domestic levels to address these concerns, including sharing of information and data with neighboring countries; international cooperation and interventions at source can also help mitigate the dangers associated with this phenomenon.

Many countries in Africa are grappling with challenges posed by the widespread dumping of sub-standard products and services; equally, the prevalence of second-hand and re-tooled machinery, including of transport goods, raises many complex

policy choices and decisions. Each country has to learn to strike the right balance between consumer preferences and choices on the one hand and longer-term implications for developing domestic capacity in consumer goods sector on the other. These considerations further suggest the strong need of regional trade and industrial policies.

As a result of the rise in demand for organically grown agricultural products, many countries in Africa are attempting to increase the share of such items in their exports. Price premiums can be important incentives for farmers to shift to organic production; however, on account of the onerous certification, labelling, packaging and similar costs the margin of premium is often insufficient to render organic production profitable. It is likely that organically grown exports will acquire greater importance and weight in Africa's exports; however, their role and potential should not be exaggerated as they are unlikely to supplant traditional items in the foreseeable future.

The transfer of genetically modified goods, including when delivered as food aid, raises particularly complex challenges for African countries: the invoking of precautionary principle has not always been welcomed or supported by some Governments and commercial interests. This issue warrants to be addressed in a regional context, although differing perceptions about the value and risks associated with such products has rendered the pursuit of regional solutions more difficult.

The steady rise of multilateral environment agreements (MEAs) with trade provisions has rendered even more difficult the challenge of making them consistent with multilateral trading rules. As interested parties, African Governments will need to play a more pro-active role in rule and norm setting; absence of their active involvement in this area will have long-term consequences for exports and for managing trade of hazardous substances and products.

In implementing and complying with the new trading rules, developing countries have stressed the need for adequate technical assistance and capacity building support. The results of the country studies commissioned by UN-ECA have helped identify many of the common and shared needs in this area. A variety of international commitments and understandings, such as those outlined in the Doha Work Programme, have stressed the need and the desirability of expanding capacity building support in the areas of trade, environment and sustainable development. The support provided through mechanisms and institutions such as JITAP, Integrated Framework and regional commissions of the United Nations has been important, it is clear that the quantum of such support falls well below the needs identified by the recipients. While every effort must be made to encourage the international community to intensify its efforts and broaden them under initiatives such as Aid for Trade, the likelihood of a significant turn around in the provision of such support remains small, at best.

In the face of such an eventuality, African countries will have to intensify efforts to develop such capacities domestically and in close collaboration with like-minded countries in the region. These efforts, ideally in the context of regional bodies and institutions such as UN-ECA (and the associated African Centre for Trade Policy and

the Africa Knowledge Networks Forum) can help chart new approaches to enhance capacity building.

SECTION 1:

INTRODUCTION

In collaboration with other United Nations Regional Commissions and the United Nations Environment Programme (UNEP), the United Nations Economic Commission for Africa (UN-ECA) has initiated a programme of work designed to “to enhance the capacity of member States to formulate coherent trade and environment policies that address issues related to environment in an effective manner, thereby increasing market access for their products in developed country markets, while enhancing environmental sustainability and promoting sustainable development.” The present study has been prepared at the request of UN-ECA secretariat and responds to the above objectives.

In addressing the challenges of designing “holistic and coherent trade and environment policies that promote sustainable development and poverty reduction”, the Report takes as given the existence of significant country and regional variations in trade, environment and development conditions. The diversity ranges from differences in production and trade structures to variations in climate, geography and endowment of natural and human resources. Then again, individual countries capacity to analyze and design policies supportive of sustainable development varies significantly as do national capacities to absorb and utilize capacity building support.

These variations notwithstanding, there can be little doubt about the existence of many shared challenges in trade and environment nexus, a relatively new and rapidly evolving area of international policy and jurisprudence. The challenges derive, at the most basic level, from the need to reconcile trade and investment objectives with those of protecting the environment; they also derive from the need to conform to a wide range of environment related market access rules and conditions. As the reach of multilateral environment agreements (MEAs) grows, the scope for designing national sustainable development policies is likely to be circumscribed even further; in this context, countries better prepared to deal with the evolving rules and norms and able to contribute to the process of rule-making will be better able to cope with the on-going and newer challenges that will inevitably arise in this field.

The analysis and conclusions of this report are based on desk research supplemented by several country reports on trade and environment commissioned by UN-ECA. The many gaps in the availability of reliable data on trade and environment linkages and limited research results at the sector, country and regional levels has perforce necessitated much greater reliance on secondary sources and evidence to arrive at conclusions. Available sector and country evidence—ranging from tourism and services to mining and horticulture—has been an important source of information and data; likewise, additional research and analysis is now becoming available on issues such as implications of trade liberalisation on development, poverty and the environment.

Against this background, this report is organized as follows: Section 2 presents an outline of current thinking and concepts that drives the trade-environment-development debate. The section draws attention to the complex nature of inter-relations among and between these variables and notes the existence of tight and complex links between these variables and the rise of poverty levels in Africa. Considerable body of evidence suggests that premature and poorly designed trade and investment liberalisation may have worsened poverty levels, accentuated income disparities within and among countries and affected national capacities to chart a development path that is sustainable. The Section examines the performance of the commodity sector in Africa and concludes that among the important explanatory factors in the rise of poverty levels in Africa is the phenomenon of diminishing returns that defines the commodities sector. Related to this phenomenon have been the dramatic declines in the purchasing power of exports and worsening trade balances.

Section 3 examines the rise of a multiplicity of environmental standards and requirements in developed countries that have a bearing on Africa's trade performance: the section goes on to assesses key sectors and areas where African countries could make inroads in foreign markets and lessons from experiences of countries in promoting non-traditional and eco-friendly products. But, given the nature of commodity economy, it is important to stress that diversification into other commodities is a short-term solution: in the longer term, countries cannot escape from the cycle of debt and commodities dependence without value and knowledge addition to output.

Section 4 examines the possibilities of raising exports of non-traditional items and those termed 'green exports' from Africa and notes that while the potential is sizeable and some countries are making important inroads in this market, it is also noted that for the longer term, Africa must add value to its exports, both traditional and non-traditional. In this effort, international trade rules and their reform remains an important goal and must be pursued with vigor in all multilateral trade negotiations.

Section 5 discusses the phenomenon of trade in second hand goods and in hazardous products: the existence of a number of international conventions governing this phenomenon notwithstanding trade in hazardous products continues unabated. Although international trade rules provide considerable latitude to African countries to take a variety of measures to contain the dangers posed by this phenomenon, there is a wide degree of tolerance in enforcing rules. To be sure, lack of hard data in this field makes it difficult to monitor the trade. Lack of facilities in identifying, monitoring and measuring environmental hazards means that they are inevitably underestimated or even ignored. The resulting traffic in risk and hazards is often the result of corporate strategic planning whereby firms seek low cost environment with low monitoring and surveillance. They are also of high interest for developed country Governments seeking to externalize industrial risks by moving hazardous products and related wastes outside their own borders. At the same time, WTO's drives towards freeing trade from as much restraint as possible does not augur well for the future resolution of this problem.

Section 6 addresses the issue of capacity needs and notes the considerable gap between international commitments to raise such support and its delivery and provision. In implementing and complying with the new trading rules, developing countries have stressed the need for adequate technical assistance and capacity building support. The results of the country studies commissioned by UN-ECA have helped identify many of the common and shared needs in this area.

The international community has acknowledged the need for such support and has established a number of programmes such as the Integrated Framework or JITAP that focus on Africa and/or the least developed countries. A common and justifiable refrain in the provision of such support has been its adequacy. At the same time, others have questioned the quality and effectiveness of the support provided and its discretionary character. In view of its importance, developing countries in the context of the Doha negotiations have proposed that capacity building support, to be meaningful, be bound and made more assured as part of the final outcome of the negotiations. It argues that there is considerable scope for using local knowledge, institutions and resources for strengthening capacities; likewise, regional and sub-regional cooperation is likely to provide important new sources of learning and knowledge sharing to strengthen capacities.

Finally, in the concluding section, broad guidelines and policy recommendations are put forward to address the impact of the emerging regimes of multilateral disciplines in the areas of trade and environment; it is considered vital that African countries play a pro-active role in shaping the new rules and regulations that are emerging in this area.

SECTION 2:

CONCEPTUAL FRAMEWORK: GLOBAL AND REGIONAL CONTEXT

Introduction

Linkages and inter-relationships between environment, economic growth, trade and levels of poverty are complex: causality and feedbacks are difficult to ascertain and establish in a heterodox universe consisting of many sectors, countries and techniques of production. While recent advances in theories and theoretical models have helped to better define and understand the complexities and, the advances so far are far from being able to help policy makers take informed decisions (Nordstrom and Vaughn). In addition, absence of relevant data on in both developed and developed countries further limit the ability of models to provide credible answers. 1

Notwithstanding these difficulties, the need to better understand the implications of growth and trade on environment has become urgent as a growing number of countries are undertaking liberalisation measures. At the same time, rules and norms governing the trade/environment relationship are growing in frequency and complexity and warrant pro-active involvement by African policy-makers if they are to implement them effectively and influence their content.

The fact that consequences of liberalisation policies have been, in many cases, almost exactly opposite of those advocated adds urgency to a better understanding of the linkages between development performance, environment and levels of poverty. Taking into account the fact that natural resources dominate Africa's development and trade performance, a better understanding of forces that drive Africa's trade and development prospects necessarily requires an understanding of the nature of the commodity economy and its functioning in order to assess its impact on the environment.

Environment and demand for natural resources:

Concern among public, policy makers and the wider international community about environment and its interrelationship with economic growth, international trade and demand for natural resources is a relatively recent phenomenon: the conclusions of the 1972 Limits to Growth report², stressing the finite character of the supply of many natural resources such as minerals and fossil fuels, contributed to trigger a wider, more balanced (and less pessimistic) analysis about the nature of the interrelationships between the eco-systems, growth and development. (Meadows, 1972).

These interrelationships can be highlighted, at least implicitly, by looking at broad trends in some selected variables:

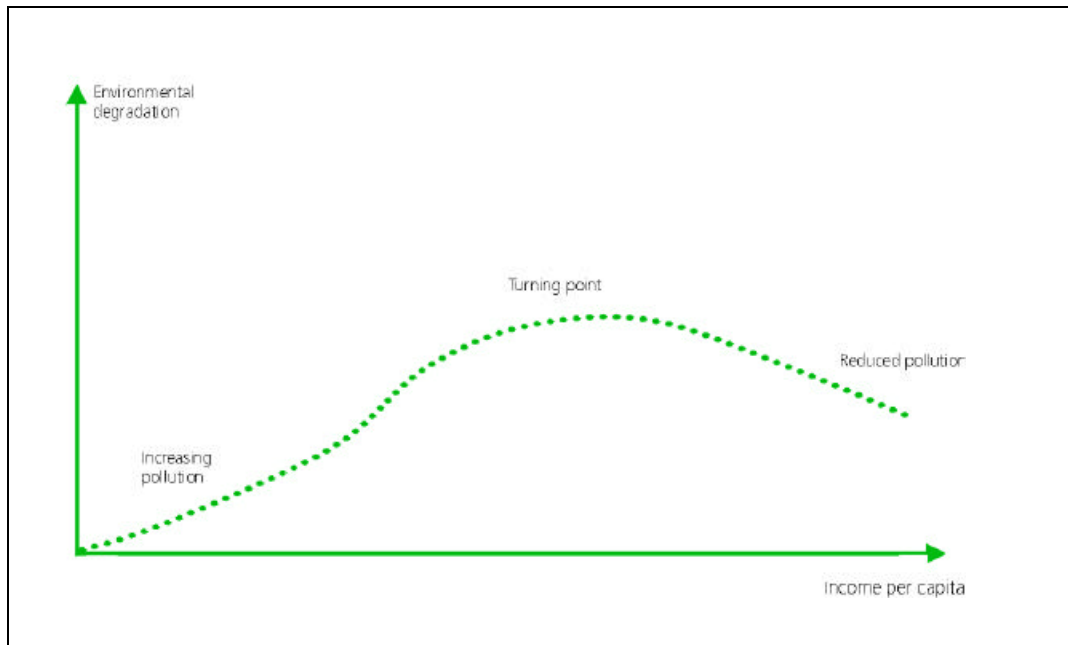
- Between 1950 and 2000, world population more than doubled (from 2.5 billion to over 6.0 billion); agricultural production tripled; GDP increased six-fold; average incomes rose by a factor of two and a half and consumption levels nearly three fold.
- In parallel and as a result of closer integration of the world economy through reduction in trade barriers, capital mobility and internationalization of production, international trade grew 14-fold.
- Not surprisingly, this volume of growth has resulted in an exponential rise in demand for renewable and non-renewable natural resources such as fossil fuels, land, water, minerals, fisheries and forestry products.³
- The acceleration in demand for resources has led to environmental degradation, accelerated desertification and losses in bio-diversity, increased emission of a wide range of pollutants and a marked depletion of the ozone layer.

Looking ahead, as population continues to grow and as a growing number of developing countries join the ranks of industrialized countries, the demand for natural resources will rise, as consumption levels continue to outpace income growth. Although global population growth has been declining since the 1970s, the total number of people added to the world population (a smaller percentage of a larger total) will average over 60 million per year for several decades. Much of this growth – estimated at close to 95 per cent-- will occur in developing countries. They therefore have a major responsibility in influencing and designing rules, norms and policies that affect their pattern of trade, development and levels of poverty.

Relationship between environment and economic growth

The relationship between growth and environment, according to the hypothesis advanced by Kuznets⁴, possesses the characteristic of an inverted U-shaped curve: that is, in the early stages of economic development, growth is likely to be accompanied by increasing levels of environmental degradation. This process is hypothesized to moderate at middle-income levels and decline as economies grow and become more affluent. In the latter phase, it is suggested that since developed societies place a higher premium on clean air, water and quality of life features, the quality of environment improves.

This conclusion is intuitively appealing since it suggests that demand for key environmental goods and services such as clean air and water tends to be income elastic. Micro economic studies cited by Nordstrom and Vaughn confirm this relationship. Their review of evidence suggests that the Environmental Kuznets Curve (EKC) is likely to be more valid for local pollutants, primarily air and water: as polluting agents become global and trans-border in nature, the EKC relationship appears to breakdown. More generally, as economies shift from primarily agrarian to semi-manufactures, industrial and then predominantly services and post-industrial economies, the profile and scale of pollution intensity changes and closely mirrors levels of development and incomes.



A general conclusion deriving from the hypothesis is that access to newer abatement technologies may facilitate the transition of low income countries to higher environmental standards at relatively lower income levels than was the case for presently advanced economies who did not have the benefits of newer technologies.

If the relationship between growth, stages of development and quality of environment are as suggested by EKC, what lessons and conclusion can be drawn, first for trade and second for level of poverty eradication in Africa?

Environment, liberalization and the commodity sector:

The linkages between international trade and environment protection policies can be reduced to three main factors: first, to the extent that international trade affects pattern of production and consumption and to the extent that they impact the environment, international trade will inevitably affect the environment. Second, production and consumption in one country can affect the environment in other country/countries as, for example, in the case of cross-border spread of acid rain. Third and related to these considerations is the fact that international trade policies can be used to affect environmental outcomes and consequences, as is the case with respect to, for example, a variety WTO Agreements, such SPS.

Concern about the effectiveness of trade and investment liberalization measures adopted in Africa over the past two decades arises from the fact that the consequences of liberalisation have been almost exactly opposite of those predicted by economic theory and proponents of liberalization. The conventional view holds that liberalisation, by giving greater rein to the market forces in setting prices and

allocating resources more efficiently would set the basis, by providing incentives to save, invest and take risks, for a faster rate of economic growth. Correcting policy-induced overvaluation of exchange rates, for example, would result in incentives to expand exports, attract investments in tradable sectors and contain import growth. In reality, as several studies have now shown, much of the experience with liberalisation has been disappointing at best, and in many cases has resulted in worsened macro economic performance, environmental degradation and increases in poverty levels.

A recent study (Christian Aid, 2005) uses econometric modeling techniques to address the counterfactual: what would have been sub-Saharan Africa's trade performance in the absence of liberalisation. Establishing the base year from when each of the samples of 32 sub-Saharan countries began the process of liberalisation, the study examined the impact of import and export liberalisation and the consequences of this for national income. The study confirms the results of several other research findings that liberalization of trade regimes result in faster than expected growth in imports, particularly of food and consumer items. At the same time, exports generally fail to respond given the long gestation period between investment and export expansion. Together with other well documented supply-side constraints (such as, for example, poor transport and storage infrastructure) trade liberalisation results in a deterioration of trade balances. In the absence of new net borrowing to finance the worsening deficits, most economies are forced to adjust via contraction of output. UNCTAD studies cited by the ChristianAid study confirm that post-liberalisation, imports of food rise as a share of total imports while the share of critical inputs such as machinery and capital goods decline as a share of total imports. In the few cases that exports increased, evidence shows that the expansion was in volumes of traditional exports rather than manufactures or higher value added agricultural products. The impact of liberalisation is particularly severe on farmers: while cheaper (and usually subsidized) imports affect their livelihood directly, losses in manufacturing employment mean there are fewer alternative employment opportunities.

Commodity economy, diminishing returns and immiserising growth

Diminishing returns characterize many activities in which most African countries have a resource-based comparative advantage: areas such as mining, agricultural commodity production, animal husbandry and fisheries exhibit a tendency to diminishing returns, at least in the short to medium term⁵. In these economies, an increase in output after a certain point is no longer available at the earlier price, quality and or quantity. As specialization in the resource based activity deepens, the economy soon finds itself locked in a pattern of production that yields less and less output per a given level of input. At the same time, the more the economy produces of the resource-based product (at declining relative prices, it has to produce more and more to yield the same value) the poorer it gets (in consequence of decline in real wages and employment). Resort to increasingly marginal and inferior quality of inputs (land, for example or open and/or intensive mining) add further pressures on the environment. As Reinart describes the phenomenon, this is a “ double trap of resource

based nations: poverty and economic degradation increase hand in hand as the country continues to specialize according to its comparative advantage in international trade.” (Reinart, 1996).

Economies whose comparative advantage has led them to specialize in natural resources or what are effectively diminishing return activities, are unable to offset through technological innovation, the diminishing returns in resource based activities. This is because productivity enhancing technologies in the agricultural sector exhibits fundamentally different characteristics than manufacturing or industrial sectors. In agriculture, improved technology usually results in price and wage declines, and in reduced levels of employment (as a result of substitution of labor for capital intensive inputs). It also increases the pressures on natural resources by making possible exploitation of marginal resources: according to Reinart, new equipment makes it possible to catch “the last fish in the ocean”. Yet another feature that distinguishes technical progress in agriculture is that, unlike the services or manufacturing sectors, there are fewer spillover effects for the rest of the economy from knowledge created in resource based sector.

An examination of the share of agriculture in national income in much of Africa suggests that while it has been declining (although at a lower rate than in other developing regions), the share of population subsisting on agriculture has fallen even less, resulting in widespread distress in the rural and agricultural economy, only partly alleviated by urban migration. The resulting downward pressures on wages and employment leads in turn to more pressures on natural resources through rural poverty, urban migration and exploitation of marginal land, water resources and habitat.

Commodities, terms of trade and immiserising growth

The phenomenon of downward trend in the movement of relative prices of primary commodities vis-à-vis manufactures since the end of World War II has been relatively well established. Between 1997 and 2001, the UNCTAD combined price index of all commodities in US dollars fell by 53 per cent in real terms (deflated by the unit value index of manufactured goods exported by the developed market economy countries). That is, commodities lost more than half of their purchasing power in terms of manufactured goods: African commodity exporters would have had to double their export volumes in 2001 to maintain their foreign exchange income at 1997 levels. This pattern of exports growth-- increasing volume growth to sustain the same level of incomes--is characteristic of immiserising growth, a pattern whereby growing output can, in theory, lead to lower incomes and rising poverty.

World Bank estimates cited by UNCTAD suggest that the cumulative losses resulting from adverse terms of trade over a period of almost three decades (1970–1997) for African non-oil-exporting countries (excluding South Africa) amounted to 119 per cent of the combined GDP of these countries in 1997, 51 per cent of cumulative net resource flows, and 68 per cent of net resource transfers to the region. Research carried out by the UNCTAD secretariat also indicates that if sub-Sahara

Africa's terms of trade had remained at 1980 levels, the share of the subcontinent in world exports would have been double its current level.

Also, coffee- and sugar producing countries (in the case of the latter, those exporting to the free market) would have earned an additional \$19 billion and \$1.4 billion respectively, and West African cotton-producing countries an additional \$1 billion, if prices for these three products during 1999–2002 had remained at 1998 levels (when they were historically average). But for the decline in the terms of trade and associated losses for non-oil-exporting countries, the investment ratio would have been up by 6 percentage points a year, income growth by an additional 1.4 per cent a year, and the current level of per capita income would have been as much as 50 per cent higher.

Commodity price trends and attendant consequences on export incomes, public revenues, employment, and external debt have collectively been the major sources of the rise in poverty levels throughout much of the developing world, but most notably in Africa given its overwhelming dependence on commodities as a source of incomes and GDP growth.

Over the past two decades, growth in income in sub-Saharan Africa (SSA) has barely kept pace with population growth. After attaining a moderate increase in per capita income during the 1970s, growth in the region remained below 2.5 per cent per annum in both the 1980s (2.1 per cent) and the 1990s (2.4 per cent). Despite a recovery after the mid-1990s, per capita income in SA at the turn of the millennium was 10 per cent below the level reached 20 years earlier. Furthermore longer-term growth projections are well below the levels required to meet poverty alleviation targets.

Slow and erratic growth in SSA has also been accompanied by regressive changes in income distribution. On the one hand, the poorest segments of the population have experienced steeper declines in their per capita incomes than the economy as a whole: the decline in average per capita income for the poorest 20 per cent of the SSA population is estimated to have been twice that of the population as a whole between 1980 and 1995. On the other hand, in some African countries there has been a process of “equalizing downwards” across much of the personal income distribution as real wages have fallen and the rural-urban gap, measured in terms of the ratio of wage earners' incomes to incomes of farmers on small holdings, has disappeared, pushing a large number of urban workers below the poverty line. As discussed in some detail in previous reports of the UNCTAD secretariat, adjustment policies, including trade and financial liberalization, privatization and retrenchment of the public sector, have played a significant role in the hollowing out of the middle class that has become a prominent feature of income distribution in many developing countries.

Towards sustainable development

Differences in views about the development and environment conundrum appear to have been narrowed, if not resolved, by the international community's embrace of the notion of sustainable development. (See Box 1) The work of the series of major United Nations sponsored conferences of the 1990s dealing with issues such as environment, habitat, water and population appear to have given further succor to the idea that issues of environmental protection cannot be meaningfully separated from those of trade and development and that far from being a North-South issue, the trade-environment interface warrants international cooperation and support. In most policy circles, it is no longer considered as self-evident that environmental considerations should take precedence over development objectives or vice versa. As a result, the issue of trade and environment is no longer viewed in terms of trade-offs between future growth and security against present risk.

However, even as the concept of sustainable development has now entered the lexicon of mainstream development discourse and policy, much remains to be done to give it operational and legal content. How, for example, are policy-makers to choose between environment-sensitive and environment insensitive paths towards development?

For the concept to move from the realm of rhetoric to being operationally meaningful, national policy-makers and the international community need do much more in terms of deepening each country's capacity to understand the interface and learn to integrate environmental planning with the design of development policies. Noteworthy in this respect are efforts of bodies such as the United Nations Environment Programme (UNEP) to help design techniques and methods that provide practical support to policy-makers to integrate trade and environment policies in an organized framework. (UNEP, 2005).⁶ This approach- Integrated Assessment –helps evaluate the environmental, social and economic effects of past and future policies, and their linkages in the context of sustainable development. It provides policy makers with the information necessary to make informed decisions about the design and implementation of policies that promote sustainable development. In the context of trade-related policies, integrated assessments can help policy makers better analyze and understand the key relationships between trade, the environment, economic development, poverty and social equity.

In the meantime, the tensions between trade and environment objectives expressed at the level of producers, consumers (and exporters and importers) continue unabated. This is nowhere more evident than with respect to the many fundamental differences that now bedevil international trade agreements, notably those stemming from the Uruguay Round Agreements and the WTO on the one hand, and those deriving from the multilateral environmental agreements⁷ (MEAs) with trade provisions.

This is not surprising, considering that the theoretical and ideological premises of trade expansion and environmental protection differ so greatly. The optimal benefits of international trade, according to orthodox trade theories are secured when international trade is as free as possible. In the absence of policy restraints, the

principle of comparative advantage and international division of labour would lead to an optimal allocation of resources and maximize global output and incomes. On the other hand, environment and its protection necessarily require pro-active policy interventions to deal with market failures. Many environmental goods (clean air and water, public health) are in the nature of public or quasi-public goods: in the absence of markets to price them, such goods are likely to be underprovided and supplied. Adequate provision of such goods, then, is a matter of public choice and warrants public measures to fund them, through measures such as taxation. Also, whereas trade and its promotion is supported and nurtured by many interest groups and institutions, national and international, the safeguard of the environment is a relatively recent concern and few institutions and mechanisms support it.

The conflicts between trade promotion and environmental protection also lie at the centre of the debate concerning the benefits and costs of globalisation. If the creation of WTO, the built-in agenda of accelerated market liberalization and dispute settlement mechanism are seen as a step forward by the trading community, the environmentalists see these very developments as a intruding into areas that are largely matters of domestic policy choices.

Box 1.1:

A brief outline of international cooperation on trade and environment

The scope and reach of environment related agreements and instruments have grown exponentially, much of it reaching maturity in the last thirty years or so. But the experience of global environmental arrangements also suggests that negotiating agreements may be necessary to promote such cooperation but are by no means sufficient to ensure the desired outcomes. But there can be little doubt that international understanding and cooperation has progressed on many fronts: legal, institutional, analytical and scientific. Early examples of environment related measures and treaties often covered matters pertaining to wild life: one of the earliest treaties of this category was the 1911 Fur Seal Convention.

The modern era of environment related cooperation can be attributed to the UN Conference on Human Environment held in 1972: a key outcome of the Conference was the idea that environmental protection was important for social and economic development. The Conference led to the establishment of a UN agency dealing with environment. Early successes were reflected in the coming into existence of treaties dealing with acid rain, ocean dumping, and the regulation of trade in endangered species and the protection of wetlands. During the 1980s, with the establishment of the World Commission on Environment and Development, issues of environment, development and poverty became inextricably linked: it was no longer possible to compartmentalize these issues nor was it possible to assume that policies affecting environment could be meaningfully divorced from those of development. The Report of the Commission, *Our Common Future*, has contributed in large measure to the wide acceptance, at the national and international levels, of the notion of sustainable development (which the Commission defines as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs').

In further recognition of the close connections between environment, trade and development, the second UN Conference, held twenty years later in Rio de Janeiro,

addressed the linkage between environment and development more explicitly and placed clear emphasis on the needs of developing countries, particularly the least developed countries in regard to bio-diversity, climate change and desertification, areas in which there are clear North-South equity implications.

The Rio Declaration on Environment and Development, as well as its Action Plan, Agenda 21, reiterated states sovereign rights to natural resources and to development. An important outcome of the Rio Conference was the incorporation of three key ideas and concepts-- the polluter pays principle (the idea that those responsible for causing pollution should pay for it) and the precautionary principle (the idea that regulations to prevent possible environmental harm should not have to wait until there is full scientific inquiry and certainty on all aspects of the issue)—as essential tools of environmental policies. The third idea revolves around the principle of common but differentiated responsibility, namely that differences in levels of development warrant a differentiated role and responsibility for the protection of the global environment.

The very limited results of the Agenda 21 and the subsequent convening of Rio+10 in Johannesburg in 2002 suggest that many of the ideas stemming from these commitments remain largely hortatory.

Finally, with the establishment of the WTO in 1995, environmental issues, as they relate to trade, are now firmly anchored in the multilateral trading system. The objectives of the WTO, as spelled out in the preamble of the Marrakesh Agreement Establishing the World Trade Organization, now explicitly embrace the internationally recognized principle of *sustainable development*, defined by the World Commission on Environment and Development (1987)—the Brundtland Commission—as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Moreover, the institutional machinery for investigating the trade and environment interface, and making positive suggestions towards the objective of sustainable development, is now in place and embodied with the Committee on Trade and Environment (CTE).

SECTION 3:

ENVIRONMENTAL REQUIREMENTS AND STANDARDS IMPOSED BY DEVELOPED COUNTRIES AND THEIR IMPACTS ON AFRICAN COUNTRIES

As important producers and exporters of primary commodities, a sector particularly vulnerable to the vicissitudes of changing market access rule and their application, most countries in Africa have become acutely aware and concerned with implications of the growing and increasingly powerful “green” lobbies and movements that are now driving market access policies in the developed country markets. The drivers of such policies and measures have diverse motivations and range from consumer groups seeking “eco-friendly” or green labelling requirements to industry lobbies seeking greater protection and higher margins by shifting many of the costs of compliance with new rules to the producers. This is particularly the case as regards the requirement to shift inspection and certification at the point of entry rather than, as heretofore, at the point of departure.

It is also clear that, in some instances, standards and environmental considerations are used to protect domestic markets in developed countries. The advent of “environmental protectionism” is used along with a host of other measures to protect domestic markets, like strict rules of origin, escalating tariffs and other non-tariff barriers (NTBs). Yet, African countries, and in particular least developed countries (LDCs), who have enjoyed preferential market access arrangements have not been able to take full advantage of these preferences because of supply side and other constraints.

Among the key primary commodities sectors affecting a wide range of countries in Africa include the horticultural sector ranging from flowers to fruits and vegetables, fisheries and meat products. Given the strong comparative advantage that exists in these sectors (as well as other food and beverages items, notably coffee, tea, cocoa), these sectors have the potential to yield significant increases in export earnings and employment. The impressive growth in the last five years in these sectors, particularly to Asia, has the potential to significantly alter the dependence of such exports to Europe. However high degrees of dependence on a few commodities renders many African countries dependant on the externally determined prices of commodities. The volatility in commodity markets is well documented and creates serious impediments to economic development in African countries. The negative effects of this volatility has created high barriers to exit from primary commodity dependence and measures to address supply side constraints and to increase beneficiation have shown poor results.

In Kenya alone, admittedly a highly successful producer and exporter of horticultural items, export earnings have exceeded \$ 400 million by 2004 and provide employment to over 500,000 workers directly and over two million indirectly. Similarly, Uganda has emerged as a major exporter of inland fisheries products, with the sector now

contributing to over \$ 100 million in exports. But in many cases of successful exports of key African exports, the threat of non-tariff barriers in the form of Sanitary and Phytosanitary Standards (SPS) and Technical Barriers to Trade (TBT) appears to limit the amount of long term investment in the sector.

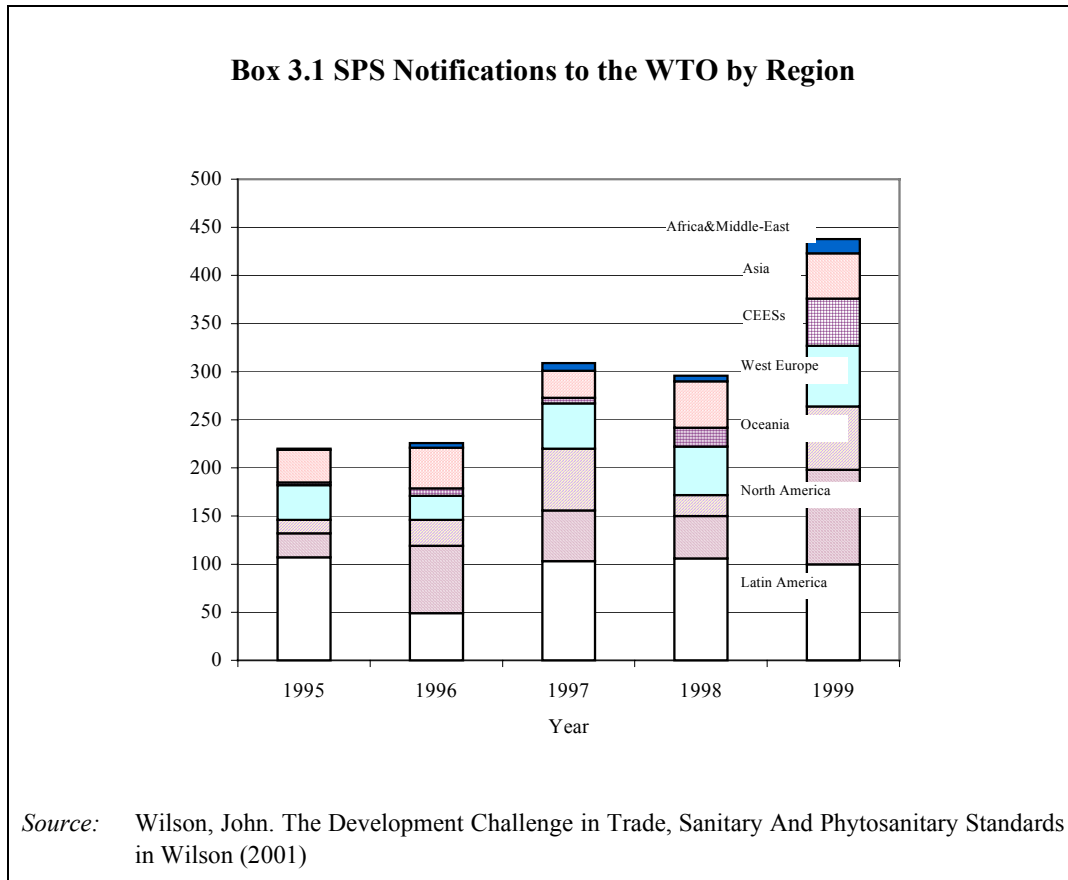
SPS and TBT measures refer to disciplines incorporated into international agreements regarding the application of standards to trade. Standards become relevant for international trade at the multilateral level, like at the WTO, or the regional level, like between African, Caribbean and Pacific Countries (ACP) with the EU. Since standards and their application to trade can be an impediment to trade, an overview of the sources of their rules is important. Standards are derived not only from international or regional trade agreements but also from supplementary sources like multilateral environmental agreements (MEAs).

Among the general problems with standards for African countries include:

- New European Union **SPS regulations**, notably as regards traceability, requirement of maximum residue limits, quality control certificates and Eurogap Certification such as requiring suppliers to supermarkets to source their produce from accredited producers and inspection at points of entry, have serious consequences for small and medium scale enterprises;
- Despite the similarities in exports, the **scope for regional pooling of resources for the purpose of standard setting and compliance is limited**: this is even true of relatively closely integrated economies such as the East African Community ;
- The **setting of standards and certification**: individual national bodies have found it difficult to meet many of the conditions on account of lack of manpower, equipment, research capacities and costs of training;
- **Costs of implementation** of control measures is high particularly in terms of hiring the requisite staff and expertise such as veterinary officers, at the points of production;
- **Lack of research laboratories, equipment and research facilities** makes it difficult to refute challenges emanating from importers and lobbies involved with enforcement of SPS regimes. It is often the case that testing facilities in national standard bodies lack modern testing facilities to meet the growing claims for analysis of residue to ensure that tested levels are met prior to exportation

It is often the case that domestic SPS and TBT are changing at short notice and even without warning: in as much as they have become moving targets, the new requirement for inspection at points of entry, for example, leaves the burden of losses to be borne entirely by the exporter unlike the previous situation when the inspection was accepted at point of departure thereby minimizing the costs (insurance, transport, disposal etc) to the exporter. It is reported that small and medium enterprises are major bearers of such “surprise costs.”

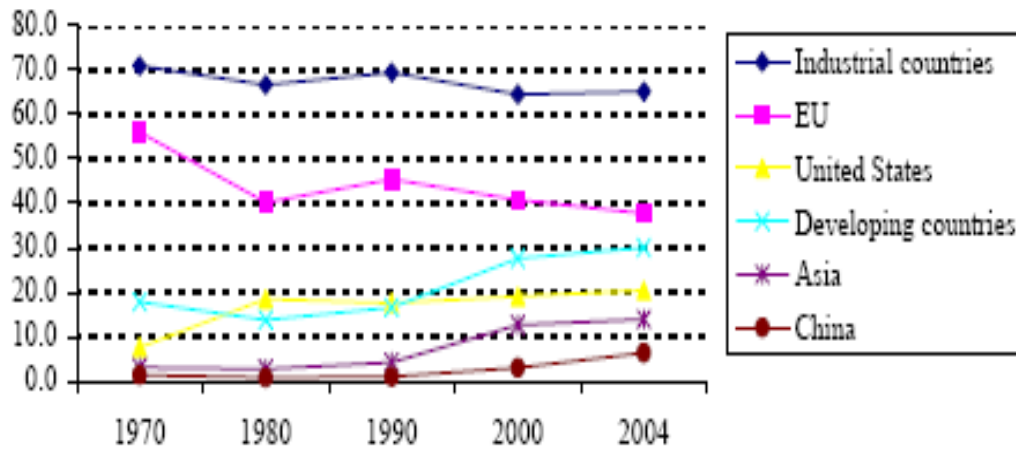
The emergence of regulatory standards has been mainly be developed countries. Notifications to the WTO have increased dramatically from 220 in 1995 to 438 in 1999.¹⁰ Since they are cumulative, the export destinations for African products (namely US and EU) create huge compliance burdens:



Industrialised country remain markets are the major destination for exports from Africa, however more recently there has been increases in the amount of trade with Asia as indicated by Box 3.2.

Box 3.2 Principle Destinations for African Exports

(Percent of total exports)



Source: Bond (2005) from IMF Regional Economic Outlook 2005

Only 1.6% of trade was interregional made up of manufactures accounting for 0.9 % and primary commodities 3.9% in 2003. This represents a decline from 2002 of total trade of 1.9% but still higher than 2002 where total merchandise trade stood at 1.2%. Africa is still largely depend on raw food exports (UNCTAD 2005).

The composition of African exports is mainly of primary commodities and oil (and related exports) constitutes the bulk of these. Africa's share of exports in fuels has increased to 50% recently from approximately 40% in the early 1980's. Non-Fuel primary commodities over a similar period have declined from approximately 32 % to 24%.

Outside of commodities linked to extractive industries, Africa relies heavily on agricultural products for export. While manufactured goods and oil related exports have shown an increase in recent years, Africans rely primarily on mining and agricultural goods. This makes Africans particularly vulnerable to changes in standards regimes.

Prices received for commodities have been highly volatile adding to the burden of African exporters, with significant price declines over the long term in a number of major export commodities as indicated in Box 3.3 below.

Box 3.3 Comparisons of Prices for Selected Commodity Exports 1980, 1999 and 2001

Prices of certain basic products between 1980 and 2001

Product	Unit	1980	1990	2001
Cafe (Robusta)	cents / kg	411.7	118.2	63.3
Cocoa	cents / kg	330.5	126.7	111.4
Groundnut oil	\$ / tonne	1090.1	963.7	709.2
Palm oil	\$ / tonne	740.9	289.9	297.8
Soya	\$ / tonne	376	246.8	204.2
Rice (Thai)	\$ / tonne	521.4	270.9	180.2
Sugar	cents / kg	80.17	27.67	19.9
Cotton	cents / kg	261.7	181.9	110.3
Copper	\$ / tonne	2770	2661	1645
Lead	cents / kg	115	81.1	49.6

Table by Damien Millet. Source: World Bank, 2002.

Source: Bond (2005)

Multilateral Environmental Agreements (MEA) and WTO rules

Consequences of spill over of pollution from one country to another (externalities) may be intangible (e.g. consumption of depleting and/or non-renewable resource) or tangible in terms of impact on air or water. In such circumstances, there are grounds for cooperation rather than using national trade policy instruments for enforcing disciplines and addressing costs of externalities. Standard economic theory suggests that the appropriate solution for dealing with externality¹¹ (frequently known as external effects, pullovers and neighbourhoods effects) should be at the source.

Although environmental policies may reduce the ability of enterprises to locate in countries with different standards to compete with those operating in countries with lower standards, this is precisely what the policy should aim at. If the society puts a premium on higher standards, then the logical outcome should be the contraction of affected activities. Restricting imports make no sense as it promotes domestic activity that the environment policies are attempting to limit. This is also the main reason why domestic industries seek to “level the playing” field through trade policy being clearly a way of avoiding adjustment costs of the environmental policies. More generally, if consumers prefer environmentally friendly goods, they should be expected to pay for them. The reaction of governments in developed countries have increasingly moved

from “command and control” to more incentives based approaches, nationally to promote standards.

As a result of the steady rise in MEAs, the potential for conflict between these and rules of the General Agreement on Tariffs and Trade¹² (GATT)/WTO multilateral trading system has increased. To deal with this concern, the Doha Work Programme¹³ (DWP) has mandated negotiations on “the relationship between existing WTO trade rules and specific trade obligations set out in multilateral environmental agreements (MEAs).”¹⁴ What precisely are the issues from the standpoint of Africa and how their resolution (or non-resolution) affects Africa’s trade and environmental concerns and interests?

Of more than 250 MEAs, less than 15 percent deal explicitly with trade measures under which trade provisions have been adopted in pursuance of the objectives of the relevant MEAs.¹⁵ The most important of these include Montreal Protocol, Basle, Stockholm and Rotterdam Conventions and others like and Bio-Safety Protocol of the Convention on Biological Diversity (CBD).¹⁶ In applying trade-measures in support of environmental objectives (such as those enshrined in various MEAs), a general understanding can be said to exist that such remedies should be used as a last resort: from a trade perspective they should be:

- Proportional,
- Least disruptive of trade,
- Not protectionist, and
- Supported by a large majority of the MEA in question.

Developing countries and African countries have defended their interests by ensuring that environmental standards do not “creep” into the WTO system in a way that limits their exports. While at the same time African countries have participated and acceded to many MEAs showing a real concern for the environment while dealing with the challenges of development at home. The tendency in developing countries has been to address short term economic needs and to defer the longer term environmental considerations. Systemic considerations also lock in this decision because high barriers in access to technology, markets and a lack of alternate development options preclude more sustainable options.

Which agreements take precedence is a matter not just of law but also the forum in which the matter is raised and heard. International law operates differently from domestic law and there are many poorly defined (grey) areas in its application. Competing and even sometimes conflicting agreements can still enjoy relevance and application as conflicts only need to be settled if a dispute is raised. And when a dispute is resolved, the enforcement of the outcome depends primarily on political will and the mechanisms built into the agreements. The major challenge posed by trade agreements to MEAs is that trade agreements have strong systems of dispute resolution and enforcement. MEAs, on the other hand, have differential compliance, resolution and enforcement mechanisms, rendering them somewhat less effective than

trade agreements. Strong enforcement provisions in trade agreements (like those of the WTO's Dispute Settlement Body) can often trump the weaker MEAs because the MEA lacks an (or has an inadequate) enforcement or sanctions mechanism.

The precursor to the WTO was the GATT. The GATT dispute panels made rulings on the interaction between trade agreements and MEAs that have been a cause for concern for many environmentalists. Subsequently the WTO's Dispute Settlement Body (DSB) has made rulings that have addressed some of the issues regarding trade and the environment but these do not necessarily bode well for Africa or the developing countries in general.

Contextual Factors

There are a number of contextual factors that limit the benefits of increased international environmental protection to developing countries. A major part of the problem is that as trade becomes increasingly liberalised (with the reduction in tariffs and quantitative restrictions) there are more product/process related requirements, “unwittingly or intentionally used as technical barriers to trade, complicating market access and entry for developing country exporters.”¹⁷ Further, the “ecological positioning” of products, i.e. their conformity to environmental standards, is an important factor for consumers and, increasingly businesses in the North are being required by their boards/shareholders to do business with firms that meet certain 'voluntary' environmental and quality standards...¹⁸ So while a high standard imposed by a government may be a non-tariff barrier, the stipulations by the purchaser are not and may nevertheless have a negative effect on developing countries exports. The issue of standards are being increasingly taken out of the realm of influence of developing countries. The ability to meet these producer stipulations is impeded by the scarcity of technology in developing countries.¹⁹

Developing countries have also asserted a “right to pollute” given their economic conditions and level of industrialisation and development and have resisted moves that permit restrictions on Product Process Methods (PPMs).²⁰ This position is premised on the historical pollution emissions in developed countries that occurred fostering their initial development and which continue virtually unabated today. So while issues of the environment have been included in the WTO's 2001 negotiating agenda and may form part of the “single undertaking”²¹ agreement currently negotiated, developing countries are not unmindful of the damage to the environment, they merely do not wish their industries and products to be regarded as unmarketable when they have limited capacity to comply with new environmental standards. On the other hand, some Northern governments view lower environmental standards as an indirect subsidy that allows a company to produce at market cost, or lower, but at a higher cost to the environment.²²

Interactions between trade and environmental agreements

Since the WTO is regarded as the institution with enforcement body that has “teeth” - the capacity to promote enforcement or sanctions – and many MEAs lack

enforcement power, the focus on the WTO and its predecessor the GATT is relevant. The GATT dispute panel made a number of pronouncements on trade and environment issues that raised concerns for many environmental NGOs. From its inception in 1995 the WTO constituted a Council for Trade and the Environment (CTE) in order to address this legacy.

The UNEP and the WTO conducted a survey of environmental agreements and concluded that 13% of 238 international agreements had trade related measures. Hoffman distinguishes between trade measures and trade effects. Trade measures are used to attain their objectives, whereas other elements of agreements have significant trade effects – i.e. they impact on trade.²³

The WTO's Dispute Settlement Body (DSB) has also made certain rulings in an attempt to reach a more amicable fit between trade agreements and MEAs. WTO member countries recognised the need to address the MEAs (and noted the lack of progress in the CTE) and included paragraphs 31 and 32 into the DDA to provide a mandate. The DDA environmental mandate on environment does not deal with the general relationship between trade agreements and MEAs, but notably with “specific trade obligations” (STOs) in the MEAs.

Sanitary and Phytosanitary Measures and Technical Barriers to Trade

The Technical Barriers to Trade (TBT) and the Sanitary and Phytosanitary Measures (SPS) agreement also form part of the WTO agreements. These two agreements enable countries to implement rules that limit for example the amount of pesticide residue left on agricultural products to protect human health or forbid the import of meat contaminated with infectious diseases like mad cow disease or the cotton ball worm.

TBT disciplines set out specific characteristics of a product such as size, shape, design, functions and performance, or the way it is labelled or packaged before it is put on sale. In certain cases, the way a product is produced may affect these characteristics and this makes it appropriate to draft technical regulations in terms of a product's process and production methods rather than its product characteristics per se. This definition is contained in the TBT agreement. The difference between standards and technical regulations is that conformity with standards is voluntary while technical regulations are mandatory. The implication in international trade is that failure to comply with technical regulations means the imported product will not be put on sale. In case of failure to comply with standards, the product shall be put on sale but its market share may be affected if consumers' preference is for products which meet local standards like quality or colour.

Box 3.4 explains in detail the relevant provisions of the TBT agreement and which are similar to the SPS agreement, with the major differences between these agreements being explained below.

**Box 3.4:
Scope of Application of SPS and TBT**

TBT	SPS
Technical regulations	Measures whose purpose is to protect human health and animal health from animal or plant carried diseases, animals and plants from pests or diseases
Facilitates voluntary standards, procedures to ensure compliance	Measures may or may not be technical requirements

There are similarities and differences between these two interrelated agreements:

Similarities	Differences
Non-discrimination (i.e. national treatment and most favoured nation treatment)	SPS applied only to the extent necessary to protect human, animal or plant health
Encourage use of international standards	Deviation from international standards: SPS allowed by scientific assessment of risks; TBT allowed due to technological problems or geographical factors.
Advance notification of proposed measures	

SPS and TBT requirements must be applied without discrimination. Discrimination in trade has two elements:

1. National treatment: domestic products must be treated the same way as imported products, e.g. allowable pesticide residues in local maize should be the same as imported products;
2. Most favoured nation treatment: imported products from different countries must be treated the same way, e.g. US maize must not be treated differently from Zambian maize.

On the Agreement on TBT and SPS, the DSB has held that a higher standard of protection is if there is some scientific justification for the measure. It did not endorse the view that these agreements set the maximum basis for protection. It found that members may exceed the standards, as there may not be unanimous scientific agreement on the level of risk a society may be willing to accept and that society may choose its own tolerance level to those risks.

On interpreting the degree of restriction a member may impose the DSB interpretation has evolved from a least **restrictive approach** to a **less restrictive approach**. Also a challenger to a measure has the burden of proof has to meet the high standard for success on this claim because the DSB prioritises a level of protection that is acceptable to society.²⁴

Precautionary Principle

The application of the precautionary principle on using a measure, under the WTO, still has to contend with the scientific and risk based approach to the issue. The case law provides some guidance on measures taken in the absence of clear scientific evidence to provide guidance, which where the precautionary principle is required. Measures may be taken as a precaution but a risk assessment must be undertaken, because the DSB has not stipulated risk management standards, i.e. a threshold level for risk before measures may be taken.²⁵ However the DSB, “set out a rigorous set of conditions for use of temporary measures in the absence of full scientific certainty – effectively defining and limiting the use of one key embodiment of the [precautionary principle] in the SPS agreement.”²⁶

The DSB has not ruled whether the precautionary principle is part of customary international law or not. This means that it is unclear whether the precautionary principle can be relied upon directly. What is clear is that some scientific evidence must be utilised before a measure can be used to pre-empt or anticipate potential harm.

Production Process Methods

Production Process Methods (PPMs) refer to the way a product has been made. Since many African countries do not have access to the latest technology, they have generally resisted the inclusion of PPMs as a valid restriction on trade. Restrictions on trade based on PPMs are not allowed unless they affect the physical characteristics of the final product. Ecolabelling is one way in which the “life cycle” of a product is reflected to a purchaser or user of the product. There is considerable dispute about its legality and relevance in international trade and is explained in detail in Annex 3.2. It is the product that matters in international trade and not the production process according the US – Mexico and US – EC Tuna-Dolphin cases.²⁷ In the WTO Asbestos case between France and Canada the Appellate Body of the WTO DSB said it was possible to take physical characteristics of the product into account in deciding whether the measure was allowable or not. What is unclear is whether PPMs:

can be taken into account in the determination of likeness, or

if it is just the product characteristic themselves.²⁸

The ability to make laws and regulations has proved critical in many developed countries in developing their environmental sectors. Regulation has generally preceded the development of a comparative advantage in a particular sector of environmental services. The General Agreement on Trade in Services (GATS) while aiming to liberalise particular environmental services sectors and may make these more affordable and available domestically, may limit the scope and pace of domestic development of sector. In addition, constraining regulatory power to international standards and limiting policy flexibility may undermine the development of national solutions that are customised for very particular local requirements. Developing countries do have more flexibility in limiting the liberalisation of service sectors under the GATS and these should be used. It is also very possible to liberalise a sector to secure the benefits of increased international trade without making commitments under the GATS, which in some instances may be a more prudent course of action in the services sector.

In this domestic regulations "should not constitute unnecessary barriers to trade." The disciplines developed under this section can be used to overturn local, state or federal regulations even if there is no discrimination based on National Treatment or Most Favoured Nation."²⁹

Practically, any regulation of a country can be challenged if it breaches the requirements of this section. The "necessity test" borrowed from GATT requires a government to show first that the measure is necessary in order to achieve a WTO-sanctioned legitimate objective, and second that no less commercially restrictive alternative was possible."³⁰

Impact Of Standards On International Trade

Cost implications for the exporters

It is difficult to give a precise figure on the impact on international trade of the need to comply with different technical regulations and standards. Even recent OECD studies have stated that there is a paucity of data. The impact, however, certainly translates into high costs for producers and exporters. During the ban of Uganda's fish exports to the E.U due to the country's inability to comply with SPS requirements, the loss to fishermen on account of reduced prices and less fishing activity was estimated at US\$1.0million per month. In other cases, costs arising from the implementation and application of foreign regulations and standards which involve significant costs to producers and exporters.³¹ Technical experts may be hired and production facilities may be adjusted to meet the new requirements. The need to prove compliance by the exporting producer and the costs associated with it may discourage producers to export abroad. Technical regulations and standards could also be used to protect domestic industries if international discipline is not existent. Non-tariff Barriers (NTBs) have been an issue raised by African and other developing countries in the

WTO negotiations on Non-Agricultural Market Access. However, these negotiations have not progressed since being tabled by Kenya and other developing countries.

Loss of economies of scale is a consequence if a firm must adjust its production facilities to comply with diverse technical requirements in different markets. Production costs per unit increase and this negatively affects Small and Medium Enterprises. (SMEs). Conformity and assessment costs are to be borne by the exporters before confirmation of their compliance. Information costs like the evaluation of the impact of Foreign regulations, translating and disseminating product information also have an impact. Domestic firms when confronted by new regulations also incur surprise costs.

Barriers to trade

Standards and technical regulations are increasingly becoming inherent in international trade so much so that concern has been raised and considerable deliberation is being given to impact that standards and regulations affect on trade. It is not surprising in light of the considerable increase in costs for developing countries with export orientation growth. A recent study by the OECD aimed to ascertain what the meeting foreign standards meant for firms in the developing countries and to what extent they were affected. Drawing on the analysis of the World Bank Technical Barriers to Trade (TBT) Survey database, 619 firms in 17 developing countries from five regions were chosen. They included Eastern Europe, Latin America, Middle East, South Asia, and Sub-Saharan Africa. The 619 firms in the survey vary significantly in characteristics such as the value of sales, the size of employment, age and ownership structure. Responses to a series of questions on topics including mandatory standards, conformity assessment (testing, certification, labelling requirements) and inspection and their effect on their cost of production and ability to export were captured. Maskus, Otsuki, and Wilson (2005) estimate:

“... based on the survey data and found that standards increase firms’ short-run production cost by requiring additional labour and capital. In particular, they find that standards do increase short-run production costs by requiring additional inputs of labour and capital. A 1% increase in the initial investment to meet compliance costs in importing countries raises variable production costs by between 0.06 and 0.13 percent, a statistically significant increase. They also find that the fixed costs of compliance to standards are non-trivial; on average \$425,000 per firm. This represents about 4.7 percent of annual variable costs”

The results of this survey indicated that technical regulations could adversely affect a firms' ability to export in developing countries. Testing procedures and lengthy inspection procedures for example reduced exports by 9% and 3%, respectively. Furthermore, difference in standards across foreign countries causes diseconomies of scale for firms and affected decisions about whether to enter export markets. The evidence provided from the study implied that standards, under certain conditions, could impede an exporters' market entry, thereby reducing the likelihood of exporting

to more than three markets by 7%. Furthermore firms that outsourced components were more challenged by compliance with multiple standards.

According to the OECD Global Forum Workshop on Environmental Requirements and Market Access held in 2002, developing country participants expressed concerns that both voluntary and regulatory testing and certification programs were incapable of taking local market conditions and capacities into account, which they perceived as a barrier to export to developed country markets.

Another study conducted sought to estimate the impact of standards and technical regulations in determining firms' export performance, reflected in export propensity and market diversification. At the outset, ascertaining whether the existence of these technical requirements deter firms' overall propensity to export and the extent to which was affected was investigated. The study had estimated that testing procedures reduce export share by 9% and by 16% for foreign and domestically owned firms, respectively. In addition, testing procedures and lengthy inspection processes caused an adverse impact on agricultural firms which produce highly perishable goods. Information barriers, on average, reduce firms' propensity to export by 18%.

Developed countries as a result of fast technological changes been able to implement sophisticated inspection capacities in developed countries, thereby encouraging the use of sanitary and phytosanitary standards in an increasingly advanced and restrictive manner.

This has obviously made exports to major markets both challenging and costly for developed countries. Currently, only a limited number of studies exist that have used empirical data to estimate the effects that these kind of standards would have particularly on developing countries. This is worsened by the fact that standards need to be quantified and are flexible to market demand and supply factor.

“Unlike tariffs, change in the equilibrium price cannot be predicted unless knowing how import demand and export supply shift, which are functions of many factors such as compliance- costs and change in consumer's preference associated with improved product information and quality” (Hooker and Caswell, 1999; Maskus and Wilson).

Wilson (2001) states reports that, “the cost of compliance with obligations related to the SPS Agreement, along with those on intellectual property rights and customs valuation in the least developed countries can exceed a full year's development budget.” In addition regarding the EU's imposition of a standard higher than the international standard would reduce African exports by US\$ 670 million in contrast to regulation set at an international standard. More importantly he point out that trade diversion occurs “toward regions where regulations are less restrictive.”

Recommendations in light of Studies

Building exporters' capacity in meeting standards, especially that of firms that outsource could help firms diversify their export markets and improve the stability of their sales given the uncertainty in international markets. In addition, the facilitation of information exchange with importing countries on standards and technical

regulations could also stimulate firms' propensity to export. UNCTAD's recommendations in "African Positive Agenda" on broader level include:

3. Exports from developing countries should not be required to meet standards more stringent than international ones.
4. Technical assistance and technology transfer in SPS and TBT Agreements should be given contractual status.
5. Participation in international standards bodies should be enhanced.
6. Technical cooperation should be broad-based and include financial support.
7. Financial compensation should be given by importing countries when exports are disrupted by SPS measures.
8. A link should be established between the TBT, SPS, and TRIPS Agreements.
9. WTO members should be prevented from applying unilateral measures stricter than international standards.
10. Longer transition periods should be negotiated for S&D treatment provisions.
11. The World Bank, IMF, and WTO should achieve more effective coordination and policy coherence.

Knowledge of particular standards and the processes that are required to ensure compliance are essential to protect market access. Intelligence gathering and vigilance are required. In many instances, the application of technical regulations may differ:

- They can be regular or irregular, i.e. can occur seasonally or at particular times or they may occur on an occasional basis
- Imposition of standards may differ between source countries (in violation of the most favoured nation treatment principle)
- Treatment may not be comparable to like domestic products (violating the national treatment principle)
- May be made pursuant to disciplines that have been passed without following the requisite procedures
- May amount to inappropriate application of the regulation in question

Steps may be taken to address these challenges to sustain, promote and increase market access for African goods to foreign markets more immediately through:

12. **Conformity assessment procedures:** These include procedures which are technical such as testing, verification, inspection and certification in order to confirm that the products fulfil laid down regulations and standards. Lack of transparency and discriminatory assessment procedures can be unjustifiably used to protect local markets.
13. **Reliance on the principles of the TBT Agreement** viz. avoidance of unnecessary obstacles to trade. Technical barriers to trade generally result from the preparation, adoption and application of different technical regulations and

conformity assessment procedures. Differences in technical regulations and conformity assessments in different countries are a result of differences of taste, levels of income, geographical factors. These may be legitimate.

14. **Equivalence:** It is a complementary approach to technical harmonization. This means that Members accept that technical regulations different from their own fulfil the same policy objectives even if through different means, for example combating air pollution using different technologies.
15. **Harmonization:** This is necessary for connection and compatibility of product parts e.g. cars and other machinery. The International Standardization Organization (ISO), the International Electro technical Commission (IEC) and the International Telecommunication Union (ITU) have worked toward harmonization of standards. ISO has developed over 9600 standards. The TBT agreement encourages members to use existing standards.
16. **Special and differential Treatment:** is available to developing countries exists in the WTO Agreements. Developing country Members, should for example, not be expected to use international standards if they are experiencing difficulties in that aspect.
17. **Mutual Recognition:** This means countries would agree to accept the results of one another's conformity assessment procedures, although these might be different. Costs from multiple testing or certification of products could be reduced. The TBT Agreement strongly encourages Members to enter into negotiations with other Members for mutual acceptance of conformity assessment results.
18. **Codes of Good practice** The code is for the preparation, adoption and application of standards and lays down disciplines for standardizing bodies developing voluntary standards.
19. **Handling Requirements** Many countries have set up policies on the kind of packaging that can be used in their markets, reuse, recycling or disposal of packaging materials once they have served their purpose. These policies can increase costs for exporters, act as potential barriers to trade and result in discriminatory treatment.
20. **Accreditation** A process or procedure through which an authorized body formal recognizes a body or person as being competent to carry out specific tasks. When assessing the competence of conformity assessment bodies, accreditation agencies generally assess their competence against procedural guidelines which are set.
21. **Transparency:** a compulsory requirement of the SPS and TBT agreements can be insisted upon. Failure to follow procedures may give rise to a legitimate complaint, especially if a pattern of non-compliance can be shown.

Priority Sectors for the Regions

Annexure 3.3 below lists the “top ten” regional priority sector based on the top agriculture and agriculture related exports. While regional differences do exist to a large extent, coupled with sub regional complementarity, there are a number of sectors that are common throughout the continent.

The “top five” regional priorities common to all regions are :

22. Fish – live, fresh, frozen or chilled;
23. Coffee and coffee substitutes
24. Cotton
25. Crustaceans, molluscs
26. Fish, prepared and preserved.

Issues related to cotton have been raised by a number of countries, particularly in West Africa. Recently, Southern Africa has also been emphasising the need for improved market access in cotton, challenging subsidies paid in the developed world, making a case for improved preferences and challenging escalating tariffs. As a result of these actions, the US (the main subsidiser of its farmers) has made overtures indicating that tariff barriers on its imports will be addressed. However the main obstacle in cotton trade is not really tariff barriers but the systemic effect of subsidies have on international market prices.

Coffee and coffee substitutes (including chicory) have also been the subject of intense activism and campaigning both by African governments, African and developed country NGOs. Fair trade movements have developed and are increasingly making their presence felt with contracts and arrangements with large distributors and retailers who have undertaken to purchase coffee from producers at a fair price. However some of the major purchasers of coffee still have not acceded to these demands and greater efforts are required in this vein.

Fish, crustaceans, the other highlighted categories have been the subject of specific concern for certain African countries. Besides the export market opportunities, the sustainability of fishing catches, fisher folk livelihoods (especially in inland fishing grounds) and the protein intake of local communities need to be considered in order to ensure local and international trade benefit.

Challenges

A number of developing countries (including some African countries) have joined a proposal to have NTB's included on the WTO negotiations agenda. The proposals cover a range of diverse issues of interest to developing countries and shows that African countries are taking the initiative of utilising policy space within the WTO to advance their interests. There are four categories of NTBs that are to be addressed according to a paper by the Centre for International Environmental Law (CIEL) ³² but most relevant are category one ³³ which are “those that are covered by an existing WTO Agreement that does not have a specific separate negotiating mandate.” These

include measures taken pursuant to the TBT and SPS agreements. According to Friends of the Earth report the NAMA negotiations may also affect the following NTBs, which have been raised:³⁴

- ***Animal welfare*** Several challenges have been made concerning restrictions in place to protect animal health.
- ***Certification and labelling (including eco-labelling)*** A very wide range of certification/labelling schemes are challenged (59 challenges are listed).
- ***Chemicals (including fertilizers)*** A wide array of challenges are made to national legislation controlling the importation and standards in relation to chemicals,
- ***Energy and energy efficiency*** Many measures designed to increase energy efficiency (and decrease climate change) are challenged.
- ***Environmental goods*** The US is challenging “*unique testing and certification procedures and diverse standards and regulations*” in a range of sectors which includes environmental goods. It does not specify what it includes within this category
- ***Fish and fish products (including shrimp)*** A wide range of challenges to NTMs across the sector.
- ***Forest products (including furniture and building codes)*** Testing, certification, standards and regulations relating to forest/wood products are all challenged

Initiatives to address the Challenges

Given the recent increase in the use of Standards as a protectionist measure there are a number of initiatives under way to address the challenges of standards. UNIDO and UNEP on the other hand have numerous success stories on actual interventions to promote cleaner production and to reduce waste generation.³⁵ Many of these initiatives are at their formative stages and it is too early to assess them they are worthy of mention:

- UNIDO projects to assist countries with Hazardous waste³⁶
- UNIDO facilitation of early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs)

According to Africa–Regional Industrial Review successful interventions can be judged utilising the following table of values and objectives:³⁷

**Economic elements of sustainable industrial development
– developing financial capital**

Employment creation	Developing a skilled workforce
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Ensuring competitiveness in the global market	Maximizing natural resource productivity
Increasing foreign exchange reserves	

**Environmental elements of sustainable industrial development
– protecting natural capital**

Promoting energy and water efficiency	Minimizing waste and pollution
Maintaining biodiversity	Preventing or remedying land contamination
Addressing climate change	Promoting use of renewable resources
Maintaining air and water quality	

**Social elements of sustainable industrial development
– promoting social capital**

Poverty alleviation	Addressing historical inequalities
Provision of education and training	Protecting consumer rights and interests
Reducing crime	Empowering local communities
Access to housing and basic infrastructure	Ensuring health and safety in the workplace
Promoting culture, sports and heritage	Promoting community health
Providing equal opportunities	

SECTION 4:

POTENTIAL FOR THE ENVIRONMENT TO BE USED AS A MEANS TO INCREASE MARKET ACCESS

The lack of clear indicators for the Environmental Goods and Services (EGS) industry makes data collection and comparability difficult³⁸. Some argue that EGS are less of a sector than a conglomerate of service, goods, and technology providers. Almost half of the environmental goods which are included in the OECD definition, and which are to be used in the next 10 years do not exist. The bulk of the service industry is in fact low tech services such as house-keeping and services which also require and management skills. At the high tech level, this would involve services such as cleaner technologies, and upstream changes in products and processes and productions methods (PPM).

Overall however, the definition for EGS are different amongst countries at the WTO's CTE, so the US and Japan for example have opted for a broad definition, while Germany and Norway have opted for a narrower definition which limits it to essential pollution prevention activities and related commercial services such as engineering, research and development (R&D) and in some cases consultancy. The OECD defines the sector as follows:³⁹

Environmental goods and services industry consist of activities which produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services that reduce environmental risk and minimize pollution and resource us..

Environmental services are:

Services provided to measure, prevent, limit, minimize, or correct environmental damage to water, soil, air as well as to problems related to waste, noise and ecosystems

The OECD classification divides environmental goods into 3 main categories:

27. Pollution management
28. Cleaner technologies and products
29. Resource management goods and equipment

Environmental services are defined as:

- Waste-water operations
- Waste assessment, management, remediation, handling and facility operations
- Soil pollution assessment, control and remediation

- Air pollution assessment and control operations
- Noise assessment reduction operations
- Analytical, monitoring and related conservation protection services
- Technical engineering services
- Environmental research development
- Environmental training and education
- Consulting services
- Other environmental business services
- Eco-tourism

Alternate definitions have been provided by APEC which are compared to the OECD definition in Annex 4.1 below. UNCTAD also provides insights into the definition of the sector. Water for drinking, waste water treatment and management are regarded as the traditional environmental services. Compliance with legislation and remediation are subsequent sectors while “next generation” services are those that assist companies in pollution reduction. Environmental services for UNCTAD have four components:

- Environmental Infrastructure;
- Air Pollution Control;
- Remediation; and
- Support Services.

Environmental Goods for UNCTAD are referred to as Environmentally Preferable Products (EPPs) and define them as follows:

Products which cause significantly less environmental harm than at some stage of their life cycle process (production/processing, consumption, waste disposal) than alternative products that serve the same purpose, or products the production... of which contribute significantly to the preservation of the environment.

Definitions of EGS are complicated because the characteristics of the product are usually captured by normal trade information systems and in these definitions the purpose for which some of the goods are used is important. So a pump that may be used for normal industrial activities may also be used for an environmental purpose but this is not necessarily reflected.

However the question of definition is not merely a technical issue. The seriousness with which the discussions have been conducted indicate that what is at stake is the complete liberalisation of the EGS market. This is linked to the particular market structure of trade in EGS and developing countries need to be clear about what the implications of any of the definitions are for the local EGS markets. Chaytor 2002 is quite clear about it in her briefing paper for the OECD:

“Trade liberalisation based on a broader definition of environmental goods and services could help create incentives for firms to adapt to cleaner technologies and manage resources for pollution prevention. At the same time, a broad definition of environmental goods and services may draw some WTO members into commitments on some additionally sectors they had not readily envisaged.”

The implicit issue here is that the EGS definitional debate may open up a slippery slope for countries with surplus export supply capacity into countries that may not have even liberalised the particular EGS sector. Liberalisation of the EGS market in other words is pursued with a view to “inadvertently” promoting liberalization in these sectors.

Market Structure

Despite the uncertainty or rather ambiguity in the definition of EGS, the industry grew by over 14% between 1996 and 2000. In Developed countries, over capacity slowed annual production by 1.6% in 2000 and 2001 while the developing countries annual growth was 7-8%. Chaytor (2002)⁴⁰ on the characteristics of the industry:

- Environment industry is estimated to have grown over 14% between 1996 and 2000;
- Firms in the OECD, account for about 90% of the total market;
- The most rapid growth rates occur in developing and transition countries, where growth forecasts between 1999 and 2000 averaged between 8 and 12%;
- In 1996 the industry was estimated to be worth about US\$453 billion, by 2000 it was worth US\$518 billion;
- In the OECD, environmental expenditure is divided equally between the public and private sectors, while in developing countries, the public sector accounts for about 70% of overall environment expenditure.

Although this industry will not be as big as the steel industry or agricultural sector, it is estimated to be as economical as the pharmaceutical and information technology markets. Important sub-sectors are:⁴¹

- Solid waste management (approximately \$13billion),
- Water treatment works (approximately \$25 billion)
- Water equipment and related chemical treatment (approximately \$13 billion), and
- Air pollution equipment and waste management equipment (approximately \$11billion) and air pollution equipment and waste management equipment (approximately \$11billion)

Concentration, Export Potential and Domestic Needs

The US, EU and Japan control about 85% of the OECD market. In addition to having mature domestic markets and declining growth in their home markets, these countries also own most of the technology related to newer EGS and cleaner production methods. With analysts expecting the industry to continue to expand reaching US\$600 billion by 2010 these countries certainly have an interest in securing market access to the faster growing developing countries markets.

With about 70% of developing countries spend on EGS still in state hands, the recent increase in aid and technical assistance that promote private sector participation, privatisation, joint ventures and public private partnerships, the developed countries certainly have their eyes set on this lucrative market. What is clear however is that developed countries utilised their domestic markets and regulatory powers to encourage and foster the development of their local EGS markets. While liberalisation may increase developing countries access to cleaner technologies and less harmful environmental processes and methods, the development of increasing domestic comparative advantage in these sectors may be compromised (unless effective technology transfer arrangements are in place) as regulation historically has driven the development of domestic EGS industry.

The concentration and competitiveness in this sector is well illustrated by the average level of tariffs applicable. According to UNCTAD (in Kim 2004) the average tariffs for environmental goods on either the OECD or the APEC list for developed countries was about 1%. For the same year, developing countries maintained average tariffs of about 10% as indicated in Annexure 4.2. The indication is that competition from other quarters of the globe is not too much of an issue for developed countries. However, other trade barriers also exist, for instance compliance with domestic regulations, which would require very particular research before “appropriate technology” could enter the developed countries markets.

Chaytor (2002) is of the view that environmental legislation (a key driver of the industry) reflect standards, “based on technological developments” and that this is an important element of competition between firms in the sector. In addition Chaytor implies that the sector is becoming more geared to providing “packaged solutions” that require more capital and consequently larger firms. While acknowledging that specialist and small firms have a role to play, the issue of compliance and monitoring means implies that complex processes are more susceptible to management by larger firms. This is of itself creates huge barriers to market entry for small and formative developing countries firms both in their home and in foreign markets.

Organic Agriculture

Africa has a long history of organic farming⁴², however, these have not been taken note of until quite recently. The environment and issues of environmental sustainability offers Africa and many developing countries an opportunity to capitalise on increased environmental awareness amongst consumers and to exploit

the increasing demand for organically produced food which are also stimulated by concerns in the area of food safety and quality. Apart from being a prospective niche market the overall returns for organic products versus conventional farmers has proven to be apart from environmentally sound and sustainable, economically more profitable. However, a case study of the Indian market reports that it was not primarily the export market that generated interest in organic farming but rather that conventional methods were proving both expensive and providing decreasing long term yields.

Currently the increased demand for organic food, has grown to approximately 10 to 20% per year in several developed countries. The markets is however still relatively small with the market shares in developed countries being no more than 1 to 2% of the total demand of food products. The International Trade Centre (WTO/UNCTAD) estimates that organic markets in developed countries totalled close to US\$ 20 billion in 2000. In The US and EU, markets for organic products amounted to approximately US\$ 8.5 to 9 billion and US\$ 9 to 9.5 billion, respectively. The estimated value of the Japanese market is much smaller, and has been downgraded to a value of around US\$ 0.3 billion since the introduction of the Japanese Organic Standards (JAL)).⁴³

The urgency for developing countries, to establish mechanism to certify organic agricultural production is real and Africa should develop this if they are want this competitive advantage. What makes Africa a suitable candidate to secure this niche, is that significant shares of agricultural land are still under traditional or “alternative” production methods, and little no use of agrochemicals. This requires that some form of certification, marketing assistance is provided and very importantly certification costs can be kept low. However, in order to take advantage of niche markets for organic agricultural products, developing countries need to overcome a number of production and export constraints. Many of these constraints are common to agricultural production and trade in general. In addition to these general constraints, developing country producers and exporters face an array of specific constraints relating to production, government policies and infrastructure, transport and handling, market information, and certification.⁴⁴

The need to compete in markets with stringent quality requirements, increasing pressure for subsidies, uncertain price premiums and preferences for locally-produced food are issues developing countries and Africa are not only going to have to contend with but beat through adherence. One constraint for developing countries with a relatively large potential to increase organic production is the small size of international markets, in particular for organic agricultural products from developing countries themselves. Competing with dumped goods which are highly subsidised still poses the greatest threat in local and export markets which are price sensitive. Currently the greatest constraint is the lack of technical know-how on organic production practices. Government agricultural extension services do not generally include organic agriculture per se. Information is also another critical feature for success and securing information on necessary organic composting materials, bio-pesticides, and biofertilizers should be a priority. So too, is the obtaining of high quality seeds and planting materials also has been cited as a problem.⁴⁵ Organic

agriculture tends to be more labour intensive and the development of this sector can promote higher levels of labour absorption.

Challenges to be overcome⁴⁶

There are host of challenges in this sector which have financial costs for producers and exporters:

- High certification costs;
- Lack of market information and marketing strategies;
- Insufficient export facilitation;
- Complex procedures in importing countries; and
- Tariff and non-tariff protection in import markets.

Certification and accreditation

Certification and accreditation issues play an important role. In most cases, developing country exporters depend on certification by international certification bodies to be able to market their products as organic in foreign markets. Costs of certification vary, but can be significant. Small developing countries, in particular LDCs, may find it difficult to set up national certification infrastructure. In fact, the case study on Uganda shows that exporters largely depend on aid agencies and transnational corporations to obtain certification (see Annex 4.3). The case studies pay particular attention to certification costs for smallholders as well as possible ways to reduce such costs. Group certification, based on internal control systems, may be a solution.

Standards and import regulations

Concern that the multiplicity of national and regional standards and import procedures in developed countries create obstacles to imports of organic products originating in developing countries is one which need to be taken quite seriously. Thus infrastructure and support mechanisms which ensure compliance should be prioritised. The transaction costs resulting from the existence of multiple standards may be significant and some countries have chosen to target only a few export destinations because of these costs. Annex 4.4 and 4.5 provide some information on the EU and US markets respectively.

Organic labels

Current rules concerning the use of official organic labels are sometimes discriminatory. For example, the use of official organic labels in the European Union

is not open to non-EU producers. It is to be noted that such labels are not widely used even by EU producers.

Risks for developing countries⁴⁷

Certification is a necessary, but not sufficient condition for entering international markets for organic products. Markets are also volatile and may pose certain risks to developing countries. The long-term implications of recent efforts to promote organic agricultural production, in particular in Europe, for trading opportunities for organic products from developing countries are not clear. For example, the effects of projected increases in organic production in developed countries (to a considerable extent induced by ambitious Government plans and subsidies) on market prices and import levels are uncertain. Some have expressed concern that if markets fail to expand at the same rate as production, there will be downward pressure on prices, lower margins and incentives to keep out imports.

Limited market information and poor marketing channels can hamper exports of certified organic products from developing countries. Case studies on India and Uganda indicate that certified products produced in developing countries often are sold as conventional products.

Some other factors may adversely affect demand for products from developing countries. First, consumers of organic food are increasingly placing emphasis on locally supplied food. Second, the eastward enlargement of the European Union will affect the organic food market in Western Europe. Several countries with economies in transition in Central and Eastern Europe are in a similar position as developing countries in the sense that an important number of farmers use little or no agrochemicals. For example, a substantial share of agricultural output in Poland is effectively produced by organic methods. If these countries join the European Union, their organic producers would be in a strong competitive position vis-à-vis producers from developing countries because of being relatively close to the main consumer markets and being inside the EU market. This might imply that developing countries would run a marketing risk if they chose to substantially increase the output of temperate organic products to serve the EU market. It follows that the commercial risks of embarking on a large-scale promotion programme for organic agriculture requires prudence, as building up standards and certification infrastructure that is credible in developed countries may be expensive and may be undermined by reduced long run demand.

Agricultural policies

Several developed countries, in particular in the EU, provide subsidies to assist farmers during the conversion process to organic agriculture. Compensation is also extended to established organic farmers for their services to the environment. In some countries where these latter subsidies were not available (such as in the UK), pressures were applied to increase post-conversion subsidies. The granting of subsidies in some countries may result in competitiveness concerns in other countries,

including between developed countries. Other subsidies occur, for example in the form of support for research and development. Developing countries generally, and some developed countries such as the USA, Canada, Australia and New Zealand, do not provide subsidies.

Farm subsidies in general can lead to inefficient use of resources, in organic agriculture as in conventional agriculture. In other words, subsidies in one country, by affecting the price level and the quantity of production (number of farmers who can stay in business), affect farmers in other countries. This can distort the true picture of efficiency in resource use between organic farmers in different countries. The issue that may require attention is whether increased pressure for subsidies to promote organic agriculture could eventually adversely affect the competitiveness of products from developing countries.

Way forward

- Identify policy options to remove obstacles to developing countries' exports and to strengthen their production and export capacities.
- Removing production and marketing constraints requires policies and measures at the local level.
- Ensure institutional support and Government policies towards organic agriculture. In addition, authorities and other stakeholders in the main importing countries could take measures to facilitate access to their organic markets.
- Conduct studies which provide some insights on how bilateral and multilateral aid agencies can assist developing countries, in particular in promoting organic agricultural production,
- Obtaining certification and identifying business partners in developed countries.
- On trade rules, organic agriculture and trade in organic food products have not yet been significant issues in the context of the WTO:
- Emphasise the increases in organic agriculture through a range of policy measures and growing international trade in organic food products may have implications for discussions in the WTO.
- Organic food standards have been notified under the WTO Agreement on Technical Barriers to Trade (TBT).
- Trade policy issues include equivalence, subsidies, labelling, conformity assessment
- Procedures and trade preferences should also be dealt with.

Improving Certification

A certification body should:

- Be able to certify to various public and private standards
- Be accredited ISO guide 65
- To maintain a high quality and a professional work
- Assure to the certified product an access to all markets
- To provide to the applicant the updated standards information
- Be willing to cooperate with local staff, train and use domestic inspectors, work with local domestic certification bodies

Facilitating imports of organic products into developed countries⁴⁸

Authorities and other stakeholders in main importing countries can implement several measures to facilitate access to their organic markets for products from developing countries, in particular by:

- Reflect the needs of developing countries in organic standards and import procedures. For example, organic standards should provide for group certification, with adequate use of internal control systems;
- Promoting harmonization and mutual recognition of organic standards, including between public and private standards, based on equivalence;
- Ensuring transparent and understandable requirements and procedures for imported products, in particular from developing countries;
- Providing information on organic standards and regulations, market opportunities and other factors relevant to exporters from developing countries;
- Promoting consumption of organic agricultural products, including from developing countries, for example by providing consumer information; and exploring trade preferences for organic agricultural products from developing countries
- Develop Market strategies Experience from the case studies seems to indicate that price premiums for growers are uncertain and difficult to secure. This is in part due to the fact that marketing chains tend to be complex. Thus, even where consumers and retailers are willing to pay a price premium, in many cases such premiums do not seem to have benefited producers.

The role of bilateral and multilateral aid agencies

Multilateral and bilateral donors, as well as import promotion agencies can provide technical assistance to help promote organic agricultural production, obtain certification and identify business partners. For example, the Swedish International Development Agency (SIDA) started, in 1995, the EPOPA (Export Promotion of Organic Products from Africa) Programme to help African countries to exports organic products from Africa.³⁶ EPOPA is now active in Uganda and the United

Republic of Tanzania and projects are under way in other countries. Similarly, CBI, an import promotion agency from the Netherlands, together with the Uganda Exports Promotion Board (UEPB), assists Ugandan farmers to produce and export organic foods and spices. Bilateral and multilateral aid agencies play an important role not only in promoting production of organic agriculture, but also in assisting developing countries in marketing organic products. EPOPA, for example, requires a close working relationship between exporters and importers.³⁷

Bio-trade

Convention on International trade in Endangered Species

Trade in fauna and flora is regulated by the promotion of environmentally sustainable positions in the Convention on International trade in Endangered Species (CITES). In 1973, the CITES came into being. It was here where member states decided on actions and policies on trade in endangered species of fauna and flora. CITES was to be incorporated and enforced within the legislation of all the member states. The legislation had to penalize those in contravention as well as enable confiscation of such species or return them to the state of export. CITES regulatory framework was based import and export permits. International trade is prohibited, except if the purpose of import is non-commercial, Commercial trade is permitted but controlled, each of these had conditions. An exception in trade in endangered species was for personal effects or trophies.

The aim of the restriction by CITES was to prevent the over utilization and eventual extinction of species. A loss in the species means a loss to the bio-diversity and as such trade has to be regulated to maintain and protect biodiversity which in turn results in environmental sustainability. It must be acknowledged however, that the CITES process is complex and can only work if adequately implemented. If done so proper it can be a powerful tool aiding conservation of renewable plant and animal resources. Developing countries however, are not able to utilize this to their fullest as a result of financial and capacity constraints and as a result do not pass sufficient or substantial enabling legislation to protect trade in endangered species. For Southern African countries this bears relevance particularly since a large number of countries are dependant on income generated from tourism and wildlife utilization. It is therefore critical for governments to utilize these resources sparingly and wisely however due to a lack of capacity and financial and human resources much of this trade is handled badly creating an impression that they are not able to protect or control this area of trade. A case in point is the trade in elephants or ivory, some movements in the developed world tried to stop the trade in elephants and were perceived by African governments as anti trade. As a result some countries had threatened to withdraw from the CITES.

In terms of South Africa, it has a flourishing trade in fauna and flora. Many of the species traded are indigenous and range from the sun-gazer lizard to bitter extracts from the aloe. The aloe industry alone earns approximately ZAR3 million a year for the harvesting community. Income from exports however are estimated at

ZAR300million. For SA, the total value of trade of fauna and flora runs into the millions. In order to sustain this trade non sustainable incentives have been put in. One such case is the supply of indigenous timber. The lack of regulation however has allowed monitoring unsustainable trading conditions to ensue. This has been exacerbated by the insistence of more liberalization of trade and it is envisaged that the timber resource in SA and the surrounding countries will become untenable.

Intellectual Property Rights and Indigenous Knowledge

The links between biodiversity and intellectual property rights (IPR) has as many correlation as the relationship between trade and environment each as complex as the other and having the ability to enhance or worsen the nature of the relationship. Similarly the IPR regime presents both opportunities and obstacles for conservation of information encoded in genetic resources. IPR's may act as an economic incentive to conserve biological diversity. Commercialisation of products developed on the basis of the patenting of products and processes and includes those based on information encoded in genetic resources.

IPR's can result in new crops and plants being engineered (GEO's) pharmaceutical products herbicides and pesticides as well as biotechnological products and processes. As a result over the past decade numerous plants species have been expanded and diversified and for some an additional advantage is its commercial value. (CIEL, IISD, 2003)

But while IPR's have commercial value and bring with it commercial gain, increased pressure by companies over IPR's over generic resources may also negatively impact the conservation of bio-diversity. IPR's were initially incepted to as time limit privileges to balance private and public interest in order to maximize social welfare, international intellectual property rules have shifted in favour of private interest. As a result economic and commercial rights like IPR's may in fact be insufficient to protect the various aspects of biodiversity. The Convention on Bio-Diversity, (CBD), and TRIPs at an international level were created to address some of these concerns at an international level. The CBD in particular was an important measure to protect biodiversity and to get support for this at an international level. Today it is almost totally ratified by 187 countries.

“conservation of biodiversity, the sustainable use of its components and fair and equitable sharing of benefits arising out of the utilization of genetic resources.”

In order for these objectives to be achieved the agreement has established certain obligations including facilitating access to generic resources for environmentally sound uses and sharing the benefits which arise equitably. It also makes respecting and preserving bio-diversity related knowledge of indigenous and local communities an obligation. The relevant transfer of technology for conservation and sustainable use of biological diversity must also be done under fair and the most favourable terms. The CBD thus relies on the protective use of knowledge, which includes genetic material, knowledge technology and indigenous and local communities knowledge of

biological diversity. So while the IPR's are at times in direct conflict with the CBD, it relies on the goodwill and commitment by the 187 signing parties to its principles. The onus is thus on the parties to cooperate and make sure that intellectual property or patents do not contradict these objectives. In reality however, striking this balance is hard to achieve, since TRIPS universalised the level of international property protection of industrialized countries. TRIPs despite recognizing the balance of public and private interests in IPR's, it does not strike or strive to attain this balance. In TRIPs, IPR's are essentially private rights (although the state is not precluded from owning IPRs).

This is contrary to one of the first principles of the CBD which recognizes states sovereignty over natural resources, implying that IPR's are subject to the state. The conflict between the TRIP's and CBD agreements had reached a point of contention to the extent that it was raised at the Doha ministerial. Unfortunately however, the inconsistencies and contradictions remained unresolved and continue to date.

In addition new challenges, such as those posed by the demands from European Union in particular on Geographic Indicators (limiting the ability to name products that have achieved notoriety based on their geographic origin like Champagne). In addition not many countries have taken advantage of developing a *sui generis* system for the protection of plant varieties for which the Organisation of African Unity has developed a model law.

Patenting of life forms

Article (27.3 b) allows WTO members to exclude plants and animals and processes that are in essence biological from being patented. However, members are required to grant patents for micro-organisms, non-biological and micro biological processes. Patenting of these life forms under the TRIP's (patent of life) has raised many environmental, ethical, social and economical concerns. Article 27 in TRIPS is suppose to provide the right to exclude on the grounds of conservation of bio-diversity. However, patenting cells or parts thereof, genes directly impact CBD provisions on access and benefiting from genetic resources. Thus article 27.3b of TRIPS and the exclusion will affect the range of patent protection for biotechnology, with risks to biodiversity. (IISD,CIEL, 2003)

Preservation of respect for knowledge, innovations and practices of indigenous and local communities.

The CBD makes provision for the promotion of traditional knowledge and innovative knowledge held by local or indigenous communities. Many of these communities have cultivated and used biodiversity in a sustainable manner for centuries. The CBD recognizes this skill or knowledge and the technique as valuable for the conservation of bio-diversity. TRIPS on the other hand don't provide any protection to this knowledge despites it being of commercial importance to the local communities. In fact TRIPS emphasizes conventional intellectual property instruments without

proposing mechanisms that grant traditional communities control over their knowledge and innovation and is thus in direct contradiction and contravention of article 8(j) of the CBD. (IISD,CIEL, 2003).

SECTION 5:

TRADE IN HAZARDOUS SUBSTANCES AND MATERIALS, SECOND HAND AND INFERIOR QUALITY GOODS

Introduction

Trade in hazardous substances and materials and second hand goods has emerged as major concern for many African countries, a fact confirmed by the country papers commissioned by UN-ECA in the context of this study. A variety of factors make policy design and formulation difficult: there are, first of all, strong consumer preferences that need to be contended with as regards the importation of a variety of second hand goods. Secondly, as regards hazardous products, the porous nature of many borders, weak administrative structures to monitor these transactions and limited enforcement capacity make many economies extremely vulnerable to this form of trade. Finally, many of the transactions are poorly recorded or not reported at all so that the scale and spread of the phenomenon can be gauged only on the basis of anecdotal evidence.

Second Hand Clothing⁴⁹

Trade in second hand clothing has been facilitated in part by the reduction of tariffs in many developing countries. Also because of consumer's acute price sensitivity, increased preference for non-traditional designs and wider choice, a large market for second hand clothing has developed in many African countries. SSA has a particularly high dependence on second hand clothing (SHC), about 26% of all imports compared with an average of less than 5% in the developing world and 15% in South Asia.

Globally the trade in SHC is estimated at US\$1 billion per annum. Comparatively, globally SHC accounts for 0.5% of trade in clothing, in some African countries it accounts for 30% of value and up to 50% of volumes in clothing imports. There are concerns from many quarters that this undermines local production (and consequently negatively affects employment). 90% of Ghanaians purchase SHC. In Senegal the SHC industry employs about 24,000 people, and 62,000 people involved informally in textiles and clothing production, and only 1,300 in the formal sector. Ghana, for instance only transforms about 5% of its local cotton, intimating that there may be a link between SHC and local productive capacity.

West Africa, which is particularly vulnerable to dumping of cotton on international markets, exports 95% of its cotton as raw fibre, prompting the President of Mali to state that while Mali is the largest cotton producer in SSA, it does not produce a single T-shirt. In the West African Monetary Union (WAEMU) the 41 industries that existed in the 1990's have been reduced to about 6 in 2004. Nigeria's sector has lost about 80,000 jobs in the last few years. WAEMU has undertaken to increase the amount of

beneficiation of cotton from 5% to 25% in 2010, but are pessimistic about this given external constraints. Recent studies indicate however that cotton as an agricultural and export product may be far more important in Southern Africa than previously realized.

From a consumer welfare perspective, the SHC trade clearly shows that it is meeting the needs of price sensitive consumers who are able to benefit from lower prices. However from a developmental perspective, the SHC industry seems to have many contradictory effects. On the one hand it has created a pool of employment located in the formal and informal sectors. On the other hand, it limits the development of the local productive sector that clearly has a comparative advantage in cotton growing. The need to move up the value chain in production (and hence increase the carrying capacity of the economy) is stunted both by SHC and cheap imports. The experiences of Rwanda show that there is only a marginally negative impact of SHC on employment in the formal clothing and textiles sector. The complex interlinkages in studying these links belie the common sense view that if clothing needs are met by other sources then surely there must be an impact on local productive capacity.

External pressures from the World Bank (WB), International Monetary Fund (IMF), World Trade Organisation (WTO) and other trade agreements also impact on the availability of SHC and the policy space available to countries to develop the clothing and textiles sector. Porous borders and weak customs administration also create disincentives for investors in the sector and the erosion of preferences to developed countries markets complicates the situation. The “choice” countries make in the SHC sector as compared to the beneficiation in the clothing and textiles sector is to favour consumer welfare over job creation and value addition. With international non governmental organisations (NGO’s) using sales of second hand goods to raise money for their operations in their home countries, the debates on SHC becomes more complex. International NGO’s operating in this way may be contributing to the lack of suitable opportunities for beneficiation and job creation in the sector.

Finally given the well documented impact of rich country subsidies on international cotton prices combined with high dependency of African countries on cotton exports, the prospect for African countries benefiting from this sector looks bleak and looks bleaker still given the further tariff liberalisation that the sector may be facing.

Hazardous Substances

The movements of polluting industries (themselves covering a wide range of products, technologies, goods and services) to the South has emerged as major concern for Governments throughout the world. On account of relatively weak and/or inadequately funded environmental protection regimes, many countries in Africa and other developing regions trade off hopes of future growth against present risks. Against this background, many consider the movement of polluting industries from the North to the South as an important industrial investment: by developing country Governments, by banks and financial institutions and by global corporations.

Lack of facilities in identifying, monitoring and measuring environmental hazards means that they are inevitably underestimated or even ignored. The resulting traffic in

risk and hazards is often the result of corporate strategic planning whereby firms seek low cost environment with low monitoring and surveillance. They are also of high interest for developed country Governments seeking to externalise industrial risks by moving hazardous products and related wastes outside their own borders. At the same time, the WTO's drives towards freeing trade from as much restraint as possible does not augur well for the future resolution of this problem.

As a result of an extensive network of roads, waterways and railways that connects between and within regions, goods including transit goods are a common phenomenon. It is therefore not surprising that transport of hazardous materials along these networks is a common phenomenon and transport of hazardous wastes is frequently reported together with accidents involving such goods. The Region through these shared resources poses a very serious challenge to the law enforcement officers across the borders on how to monitor hazardous waste movement effectively. The challenge lies in raising the capacity for customs officers to be handle and monitor such trans-boundary movements of dangerous goods through schemes of timely exchange of information within the Region.

In view of the plethora of other more pressing needs, the management of hazardous waste is accorded a low priority as reflected by the magnitude of resources and level of attention that are presently being allocated to the issue.

Current consumption and production systems produce a large amount of waste. The United Nations Environmental Programme (UNEP) estimates the total international generation of hazardous wastes between 300 and 500 million tonnes. Hazardous waste production is mainly located within the Organisation for Economic Cooperation and Development (OECD) countries that account for about 80 to 90% of hazardous waste.⁵⁰ The amount is an estimate because there are many different definitions of hazardous waste and differences in the reporting between countries. However, as developing countries become more industrialised their share of hazardous waste generation is also set to increase. Krueger (2001) points to a disturbing trend since there has been increased regulation of hazardous waste, "the percentage of exported OECD waste destined for final disposal decreased from 53 to 22% between 1990 and 1995, while the share destined for recycling or recovery increased from 46 to 78% over the same period," intimating toward increased "sham recycling."

Disposal costs of hazardous wastes differed between regions of the world. In the 1980s the per tonne disposal cost in Africa ranged between US\$2.50 to US\$50 compared with OECD costs of US\$100 to US\$2000. Such discrepancies in costs are due not only the different processing costs but also to the types of disposal that are affected. There have and continue to be many instances of inappropriate or dangerous disposal of hazardous waste in Africa, the most notorious case being the Karin B case where an Italian had facilitated the dumping of 2100 tonnes of toxic waste in Nigeria in between 1987 and 1988.⁵¹ A similar situation is occurring in Nigeria at present with the dumping of electronic equipment but this time under the guise of bridging the digital divide. However some reports indicate that over 75% of the equipment sent to Nigeria is unusable and suitable for dumping only.⁵²

Hazardous waste impacts on the environment in a number of ways. The “pathways of contamination” include:

Box 5.1: Pathways of Contamination

Groundwater	Surface Water
Soil and Vegetation	Wind-Blown Dispersal.

The consequent effects including eutrophication and algal blooms (which is an imbalance created in an ecosystem) and bioaccumulation (where hazardous waste becomes concentrated at a particular point in the ecosystem). Besides the impact on the ecosystem certain wastes are particularly dangerous to humans as carcinogens and can promote tissue damage as well.⁵³

Since there is no clear definition of hazardous waste there is considerable ambiguity in the treatment of hazardous waste. Under the WTO agreements, bans on the trade in hazardous waste may violate General Agreement on Tariffs and Trade (GATT) rules on import prohibitions, but may also be outside the scope of the definition of “product.” For practical purposes hazardous waste may be defined as “a by-product of industrial or human activity that poses a substantial threat to human health or the environment when improperly treated, stored transported, or disposed.”⁵⁴ There is still a lack of clarity on particular substances and their concentrations that may be regarded as harmful, which is an issue that various international voluntary and binding legal instruments attempt to clarify.

Box 5.2 Types of Waste and Selected Descriptions

Waste Type	Description / Source
Organic wastes	Materials made up of plant or animal residues and include a variety of carbon-based compounds
Inorganic wastes	Wastes composed of matter other than plant, animal, and certain carbon compounds
Acids and Alkalis	Industrial processes, metal finishing and surfacing
Halogenated and Non-Halogenated Solvents	Primarily from dry cleaning operations, metal cleaning, degreasing, and de-oiling in the leather industry (high toxicity, high mobility long persistence in the environment)
PCBs	Polychlorinated Biphenyls (PCBs) found in transformer fluid and in large electrical capacitors
Paints, Resins, and Biocides	Typically combinations of solvents and polymeric materials generated as by-products of the application of paints and resins to finished products
	Biocide from herbicides, pesticides, and other chemicals used in agriculture, horticulture, and a variety of other industries
Organic Chemical Residues and Putrescible Organic Wastes	Include both halogenated and non-halogenated chemicals generated from the manufacture of primary, secondary, and tertiary chemical products. Putrescible organic wastes include by-products of edible oil production, leftovers from slaughter houses, tanneries, and other animal-based industries
High-Volume, Low-Hazard Wastes	High-volume, low-hazards wastes are wastes that would ordinarily present relatively low levels of hazard, but can pose problems when present in high volumes e.g. drilling muds from petroleum and gas extraction, fly ash from fossil-fuel fired power plants and mine tailings.
Miscellaneous Waste	Infectious animal or human tissue that are by-products of medical treatment or research laboratory wastes, which are by-products or manufacturing and research facilities

There has been an increase in the number of international agreements and processes that have been initiated to deal with the production and trade of hazardous waste. However not all hazardous wastes are regulated. In addition, new compounds are developed at a rate of about 1,500 per year and in 1999 there were an estimated 70,000, making the monitoring of hazardous substances difficult.

African Waste Trade

There is a lack of data from many African countries in terms of the main substances imported and exported. Aggregate data is available on many inter-governmental websites but much national data is solicited on the basis of confidentiality agreements.⁵⁵ Even where data is available, there is significant under-reporting of the import and export of hazardous substances. Anecdotal evidence from instances where illegal, inappropriately labelled shipments or as a result of accidental leakage or spills indicates that there is robust illegal trafficking in hazardous waste. Krueger (2001) quoting UN Commission on Human Rights' Special Rapporteur for hazardous wastes:

The port of Rotterdam alone detects about 500 unlawful attempts to export dangerous waste products every year, with many of the planned shipments destined for developing countries.

Given the huge cost differentials in disposal, the illicit trade in hazardous waste is bound to continue to be lucrative. African countries can curb this illicit trade by improvements in the capacity and regulatory infrastructures to deal with the problem because of the vast quantities of waste generated predominantly by the OECD countries. A review table below under the Basel Convention provides some insight into the scale of the legislative gaps and capacity to report on such trade.

Multilateral and Regional Agreements that impact on Hazardous Waste

There are specific agreements that target primarily environmental concerns and other agreements that regulate trade. As stated earlier, it is unclear whether hazardous waste constitutes a product. If hazardous wastes are regarded as products, then they would be subject to international trade agreements. If the hazardous waste in question falls within the definition of any of the multilateral environmental agreements (MEAs) then they would be subject to the disciplines of those agreements.⁵⁶ It is also possible for hazardous waste to fall into both categories, i.e. international trade and environmental agreements. A typical example would be hazardous waste that has some recoverable content that can be extracted and re-used. In this case compliance with both of these legal regimes will be required, and the interrelationship between the two is a subject of ongoing discussions at the WTO. The primary determinant of preference given to a trade agreement or MEA is the enforcement mechanism that is built into the treaty. Trade agreements typically have strong enforcement mechanisms because they rely on some form of economic sanction that can be imposed. MEAs typically have weak enforcement mechanisms and rely on the political will of a country to comply with its terms. Trade agreements therefore will generally triumph

over MEAs, however negative publicity and indirect pressure can be critical in stifling such action. This however is not the case for non-parties to agreements who then may rely on stronger and more permissive trade agreements to assert their right to import or export hazardous wastes.

The Doha Development Agenda (DDA) requires members to explore the relationship between trade and environmental agreements. There is some overlap as indicated above, where trade agreements allow for some degree of environmental protection, issues like absolute bans on international trade in certain products may violate other parts of trade agreements that prohibit import bans, because they may be viewed as a quantitative restriction or a non-tariff barrier. WTO agreements do regulate certain elements of environmental protection and interpretations have favoured the view that limits on trade may be placed to protect plant and animal life and more recently have regarded limits on trade to protect exhaustible natural resources as legitimate.

In the WTO Asbestos case between France and Canada the Appellate Body said it was possible to take physical characteristics of the product into account in deciding whether the measure was allowable or not. It remains unclear whether PPMs can be taken into account in the determination of likeness or if it is just the product characteristic themselves.⁵⁷ This is important because MEAs like the Montreal Protocol specifically take production process methods into account (to some degree). Between WTO members that have also ratified the Montreal Protocol, there should be few legal obstacles to the mutual enforcement of the provisions. However, the problem lies essentially between parties to a MEA and non-parties, and the DDA has specifically excluded this potential area of conflict from its mandate.

In addition, the WTO distinction between Specific Trade Obligations (STOs), non Specific Trade Obligations and non mandatory trade measures may lack some precision when applied to for instance the Basel Convention (BC). The BC lists particular categories and characteristics of waste that are hazardous, and thus become mandatory disciplined. But the BC allows countries to add their domestic categories to the list, which is discretionary, but upon inclusion becomes mandatory. So the distinction serves as a guide only.

There are many MEAs of relevance to Africa since they involve trade and trade related provisions that deal with specific environmental areas of concern.

Basel Convention (BC)

Africa may have been spared the worst cases of hazardous production processes on account of the fact that many economies are still in the infancy of industrialization. The impact on workers and on wider ecological damages notably the unregulated disposal of industrial wastes and the release of gases and substances from the burning of fossil fuels, is probably much greater in countries, particularly in Asia, which are industrializing at faster pace.

The Basel convention was the first global environmental treaty that strictly regulated the trans-boundary movement of hazardous wastes. It was also the first treaty to call

for international cooperation between parties to manage hazardous waste in an environmentally sound manner. The aim of this convention is to reduce the generation of hazardous wastes to a minimum both in quantity and quality. The international movement of waste is specifically regulated and hazardous wastes should be treated and disposed of as close as possible to their source of generation. Prior informed consent is required before any trade in hazardous waste takes place, meaning that importers should be agreeable to accepting waste imports. No distinction is made between recycling and final disposal in the BC because recycling can be as problematic as final disposal. The BC also criminalises the illegal trade in hazardous waste and a protocol on liability for treaty violations is being considered.

It was hoped that this would help deal with the illegal transboundary trade in hazardous waste through strict international control especially from the developed to the developing countries. Controls for trans-boundary movement of hazardous waste was the (PIC) Prior Informed Consent Procedure. This process allowed developing countries to control and prevent unwanted wastes from entering or leaving their borders as a result of informed decisions on imports and exports. Under the convention hazardous waste was not able to enter or leave a country without the state of import provides written consent for the specific import. Once consent is granted the consenting state had to prove that they had adequate facilities to deal with the waste through proper technologies and/or facilities. No trans-boundary movement of the wastes would be allowed to parties that have prohibited the wastes imports. No hazardous wastes would also be permitted to be exported to a non party nor will non parties be allowed to export their wastes unless there is some multilateral or bilateral agreement regulating this trade.

As a result of this convention, hazardous wastes from OECD countries which were destined for non-OECD countries were to be immediately prohibited.⁵⁸ Furthermore all movements of hazardous waste to non OECD countries from OECD countries for recycling and recovery operations were also prohibited by December 1997. These decisions have had significant impact for steel and iron manufacturers and exporters, SA being one of them. For SA this would have meant a loss since SA hazardous wastes in these sectors were sent to OECD countries for recycling and not disposing. Simultaneously a problem that convention created perhaps as an unintended consequence was, the accumulation of otherwise disposed of wastes in the developing world. These wastes while perhaps applicable to a small number of countries were stagnating due to a lack of knowledge and skill around hazardous waste disposal or recycling.

Annexure 5.1 provides a list of countries that are signatories to the BC and indicates whether there are enabling laws on waste to promote compliance with the convention. It also indicates measures related to the regulation of import, export and transit of hazardous wastes and whether there are any economic incentives in place to stimulate compliance. Annexure 5.2 provides a list of countries whose reports have either not been submitted or are unavailable.

Persistent Organic Pollutants and Prior Informed Consent

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade was adopted in September 1998. The Convention regulates 22 pesticides and 5 industrial chemicals. Export of these chemicals have to follow the Prior Informed Consent (PIC) procedure.

A signatory country that refuses imports is obliged to stop domestic production even if it is for domestic use and prevent the import from non-parties. The convention provides mechanisms for:

- information exchange provisions (on handling, labelling and safety data)
- Export of banned or regulated substances must be preceded by PIC

Seven of the chemicals covered by the Rotterdam Convention are persistent organic pollutants (POPs). POPs are also regulated by the Stockholm Convention which is aimed at the elimination of POPs. ⁵⁹POPs are not biodegradable or exist for extended periods in the ecosystem resulting in concentrated levels – known as bio accumulation. POPS have the ability to move widely through the environment well beyond the area of their initial deployment into the environment. The substances are toxic to humans and the environment.

Trade in POPS requires that countries have adequate laboratory facilities, regulatory infrastructure (including at border posts). Reporting under the convention by most African countries is expected in 2006 and the signatories are listed in Annexure 5.3.

The Bans on Hazardous Waste Trade: Bamako convention and Lome IV

The Bamako convention was adopted in 1991 in Mali and banned the import of hazardous wastes and insisted on the control of trans-boundary movements of these wastes and the management thereof. The convention was seen as a regional agreement adopted by 30 countries in the region. It was however only ratified by 10 countries and as such has not become legally enforceable. While 19 countries are party to the convention, 28 countries including SA had not signed it by 1998. The comprehensive discussion thus far has illustrated that the issue of environment, environmental sustainability and environmental goods and services (EGS) industry has been matter for discussion for decades. It has also highlighted how unlike the developed countries the developing world and Africa in particular is still grappling to find its edge. It is also learning to implement policies and domestic regulation which protect and facilitate making the EGS industry work to their advantage.

The Lome Convention (an Economic Trade and Development agreement between Europe and the Africa-Caribbean & Pacific countries) banned the trade of Hazardous waste from Europe to the affected developing countries.

Trade in Ozone Depleting substances

The Vienna Convention on the Protection of the Ozone Layer (1985) obliges governments to protect the ozone layer. A number of instruments make up the regulation of Ozone Depleting Substances (ODS) and the parties to the agreement have since met in Montreal, London and Copenhagen. The objective of the treaty is to eliminate the emissions of Ozone Depleting Substances.

The following substances are regulated by the agreement:

Box 5.3: Regulated Ozone Depleting Substances

Chlorofluorocarbons (CFCs)	halons, hydrobromofluorocarbons, HBFCs, other fully halogenated CFCs, carbon tetrachloride, 1,1,1 trichloroethane, methyl chloroform
Hydrochlorofluorocarbons (HCFCs)	hydrobromofluorocarbons, HBFCs, methyl bromide.

Like many hazardous wastes, there much illegal trade in CFCs which is estimated to be 30,000 tonnes. Winqvist (1999) has this to say about the trade:

This illegal trade consists primarily of new CFC production in industrialised countries exported in the guise of recycled CFCs, or as exports to developing countries.

Prior to the signing of the Protocol in 1987, CFC's were used for e.g. as propellants in aerosols, foam blowing agents in rigid and flexible foam, solvents in electrical industries and as refrigerants in refrigerators deep freezers and air conditioners. Halons were used for fire fighting, and CTC as a solvent for dry cleaning. ODS in developed countries had to be completely phased out. Developing countries were also required to phase these out and a fund was made available to provide technical assistance and capacity building.

Green house gases

The Kyoto treaty creates a Clean Development Mechanism (CDM) will allow Annex One governments (developed countries) and corporations to earn emission credits for investing in projects that claim to reduce greenhouse gas emissions in underdeveloped countries. For example, a CDM project might allow the New Zealand (NZ) government to finance a factory producing energy-efficient appliances in India, but not do it in NZ; or BHP Billiton might construct wind generators in Mozambique but continue to pump CO₂ into the atmosphere from its operations in Australia and South Africa. Another option will be for the rich countries to plant fast-growing, environmentally suspect tree plantations in poor countries and then count the CO₂ absorbed towards their emissions reductions A further likely result of the CDM will

be that rich country governments and corporations will dump obsolete technology on the poor countries as the First World introduces new energy-generation plant and equipment. Because this out-of-date technology may be cleaner than existing Third World factories and power plants, the First World will be awarded greenhouse credits, while the Third World will be stuck with obsolete (and uncompetitive) infrastructure considered too dirty to use in the rich countries.

The Corporate Europe Observatory campaign group, note: These policies would effectively turn greenhouse gases into commodities, locking-in existing North-South inequities in the use of natural resources and opening-up many new and harmful profit-making opportunities for transnational corporations essentially creating a new market out of thin air. Through these schemes, corporations and Northern governments will be entitled to buy countless cheap emission credits from the South, through projects of an often exploitative nature, thereby imposing on the South what the India-based Centre for Science and Environment refers to as 'carbon colonialism'. Furthermore, all of the low-hanging fruit, or cheap credits, will have been harvested by the North when it comes time for Southern countries to reduce their own emissions, saddling them with only the most expensive options for any future reduction commitments they might make.

The refusal of the US, by far the worlds largest greenhouse gas polluter, to sign Kyoto leaves a gaping hole in the treaty's coverage.

Trade Related Intellectual Property Rights (TRIPs)

The WTO TRIPS agreement regulates the protection of intellectual property rights (IPRs). As part of the trade off negotiated in 1995, developing countries granted protection to IPRs in general with the hope of securing technology transfer. Research has show however, that funds used here are by companies in order to advance their own technological edge. The protection afforded to IPRs has resulted in tehnological scarcity is developing countries and many technologies that are cleaner or better are monopolised by the rich countries. As a result of this approach Africa continues to utilize old technologies like ODS thereby negatively impacting its own environmental sustainability and development. The TRIPs agreement protection with it concomitant imbalance in ensuring technology transfer, especially for environmental sustainability and protection precludes the possibility that African countries can leapfrog their development and industrialisation to cleaner processes and methods, It consigns Africa to follow the technological development trajectory that is dirty. Africans recognise this tension between preserving the environment and being able to develop economically:

“Though our contribution to the destruction of ozone is minimal, Uganda is committed to reduce and eventually phase out the use of chemicals which destroy the ozone layer,” said Ugandan Minister of Waters, Land and Environment, Mr. Henry Kajura.

Despite Africa's limited resources and limited capacity it is committed to bring about change. What is now needed is political leverage

“For developing countries like Ghana, the major challenge is to contribute meaningfully to the global efforts to protect the ozone layer while keeping the pace of their economic development.” said Minister of Environment Science and Technology Mr. J.E. Afful

Hazardous Waste Trade implications for Africa

Waste trade data disaggregated per country and waste type was not available for this study, but there are institutions that are tasked with collecting this data at national and Treaty/Convention level.

Based on the reporting and data available from the BC website⁶⁰, Table 5.1 gives an overview of the countries in Africa that have ratified the BC. Table 5.1 is compiled from country submissions. Table 5.2 is a list of African countries that have ratified the BC but to date have not yet submitted information so that it can be published.

Within the set of countries who have submitted reports, there are disparities in the legal and institutional capacity to deal with hazardous waste. Many countries do have national legislation regarding waste and its transboundary movement, while others are still in the preparatory phase of statutory tools.

Some countries have indicated the scope of local disposal and recycling enterprises, while many have failed to do so. In addition reports on waste are categorised within the specific clauses of the BC, and the legal rules that apply to them and are not disaggregated per chemical class or category. Disaggregation is available on method of disposal, however there is insufficient reporting.

On the technical ability to deal with the requirements of trade in POPs, the Secretariat reports the following number of laboratories in the region:

Box 5.4: POPs Laboratories in Africa

Region	Number Of Countries with Labs	Number Of POPs Labs
East Africa	4	4
North Africa	4	5
Southern Africa	4	6
West Africa	8	10

Source: www.pops.int

Given the vastness of the region, it is clear that the number of laboratories will be a severe limitation on a signatory country’s enforcement, monitoring and implementation capability. A list of countries without

With the EU’s aggressive attitude to use EGS as a means to liberalise trade further, the OECD countries’ dominance in over 80% of EGS trade and the regulatory lag within many African countries, liberalisation of the hazardous waste market may result in unnecessarily constraining domestic policy flexibility both in terms of developing the domestic market and in terms of the ability to regulate the sector. The

primary challenges facing Africa are the regulatory (statutory and enforcement) frameworks and the technical capacity to deal with hazardous wastes. The objective is not to become a dumping ground for others wastes while at the same time not exacerbating environmental degradation.

Criteria for Successful Interventions

There have been a number of programs launched by various United Nations agencies to address the challenges posed by hazardous waste. The hierarchy of assessing interventions as being positive should be assessed on the following lines:

- Prevention – a move to reduce and ultimately prevent the consumption or production of hazardous waste.
- Re-use – prospect of alternate or recyclable use.
- Energy recovery from Hazardous waste
- Treatment
- Disposal – in an appropriate manner.⁶¹

In Malawi the United Nations Development Programme (UNDP) launched a programme to eliminate the use methyl bromide. Through investment in technology and training reductions in consumption have been achieved.⁶² US\$2,99 million was expended on the programme and targeted at agricultural producers. Rating the program in the above hierarchy the attempt was to curb demand and use (consumption) and in the long term create awareness of suitable and cost effective alternatives that were less harmful. Methyl Bromide is an ozone depleting substance.

Various other initiatives on managing chemicals effectively were conducted in other countries like Botswana, Lesotho and the Maldiv Islands. The higher up the above hierarchy, the better the more valuable is the intervention as prevention, like in public health, is better than curative activities.

SECTION 6:

CAPACITY NEEDS OF AFRICAN COUNTRIES IN THE AREAS OF TRADE, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Introduction:

Several international agreements and understandings, such as those in the Doha Work Programme and the World Summit on Sustainable Development have emphasized the importance of strengthening technical capacities of developing countries for designing trade and environment policies and programmes. Parts of this report have likewise identified the nature of such support: from environment impact assessment of specific projects and programmes to building institutional capacity for research, data and information gathering, complying with ISO, SPS and TBT standards, assessing environmental impact of trade liberalisation and enhancing technical capacities to shape negotiating agendas and outcomes. The above is by no means an exhaustive list of needs: it is, however, illustrative of the range and scale of support needed to make a meaningful dent in the knowledge gap and capacities between developing and developed countries in the areas of trade and environment. In light of the many declarations and commitments to enhance its provision, how does the actual delivery of capacity building support measure up?

Indicators of capacity building support

Of the many multilateral, bilateral, NGO and private organization that provide such support, perhaps among the most prominent are WTO, UNCTAD, International Trade Centre, World Bank (and regional development banks) UNDP and the UN regional commissions. A broad measure of such support provided by two among the leading bodies-- WTO and UNCTAD--for example, is contained in their annual reports. For 2004, both the organizations report that their total technical assistance activities (all are not trade and/or environment related) amounted to, respectively, US \$ 23 million and US \$ 27.5 million.⁶³ When account is taken of the fact that these sums are shared among over 100 developing countries and the fact that a significant proportion of the budgeted expenditure is undertaken at their respective headquarters, it is clear that the amount received by individual countries in Africa is very modest indeed. In the case of UNCTAD, which disaggregates its capacity building support by areas and activities, it will be seen that its programme on trade, environment and development spent a total of US \$ 2.23 million in 2004 .

Joint Integrated Technical Assistance Programme (JITAP), an initiative designed to enhance cooperation and collaboration between WTO, UNCTAD and ITC and targeted at African countries provided \$10 million of such support to eight countries

between 1998 and 2002. A new phase of the programme (JITAP II) began in January 2003 and will run for 4 years. JITAP II covers eight additional countries with an estimated budget of \$12.6 million. The 16 countries in the new phase represent a careful balance among LDCs, non-LDCs, different sub-regions of Africa, and different linguistic groupings.

The Integrated Framework (IF) was established in October 1997 at the WTO High Level Meeting on Integrated Initiatives for Least-Developed Countries' Trade Development by six multilateral institutions (IMF, World Bank, UNCTAD, ITC, WTO and UNDP) which, with their distinct competence, could complement each other to deliver greater development dividends to LDCs in the multilateral trading system. The IF has two objectives: (i) to "mainstream" (integrated) trade into the national development plans such as the poverty reduction strategy papers (PRSPs) of least-developed countries; and (ii) to assist in the co-ordinate delivery of trade-related technical assistance in response to needs identified by the LDC.

IF is designed to assist LDCs (34 out of the 49 LDCs are African) to mainstream trade integration strategy chapters into their national development plans and poverty reduction strategy papers. The benefits of the Integrated Framework are currently being accorded to 14 African LDCs

A Trust Fund was established in 2001, to serve as a central point for the deposit of contributions to the IF. Contributions have been pledged by both bilateral and multilateral towards two finance windows operating simultaneously: Window I, a general fund, for contributions for diagnostic studies and strengthening capacities of IF national structures, and Window II for contributions allocated to specific and clearly identifiable programmes for trade capacity building. So far, total pledges amounted to US\$30.1 million as of May 31, 2005. However, only a small share, reportedly less than 10 percent has been committed for specific activities.

The above generally confirm what is widely acknowledged in the development community, namely that capacity building support, like other forms of development assistance, remains modest in relation to needs. While every effort must be made to secure more binding commitments of such support in the context of Doha negotiations and continuing to encourage the donor community to intensify its efforts, including efforts such as those outlined in the Aid for Trade⁶⁴ initiative which should complement on-going efforts by recipients themselves, the likelihood of a significant turn around in the provision of such support remains small, at best.

In the face of such an eventuality, African developing countries will have to intensify their efforts to develop such capacities domestically and in close regional collaboration with like-minded countries. These efforts, ideally in the context of regional bodies and institutions such as UN-ECA (and the associated African Centre for Trade Policy and the Africa Knowledge Networks Forum) can help chart new approaches to enhance capacity building.

SPS, TBT and Standards⁶⁵:

As noted earlier, international rules governing the application of technical regulations are contained in TBT and SPS. The essential purpose of the rules and guidelines laid down by the two Agreements is to ensure that technical regulations and sanitary and phytosanitary measures do not create artificial impediments to trade. The Agreements envisage that this could be attained if countries use, where appropriate and possible, international standards in formulating their technical regulations and SPS measures.

In recognition of the complexity of the two Agreements and the substantial administrative and institutional implications of the binding commitments entailed in SPS and TBT, not to mention major human and financial resource implications, (the same, would apply to ISO and other standard setting bodies) the agreements provide for capacity building support. In Africa, arrangements such as JITAP, Integrated Framework and a variety of other multilateral and bilateral entities and organizations provide some degree of support in meeting these requirements. But it is widely acknowledged that such support falls way below the needs: in the on-going Doha negotiations, many proposals are on the table to improve the quantum, quality and predictability of such support, including evolving arrangements to bind such support. Other parallel initiatives such as the recently announced Aid for Trade initiatives may, if they are properly conceived and funded, address some of the gaps in support. But it must be stressed that in the final analysis, considerably greater effort at organizing national support will be required to raise the capacities and effectiveness of export drives.

Prospects of growth and diversification of most countries in Africa depend, in the short to medium term on agricultural exports and within this sector, measures to diversify it into new products and into increased value addition of existing products. But, as has been argued and suggested by many of the country reports submitted as part of the ECAs programme of work in the area of trade and environment, this will critically depend on meeting capacities of individual African countries to meet SPS requirements such as, for example, pest lists for agricultural exports.

The need for technical assistance that have been identified, both in the country submissions, and in other similar audits carried out by UNCTAD, ITC/Commonwealth Secretariat and UNEP, among others highlight the need for more effective participation in rules making bodies such as in particular, the WTO, International Organization for Standardization, World Organization for Animal Health, International Plant Protection Convention and Codex Alimentarius Commission. But these are not the only ones and as each country's export and development performance grows and export composition changes, compliance with other 'organization' rules and procedures will be required⁶⁶. The following, in the nature of 'soft' infrastructure development, are among the most frequently identified needs:

- Capacity building in exports and import inspection; this, without exception, requires as a minimum understanding of SPS, TBT, and of standards related rules and procedures, including certification procedures.

- Measures for increasing awareness among all the stakeholders (public at large, all concerned Ministries, industries and consumer groups and media) and understanding of the meaning and importance of SPS.
- Design and implementation of surveillance programmes of nominated contaminants in food items and creation of databases
- Implementing and monitoring plans for detection of heavy metals, pesticides, microbiological and other contaminants
- The establishment, strengthening, and adequate staffing of testing laboratories across the many concerned national institutions such as Universities, Health and Agriculture Ministries and private laboratories;
- Assistance to establish systems to alert exporters to forthcoming changes to technical regulations relating to SPS and TBT.⁶⁷
- Assistance to establish accreditation bodies at the national and regional levels: various surveys have shown that in most African countries, accreditation bodies do not exist or if they do, are often not recognized globally. Often there is reluctance at the importers level to accept certification issued by the exporting country laboratories and certification entities.
- Need to establish mentoring arrangements among countries in the region: this involves an arrangement whereby countries in the region with capacities to provide advisory support in areas of SPS, TBT, and broader standardization issues, extend such support to other African countries in need of such support. The regional commission and various trade related arrangements under COMESA, ECOWAS, and SADC etc can play a role in identifying and securing mentoring arrangements. These can also be extended to developing countries in other regions under the umbrella of South-South cooperation.
- Assistance aimed at facilitating and improving African countries participation in standardization activities at international level through provision of financial support.

The UN-ECA has also conducted a number of studies and facilitated a number of workshops that have been requested in areas of policy importance to the region. Of particular importance is UN-ECA programme to address the Environmental Impact Assessment needs of African countries.⁶⁸ The report deals with the technical and operational challenges faced by African countries and have not only resulted in improved reporting but also in improved capacity at the national level.

The Africa Trade Policy Centre established by UNECA has conducted a number of timely and relevant research papers. The research undertaken has been both technical and systemic in relation to Africa's needs. Research has been conducted on agriculture, trade and related policy areas targeted at priorities of the region. The Centre is differentiated from other similar organisation because it prioritises local ownership and maintains an open policy toward demand driven research to meet its target audience.

CONCLUSION AND RECOMMENDATIONS

There is broad consensus that trade promotion and liberalization are the means and not the end towards achieving sustainable development, a view underscored by recommendations of the World Summit on Sustainable Development and the Millennium Development Goals established by the General Assembly.

Making these objectives operational is a challenge that will require major efforts by national policy-makers: how to integrate environmental planning and trade and development policies, to organize and implement environment impact assessment and ensure that development goals conform with MEAs. These are relatively new policy challenges, requiring new skills and approaches. Meeting them will require difficult policy choices and, inevitably, tax domestic resource capacities. While development assistance will help, it can do no more than complement domestic efforts.

Of considerable promise in this respect is the scope for greater cooperation with other regional and sub-regional partners. These efforts should encompass cooperation in multilateral and regional negotiations and include matters such as sharing knowledge, experiences and data. Bodies such as UN-ECA can play a major role in this regard by providing technical support and forum for knowledge sharing. Likewise, strengthening national coordination between various Ministries and other stakeholders can go some way towards improving integration of environment and development policies.

On its part, the international community needs to reform multilateral trading rules that impair Africa's market access; elimination of non-tariff barriers (such as tariff escalation, tariff peaks and technical barriers to trade) is a first priority. Provision of more predictable quantum of capacity building support, likewise, remains an important objective.

Given the fact that in many countries in Africa, incomes and exports are based on natural resources, improved management of key resources such as land, water, minerals, and fisheries would itself be an important contribution towards sustainable development. The major beneficiaries of sustainable development policies are likely to be the poor: in as much as they are dependent on the natural environment, relying on it to cater to the most basic human needs such as food, water and shelter, they are also the most likely to benefit from improved environment (just as they continue to be the most affected and vulnerable to environment degradation). Pro-poor policies should therefore be a central goal of all Governments; they lead to a win-win situation-by, simultaneously, promoting sustainable development and reducing poverty levels.

Over-dependence on natural resources for incomes has been a major factor--- via declines in terms of trade, premature liberalisation of trade regimes and diminishing returns in the commodities sector --for the rise of poverty levels in much of Africa. Policy-makers must continue to target lessening such dependence and shift to higher value added activities, including in the natural resources sector. In the near-term,

environment friendly goods are likely to be a promising option for some countries as is the expansion of services trade in sectors such as tourism.

A Positive Agenda for African Countries:

As the remit of the multilateral trading system widens and becomes more complex-- both in terms of the number of fora and the range of agreements and instruments they are now expected to address, often as binding obligations, Africa's participation in the rule making processes must increase and become more effective if Africa is to influence the process and ultimately safeguard its trading interests.

African countries will benefit from expanded coordination and cooperation in the WTO and other multilateral processes in areas such as - the definition of environmental goods, treatment of process and production methods (PPM), eco-labelling, the implications of further trade liberalisation on environment and containing pressures to mainstream environment issues in all WTO agreements such as services, agriculture and intellectual property.

Environmental requirements in key export markets are becoming more frequent and stringent. More than through mandatory governmental regulation, they are increasingly imposed by the private sector or NGOs along the supply chain. Many voluntary requirements -- through their market power -- are de facto mandatory, although they fall outside WTO disciplines. These requirements are becoming more prevalent in sectors of export interest to African countries, such as food production, textiles and clothing, leather and footwear, and timber products.

While continuing to fight the proliferation of NTBs, African exporters countries also need to continue to strengthen their capacity on a continuing basis to meet higher standards in export markets. Considerable scope exists for pooling resources, particularly at the sub-regional level, to cope with the challenges of complying with SBS/TBT regulations: sharing of knowledge, of testing facilities, learning to make them effective and sharing results of on-going research are promising areas for cooperation.

Individually or in cooperation with other countries, all African exporters are now expected to create technical data bases on a wide range of exportables, implementing and monitoring plans for detection of heavy metals, pesticides, microbiological and contaminants in food items. These measures will be more effective by increasing awareness among all the stakeholders (public at large, all concerned Ministries, industries and consumer groups and media) about multilateral rules such as SPS and TBTs. Ex ante impact assessments of new standards and support from developed countries in implementing the requirements are effective means of reducing undesirable trade and development effects in exporting developing countries.

There has been considerable interest in exploring opportunities for enhanced trade in products with environmental and developmental benefits: these products include organic, non-wood forest, traditional-knowledge-based and renewable energy products. Markets for such products are growing quickly and can be further promoted.

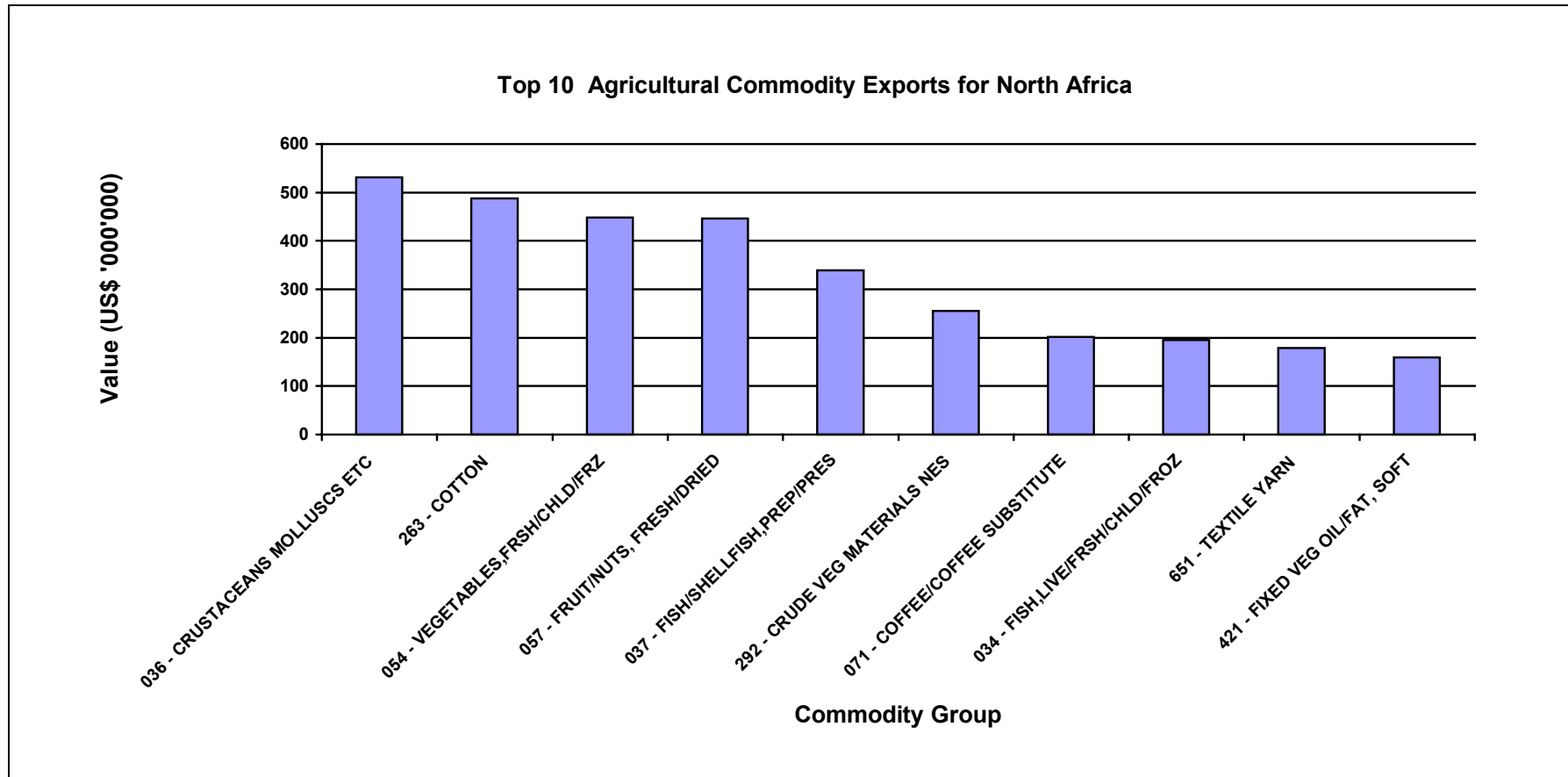
However, African producers must overcome a number of obstacles if they are to take full advantage of these new markets.

Organic agriculture, for example, offers a wide range of sustainable development benefits, including improved livelihoods, food security and health for rural populations, less environmental degradation, improved soil fertility, preservation of traditional agricultural knowledge and species, and community empowerment.

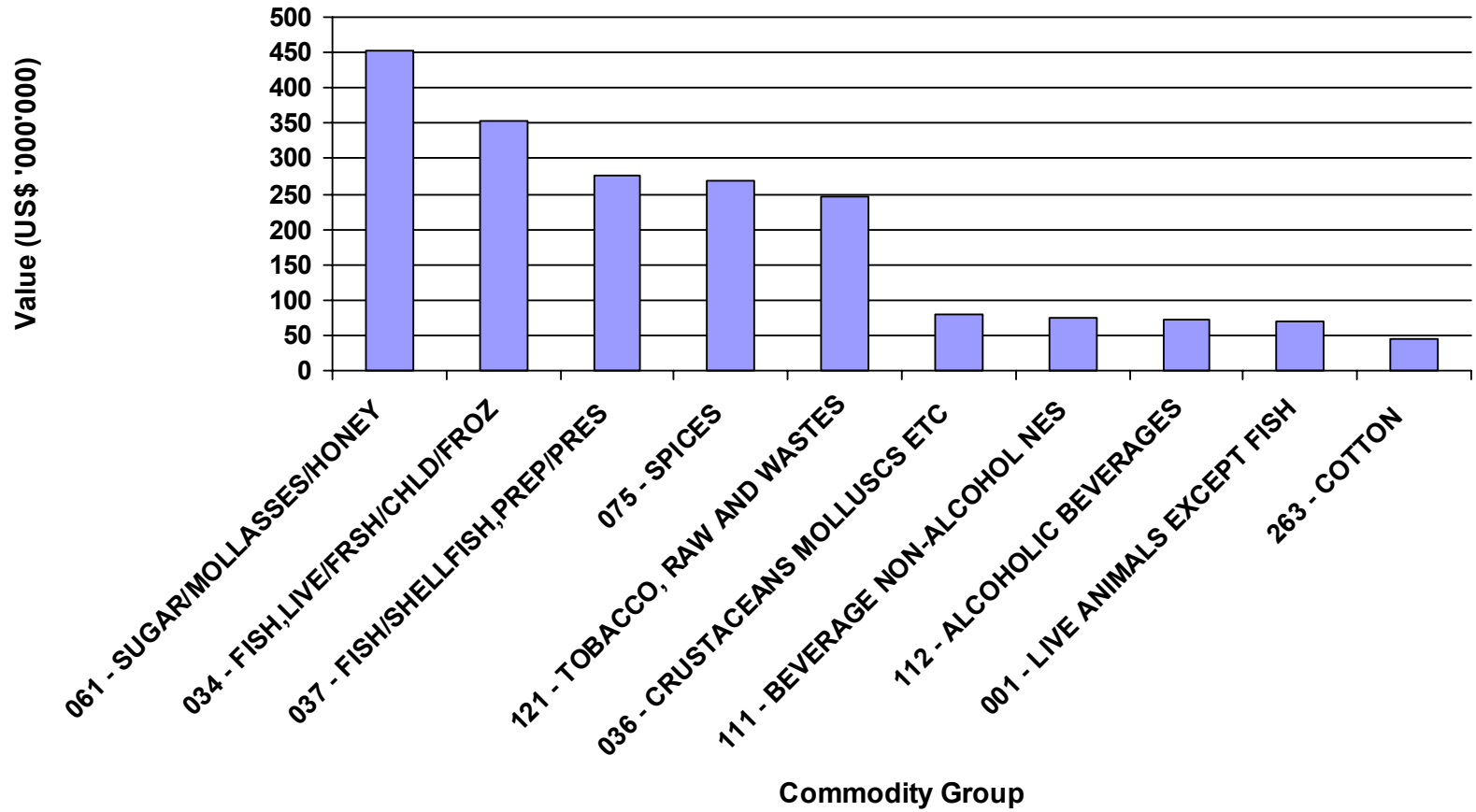
Improving and strengthening capacities research should become an important aspect of developing trade, environment and sustainable development policies in Africa: the research agenda should cover issues ranging from soil, water and conservation of biodiversity to new products design and methods of marketing and design and sequencing of liberalisation policies.

However, many of these goals are likely to be beyond the resource capacity of individual countries: in this respect, pooling efforts among African universities, research bodies and regional institutions offers significant opportunities and need to be put high on the agenda on national Governments and regional bodies such as SADC.

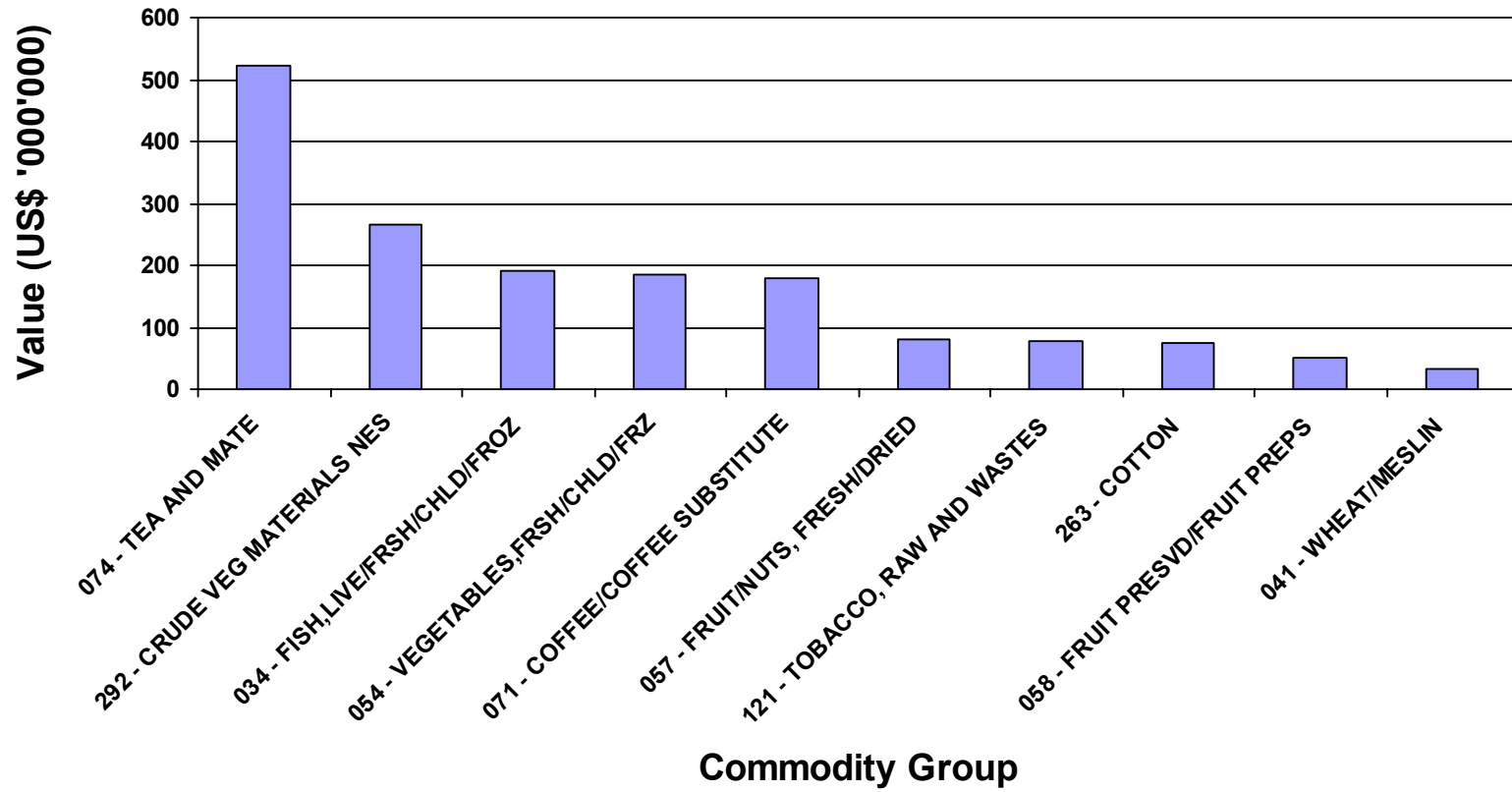
Annex 3.1 Regional Top 10 Commodity Exports (Northern, South, East, West and Central)



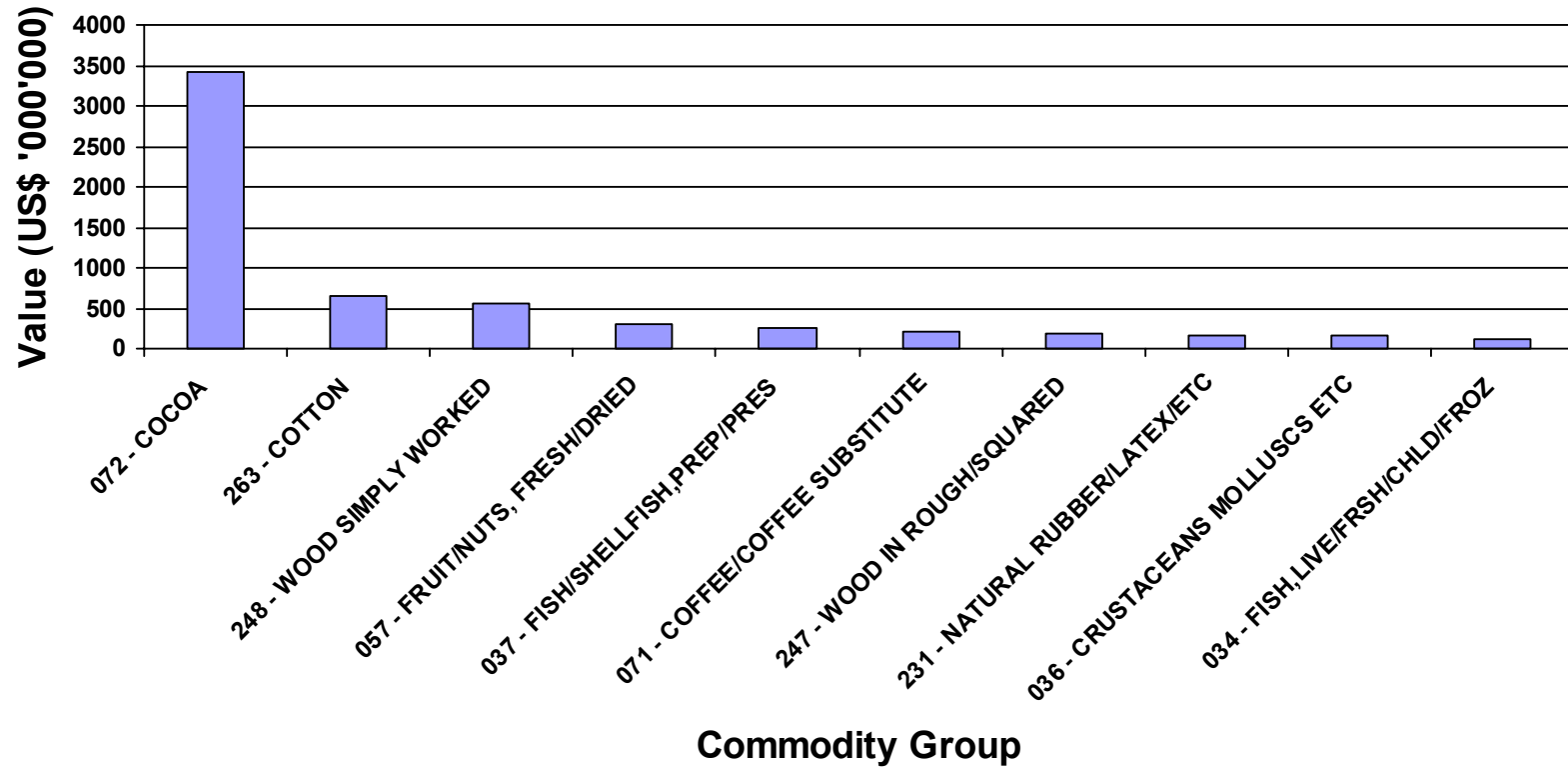
Top 10 Agricultural Commodity Exports for Southern Africa



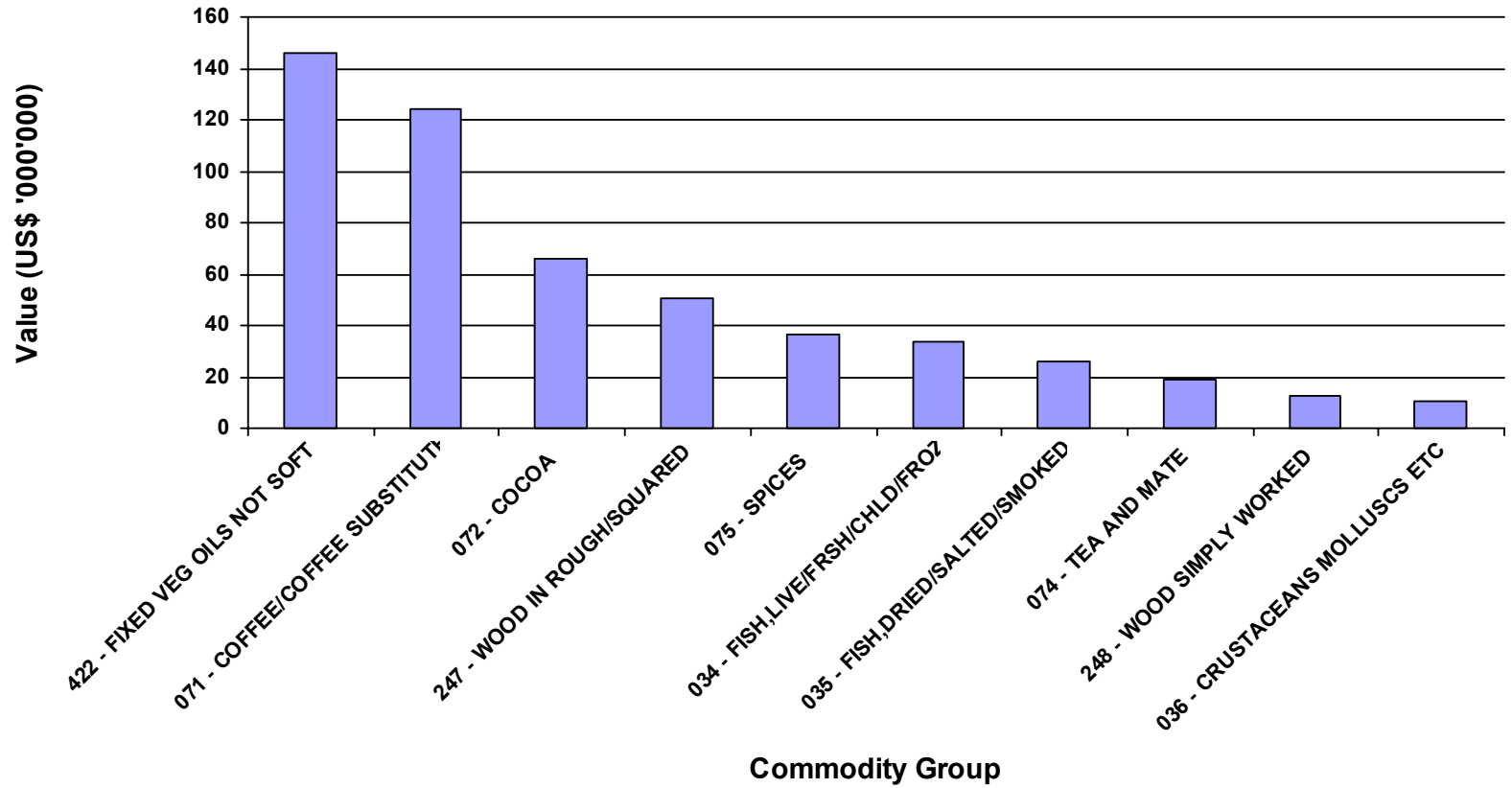
Top 10 Agricultural Commodity Exports for East Africa



Top 10 Agricultural Commodity Exports for West Africa



Top 10 Agricultural Commodity Exports for Central Africa



Annexure 4.1:

Comparison between OECD and APEC definitions on EGS

OECD Categories of Environmental Goods	APEC Categories of Environmental Goods
Pollution management	
<ul style="list-style-type: none"> • Air pollution control • Wastewater management • Solid waste management • Remediation and cleanup • Noise and vibration abatement • Environmental monitoring, analysis & assessment 	<ul style="list-style-type: none"> • Air Pollution Control (APC) • Solid/Hazardous Waste (S/H) • Waste Water Management (WWM) • Monitoring/Analysis (M/A) • Remediation/cleanup (R/C) • Noise/vibration abatement (N/V)
Cleaner technology & products	
<ul style="list-style-type: none"> • Cleaner/resource efficient technologies and processes • Cleaner / resource efficient products 	
Resource management group	
<ul style="list-style-type: none"> • Indoor air pollution control • Water supply • Recycled materials • Renewable energy plants and equipment • Heat / energy savings and management • Sustainable agriculture and fisheries • Natural risk management • Eco-tourism 	<ul style="list-style-type: none"> • Heat/Energy Management (H/E) • Renewable Energy Plant (REP) • Other Recycling Systems (ORS) • Potable Water Treatment (PWT)

Annexure 4.2:

Comparison of Tariffs between the OECD and APEC Definitions on EGS

Joy A. Kim

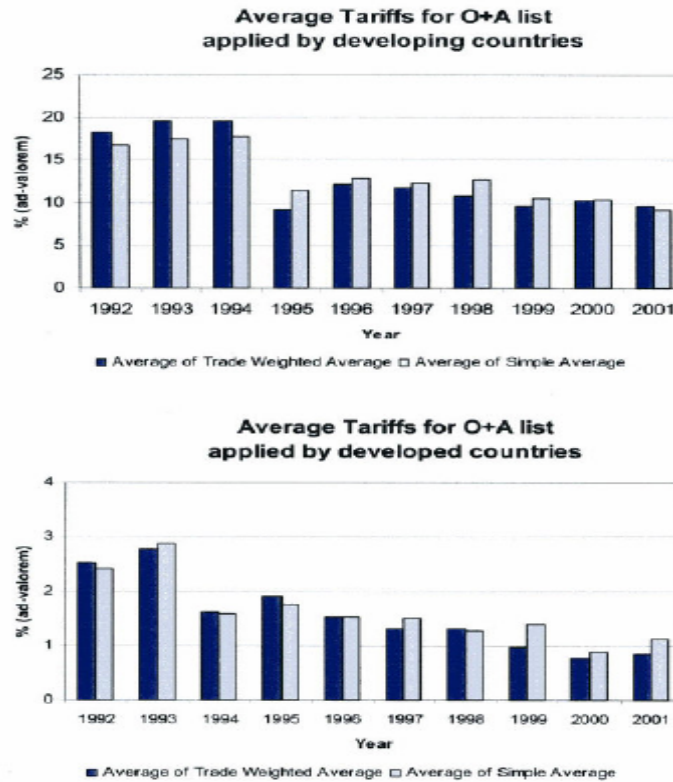


Figure 2. Average tariffs applied to O+A listed goods by developed and developing countries from 1992-2001.

Source: UNCTAD TRAINS

Note: Averages have been taken over all countries and all goods in the sample.

The OECD (referred to as O in the diagram) Environmental Goods and Services list combined with the APEC list by Kim (2004) provides an insight into the levels of restrictions in international trade.

Annex 4.3:

A Ugandan Experience with Promoting Organic Produce

Some proponents argue that Uganda should opt for organic agriculture due to its abundance of land and the lack of generalized use of chemical products. It is argued that conversion to organic farming will be easy especially among the small-scale producers,

Of particular interest however is the fact that various products from Uganda have shared a various forms of market. Some products have been exported for some years and have benefited from external support in terms of know how and certification i.e. cotton and sesame. The experience of other products, such as organic coffee, is more recent.

Production and export constraints

Constraints facing organic agriculture in Uganda, related to (a) production, (b) market access and marketing, and (c) institutional and policy-related issues. Production constraints include:

- The cost of certification and the need to maintain high quality standards. The small size of the organic sector makes it difficult to achieve economies of scale. The fact that small producers are dispersed over a large area increases inspection costs;
- Lack price premiums in the domestic market;
- Lack of know-how, insufficient training and extension facilities;
- Uncertainties about land ownership. Farmers have to be sure that they will be able to benefit from investing, for example, in improved soil fertility;
- Insufficient financial support and credit facilities;
- Over production in some areas

The major marketing constraints include:

- Lack of information
- Insufficient financial support and credit facilities;
- Overproduction in some areas.
- The major marketing constraints include:
- Lack of information on organic markets;
- Difficulties in penetrating external markets. As a result, most producers sell through transnational corporations rather than exporting directly to distributors;
- Absence of an organized national market and distribution system;

- Poor infrastructure (including a poor road network in rural areas and limited airport handling facilities).
- Uncertainty concerning demand and price premiums, which provides insufficient incentives to farmers to make additional efforts needed for organic production;
- Difficulties in generating sufficient volumes for export, in part because small-scale producers are located in different areas;

The key main institutional and policy constraints may be summarized as follows:

- Absence of a clear government policy on promotion of organic products or financial or other support available to entrepreneurs.
- Lack of a national body to support organic agriculture through national coordination and international negotiations:
- Lack of locally-based certifying bodies.

It is still unclear if and to what extent import procedures and other issues related to conformity assessment pose an obstacle to exports of organic products. Other studies, however, indicate that marketing of Robusta coffee from a successful EPOPA project in Bushenyi, Uganda, has been hampered by delays in obtaining import permits for the German market.³⁰

Price premiums

During the 2000/2001 season organic farmers sold less than 20% cent of their organic cotton and organic sesame as organic products with the being sold as conventional products. However, where organic farmers do receive price premiums, these were significant. In the case of coffee, a 20% premium over the conventional price was offered. Organic cotton farmers receive a price premium of 15% while organically-produced horticultural products fetched price premiums of 120% . *African Organics* paid its growers of pineapple, apple banana, passion fruit and ginger a price premium in the range of 40 to 80%. A case study on cotton and sesame in Lira district in Northern Uganda showed that production costs of organic and conventional coffee and sesame were very similar and while the yields and unit cost of production were not very different, profits of organic farmers were higher due to price premiums.

Recommendations

The study thus concluded that organic agriculture offered an avenue for farmers to improve on farm efficiency and profitability to a level higher than those under traditional management and the majority of the small-scale producers can afford to make this change. The opportunity for Uganda to become a relevant actor as an exporter of organic products depends mainly on its certification capacity. Uganda currently lacks a locally-based certification body. A national institution that would actively support organic agriculture in Uganda and facilitate the creation of a local certifying body is needed to lower certification costs and to provide incentives. It would also be necessary to ensure permanent supervision of the crops and to demonstrate the significance of the potential market for organic products in order to avoid overproduction as occurred in the past. The study makes the recommendation

that the Government should develop a clear policy on organic agriculture and play a pro-active role in designing supportive policies. Areas of support could include:

- Creation of awareness, and promotion of a local market for organic products;
- If producer subsidies are deemed to be advisable, credit programmes for organic agriculture would be a possibility, and subsidising the establishment of local standards and certification scheme;
- Identification of markets;
- Provision of information on prices and possible market saturation.

National bodies such as the Uganda Export Promotion Board (UEPB) could also undertake these activities. In addition, these exporters could gainfully focus their out-grower initiatives in areas where they can easily realize a critical mass and accordingly reduce costs of supervision and marketing. International assistance could be channelled into:

- Assisting with certification costs, at least initially;
- Assisting exporters in obtaining direct contacts with buyers in Europe (to obtain higher price premiums). This is especially important in immature markets, where traders may receive monopoly rents.

Annex 4.4:

European Union Regulations on Organic Produce¹

²22. EU Council Regulation No. 2092/91 on organic production and labelling came into being on 22 July 1991. The Regulation covers production, processing, labelling and inspection of agricultural products and foodstuffs from organic agricultural production. Council Regulation (EC) No 1804/1999 amended it to also cover livestock production.

23. Article 11 of Regulation 2092/91/EEC, paragraph 1 allows organic food into the EU market for products from third countries, based on the concept of equivalence. There are thus 3 ways to export organic products to the European Union:

- *Paragraph 1:* Establishes a “third-country” list, indicating countries with which equivalence is established. Only seven countries are on the list: Argentina, Australia, the Czech Republic, Israel, Hungary, New Zealand and Switzerland. Costa Rica¹ and India have both requested to be included in this list.
- *Paragraph 6:* Organic products from countries which are not on the “third-country” list can be marketed in the EU provided the importer submits documentation to confirm that the products are produced and certified according to rules equivalent to those of EU. This provision, commonly referred to as the “importer derogation” is scheduled to expire on 31 December 2005.
- *Paragraph 7:* An EU Member State assesses an inspection body in a third country and request the Commission to approve it. The Commission can then add it to the ‘third country list’.

24. In order to be able to import under the provisions of Article 11, paragraph 6, the importer must provide the member State with sufficient evidence to show that:

- The imported product was produced according to organic rules equivalent to EU standards;
- The imported product was subject to inspection measures equivalent to EU inspection requirements;
- The inspection measures are permanently and effectively implemented; and

¹ René Vossenaar and Sophia Twarog, Standards and trade: Strengthening developing countries capacities to take advantage of niche markets for organic agricultural products: the experience of Costa Rica, India and Uganda, 2002 UNCTAD, IDRC, scoping paper

² Point 22-27 pertaining to the EU and environmental standards which stipulate conditions for market access are excerpts taken directly from the scoping paper #5 done by the IDRC on standards and trade, 2002

- The inspection body operates in compliance with ISO/IEC Guide 65.
25. Each importer must obtain a separate authorization for each consignment. Such authorization shall be valid only as long as these conditions are shown to be satisfied. Over 90 developing countries export in this framework to the EU,
26. Regulation Commission Regulation (EC) No 1788/2001 of 7 September 2001 defines detailed rules with regard to the certificate of inspection for imports from third countries under Article 11. Since 1 July 2002, import procedures are harmonized throughout the EU. For each consignment the approved authority or inspection body in the third country from where the goods are exported must produce an original “*certificate of inspection for import of products from organic production*” It must be submitted to and endorsed by the authority of the EU Member State where the product is imported, after which the product will be able to enter into free circulation within the EU.
27. Since July 1999 certification and inspection bodies must conform to the European standard EN 45011 or to ISO Guide 65. This disqualified a number of certifiers in developing countries that had been active in certifying exports to the EU. For non-EU and non-listed countries, the guarantee of conformity to EN 45011 must be provided by an official accreditation organization. Most developing countries do not have such an entity

According to a recent ITC/FAO study “In practice, the duration of the process to obtain an import permit can vary considerably. Some importers reported that it is a matter of weeks in some countries (e.g. the Netherlands), while it can take up to several months in other member states. In France, for example, some trade sources said that in the past it used to take up to six months to obtain an import permit. However, they said that there has been considerable progress recently, leading to a more reasonable time frame (generally not exceeding two months).”¹⁷ This Regulation defines detailed rules with regard to the certificate of inspection required pursuant to Article 11(1)(b) and (3) of Regulation (EEC) No 2092/91 and with regard to the submission of such certificate for imports undertaken in accordance with the provisions of Article 11(6) of the same Regulation.

Annexure 4.5:

United States Regulation of Organic Produce

The) of 1990 required the United States Department of Agriculture (USDA) to develop national standards for organically produced agricultural products and to establish an organic certification program, based on recommendations of the National Organic Standards Board (NOSB). The National Organic Program (NOP) first proposed draft standards in December 1997. A revised proposal was issued in March 2000. The final regulation was adopted in December 2000, and implemented in October 2002.

29. Accreditation of goods imported from foreign countries can occur in three ways:

- Certifying agents operating in foreign countries may apply for USDA *accreditation*
- The USDA determines, upon the request of a foreign government, that that country's authorities are able to assess and accredit certifying agents as meeting the *requirements of the NOP*; or
- The USDA and a foreign government agree upon equivalency of standards and certification procedures, so that organic imports from this country are acceptable in the USA.

There were 67 USDA Accredited Certifying Agents in late October 2002. Whereas the European Union sets extensive, detailed requirements for "third countries" including requirements for inspection bodies and operators in third countries who seek to export

organic products to the European Union, the United States organic regulation does not have such provision.

Annex 5.1: Countries who have ratified Basal Convention and who have reported

Country Ratified	Existing National Definition of Waste	Additional Definition of Waste to BC	Restrictions on export for final disposal and for recovery	Restrictions on import for final disposal and for recovery	Restrictions on transit	Legislation, regulations and guidelines	Economic instruments/ initiatives
Maldives	No	No	No	Yes	Yes	Mandatory Environmental Impact Assessment Process for the new industry.	
Mozambique	No	No definition	No	yes	Yes	EIA Regulation; and- Environmental Law of 1997	
Niger	No	No definition	None	Yes	Yes	Law on Environmental Management currently being enforced (Law No. 98-56).	Mining industries and paracheicals apply the guidelines and instructions of their multinational groups on the management of hazardous wastes.
Gambia	Under Development	Under development	Under Development	Yes	Yes	National Environment Management Act (1994); Environmental Management Discharge Permit Regulations (2001); Environmental Quality Standards Regulations (1999); and Ozone Depleting Substances Regulations 2000.	
Madagascar	Under Development	Under development	No	No	No	Decree on Application of Compatibility of Investments and the Environment, Law 99-954 of 15.12.99.	

Country Ratified	Existing National Definition of Waste	Additional Definition of Waste to BC	Restrictions on export for final disposal and for recovery	Restrictions on import for final disposal and for recovery	Restrictions on transit	Legislation, regulations and guidelines	Economic instruments/ initiatives
Morocco	Under Development	Under development	Being prepared	Yes	Yes	Draft Law	
Egypt	Yes	Yes plus additional limits	Yes	Yes	Yes	Egyptian Environmental Law No. 4/1994 and its Executive Regulations laws 93/1961 and 48/198;	In preparation.
Mauritius	Yes	Yes	Yes	Yes	Yes	Environment Protection (Standards for Hazardous wastes) Regulations 2001	Fines for illegal dumping and penalties to non-compliance to standards and regulations.
Uganda	Yes	Yes	Yes	Yes	Yes	The National Environment (Waste Management) Regulations (1999); The National Environment Act incentives and/or import duty /sales tax exemptions for “Appropriate – technology”	Cleaner Production (UNIDO); Adoption of ISO, Voluntary Codes
Zambia	Yes	Yes	Yes	Yes	Yes	Toxic Substances Regulation , Environmental Protection and Pollution Control Act, 1990,	

Country Ratified	Existing National Definition of Waste	Additional Definition of Waste to BC	Restrictions on export for final disposal and for recovery	Restrictions on import for final disposal and for recovery	Restrictions on transit	Legislation, regulations and guidelines	Economic instruments/ initiatives
Nigeria	Yes	Yes	In Preparation	Yes	Yes	FEPA Harmful Wastes Provision Decree 42, 1988; National Guidelines and Standards on Industrial Effluents, Gaseous Emissions and Hazardous Waste Management in Nigeria 1991;	Environment-friendly awards to industries/facilities that comply with existing rules and regulations on environmental protection; and compulsory waste audit of facilities/industries every three(3) years.
South Africa	Yes	Yes	None	Yes	Yes	Environment Conservation Act; National Environment Management Act; and Draft Waste Bill.	
Tunisia	Yes	Yes and additional	Yes	Yes	Yes	Waste and waste treatment fall under the law n°96-41 of 1996	Series of Economic Incentives implemented
Ethiopia	Yes, wide definition	yes	Yes (but not export for recovery)	Yes	Yes	Environmental Pollution Control Proclamation (2002); Environmental Impact Assessment Proclamation (2002)	Provided in Legislation

**Annex 5.2 : Countries who have ratified Basel Convention
but without any reporting**

Equatorial Guinea	Malawi
Eritrea	Mali
Ghana	Mauritania
Guinea	Namibia
Guinea-Bissau	Rwanda
Kenya	Senegal
Lesotho	Seychelles
Liberia	Swaziland
Libyan Arab Jamahiriya	Togo
United Republic of Tanzania	

Annex 5.3: Countries who have ratified the Stockholm Convention whose reporting is Pending

Algeria	Madagascar
Benin	Malawi
Botswana	Mali
Burkina Faso	Mauritania
Burundi	Mauritius
Cameroon	Morocco
Central African Republic	Mozambique
Chad	Namibia
Comoros	Niger
Congo	Nigeria
Côte d'Ivoire	Rwanda
Democratic Republic of the Congo	Senegal
Djibouti	Seychelles
Egypt	Sierra Leone
Eritrea	South Africa
Ethiopia	Sudan
Gabon	Swaziland
Gambia	Togo
Ghana	Tonga
Guinea	Tunisia
Guinea-Bissau	Uganda
Kenya	United Republic of Tanzania
Lesotho	Zambia
Liberia	Zimbabwe
Libyan Arab Jamahiriya	

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End Notes

- ¹ It has become customary to decompose the environmental impact of trade into three interacting elements: a composition effect, a scale effect, and a technique effect. The *composition effect* arises from trade-induced specialization, based on comparative advantage. The *scale effect* suggests that for given pollution coefficients and a given composition of production, enhanced economic activity will increase pollution. At the same time, the associated income growth brings with it an increased willingness to pay for abatement costs : this can then be expected to result in a decline in pollution per unit of output, *the technique effect*.
- ² Three main conclusions were reached by the Meadows study. First, that within a time span of less than 100 years with no major change in the physical, economic, or social relationships that have traditionally governed world development, society will run out of the nonrenewable resources on which the industrial base depends. When the resources have been depleted, a precipitous collapse of the economic system will result, manifested in massive unemployment, decreased food production, and a decline in population as the death rate soars. The second conclusion of the study is that piecemeal approaches to solving the individual problems will not be successful. To demonstrate this point, the authors arbitrarily double their estimates of the resource base and allow the model to trace out an alternative vision based on this new higher level of resources. In this alternative vision the collapse still occurs, but this time it is caused by excessive pollution generated by the increased pace of industrialization permitted by the greater availability of resources. As its third and final conclusion, the study suggests that overshoot and collapse can be avoided only by an immediate limit on population and pollution, as well as a cessation of economic growth.
- ³ Global energy use has increased nearly 70 percent since 1971, and is projected to increase at more than 2 per cent annually over the next 15 years. This will raise greenhouse gas emissions by 50 per cent over current levels unless a concerted effort is made to increase energy efficiency and move away from today's heavily reliance on fossil fuel.

Deforestation shows no sign of abating. Between 1960 and 1990, some 20 per cent of all tropical forests in the world were cleared. 34per cent of all fish species are currently at risk from human activities. Most oceans are already over fished with declining yields.

Global water consumption is rising quickly, and the availability of water is likely to become one of the most pressing issues of the 21st century. One third of the world's population lives in countries already experiencing moderate to high water shortages, and that number could (at given population forecasts) rise to two thirds in the next 30 years without serious water conservation measures.

Source: World Resources 1998-99: A Guide to the Global Environment. A collaborative report by the World Resource Institute, the United Nations Environmental Program, the United Nations Development Program, and the World Bank (1998).

- 4 The hypothesis is based on and named after Simon Kuznets, whose work on the relationship between the level and inequality of incomes, which tend to follow an inverted U-shaped relationship. That is, income inequality tends to become worse as a country grows out of poverty, stabilizing at a middle-income level, and then gradually becoming more equal.
- 5 Theoretically, the phenomenon of diminishing returns arises when increasing quantities of a variable input (such as capital) are added to fixed quantities of another input (such as land or labour), first marginal and then average returns to the variable input (in this case capital) will decline , usually resulting in a discontinuance and or disappearance of the activity.
6. These studies bring to light the complex links between the need to liberalize trade and the need to protect the world's forests, fisheries, wetlands, wildlife and other precious natural resources; without the right environmental policies in place, trade liberalisation could have negative consequences for developing countries and not achieve its long-term objectives. A major conclusion of the study is that the environmental impacts of increased trade in agricultural products are potentially devastating, and countries must urgently establish policies to protect their natural resources as well as those that enable them to reap the economic and social benefits.

For a comprehensive of list of such instruments, see WTO document WT/CTE/W/160/ Rev.2. Among the major MEAs include the following:

- Basel convention on the Control of Tran boundary Movements of Hazardous Wastes and their Disposal
- Convention on Biological Diversity and the Cartagena Protocol on Biosafety
- Convention on International Trade in Endangered Species of Wilds Fauna and Flora
- Convention on the Conservation of Atlantic Marine Living Resources
- Convention on the Law of the Seas
- Framework Convention on climate Change and Kyoto Protocol
- International Convention on the Protection of Atlantic Tunas
- International Tropical Timber Organization
- Montreal Protocol on Substances that Deplete Ozone Layer
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
- Stockholm Convention on Persistent Organic Pollutants.

- 8 The extreme case of a 'pure' public good is one that can be characterized as being non-rival in consumption (a commodity, if supplied to one person, can be available to all others at no cost) and non-excludable (if provided, the producer is unable to exclude anyone from its consumption).

- 10 Wilson, J.S. "Advancing the WTO Agenda on Trade and Standards: A Developing Country Voice in the Debate " 2001 The African Economic Research Consortium Conference on Trade

- 11 For example an externality arises when an industry discharges effluents in a river where the costs are shifted to downstream fishermen.

- 12 The GATT 1947 and GATT 1994 are incorporated as part of the WTO stable of agreements.
- 13 Also known as the Doha Development Agenda (DDA) or the Doha Work Programme (DWP).
- 14 Under the heading, Trade and Environment, (Paragraphs 31-33), the Doha Work Programme also addresses several other issues including the treatment of environmental goods in tariff negotiations, effects of environmental measures on market access, eco-labelling and question of technical assistance and capacity building .
- 15 Several other MEAs may have trade effects but without employing trade measures such as in the Kyoto Protocol.
- 16 UNCTAD Trade and Environment Report, 2003, (Geneva, 2003) particularly the article by Ulrich Hoffman, Chapter 1.
- 17 UNCTAD 2003 Trade and Environment Review
- 18 Khan, S.R., Qureshi, M.S., Khwaja, M.A. “The Costs and Benefits of Compliance with International Environmental Standards,” 2003 International Institute for Sustainable Development available from www.iisd.org.
- 19 While there are technology transfer agreements between countries the actual transfers take place at market related prices and it is the private sector not the state which holds commercial technology.
- 20 Product Process Methods refer to the manner in which a product has been produced and do not normally have a bearing on the physical characteristics of the final product itself.
- 21 A process whereby WTO agreements are signed only when all negotiation topics have been agreed to, in other words nothing is agreed till everything is agreed.
- 22 Knox, J.H. “The Judicial Resolution of Conflicts between Trade and the Environment” Harvard Environment Review 2004.
- 23 UNCTAD Trade and Environment Review 2003, United Nations, , Geneva 2004 hereafter UNCTAD 2003. Trade measures typically can include 1) “Reporting requirements on the extent of trade of a particular product/item; labelling or other identification requirements; Requirements related to notification and consent procedures; Targeted or general export and or import bans; and “Market transformation measures” such as taxes, charges and other fiscal measure and non-fiscal measures”
- 24 Knox 2004. The complainant will have to show that the alternate measure is not only less trade restrictive but that it affords the same level of protection as the measure implemented.
- 25 Mann, H., Porter, S., “The State of Trade and Environmental Law, 2003, Implications for Doha and Beyond” International Institute for Sustainable Development and Centre for International Environmental Law, available from www.iisd.org.
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- 28 Knox 2004.
- 29 Caplan, R. “Gats Handbook (WTO’s General Agreement On Trade In Services)” Alliance For Democracy available from www.thealliancefordemocracy.org undated.
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- 31 Mutume G. “New barriers hinder African trade Health standards in rich countries limit continent’s ability to export” 2006 Africa Renewal, Vol.19 No.4 relating more anecdotal evidence reports:
- In Tanzania, where fish and fish products accounted for 10 per cent of annual exports, fishermen dependent on EU sales lost 80 per cent of their income, the World Bank reports;
- If the EU were to use international standards on pesticides on bananas, rather than its more restrictive ones, annual African exports would increase by \$400 mn, according to the March 2005 report of the Commission for Africa;
- Studies in Kenya show that to comply with high EU standards, farmers would have to spend 10 times more than they currently do. To comply, Uganda would need to spend \$300 mn upgrading its honey-processing plants and coffee producers would spend 200 per cent more to produce coffee at the required standard.
- 32 Bernasconi-Osterwalder, N., Sherman, L. NAMA Negotiations: An Environmental Perspective (2005) available from www.namawatch.org/docs/ngo/nama_environmental_perspective.doc
- 33 See WTO document TN/MA/9/Rev.1.
- 34 See www.foei.org and at www.foei.org/trade/NTBs.xls
- 35 See for instance <http://www.unido.org/doc/4580>; [http:// www.unep.org/desertification/successstories/](http://www.unep.org/desertification/successstories/) and [http:// www.unido.org/doc/ 8447](http://www.unido.org/doc/8447)
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- 56 If either the importer or exporter has ratified the relevant MEA treaty.
- 57 Knox 2004.
- 58 2nd COP effective from 1 January 1998 even for recycling.

⁵⁹ The 12 initial POPs targeted are: 1. Aldrin – *(elimination)* 2. Chlordane – *(elimination)* 3. Dieldrin – *(elimination)* 4. Endrin – *(elimination)* 5. Heptachlor – *(elimination)* 6. Hexachlorobenzene – *(elimination)* 7. Mirex – *(elimination)* 8. Toxaphene – *(elimination)* 9. Polychlorinated Biphenyls (PCBs) – *(elimination by 2025)* 10. DDT – *(restricted use for registered countries with a goal of elimination)* 11. Dioxins – *(continuing minimization and where feasible elimination)* 12. Furans – *(continuing minimization and where feasible elimination)*

⁶⁰ www.basel.int

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⁶³ See WTO Annual Report, 2004, Geneva pages 157- 159 and UNCTAD Report to the Working Party (12-16 September, 2005): Review of Technical Cooperation Activities, 2004. Table 2 (TD/B/WP/181/Add. 1)

⁶⁴ See, for example paragraph 57 of the WTO Hong Kong Ministerial Declaration (WT/Min (05)/Dec:

“We welcome the discussions of Finance and Development Ministers in various fora, including the Development Committee of the World Bank and IMF, that have taken place this year on expanding Aid for Trade. Aid for Trade should aim to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to expand their trade. Aid for Trade cannot be a substitute for the development benefits that will result from a successful conclusion to the DDA, particularly on market access. However, it can be a valuable complement to the DDA. We invite the Director-General to create a task force that shall provide recommendations on how to operationalize Aid for Trade. The Task Force will provide recommendations to the General Council by July 2006 on how Aid for Trade might contribute most effectively to the development dimension of the DDA. We also invite the Director-General to consult with Members as well as with the IMF and World Bank, relevant international organisations and the regional development banks with a view to reporting to the General Council on appropriate mechanisms to secure additional financial resources for Aid for Trade, where appropriate through grants and concessional loans.”

⁶⁵ There are at present over 50 international standard setting organizations (ISOs) engaged in developing international standards, although only a few of them develop standards that are trade related. The seven standard setting bodies in this respect and explicitly or implicitly acknowledged/recognized by the SPS and TBT are: Codex Alimentarius (CAC); Office International des Epizootics (OIE); International Plant Protection Convention (IPPC); International Organization of Standards (ISO); International Electrotechnical Commission (IEC); International Telecommunications Union (ITU) and International Organization of Legal Metrology (OIML) See for a detailed description of these organizations, their mandates etc,” Influencing and Meeting International

Standards” in International Trade centre and Commonwealth Secretariat, Volumes One and Two, Geneva,2002.

- ⁶⁶ There are at present over 50 international standard setting organizations (ISOs) engaged in developing international standards, although only a few of them develop standards that are trade related. The seven standard setting bodies in this respect and explicitly or implicitly acknowledged/recognized by the SPS and TBT are: Codex Alimentarius (CAC);Office International des Epizootics (OIE); International Plant Protection Convention (IPPC); International Organization of Standards (ISO);International Eelectrotechnical Commission (IEC); International Telecommunications Union (ITU) and International Organization of Legal Metrology (OIML) See for a detailed description of these organizations, their mandates etc,” Influencing and Meeting International Standards” in International Trade centre and Commonwealth Secretariat, Volumes One and Two, Geneva,2002.
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