Africa Review Report on Sustainable Consumption and Production

United Nations
Economic Commission for Africa

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Contents

Acronyms

10-YFP	10 Year Framework of Programmes
A21	Agenda 21
ABREW	African Brewery Sector Water Savings Initiative
AEO	Africa Environment Outlook
AEM	African Eco-labelling Mechanism
AfDB	African Development Bank
AICC	African Institute of Corporate Citizenship
AMCEN	African Ministerial Conference on the Environment
APCI	African Productive Capacity Initiative
APRM	African Peer Review Mechanism
ARSCP	African Roundtable on Sustainable Consumption and Production
ASCN	African Sustainable Cities Network
AU	African Union
BCRC	Basel Convention Regional Centre
CAADP	Comprehensive Africa Agriculture Development Programme
CDM	Clean Development Mechanism
CFSSD	Committee on Food Security and Sustainable Development
CO2	Carbon Dioxide
CP	Cleaner Production
CPCT	Cleaner Production Centre of Tanzania
CSD	Commission on Sustainable Development
CESR	Corporate Environmental and Social Responsibility
CFL	Compact Fluorescent Lamp
CSR	Corporate Social Responsibility
DAA	Development Assistance Agencies
DRC	Democratic Republic of Congo
DTIE	Division of Technology, Industry and Economics
EAC	East African Community
EC	European Commission
ECA	Economic Commission for Africa
ECOSOC	Economic, Social and Cultural Council
ECOWAS	Economic Community of West African States
EE	Energy Efficiency
EMA	Environmental Management Accounting
EMS	Environmental Management Systems
ESC	Education for Sustainable Consumption
EST	Environmentally-Sound Technologies
EU	European Union
FAO	Food and Agricultural Organization
FARA	Forum for Agricultural Research in Africa

GDP	Gross Domestic Product
GEF	Global Environment Facility
GLTN	Global Land Tool Network
GNP	Gross National Product
GRI	Global Reporting Initiative
IAEA	International Atomic Energy Agency
ICCM	International Conference on Chemicals Management
ICLEI	International Council for Local Environment Initiative
IEA	International Energy Agency
IETC	International Environment Technology Centre
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
ISWM	Integrated Solid Waste Management
IWRM	Integrated Water Resources Management
JPOI	Johannesburg Plan of Implementation
KNCPC	Kenya National Cleaner Production Centre
LA21	Local Agenda 21
LCA	Life Cycle Assessment
LCC	Life Cycle Costing
MDG	Millennium Development Goal
MEA	Multilateral Environment Agreement
MESA	Mainstreaming Environment and Sustainability in African Education
MSC	Marine Stewardship Council
MSWM	Municipal Solid Waste Management
MTF	Marrakech Task Force
MVA	Manufacturing Value Added
NEAP	National Environment Action Plan
NCPC	National Cleaner Production Centre
NEPAD	New Partnership for Africa's Development
NEPAD-EAP	NEPAD Environment Action Plan
NGO	Non-governmental Organization
NSSD	National Strategies for Sustainable Development
OAU	Organization of African Unity
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OMVG	*Organisation pour la Mise en Valeur du Fleuve Gambie*
PES	Payment for Ecosystem Services
PFIA 21	Programme for the Further Implementation of Agenda 21
PGM	Platinum Group Metals
PPP	Public Private Partnership
PPP	Purchasing Power Parity

PPT	Pro-poor Tourism
PRSP	Poverty Reduction Strategy Paper
QSP	Quick Start Programme
R&D	Research and Development
REC	Regional Economic Commission
RIM	Regional Implementation Meeting
ROAAS	Regional Office for Africa and the Arab States
RSC	Regional Steering Committee
RUSPS	Regional Urban Sector Profile for Sustainability
SADC	Southern African Development Community
SAICM	Strategic Approach to International Chemicals Management
SC	Sustainable Consumption
SCP	Sustainable Consumption and Production
SD	Sustainable Development
SETAC	Society of Environmental Toxicology and Chemistry
SIFT	Sustainable Investment and Finance in Tourism Network
SME	Small and Medium Enterprise
SCP	Sustainable Consumption and Production
SSA	Sub-Saharan Africa
TOE	Tons Oil Equivalent
UCPC	Uganda Cleaner Production Centre
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-Habitat	United Nations Human Settlements Programme
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UNWTO	United Nations World Tourism Organization
USEPA	United States Environmental Protection Agency
WBCSD	World Business Council for Sustainable Development
WHO	World Health Organization
WSS	Water Supply and Sanitation
WSSD	World Summit on Sustainable Development

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Chapter 1: Introduction

1.1 Background

1. Moving to more sustainable consumption and production (SCP) is at the heart of sustainable development, and international cooperation is essential to effect that transition. Recognizing this, governments at the Johannesburg Summit in 2002 called for the development of a 10-year framework of programmes (10-YFP) in support of regional and national initiatives to accelerate the shift towards SCP patterns that would promote social and economic development within the carrying capacity of ecosystems. The 10-YFP was among the cluster of issues discussed during the Eighteenth Session of the Commission on Sustainable Development (CSD-18) in 2010. CSD-18 reviewed progress and achievements, as well as obstacles and challenges to implementation of SCP. CSD-19 will serve as the basis for negotiations for the global 10-YFP on SCP.

2. The Marrakech Process, led by the United Nations Environment Programme (UNEP) and the United Nations Department of Economic and Social Affairs (UNDESA), is the global platform that brings all stakeholders together to work jointly in the promotion and implementation of SCP patterns and elaboration of this 10-YFP on SCP.

3. United Nations General Assembly Resolution 58/218 mandated the United Nations Regional Commissions in collaboration with the Secretariat of CSD, regional institutions as well as United Nations organizations to organize multi-stakeholder Regional Implementation Meetings (RIMs) to provide regional input to CSD work. The United Nations Economic Commission for Africa (ECA) in collaboration with other UN organizations and other institutions including United Nations Environment Programme (UNEP) and the United Nations Industrial Development Organization (UNIDO) organized the Africa RIM for CSD-18 in October 2009, under the auspices of the Sixth Session of the Committee on Food Security and Sustainable Development (CFSSD-6). This RIM reviewed progress achieved in the thematic cluster of issues discussed at CSD-18, based on the commitments, goals and targets agreed in Agenda 21 (A21), the Programme for Further Implementation of Agenda 21 (PFIA21), and the Johannesburg Plan of Implementation (JPOI)

4. To undertake the implementation review, the Committee had this regional review report before it for consideration. The Secretariat of the African Roundtable on Sustainable Consumption and Production (ARSCP), with guidance from UNEP and UNECA, took the lead role in its preparation. It provides an in-depth review of concrete actions and achievements, identifies and documents implementation challenges and constraints, and proposes the way forward for accelerating implementation progress in the area of SCP in Africa.

1.2 Relevance of SCP to Africa

5. By definition, SCP means *"the production and use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the ability to meet the needs of future generations* "(Oslo Symposium, 1994). The main objective of SCP is to promote social and economic development within the carrying capacity of ecosystems and the de-coupling of economic growth from environmental degradation. The implementation of SCP as an integrated approach helps to achieve overall development plans, reduces future economic, environmental and social costs, strengthens economic competitiveness and reduces poverty.

6. To promote SCP in Africa, it is very important to put its relevance into context. For example, given that forty-one per cent of the African population lives below the poverty line (UNDESA, 2008b), it is essential that sustainable consumption be not automatically translated into "consuming less" – as this is highly irrelevant in the region. Rather, the large segment of the African population living in poverty has a real need to increase their consumption of basic products and services. Sustainable consumption in the African context refers to more efficient, better informed and less resource-intensive consumption, creating opportunities to meet basic needs for the ever-increasing population.

7. For many poor people in Africa, the quality of their environment and of the natural resource base is a matter of survival. The challenge is to provide more people with a better quality of life without undermining the natural resource base and destroying the ecosystems on which everybody depends. More efficient resource use allows poor people to meet more of their needs - or consume more – from the same resource base.

8. Many of the underlying causes for other priorities are in fact directly linked with how we use resources for production and consumption. For example, domestic water and energy needs often require that women spend several hours daily collecting water and wood or other fuel, hindering them from spending time on other activities such as income-generating activities or education. A water and energy system based on the SCP approach should provide everybody with clean water and affordable energy. Another example is vehicle transportation systems in cities. They are causing health risks, air pollution and economic losses. By shifting these forms to public and efficient transportation systems and by promoting clean fuels and energy-efficient vehicles, many of these problems could be addressed simultaneously. SCP therefore contributes to meeting other objectives that are directly relevant to SCP, and which are imperative if Africa is to reduce poverty, as follows:

- Acceleration of industrial development to provide employment and enhanced incomes and to raise financial resources needed to stimulate growth. Any

national industrialization strategy must be environmentally sustainable and must not contribute to further environmental degradation;

- Increase of sustainable agricultural production for food security and avoiding degradation of the natural resource base;
- Avoiding depletion of water resources through water conservation measures;
- Increase in energy efficiency and access to affordable and sustainable energy sources; and
- Improvement of infrastructure and sustainable human settlement patterns to reduce congestion and pollution and increase access to infrastructural services such as water and sanitation.

9. SCP should therefore be seen as a basis for sustainable resource use that could help to achieve new sustainable development models as Africa explores the potential and possibility of leapfroging to sustainable development modes. It is therefore an essential tool for attaining the Millennium Development Goals (MDGs), in particular goals one and seven, which relate to eradication of poverty and hunger, and ensuring environmental sustainability respectively. SCPis also an opportunity to leapfrog to more resource-efficient, environmentally sound and competitive technologies and infrastructures. As governments and other actors consider how to manage energy, food and water and build a Green Economy, promoting and implementing holistic and integrated policies and actions towards SCP will help to address these crises.

1.3 Methodology of the study

10. This Review Report was prepared keeping in close view, priorities and developments in the region such as the MDGs and poverty eradication, the African Union (AU) and the New Partnership for Africa's Development (NEPAD) priorities and programmes. Its preparation used a participatory process so as to gain consensus on the priority issues to be covered. The report has kept the current regional institutional setting and arrangements for SCP in focus, as well as the following on-going key processes and initiatives in the region:

a. The NEPAD Environment Action Plan;
b. The Marrakech Process, the African 10-YFP and the Marrakech Task Force on Cooperation with Africa;
c. African Roundtables on Sustainable Consumption and Production;
d. UNIDO-UNEP National Cleaner Production Centre (NCPC) Programme; and
e. The CSD-Africa process.

11. A number of strategies were pursued to achieve the objectives of this assignment. These included:

a. Review of A21, PFIA21 and the JPOI, which outline a broad array of strategies and actions to foster SCP. Annex 1 gives the list of SCP commitments contained in Chapter III of the JPOI. In addition, Chapter VIII of the JPOI contains 47 recommendations aimed at promoting sustainable development in Africa within the framework of NEPAD and many of these recommendations are also relevant to SCP;

b. Secondary statistical data sets and qualitative information available from regional and international institutions which have SCP programmes, as well as from country reports, were used for overviews of production and consumption patterns and positive initiatives undertaken;

c. In order to map out SCP activities in the region, and to support the implementation of SCP activities in various countries, the report set out to provide an overall picture of the current state and recent trends in consumption and production patterns with regard to processes, products and services in Africa, focusing on key thematic issues from an SCP perspective, including economic sectors with high environmental impact, such as industrial production, food production and consumption, tourism, transport services, energy development and waste generation and management. A focus on implementation initiatives taking place at the city level was ensured due to increasing urbanization in Africa. The opportunity for large-scale environmental and social gains may be greater in cities through more integrated and efficient spatial planning, investment in collective transport, waste collection and management, among others;

d. A focus-group e-mail survey was carried out to identify barriers to SCP in Africa and to discuss the way forward. The participants came from government, the private sector, non-governmental organizations (NGOs) including consumer associations, and from regional and international organizations. The participants were chosen from the list of participants who attended the Fifth African Roundtable on SCP in Johannesburg in June 2008 and from the ARSCP network. The selection ensured a regional balance. The synthesis of the survey is given in Annex 2. Its results helped to identify the challenges and constraints and the recommendations for the way forward; and

e. To discuss the way forward, the report considered priority areas for SCP programmes and activities in the region under the following four clusters listed below:

    i. Institutional and policy mechanisms such as National Action Plans for SCP and other enabling SCP policies and instruments;

    ii. Supporting tools and instruments including cleaner production, sustainable procurement, sustainable cities, mobility, buildings and construction, food and agriculture, sustainable tourism, sustainable

water use, sustainable energy use, Integrated Solid Waste Management (ISWM), eco-labelling, among others;

iii. Education for SCP (awareness of decision makers, youth education, SCP skill development);

iv. Means of implementation (finance, technology transfer, capacity building, partnership and collaboration, and information outreach.

1.4 Structure and outline of the report

12. Chapter 2 sets the scene for further analysis by providing an overview of the economic, demographic and social situation and trends, which have relevance for SCP in Africa. Chapter 3 reviews the progress and achievements made in key thematic areas relevant for SCP in the region: the development of the African 10-YFP, sustainable energy development, industrial production, food production and consumption, buildings, transport services, water and sanitation, waste generation and management, policies and instruments. The sections under each theme consider its relevance to SCP, current status and trends, resulting environmental and social impacts, and the status of SCP-relevant policies related to the theme. Opportunities and positive initiatives are also presented. A focus is kept on implementation initiatives taking place at the city level. Chapter 4 focuses on challenges and constraints to development of SCP in Africa. Barriers to the spreading of positive initiatives and the key issues for developing SCP in Africa are discussed. Chapter 5 reflects on the lessons learnt and identifies steps in the way forward. It lays emphasis on institutional and policy mechanisms, supporting tools and instruments, means of implementation and education requirements at all levels. Finally, the main conclusions derived from the review are given in chapter 6.

Chapter 2: Broad Trends in Production and Consumption in Africa

13. The African region encompasses a vast area of widely differing economic, demographic and social situations and development trends. To set the scene, this chapter provides a brief economic and demographic background to the region and outlines trends in production and consumption and related environment pressures. Most of the data presented in this chapter are taken from the following publications: The World Bank's 'Africa Development Indicators' of 2007, the United Nations Department of Economic and Social Affairs (UNDESA) report on Trends in Sustainable Development for Africa (2008-2009), the Report of the Secretary-General on Africa for CSD-16 in 2008 and the 2008 Global Footprint Network Report for Africa.

2.1 Regional overview

14. Africa covers 20.4 per cent of the global land area, contains about 13 per cent of the world's population, but generates only 1.7 per cent of the global Gross Domestic Product (GDP) and 2 per cent of world trade. Annex 3 gives a breakdown of population, land area, GDP and per cent of rural population for the 53 countries in the region while table 2.1 gives the average regional figures.

Table 2.1: Area, population and GDP

	Population (millions)	Land area (thousands of sq km)	Population density (people per sq km)	GDP per capita, PPP (dollars) Constant 2000 prices	% share of rural population to total population
Sub-Saharan Africa (SSA)	801	23,629	33.9	601.6	64.1
North Africa	157	5738	27.3	2136	47.1
All Africa	958	29,367	32.6	852	61.2

Source: ADI, 2007

15. Differences among the countries are considerable. Population ranges from 0.2 million in Sao Tome and Principe to 148 million in Nigeria, population density from 2.5 persons per km2 in Namibia to 622 persons per km2 in Mauritius, and GDP per capita from $US282 in the Democratic Republic of the Congo to $US28,923 in Equatorial Guinea. The greatest differences among countries are in their size, ranging from 460 km2 in Seychelles to 2,376,000 km2 in Sudan. The region is large and diverse, with the 53 countries having their own specific characteristics with regard to economy, culture, language, climate, industrial structure, and political systems. Therefore, the recommended approach for promoting SCP will vary from country to country.

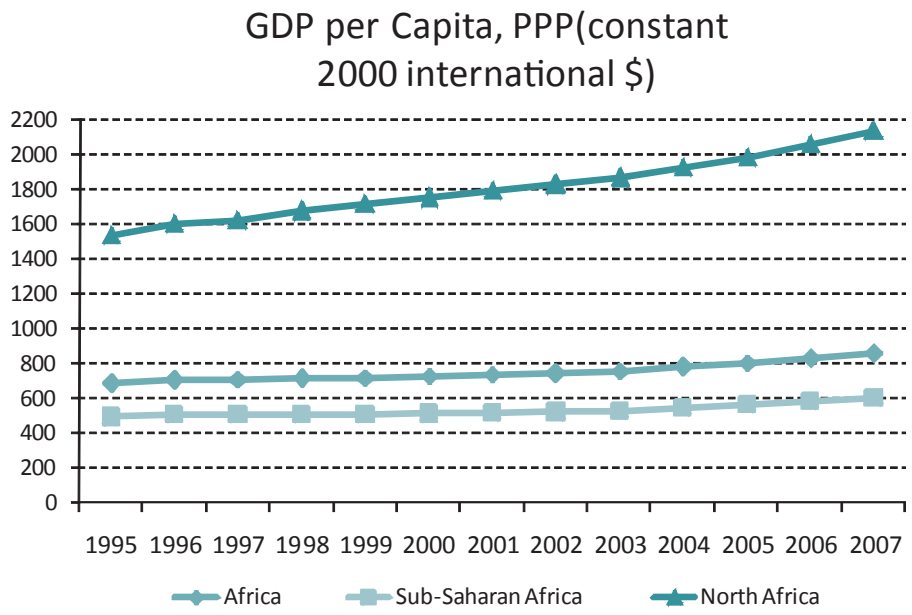
16. Natural resources are the basis for economic and social development in Africa. The poor tend to rely more on the natural resource base for their livelihoods than

the rich. Unsustainable production patterns can result in significant social and environmental side effects that undermine the prospects for poverty reduction. The unsustainable consumption patterns of the consumer class may further limit the "ecological space" available to poor people to meet their basic needs.

2.2 Economic growth and welfare

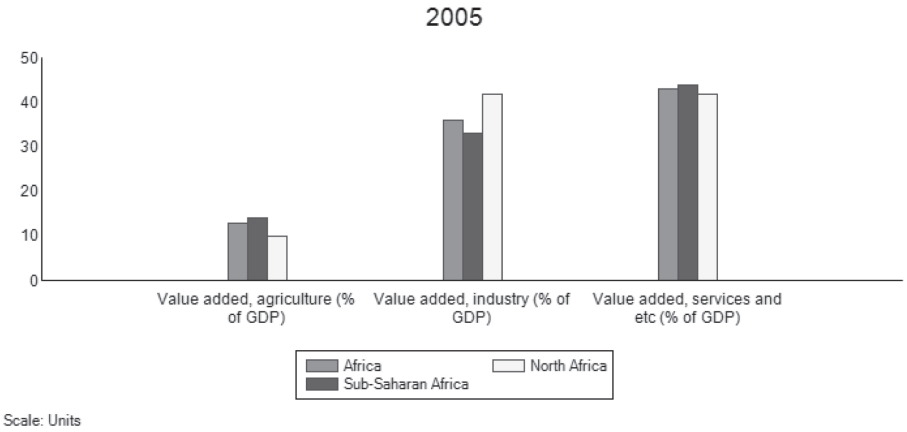
17. Reversing previous trends, African economies have performed well in the new millennium. In the past few years, the sub-Saharan Africa (SSA) GDP growth has been accelerating, averaging 5.9 per cent in 2005, 6.1 per cent in 2006 and an estimated 7 per cent in 2007 (UNDESA, 2008a). Per capita GDP grew by almost 2 per cent per year from 2000 to 2005, but had actually declined slightly during the 1990s (figure 2.1). In 2005, eight countries were near or above the 7 per cent threshold needed to sustain poverty reduction. Africa's recent growth performance has been underpinned by improvement in macroeconomic management in many countries and by strong global demand for key African export commodities, sustaining high export prices, especially for crude oil, metals and minerals. Value added as a percentage of GDP in 2005 for agriculture, industry and services was 14 per cent, 29 per cent and 57 per cent respectively (figure 2.2).

Figure 2.1: GDP in purchasing power parity (PPP) per capita (1995-2007)



Source: UNDESA, 2008a

Figure 2.2: Growth across economic sectors



Source: UNDESA, 2008a

18. Economic figures for SSA as a whole can be misleading because the averages often hide high variability in situations and trends. South Africa and Nigeria account for more than half of the GDP of SSA. South Africa, though the most industrialized country in Africa, has an economy that is also largely dominated by services, which account for two-thirds of the GDP. Nigeria, by contrast, is predominantly industrial, reflecting the importance of the oil and gas sector. With poorer countries growing more slowly, the gap between their incomes and those of richer countries has widened. Africa has become more unequal across countries. Botswana, Cape Verde, Gabon, Mauritius, Namibia, Seychelles and South Africa, with 9 per cent of the region's people, has 45 per cent of its GDP.

19. Structural change in African economies has been limited, with most economies still dominated by the agricultural or mining sectors. In 2005, agricultural raw materials, ores and metals and fuels represented 68 per cent of the region's exports (UNDESA, 2008a). African economies remain insufficiently diversified. Natural constraints, conflicts, insufficient infrastructure, poor governance and weak technological capabilities have constituted major impediments to the diversification process. Agriculture remains an important sector in much of SSA. It provides 57 per cent of all employment, though only about 17 per cent of the GDP (UNDESA, 2008a). In at least 20 countries, more than 70 per cent of the labour force works in agriculture (UNDESA, 2008b). The poorest members of society are those who are most dependent on rain-fed agriculture for jobs and income. Growth in agriculture value added averaged 4.6 per cent in 2004, but too little of it has come from higher productivity or yields. Agricultural production is mostly increased by the expansion of cultivated areas at the expense of forest and pastures. However, an encouraging trend has been noted with emerging high-value crops - namely horticulture and oil seeds crops.

20. Average agricultural value added per worker is low in many countries, reflecting a low degree of mechanization and limited penetration of improved seeds and inputs such as fertilizers. Productivity growth will require an expansion of area irrigated, as less than 4 per cent of cultivated land is irrigated (ADI, 2007)), as well as better performance of rain-fed agriculture. The agro-industrial sector is still at a low level of development and is yet unable to act as a driver for the agricultural sector.

21. Industrial diversification has been recognized as a priority for Africa (JPOI, para 62 (F)). Despite the importance of industry in the context of sustainable development and poverty reduction, the continent lags behind other developing regions in industrial performance. The share of manufacturing value added in the GDP of SSA fell from 16.7 per cent in 1989 to 14 per cent in 2005. If South Africa is excluded, the share of SSA industries in world industrial output fell from 0.79 per cent to 0.74 per cent over the period from 1990 to 2002 (ADI, 2007).

22. Economic development can and should bring with it improvements in human well-being and quality of life. The UNDP Human Development Index (HDI), which takes into account life expectancy, literacy, education and standard of living, shows a reasonably strong correlation with GDP. HDI increases most rapidly with rising GDPs for the poorer economies (figure 2.3). In more affluent economies, further growth in economy brings less rapid improvements in HDI. Some countries appear to be less successful than others at transferring economic wealth into an improved quality of life. The positive impacts of economic growth on quality of life are limited if the increasing wealth is not distributed evenly across society.

23. The Gini coefficient is most commonly used as a measure of inequality of income distribution. It is defined as a ratio between 0 and 1. A low Gini coefficient indicates more equal income or wealth distribution, while a high Gini coefficient indicates more unequal distribution. Annex 3 gives the Gini coefficients for several African countries for which data were available. With a Gini coefficient of 51 per cent, Africa has the worst income distribution in the world (http://www.uneca.org/era2000/chapter1.pdf).

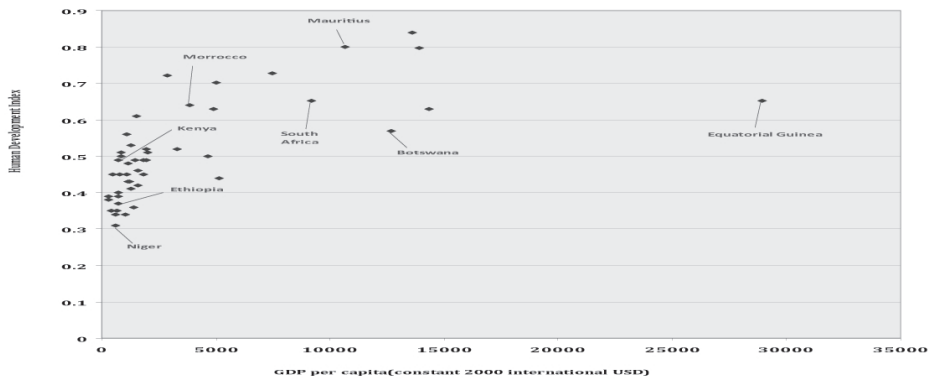
24. Poverty and health conditions are intimately related. African populations are heavily burdened by poverty-related diseases. SSA is the only region of the world where life expectancy has fallen over recent decades, reaching levels below 40 years in Botswana, Lesotho, Zambia and Zimbabwe. The child mortality rate is the highest in the world, with an average under-five mortality rate of 163 per 1000 in 2005 (UNDESA, 2008b).

25. Access to water and sanitation is very low. In 27 African countries, more than 30 per cent of the population does not have access to safe water. In nine of those countries, more than 50 per cent of the people lack access to safe water. There are 36 African countries where more than 50 per cent of the population lacks access to sanitation. While much of the world is on track to meet the MDGs on water and

sanitation, most of Africa is not. To meet these MDGs in SSA, more than 23 million people a year would need to gain access to an improved water source, and nearly 28 million per year to basic sanitation. While the proportion of people who lack access to water and sanitation is significantly higher in rural populations, rapid urbanization is putting greater pressure on larger-scale municipal services.

26. At the midway point between their adoption in 2000 and the 2015 target date for achieving the MDGs, SSA is not on track to achieve many of the goals (table 2.2). Poverty has been reduced, but remains widespread, in spite of successes during the last decade. More than 41 per cent of the people in SSA (or roughly 300 million people) still live on less than $1/day. Many Africans remain trapped in dire poverty, heavily dependent on a fragile natural resource base and vulnerable to economic and environmental shocks. A study by the International Food Policy Research Institute in 2007 on extreme poverty found that of the 162 million "ultra poor" people in the world who subsist on less than $0.50 a day, 121 million live in SSA. Although the region is not expected to reach most of the MDGs by 2015, there is substantial variation among counties in both the level of attainment of the goals and the pace of progress. Mauritius, Botswana and South Africa have met three goals. Among other counties, nine will meet two goals and thirteen will meet at least one, but despite progress, 23 African countries are not likely to meet any of the MDGs.

Figure 2.3: Human Development Index versus GDP in Africa, (2006)



Source: ADI, 2007

Table 2.2: Progress towards the MDGs in SSA (1990-2015)

	1990	2006	2015 (Target)
MDG1: People living on less than $US1per day (% of population)	45	41	22
MDG2: Primary education enrolment rate (% of relevant age group)	54	71	100
MDG3a: Promoting gender equality: primary education (% girls in schools)	0.82	0.89	1
MDG3b:Promoting gender equality: secondary education	0.75	0.80	1
MDG4:Under-five mortality rate (per 1000 births)	187	157	62
MDG5: Maternal mortality rate (per 100,000 live births)	920	900	230
MDG6: Combating HIV/AIDS, malaria and other diseases			
MDG 7a: Access to improved water source (% of pop.)	49	58	75
MDG7b: Access to improved sanitation (% of population)	26	31	63
MDG8a:ODA flows (% of donors' GNI)	On the decrease	Increased to 0.3% in 2003	0.7% as agreed in Monterrey
MDG8b: Debt sustainability	N/A	12 African countries reached completion point in 2004	

Source: UN, 2008

27. Policies and actions supporting SCP can serve to bolster poverty-reduction efforts and support sustainable long-term growth. Measures which reduce inefficient use of resources are particularly relevant in low-income countries where severe resource scarcities mean that wastage has high opportunity costs. By conserving natural resources and the revenues that they generate and particularly by avoiding degradation of ecosystems, SCP measures can protect the incomes of the poor and enhance food security (MDG 1). A more efficient and less polluting use of natural resources can improve quality of life by preserving the regulating functions of ecosystems and reducing environmental health problems (MDGs 4, 5 and 6). SCP also contributes directly to ensuring environmental sustainability (MDG 7) and global partnerships (MDG 8) can support the development of innovative products and services that help to meet basic needs in a more sustainable manner. In other words, SCP could help African countries to leapfrog to sustainable models of development.

2.3 International trade and impacts on production

28. Structural economic changes may partly reflect changes in national consumption patterns and a greater demand for services. However, structural changes in national economies have also been significantly influenced by growth in international trade, particularly exports of fossil fuels and metals and increasingly, the import of manufactured goods from other parts of the world. Figure 2.4 shows the growth in international trade between Africa and the rest of the world. Exports have increased sharply in the last years. In absolute value terms, exports increased by 12 per cent per annum on average over the period 1995-2006 in Africa. However, when the increase in value is disaggregated between volume and price effects, it appears that this is mainly due to rising world prices for African exports over the last few years.

29. Indeed, export volumes grew by a yearly average of only 6 per cent over the period, which is lower than the comparable figures for all developing countries export (9 per cent). Raw materials (minerals, fuels and related products) constitute more than 60 per cent of total SSA exports (UNDESA, 2008a). Asia is rising as Africa's trade partner. More than a quarter of African exports headed to Asia in 2005 compared to 14 per cent in 2000 (UNDESA, 2008b). Imports of merchandise from China and India have also grown very rapidly in recent years. India exports mainly pharmaceutical products, manufactured goods, rice and cereals. China's exports mainly cheap manufactured goods such as electronics and household items.

30. Most countries in the region remain essentially primary commodity exporters, with only a handful of countries - South Africa, Nigeria, Angola, Botswana, Madagascar, Mauritius, Kenya, Cameroon, Zambia and North African countries - drawing a significant part of their export revenues from manufactured products. In comparative terms, SSA remains the region with the highest export dependency on primary commodities. For almost half of its countries, agricultural commodities are the main exports and agricultural exports are concentrated in a few commodities (coffee, tea, cocoa, sugar, cotton, bananas). Furthermore, due to a number of constraints, SSA is still weakly integrated in high-value agricultural markets.

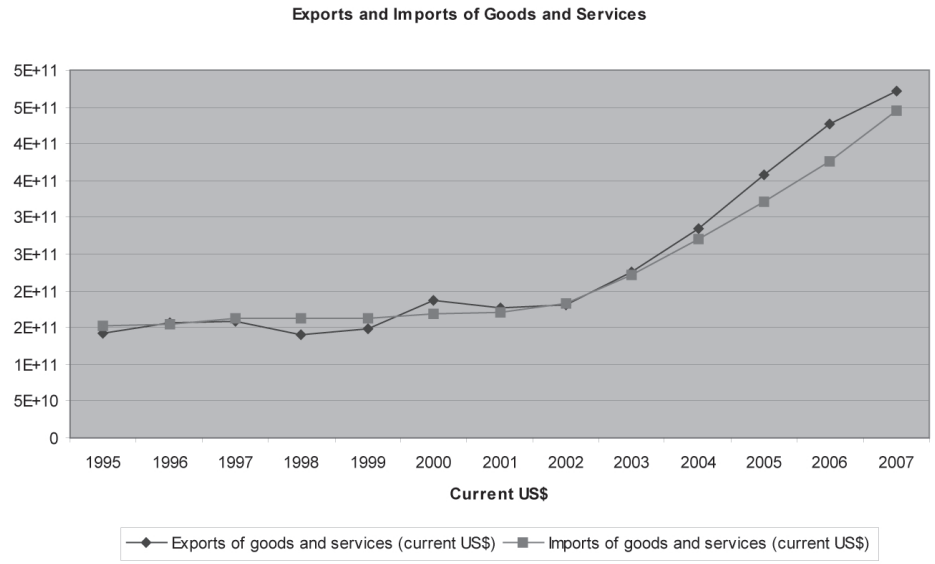
31. The Economic Development in Africa Report (UNCTAD, 2008) shows that extensive trade liberalization undertaken by African countries has not been followed by a substantial improvement in their export performance. As a proportion of GDP, exports in Africa increased only by 10 per cent following liberalization. In comparison, non-African developing countries saw their exports as a share of GDP increase by 62 per cent. African exports continue to grow at a lower rate than other regions in volume terms and it is only the rising prices of fuels, minerals and other primary commodities since 2002 that have maintained African export values at a level comparable with other developing regions. Manufacturing exports represent a negligible proportion of GDP in most African countries. This suggests that there are serious obstacles hampering the supply response to the new incentive structure created by the removal of barriers to

trade. The obstacles mainly consist of structural problems related to weak capacity in the production and marketing of exports in both the agricultural and manufacturing sectors.

32. The issue of unrestricted market access for SSA has featured lately in the debate on overcoming Africa's development challenges through international trade, rather than aid. Greater liberalization of agricultural trade in the markets of developed countries is, for example, key to improving Africa's agricultural export performance. As a result of the boom in world commodity prices, most African countries have benefited from increased export revenues since 2000. Improvement in the management of the increased revenues is critical. Greater Corporate Environmental and Social Responsibility (CESR) and greater transparency in the management of financial flows require urgent attention.

33. Tourism dominates services exports, both for the region overall and for several countries. There is great potential for further development of this industry in the region that can provide an important source of employment and bring positive spillover effects in terms of improved infrastructure, technology transfer and knowledge and managerial skills.

Figure 2.4: International trade in the Africa region (1995-2007)



Source: ADI, 2007

2.4 Socio-demographic trends of relevance to consumption

34. From 1970 to 2005, African populations increased by 126 per cent and 162 per cent in North Africa and SSA respectively (UNDESA, 2008a). Population growth is still strong (table 2.3). High fertility rates will translate into rapid population growth well into the century. From 520 million in 1990, population is expected to reach 1.3 billion by 2030. Although growth rates have begun to decline since around 1985, part of the explanation of the rapid demographic growth lies in very high fertility rates and in the large number of youths. In countries such as Angola, Chad and Niger, the average number of children is still above 6 per woman (UNDESA 2008b). Fertility rates tend to decrease over time, notably with rising incomes.

Table 2.3: Socio-demographic trends in Africa (1997-2007)

	Population Growth, Annual %		% population under 14		% population over 65		Urban population,%	
					1997	2007		
	1997	2007	1997	2007			1997	2007
Sub- Saharan Africa	2.7	2.4	44.7	43.1	2.9	3.1	31.4	35.9
North Africa	1.7	1.6	36.8	30.4	4.3	4.9	50.5	52.9
Africa	2.5	2.2	43.3	41.0	3.2	3.4	34.8	38.7

Source: UNDESA, 2008b

35. Compared to other developing areas, the SSA population is very young. Currently, half of the population is less than 18 years old. The share of people under 15 in total population is expected to decline only slowly, from 46 per cent in 1990 to 36 per cent in 2030. Population aged 15 to 59 is expected to grow from 456 million in 2010 to 758 million in 2030 (UNDESA, 2008b). This young population structure represents a particular challenge for African countries for education and employment, and for structural transformation of the economies.

36. Africa offers stark contrast in terms of urbanization. Countries such as Burundi, Rwanda, Ethiopia and Burkina Faso are still mainly rural, whereas in Gabon more than 80 per cent of the population lives in urban areas. Nigeria, the most populous country in SSA has seen the proportion of people living in urban areas grow from 44 to 52 per cent in 10 years (UN-Habitat, 2008). By 2020, the urban population is expected to be 646 million, up from 302 million in 2000. While insufficient data exist for accurately ascertaining the magnitude of urbanization, available statistics indicate a current rate of urbanization in Africa of around 3.5 per cent per year. This rate is the highest in the world, and is resulting in the rapid growth of urban agglomerations throughout the region. By 2030, the proportion of Africa's urbanized population is expected to reach 53.5 per cent, compared to 39 per cent in 2005 (UNDESA, 2008b).

37. This fast rate of urbanization places strain on infrastructure and other services. Urban growth presents daunting challenges for development as migrants have to

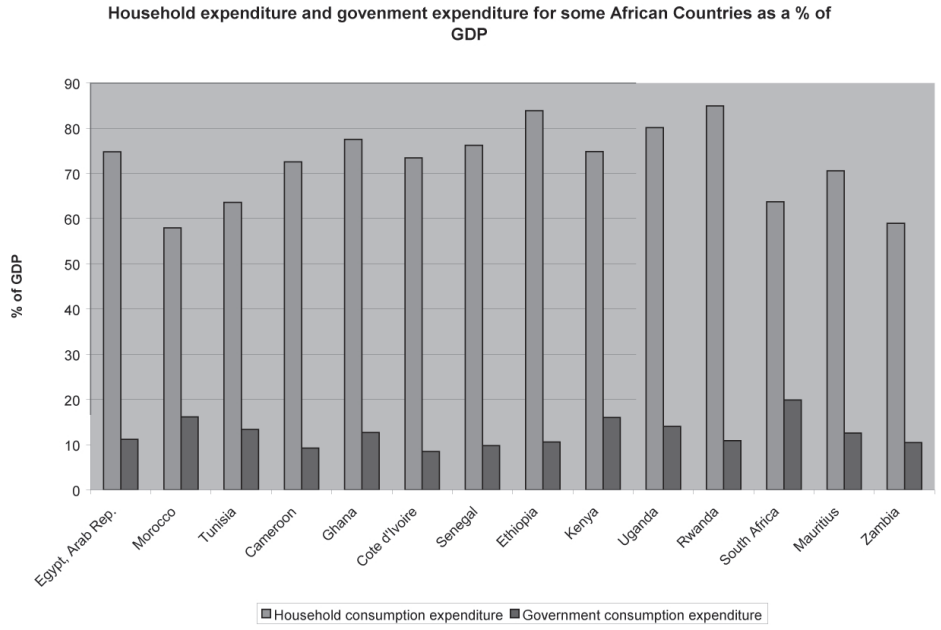
be provided with land access, infrastructure and basic services. Many of the newly urbanized live in slums. There is a growing and urgent need for integrated approaches to environmental planning and management. The level of urbanization has a strong impact on the patterns and impacts of consumption. Dense urban areas can benefit from more efficient provision of services such as multi-apartment housing, collective transport or waste collection and treatment. On the other hand, in sprawling urban areas, the demand for transport can be high and the provision of collective services more difficult to organize. In addition, consumption of processed foods and goods, electronics, and generation of household wastes are higher in urban areas than in rural areas.

38. In large cities, there is evidence of a growing urban middle class and their adoption of western consumption patterns have environmental consequences, such as increasing private car ownership, increase in meat consumption and emergence of low-density detached housing developments in suburban areas. This trend also offers opportunities for national and subregional markets for food producers. Meeting that potential demand requires development of integrated food value chains in these different spaces.

2.5 Consumption by State and households

39. In all countries of the region, household expenditure exceeds government expenditures by far (figure 2.5). In the whole of Africa, household final consumption expenditure was 68 per cent of GDP in 2007, compared to 13 per cent for the general government's final consumption expenditure as a percentage of GDP. The ratio of household to government expenditure ranges from 1.8 in Botswana to 13.8 in Guinea. With respect to government consumption, the potential benefits of sustainable procurement policies remain significant. A rise in income levels and household expenditures has potentially positive social implications, provided that the majority of the population is benefiting. However, it also tends to lead to an overall rise in environmental impacts related to household consumption.

Figure 2.5: Household expenditure and government expenditure for selected African countries as a % of GDP



Source: ADI, 2007

40. According to household surveys carried out in a number of African countries, food still dominates household expenditures across the African region, ranging from 50 to 75 per cent of the mean monthly expenditure. Household consumption patterns will vary according to the socio-economic factors, with lower-income countries having greater proportions of household expenditures on food, while for upper-income countries, more is spent on transport and communication, recreation and healthcare. Consistently across countries, the lowest-income groups, which often represent the vast majority of the population, spend more than half of their budgets on food. As income rises, the proportion of income spent on food tends to decline sharply, allowing for a greater portion of expenditures to go to health and other uses.

41. The level and type of environmental pressures associated with household consumption depend both on absolute levels of consumption (how much is consumed) and on patterns of consumption (what products and services) as well as on the various pressure intensities of these products and services (i.e environmental pressures per unit of consumption). For some goods and services, environmental pressures dominate during the consumption phase of the life cycle and can be directly attributed to households. For other goods, such as food, the majority of pressures can be associated with production or disposal. Economy-wide analysis of environmental pressures is yet to be carried out.

2.6 Production and consumption trends in key sectors

2.6.1 Food production and consumption

42. Food, along with housing and transportation, are some of the consumption categories which cause the highest environmental impacts over the life-cycle. Production of food is intrinsically associated with the use of water and land, and agriculture-encompassing both crop production and animal husbandry - accounts for most of the environmental impact of the food production and consumption cycle. For example, agriculture consumes 70 per cent on average of total water used globally. However, there are other significant effects of the food production and consumption chain, including impacts from transportation, processing, packaging and retailing of food, and food wastes generated at the point of consumption. Also, high food prices can have a dramatic impact on African economies.

43. Agricultural development is of fundamental importance to the achievement of broad-based economic growth, food security and sustainable development in Africa. Agriculture is still largely oriented towards subsistence agriculture. Africa's main commodities are cassava, sugar cane, yams and maize. Sorghum, plantain and rice are also important food staples. Livestock and fisheries are also major sources of food for the African people. From a study undertaken by IFPRI during 1996-2000, for SSA as a whole, 72 per cent of the food traded was for sale in domestic markets for food staples (UNDESA, 2008A). However, African agriculture remains very fragile. Low soil fertility, scarce irrigation, poor rural infrastructure, insufficient finance and recurrent droughts are among the major challenges facing SSA agriculture. As a result of economic and environmental constraints, fishing and livestock raising have failed to keep up with the growing African population. As a result, food insecurity remains a major concern, with 24 SSA countries requiring external food assistance at the beginning of 2007 (UNDESA, 2008a).

44. The performance of agriculture in Africa has slightly improved, with annual agricultural growth rates averaging about 3.9 per cent during recent years. It has been possible during the last decade to lift agricultural growth at a level above the rate of population growth in the region as a whole (FAO, 2006). However, while growth did take place, it did not really lead to improved food security and reduced poverty. As per recent studies (FAO, 2006) SSA accounts for 10 per cent of the population and 25 per cent of the undernourished people in the developing world. It is unlikely that the MDG of halving the number of poor and hungry by 2015 will be achieved. The current pattern of agricultural development in Africa is therefore unsustainable. A large part of the population remains undernourished, and the degradation of land and ecosystems worsens food insecurity. Therefore, easing the access of African farmers to improved crop varieties and fertilizers is crucial. Feasible irrigation deserves priority attention. Improved tillage and land management can also help halt land degradation.

45. In cities, increasing per capita incomes, demographic shifts, urbanization, smaller family units and other lifestyle changes have increased the demand for processed and imported food and packaging. These changes are having a major impact on the production and consumption of food, leading to significant structural changes in the food production systems and processing industry. From an SCP perspective, these structural changes need to take consumer concerns about food safety, quality issues and environmental concerns into account.

2.6.2 Energy production and consumption

46. Africa's energy sector is best understood as three distinct regions: North Africa, which is heavily reliant on oil and gas, followed by South Africa which depends on coal, and the rest of SSA which is largely reliant on traditional biomass. Access to energy remains seriously deficient in SSA. Compared with other regions, Africa has one of the lowest per capita energy consumption rates with heavy dependence on traditional biomass. However, certain regions such as South Africa and North Africa have experienced rapid growth in energy consumption that is somewhat similar to industrializing countries of Asia. Even within SSA, modern energy consumption is relatively high in urban areas. In the long term (30-50 years), some African countries could experience the kind of rapid growth in energy consumption that is currently observed in industrializing countries of Asia resulting in significant adverse environmental impacts.

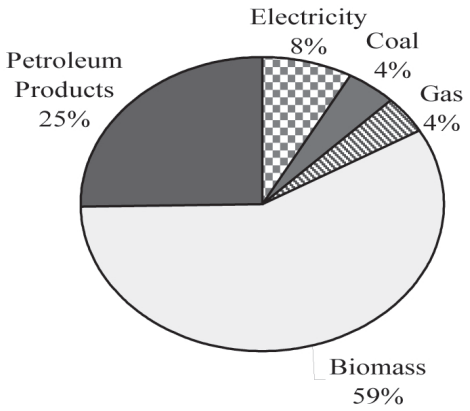
47. The key challenge facing Africa is not just to increase energy consumption per se, but to ensure access to cleaner energy services, preferably through energy efficiency and renewable energy use, thus promoting sustainable consumption. Africa, could, in a number of sectors, leapfrog directly from current traditional energy consumption patterns to sustainable energy options.

48. Africa is relatively well endowed with energy resources and produces about 10 per cent of the world's energy supply. However, with a population that is 13 per cent of the world's total, Africa consumes only 5.5 per cent of the world energy, and it generates only 3.1 per cent of the world's electricity (ECA, 2006). The per capita energy consumption of 0.5 tons of oil equivalent (TOE), far lower than the world average of 1.2 TOE per capita, makes the continent lag behind all others in energy use. Energy production tends to be costly, relying heavily on fossil fuels (about 80 per cent of electricity generation), despite significant untapped hydro electricity and other renewable energy potential. Only about 7 per cent of Africa's enormous hydro potential has been harnessed and based on the limited initiatives that have been undertaken to date, renewable energy technologies could contribute significantly to development of the energy sector in Africa.

49. Energy consumption in Africa is still largely dominated by combustible renewable resources (biomass, animal wastes, etc.) with 59 per cent of the total (figure

2.6). In some countries, biomass accounts for more than 80 per cent of total energy use.

Figure 2.6: Energy consumption in Africa in 2005 (in tons of oil equivalent)

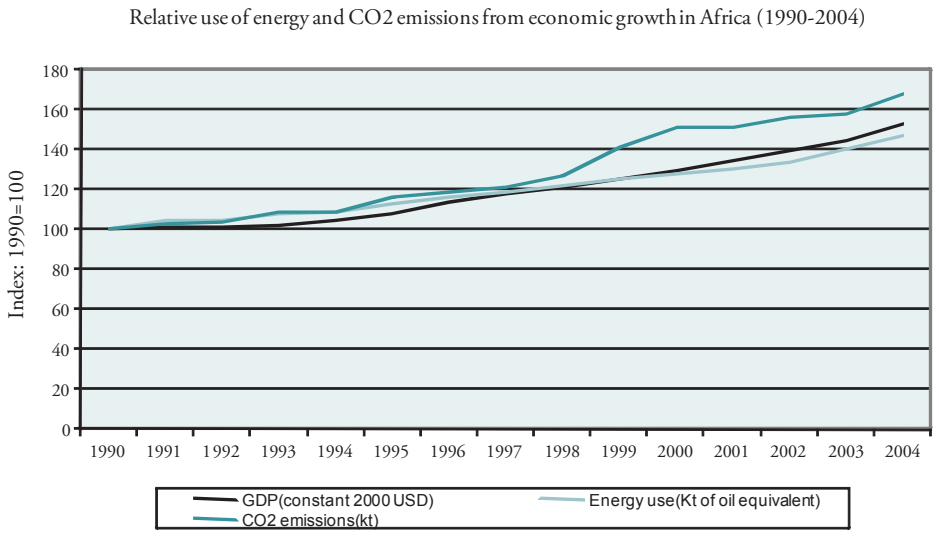


Source: IEA, 2005

50. Access to energy remains seriously deficient in SSA with more than500 million people without access to modern energy. The electricity access rate in the region as of 2005 was only 26 per cent overall and only 8 per cent for rural households (IEA, 2006). Within countries, access to electricity tends to be higher in urban areas and to increase with income. The cost of lighting with alternative energy sources takes substantial portions of income in the poorest households. Lack of access to modern energy results in air pollution, acute heath problems and environmental problems linked to over-consumption or inadequate management of wood resources. There are serious negative impacts associated with this traditional biomass energy use, which range from indoor air pollution (Muchri and Gitonga, 2000) to deforestation. Given the relatively low energy consumption on the continent, there is currently no relative de-coupling of energy use and CO2 emissions from economic growth across Africa as a whole (figure 2.7). Energy intensities (measured as tons of oil equivalent per unit GDP) vary widely across the region depending on the structure and energy efficiency of the economy. Energy efficiency means here that the energy inputs are reduced for a given level of service or there are increased or enhanced services for a given amount of energy inputs (figure 2.8). Many countries have energy intensities significantly greater than the European Union (EU), showing the potential for energy efficiency. Figure 2.9 shows the proportion of total energy use coming from fossil fuels for selected countries. Fossil-fuel rich North African countries have low shares of renewable energy although the availability of renewable resources is also a key factor. Africa contributes about 4 per cent of total greenhouse gases. Most countries (except for the wealthier and fossil-fuel rich nations) have very low carbon dioxide (CO2) emissions per capita

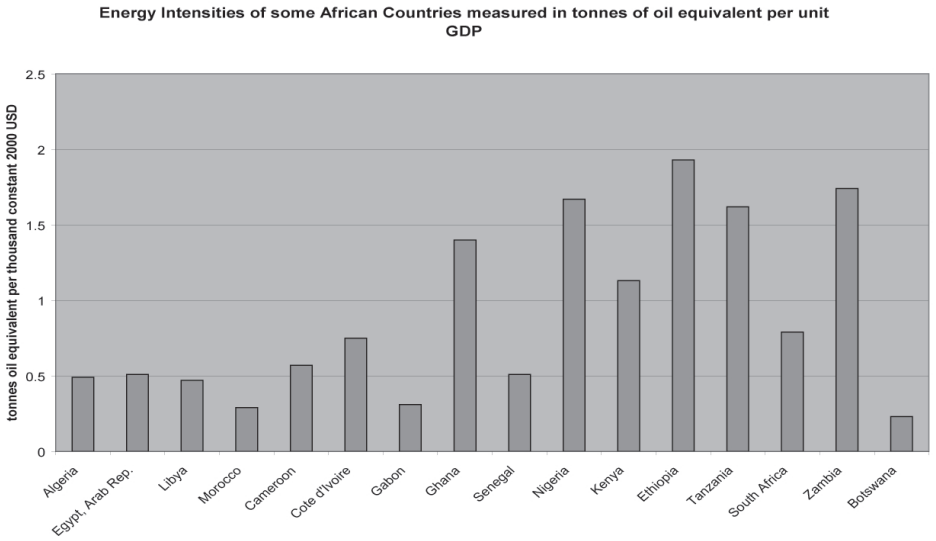
due to low energy intensities, lower GDPs and high levels of biomass energy use (figure 2.10).

Figure 2.7: Relative use of energy and CO2 emissions from economic growth in Africa (1990-2004)



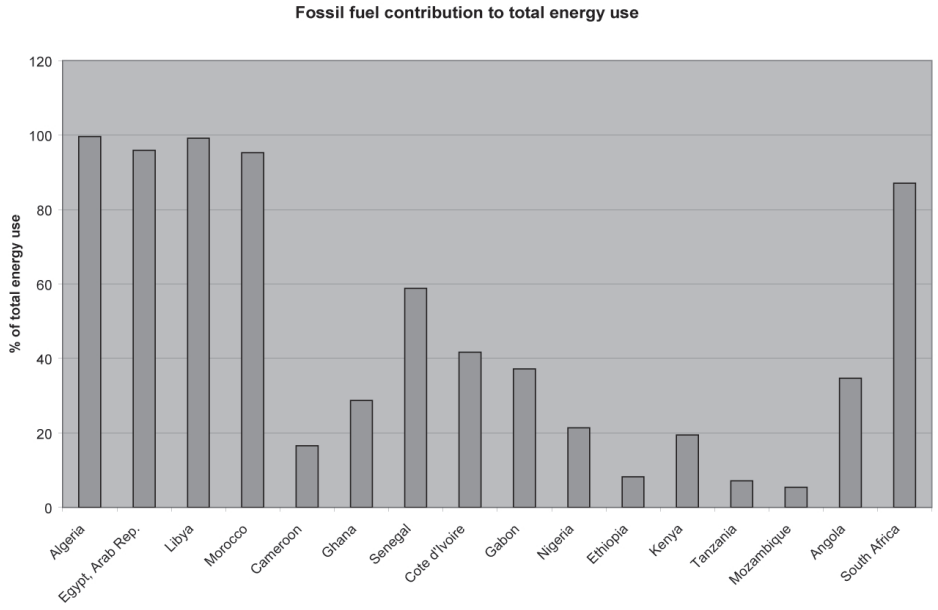
Source: ADI, 2007

Figure 2.8: Energy intensities of selected African countries in tons of oil equivalent per unit GDP



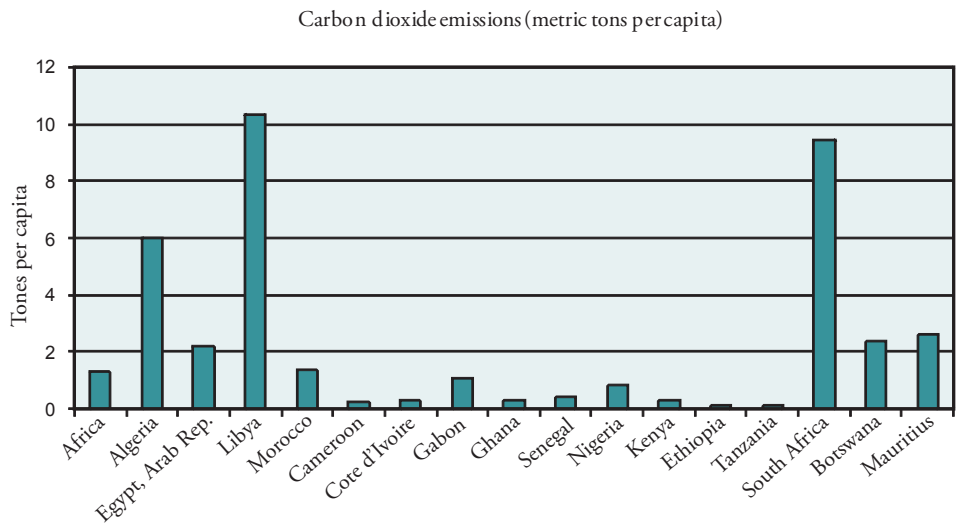
Source: ADI, 2007

Figure 2.9: Fossil fuel contribution to total energy use



Source: ADI, 2007

Figure 2.10: Carbon dioxide emissions for Africa and selected African countries



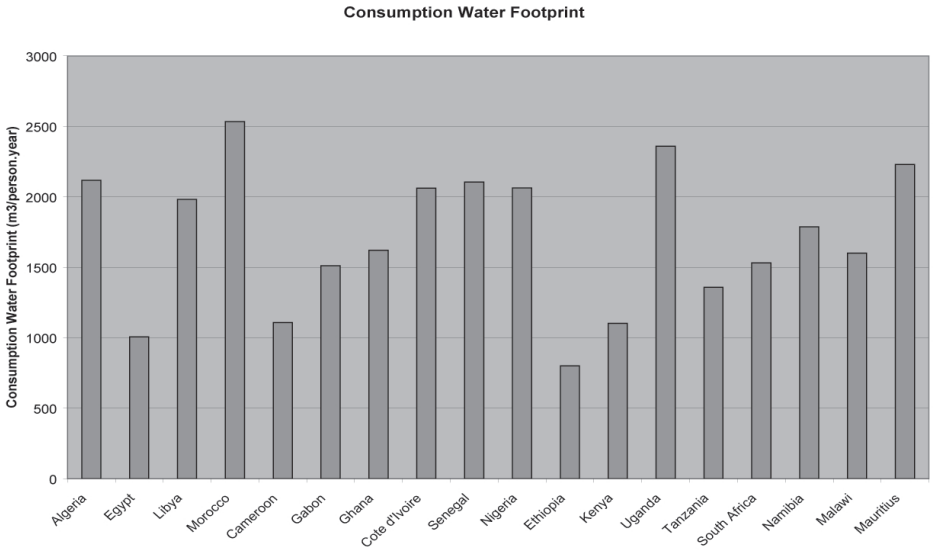
Source: ADI, 2007

2.6.3 Water supply and sanitation

51. Africa is endowed with abundant water resources, which account for about 10 per cent of global freshwater endowments (UNDESA, 2008). Africa is relatively poor in groundwater, which represents only 15 per cent of its water resources. Freshwater resources across the continent are unevenly distributed. Although some countries have high annual averages water per capita, many others already or soon will face water stress (1700 m3 or less per person annually) or scarcity conditions (1000 m3 or less per person annually). Currently 14 countries in Africa, mostly located in the Sahel region and the Horn of Africa, are subject to water stress or water scarcity. A further 11 counties will join them in the next 25 years. (UNEP, African Environment Outlook, 2007)). As a result of climate change and variability, population growth, environmental degradation and resource mismanagement, access to freshwater is worsening in the region.

52. Increased water scarcity in the future in many countries of the region implies a need for efficient management of shared water resources. The number of people affected by absolute and seasonal shortages is projected to increase steeply because of climate change and increasing demands. Figure 2.11 shows the consumption water footprints of selected African countries. It represents the use of national water resources for production of goods and services that are consumed domestically (internal water footprint) and the use of water in other countries to produce goods that are imported for consumption (external water footprint). Across Africa, 93 per cent of the water footprints falls inside country borders.

Figure 2.11: Consumption water footprints of selected African countries



Source: Global Footprint Network, 2008

53. In Africa, access to water supply and sanitation (WSS) is very low. Only about 58 per cent of SSA has access to piped water supply and 37 per cent has access to improved sanitation. In contrast, North Africa is on track to meet the target on drinking water and adequate sanitation (ECA, 2006). To achieve the MDGs for WSS in SSA, it is estimated that the number of persons served must double from 350 million in 2000 to 700 million by 2015 and expenditure of at least $US 2 billion each year up to 2015 is necessary. There are disparities between urban and rural areas, as well as high-income and slum areas in cities.

54. Over 70 per cent of the urban population in SSA are slum dwellers (UN-Habitat). The urban poor depends heavily on rising agricultural productivity for food security. Agricultural water reuse in urban and peri-urban areas is a key opportunity. Except in North Africa and in Namibia, Zambia and South Africa, wastewater reuse is still in its infancy in Africa. Wastewater reuse is particularly critical in arid and semi-arid countries. Irrigation with raw wastewater is a widespread practice in North Africa where it is usually used when no alternative water source is available. This practice can bring considerable benefits but it is associated with serious health and environmental risks.

55. Most wastewater reuse standards are based either on United States Environmental Protection Agency (USEPA) or World Health Organization (WHO) guidelines of 2006. However, these standards are mostly not reinforced in the countries of the region. Although unregulated irrigation with wastewater does persist in some countries of this region, especially near smaller urban centres, the trend is towards regulated reuse of treated wastewater – as far as available capital resources allow. Windhoek, Namibia is the location for a successful project implementing treated wastewater reuse.

2.6.4 Industrial production

56. Africa lags behind other regions in almost all its industry-related indices. The contribution of manufacturing output to total national income is generally low, with the share of manufacturing value added (MVA) in GDP at an average of only about 9 per cent (ECA, 2005b). Environmental issues in the industry sector include a whole spectrum of concerns, from control of air emissions and wastewater discharges, improving efficiency in the use of natural resources and energy, a switch to less polluting fuels, proper management and prevention of waste, to management and control of hazardous and toxic substances. The topic is all the more important in view of the significant role that industry has to play in African economies and the fact that pollution and resource-use intensities are typically much higher in the industry sector than in the agriculture and service sectors. Notable exceptions are transport and municipal services.

57. Detailed data and information on emissions, waste generation and resource use by industrial sources are a necessary precondition for designing and implementing

effective industry-related environmental policies. However, such data and information are not readily available in African countries. Environmental inspectorates, typically the body responsible for enforcing related legislation, collect actual or estimated data on emissions from industrial companies. It appears that such data are not systematically compiled at nationwide level and apparently there are no efforts to use this information for policy-making. Given the poor data situation, it was not possible to prepare a comprehensive review of trends in industrial pollution and resource use in Africa.

58. Small and medium enterprises (SMEs) dominate and play a critical role in the national economies of Africa. Key industry/manufacturing sub-sectors vary greatly in diversity, across countries (size of the economy) and in their relative importance to the economies of the countries. Key ones in the "giant" South African economy are mining, chemicals, automobiles, food and agro-processing, textiles, tourism, paper and packaging, metal finishing, electronics, engineering, power generation, building and construction, services and fishing. The industrial sector in other countries is made up largely of micro, small and medium enterprises (MSMEs). Most activities in the sector concentrate on manufacturing of simple consumer goods such as sugar, beer, soap/detergents, vegetable oils, tobacco, textiles, cement, furniture and wood-based products. Others include mining and quarrying, handicrafts, construction, electricity and water, leather/tanning, chemical, metallurgy, electrical/electronics, rubber, paints, batteries, and paper industries. There is, however, lack of proper records on the actual numbers of these enterprises, particularly the micro enterprises owing to their nature and distribution around the countries.

59. There are growing cases of industrial pollution around the capital cities and other key economically important towns in the countries. Examples demonstrate the severity of unsustainable production processes. Over 90 per cent of industries in Ethiopia discharge effluents untreated into water bodies and open land. Similarly, 35 per cent of all factories in Maputo, Mozambique are chemical industries whose effluents are discharged untreated into the Matola River, ending up in the Indian Ocean. Another 34 per cent of wastewater in urban areas in Zimbabwe emanates from local industries. A peculiar observation of concern is that about 97 per cent of all Moroccan industrial water demand goes to chemical industries, of which 89 per cent is released as untreated effluent into local water bodies (UNEP, 2004).

60. Positive performance in industrial growth in a few countries and an increase in foreign direct investment (FDI) in African industry indicate a potential for industrial take-off. The challenge is to ensure that environmental best practices are incorporated at these early stages of industrialization whenever manufacturing investments are being considered. It is to be noted that, while the overall level of industrial pollution is still low because of Africa's low level of industrialization, the environmental impact intensity in relation to the level of industrialization is among the highest in the world.

61. Although under-explored, Africa hosts about 30 per cent of the planet's mineral reserves, including 40 per cent of gold, 60 per cent cobalt and 90 per cent of the world's Platinum Group Metals (PGM) reserves - making it a truly strategic producer of these precious metals. South Africa, Ghana, Zimbabwe, Tanzania, Zambia and the Democratic Republic of Congo (DRC) dominate the African mining industry, whilst countries such as Angola, Sierra Leone, Namibia, Zambia and Botswana rely heavily on the mining industry as a major foreign currency earner. The region is a mining giant and yet its industrial base is insignificant on the global market, and the majority of its people live in growing poverty. There is a need for Africa to move from being a major exporter of primary resources to strengthening its industrial and manufacturing base. Coal resources are concentrated in Southern Africa, with South Africa accounting for 5 per cent of proven world coal resources and 98 per cent of Africa' s output.

2.6.5 Human settlements development

62. Improvements are needed in infrastructure and sustainable human settlement patterns in Africa, in order to reduce congestion and pollution. Africa is the fastest urbanizing region in the world. Rural population is growing at a rate of 2.5 per cent per year, while the urban population is experiencing 5 to 10 per cent growth rate per year (ECA/UN-Habitat, 2003). Africa's urban population was 373 million in 2007 and will reach 760 million in 2030 (UN Habitat, 2008). Increasing numbers of the poor will be city dwellers and SSA follows South and East Asia in having the third largest number of slum dwellers. The urban population growth is not absorbed by the largest cities but by the intermediate cities (towns less than 500,000 inhabitants) where two- thirds of all African urban growth is occurring.

63. This swift urban growth means that governments should strengthen the governance capacities of intermediate and smaller cities so as to be prepared for the rapid increase in new and additional demand for urban spatial planning, urban housing, urban services and urban livelihoods. The larger African cities will absorb the remaining one-third of the continent-wide urban growth. Africa's three giant urban agglomerations, Cairo (11.9 million), Kinshasha (7.8 million) and Lagos (9.6 million) continue to rise rapidly in their ranking among the world's largest metropolitan cities.

64. Urbanization presents both a challenge and opportunity. It is a challenge in that providing additional millions of people with adequate housing, water and sanitation, transportation, waste management and other needs requires vast investment, skilled management and strong leadership. In addition, the concentration of people increases the risk of diseases, pollution and disasters. On the other hand, the concentration of people also facilitates provision of education, health care, transportation and other social services. Urbanization also tends to conserve energy and natural resources, in as much as people living in densely populated cities use substantially less land, energy and water per person than people with comparable incomes in suburban or rural areas.

65. According to UN-Habitat (2008), in SSA, 62% of urban dwellers (about 175 million people) live in slums. They constitute 20 per cent of the global slum population. The slum population is particularly high in countries such as Ethiopia, Angola, Central African Republic, Chad, Guinea-Bissau, Madagascar, Mozambique, Niger, Sierra Leone and Sudan, where slum households are likely to lack clean water, improved sanitation, durable housing or sufficient living space. In many cases, slum dwellers in these countries not only suffer from one shelter deprivation but from three or more. In a second group of countries - Benin, Burkina Faso, Burundi, Cameroon, Gabon, Kenya, Ghana and Senegal – there are large slum concentrations but fewer instances of multiple shelter deprivations. Most countries suffer from only one shelter deprivation.

66. This means that a simple programme tackling the lack of improved water, sanitation or housing can contribute significantly to improving the lives of slum dwellers. For countries such as Benin, Burkina Faso, Cameroon and Ghana, a sanitation programme would be enough to improve the lives of most slum dwellers significantly. In the last five years, some countries in SSA have been more successful than others in reducing the number and proportion of slum dwellers. The North Africa region has the lowest concentration of slums in Africa, with slum households comprising 15 per cent of all urban households. In this subregion, 9 out of 10 slum households suffer from only one shelter deprivation.

67. Transportation services contribute to development and their improvement will be essential for Africa to achieve sustainable development and the MDGs. In many countries, transport access rates and network quality are low by any standard. Only 12 per cent of SSA roads are paved, compared to 23 per cent in Latin America and the Caribbean for example. Less than a third of Africa's 2 million km of roads are asphalted, with a low density of 6.84 km per 100 square km, compared to 12 km in Latin America and 18 km in Asia (UNDESA, 2008a). Urbanization and increasing motorization in SSA have resulted in a high level of degradation of the air quality particularly in the large cities.

68. Provision of good transportation services and infrastructure constitutes a necessary precondition for African economic growth. A transport system that supports sustainable development is one in which transport is used in a way that minimizes demands on non-renewable resources, e.g. fossil fuels and metals. It also minimizes adverse impacts on human health and the environment, e.g. pollution and contributions to climate change, or waste generation. Likewise, it provides for affordable mobility to allow access to services, jobs and education, as people travel more and farther both for work and leisure.

69. In the context of efficiency and environmental impacts of transport, there is clearly a hierarchy of 'desirable' kinds of transport. The most energy-efficient and affordable modes are, of course, walking and cycling as they entail virtually no use

of fossil fuels or other non-renewable resources, and are, in this respect, the most desirable means of transport for short journeys. Some types of mechanized transport, most obviously water transport and to a lesser extent rail, are, generally speaking, significantly more energy-efficient than motorized road transport or aviation. However, within each mode, there is considerable variation between the energy efficiency of different types of vehicles. For example, large public transport vehicles tend to be more energy-efficient per passenger kilometre than small individual vehicles, provided that they are well utilized. Electric trains usually are appreciably more fuel-efficient than diesel trains, while diesel cars and trucks tend to be more efficient than petrol ones.

70. There is an enormous variation between vehicles according to size, age, and type of construction. Newer vehicles tend to be more energy-efficient than older ones, but often this benefit is overshadowed by their greater size, weight or power and they might actually use more fuel than the older cars. Maximizing the efficiency of transport use is also important for moving towards SCP. As noted above, there is a hierarchy of transport modes, based on their energy-efficiency, but utilization rates are also important. For example, public transport vehicles do not make efficient use of resources if they carry few passengers. The passenger car is relatively efficient if it carries four or more passengers, but this is not usually the case. Efficient utilization also implies patterns of transport that are themselves efficient. For instance, it makes little sense in resource terms to transport materials or goods over long distances when similar products are available locally, even if it makes economic sense to do so.

71. Efficient passenger transport also implies land-use patterns that minimize the need to travel long distances for goods, services, jobs and the use of public transport. This includes maintaining densely-populated and thriving urban centres, well served by public transport, while avoiding urban sprawl and out-of-town developments. Africa has to consider the mistakes made by continents such as Europe, which indicate that trying to build your way out of the problem by constructing more and more roads can be expensive and deliver only short-term benefits.

72. The problem of solid waste management is a growing source of concern in African urban centres, driven by population growth, urbanization, industrialization and rising living standards and is identified as one of the major challenges in the promotion of SCP in the region. Industrial, electronic and medical waste, some of which is hazardous, is also increasing rapidly in many countries. Plastic wastes disposal is also a major issue in many cities given their adverse impacts on the environment, public health, livestock husbandry, water resources and coastal areas. African cities have not been able to set up adequate systems for the collection of municipal and industrial waste due to their poor infrastructure base, limited resources and lack of proper urban management. The solid waste generation of selected cities in Africa ranged from 0.3 to 1.9 kg per person per day (Achankeng, 2003).

73. Data specific to African cities are generally not available, though some regional evaluations have been made. Although waste characterization is a key component in any Municipal Solid Waste Management (MSWM) scheme, such data are not commonly compiled in cities across Africa. The limited available data suggest that the MSW stream in the typical African city at point of disposal is high in putrescible organic matter. However it is low in percentage of commercially recyclable components and too low in heating value for energy recovery by incineration. There are few formal systems of materials recovery through the public and private sectors in Africa. Instead, in most parts of Africa, materials recovery including source separation and recycling, takes place in the informal sector. With few official statistics on MSW generation and recycling, it is difficult to arrive at an overall rate of waste recycling in Africa. Obtaining these data is vital to the design of well-integrated ISWM systems.

74. Although major cities in Africa have an organized municipal waste collection system, collection coverage across the continent ranges from 20 to 80 per cent with a median range of 40 to 50 per cent (Cal Recovery, Inc and UNEP IETC, 2005). Thus, more than half of municipal waste never enters an official or unofficial collection stream and waste that is collected is often disposed of with no control, dumped outside of urban areas or in outlying districts. Only 5 per cent of waste in African urban areas is collected and recycled by waste collectors, many of whom are often working illegally in the informal economy (Lavergne and Gabert, 2005).

75. Most disposal sites in Africa are simply open dumps. Recently, however, some countries have moved towards improved landfill practices. Even though the organic content of MSW in the typical African city may exceed 70 per cent (wet basis), centralized composting, anaerobic digestion and gas recovery are not significant components of African MSW management practices. Further investigation of their market potential may prove this to be an overlooked opportunity. Backyard composting is also limited. Some NGOs provide the practice in several countries but they do not have a significant impact on MSWM at the city level. Incineration and waste to energy remain little-used options. High costs, limited infrastructure and the composition of the waste stream suggest that incineration is an inappropriate technology for most African cities.

76. For the most part, services are not available for the separate handling of special wastes such as household hazardous wastes, construction and demolition (C&D) wastes, medical and infectious wastes, tires, sewage sludge or chemical and pharmaceutical wastes. Most special wastes are disposed of in open dumps along with regular MSW. For some special wastes, some items are recycled, for example lead-acid batteries, tires, used oil and C&D wastes. Cities need more financial and technical resources to provide adequate municipal solid waste collection and disposal services. As informal waste collectors are at the heart of municipal waste collection in many countries, improved systems should as far as possible seek to build on this foundation, while protecting workers from hazardous working conditions.

2.6.6 Tourism development

77. Africa has numerous tourist attractions ranging from wildlife to cultural heritage. The continent's share in the world tourism total rose one percentage point, from 3.4 in 1990 to 4.4 per cent in 2004. With slightly over 33 million international tourist arrivals estimated in 2004, an increase of eight per cent over 2003 was recorded. Many African governments have identified the potential of international tourism, which involved 37.3 million tourists and brought about $21.7 billion in revenue to African countries in 2005 (WTO Tourism Highlights, 2007 at www.unwto.org/facts). International tourism in Africa is characterized by strong polarization. Four countries alone - South Africa, Morocco, Tunisia and Egypt - account for about 60 per cent of all arrivals in the region. Approximately 95 per cent of all arrivals are concentrated in 20 of the 53 African countries. Roughly 60 per cent of international tourists who visit Africa are leisure tourists, 15 per cent are business tourists and 25 per cent come for other purposes.

78. The main tourism products in Africa are resort tourism led by North Africa and the Indian Ocean islands, adventure tourism led by Eastern and Southern Africa and business tourism. Eco-tourism is the fastest growing tourism product in the world and Africa, due to its natural endowment constitutes an obvious destination, as in countries such as Uganda, Rwanda, Tanzania and Kenya.

79. The ecological footprint of tourism activity is significant and the tourism industry and its associated infrastructure tend to be concentrated in biodiversity hotspots. On the other hand, tourism can foster environmental preservation, especially if it is eco-tourism. The JPOI, in paragraph 70, emphasizes the role the sector can play in the protection of wildlife and the sustainable development of local communities living in areas of great tourism potential. Through the generation of local employment and equitable schemes for rewarding habitat conservation and wildlife protection, these communities can share in the benefits from wildlife-related tourism. New forms of sustainable tourism, such as community-based tourism, have gradually expanded. Tourists can immerse themselves in the day-to-day lives of local and indigenous people while helping them to preserve their environmental and cultural heritage. The promotion of community-based tourism should be an integral part of a larger national strategy that encompasses other dimensions of sustainability, such as education and public health improvements.

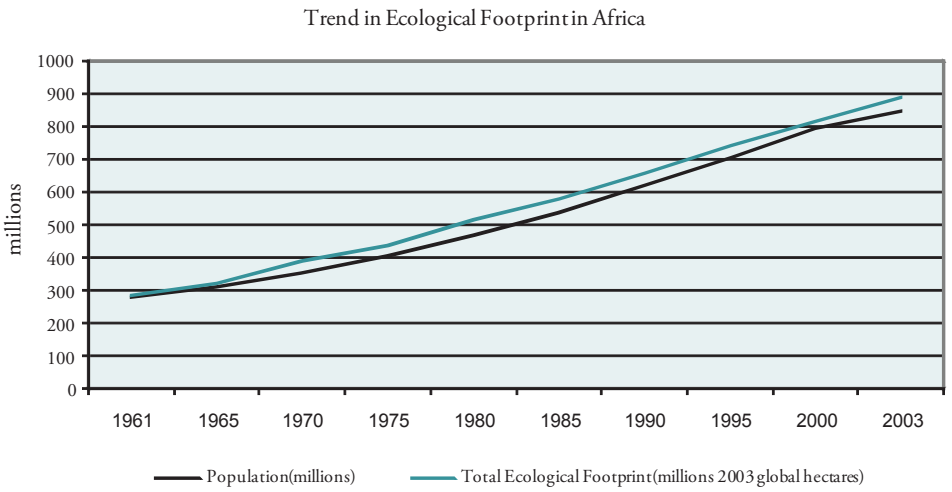
80. The tourism industry in Africa is characterized by a large number of tourism-driven SMEs that in many cases lack the financial and human resources necessary to provide a quality product and to integrate sustainable tourism principles. On the other hand, mainstream international hotel chains are increasingly making efforts to reduce their environmental impacts. Many travel and tourism companies have joined together in the International Tourism Partnership to promote responsible tourism. In 2007, the Partnership launched the *Going Green* standards for sustainable hotels. A variety of

eco-labels and certification schemes have been developed for tourist sites and hotels. The Blue Flag label, for example, which has participating national organizations in Africa, has been awarded to some beaches and marinas.

2.7 Ecological footprints

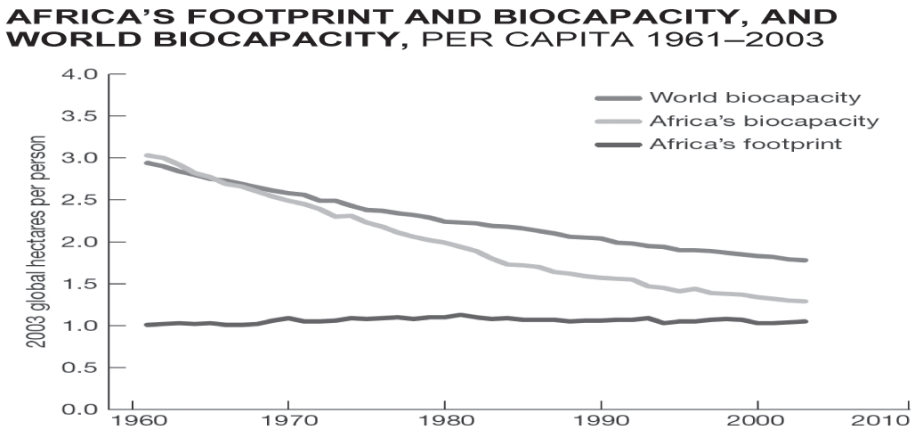
81. An ecological footprint provides a useful indicator of the degree to which a country's consumption is sustainable. Resources consumed to meet the demand for food, energy and goods are translated into an equivalent land area in hectares per capita to provide the resources to absorb emissions such as CO2 without permanent change. These can then be compared to the total global available bio-capacity per person. Countries whose footprint significantly exceeds the global available bio-capacity (1.8 ha per person in 2003) can be considered as having unsustainable consumption and production patterns.

Figure 2.12: Trends in population and ecological footprints in Africa



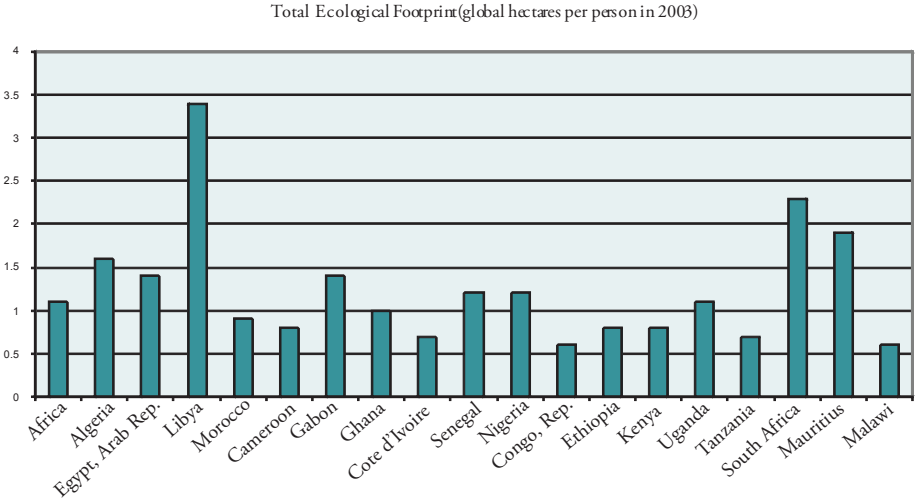
Source: Global Footprint Network, 2008

Figure 2.13: Africa's footprint and biocapacity and world biocapacity, per capita 1961-2003



Source: Global Footprint Network, 2008

Figure 2.14: Ecological footprints of selected African countries



Source: Global Footprint Network, 2008

82. The "Africa Ecological Footprint and Human Wellbeing" report (Global Footprint Network, 2008) was launched at the African Ministerial Conference on Environment (AMCEN) meeting in Johannesburg in 2008. The report shows that the impact of the average African is low by western standards. Compared to the rest of the world, the average African's footprint is small (1.1 global hectares) - for many too small even to meet basic needs. In 2003, Africa had 13 per cent of the world's population but contributed only 6 per cent of the global footprint. The trend in

population and ecological footprints of Africa is shown in figure 2.12. Data on the ecological footprint for 2003 indicated that, for example, the eco-footprint for Kenya, Cameroon and Ethiopia was 0.8 global ha/cap (figure 2.14). This can be compared to the ecological footprint of the United States which was 9.6. The report further revealed that a growing number of African countries were depleting their natural resources faster than they could be replaced. Africa's bio-capacity is 1.3 global hectares per person, slightly more than what Africans use, but 28 per cent less than the world's average of 1.8 global hectares available per person (figure 2.13).

83. While the continent still has more bio-capacity than it uses, this margin is shrinking, largely due to population growth. If current trends continue, Africa will soon be facing an ecological deficit, with demand exceeding the continent's supply. Thus, although Africa has a bio-capacity per person that is lower than the world average, rapid population growth could increasingly thwart human development achievements. Several African countries already have a footprint that is larger than their countries' bio-capacity per capita, meaning that a growing number of African countries are depleting their natural resources - or will shortly be doing so - faster than they can be replaced. The list is topped by countries such as Egypt, Libya and Algeria, whose people are living well beyond their ecological means. Further down the list, another nine countries (Morocco, Tunisia, Ethiopia, Kenya, Uganda, Senegal, Nigeria, South Africa and Zimbabwe) are using resources beyond their capacity.

84. About 16.8 per cent of global forest cover (650 million ha) is found in Africa, with the Congo basin home to the second largest contiguous block of tropical rainforest in the world. Forests play an important economic role in many countries by providing ecosystem services for resident populations as well as being a source of food and other non-timber products. The forest sector accounts for 6 per cent of GDP on the African content, which is the highest rate in the world (UNDESA, 2008). Most rural households rely on wood fuel to cover their energy needs in SSA. The whole continent is undergoing a severe process of deforestation. From 1990 to 2005, deforestation took place at a rate of 0.7 per cent per year versus 0.2 per cent at the global level (UNDESA, 2008). Africa's forests are under threat from a number of factors. The continent accounted for 64 per cent of the global area burned by wildfires in 2000 (FAO, 2007). Agricultural expansion and high population growth rates are also exerting great pressures on forests. It is estimated that 60 per cent of the tropical forest areas cleared on the continent between 1990 and 2000 were converted to permanent agricultural smallholdings.

2.8 SCP perspective for African countries

85. In every society, production, consumption and investment patterns should be managed with consideration of the environmental, economic and social elements of sustainability. SCP provides such an integrated approach to policy-making, requiring

close collaboration among different sectors and a wide participation of stakeholders. The African region faces SCP challenges that are very different from those faced by developed countries. In the latter, the focus of current and future SCP action is based on the environment pillar of sustainability-improving efficiency of production and using economic incentives to orient consumption towards less pressure-intensive goods and services. In contrast, in much of Africa, there is a clear need to address the environment, economic and social pillars of sustainability simultaneously. A large segment of the population lives in poverty and does not have access to basic needs such as clean water and energy and adequate nutrition levels. The main challenge is to satisfy the basic needs of the population, but at the same time, the environmental pillar of sustainability must be addressed. SCP has the potential to provide a valuable contribution to poverty alleviation in Africa. This contribution could be made through changes in the areas of access to sustainable energy sources, energy efficiency, waste management, water efficiency and agriculture. It offers new opportunities such as the creation of new markets and generation of new jobs, through markets for organic food, fair trade, sustainable housing, and renewable energy, and improvement of natural resources. SCP can contribute to achievement of the MDGs in Africa through increased utilization of SCP opportunities for poverty reduction and wealth creation. Moving towards more SCP patterns requires a decoupling of economic growth on one hand and resource and energy use and their associated environmental impacts on the other. In Africa, a number of trends can affect any potential decoupling. With the increasing dominance of the service sector in some economies, a positive decoupling effect is possible because services generally tend to have lower energy and material use per unit of output than industry and agriculture. Notable exceptions to this rule are transport services and provision of water and sanitation which have high energy intensities. A second trend is improvement in efficiency of the industrial sector, which can have a positive decoupling effect. However, the rise of the consumer class in urban areas and the shifting of industry from manufacturing and light industries to the exploitation and processing of fossil fuels and minerals may be pulling in the other direction.

86. Some African countries already have a footprint that is larger than their bio-capacity per capita. Economic growth will further increase ecological footprints in the future and achieving sustainability will require an absolute decoupling of resource use and impacts related to economic growth. The on-going economic and social restructuring in Africa offers a unique opportunity to establish more resource-efficient SCP patterns. There are many opportunities to "leapfrog" towards better SCP patterns before consumption-driven impacts reach the levels observed in developed countries. SCP strategies applied now will safeguard against unsustainable patterns of consumption and production in the future. Whereas in some countries much of the focus for SCP needs to address impacts arising from high and increasing levels of consumption, SCP policy and action in most African countries may need to be more weighted towards improving efficiencies in agricultural and industrial production,

infrastructure and municipal services. National differences give varying priorities for future SCP action and require the use of a range of SCP policy instruments. However, there also are many similarities in the problems faced by African countries and this creates opportunities for the exchange and transfer of experiences among countries. These are identified and presented in the next chapters.

Chapter 3: Review of progress and achievements made in SCP in Africa

87. The main commitments on SCP as agreed in A21, PFIA21 and the JPOI can be summarized as follows:

a. Encourage and promote the development of a 10-YFP in support of regional and national initiatives to accelerate the shift towards SCP;

b. Increase investment in cleaner production and eco-efficiency in all countries;

c. Integrate the issue of production and consumption patterns into sustainable development policies, programmes and strategies, including, where applicable, into poverty reduction strategies;

d. Strengthen the contribution of industrial development to poverty eradication and sustainable natural resource management;

e. Enhance corporate environmental and social responsibility and accountability;

f. Encourage relevant authorities at all levels to take sustainable development considerations in decision making, including investment in infrastructure, planning, business development and public procurement;

g. Promote energy for sustainable development including the diversification of energy supply, diffusion of environmentally sound technologies, improving energy efficiency and increasing the use of renewable energy resources;

h. Promote an integrated approach to policy-making at the national, regional and local levels for transport services and systems to promote sustainable development, including policies and planning for land use, infrastructure, public transport systems and goods delivery networks;

i. Prevent and minimize waste and maximize reuse, recycling and use of environmentally friendly alternative materials;

j. Promote sustainable tourism development;

k. Renew the commitment to sound management of chemicals throughout their life cycle and of hazardous wastes for sustainable development;

l. Encourage the development and strengthening of awareness and educational programmes to promote SCP patterns; and

m. Undertake research and development of core indicators on consumption and production.

3.1 The Marrakech Process and the Ten-Year Framework of Programmes on SCP

88. The Marrakech Process was launched in 2003 responding to the call of the JPOI. The Marrakech Process is a global multi-stakeholder process to support implementation of SCP and elaboration of a 10-Year Framework of Programmes on SCP (10-YFP). UNEP and UN DESA are serving as the Secretariat to coordinate this global process, with the active participation of national governments, development agencies, the UN Inter-Agency Network, and major groups thus far represented by business and industry, civil society, trade unions, and other stakeholders. The first meeting devoted to developing the 10-YFP took place in Marrakech, Morocco in June 2003. The Marrakech Process is developing inputs to the 10-YFP in a participatory and bottom-up approach in the following phases.[1]

a. Organizing regional consultations to promote awareness and identify priorities and needs for SCP;
b. Building regional programmes and implementation mechanisms with regional and national ownership, to be endorsed by the relevant regional institutions;
c. Implementing concrete projects and programmes at the regional, national and local levels to develop and/or improve SCP tools and methodologies, with the Task Forces as the main implementation mechanisms;
d. Evaluating progress, exchanging information and encouraging international cooperation and coordination, through the international review meetings; and
e. Securing and incorporating multi-stakeholder inputs on the elaboration of a 10-YFP submitted as inputs to CSD-18 and CSD-19.

89. In its first five years, the Marrakech Process has promoted development of regional SCP programmes or action plans in Africa and Latin America, with the institutional support of regional intergovernmental organizations as well as of EU[2]. These programmes or action plans address issues that are highly relevant to the energy, food, water, and climate crises. The West Asian, Asia-Pacific and North American regions also engaged in similar processes in 2008. Seven Marrakech Task Forces have been created that support the development of SCP tools, capacity-building and the implementation of SCP projects on the following specific SCP-related issues: cooperation with Africa; sustainable products; sustainable lifestyles; sustainable public procurement; sustainable tourism; sustainable building and construction; and education for sustainable consumption.

1 For more information on the mechanisms of the Marrakech Process see: http://esa.un.org/marrakechprocess and_ http://www.unep.fr/pc/sustain/10year/home.htm

2 For more information on the regional process and outcomes see: http://www.unep.fr/scp/marrakech/consultations/regional

90. Most of the Task Forces are supporting implementation of demonstration projects and collection of best practices. These include creating a Tool Kit on Sustainable Public Procurement, implementing a project on Eco-labelling for Africa, undertaking an awareness-raising campaign for tourists called the Green Passport, conducting a Global Survey on Sustainable Lifestyles, developing guidelines for education on sustainable consumption, and preparing a study on the contribution of sustainable building and construction to climate change mitigation, among other tools. Activities have also taken place at the national level supporting development of national SCP programmes through capacity-building and implementation of demonstration projects in various countries, including Mauritius, Senegal, Indonesia, Tanzania, Egypt, Mozambique, Colombia, Brazil and Ecuador. Progress has been made in engaging countries with emerging economies, including the convening of national roundtables on SCP in China, India, Brazil and South Africa.

3.1.1 Development and implementation of the Africa 10-YFP on SCP

91. The Regional Roundtables on SCP are forums that are promoted and supported by UNEP to facilitate information exchange and experience sharing amongst the increasing number of institutions and practitioners that are engaged in the promotion of SCP. The African Roundtable has been one such regional forum supported by UNEP. Accordingly, in August 2000, UNEP organized the First African Roundtable on Cleaner Production and Consumption in Nairobi, Kenya. The Second African Roundtable on Cleaner Production and Sustainable Consumption was organized by the Cleaner Production Centre of Tanzania (CPCT) in collaboration with UNEP and was held in January 2002 in Arusha, Tanzania. Participants at both the First and the Second African Roundtables requested UNEP to provide support on institutionalizing the African Roundtable as a regional networking organization.

92. In March 2004, UNEP, with financial support from the Government of Norway, started to implement the project on 'Institutionalizing the African Roundtable on Sustainable Consumption and Production' (ARSCP). ARSCP was established as a non-governmental, not-for-profit regional coordinating institution during the Third African Roundtable on SCP held in Casablanca, Morocco in May 2004. ARSCP is therefore a multi-stakeholder forum promoting SCP in Africa and its activities include supporting organization of national and subregional SCP roundtables, facilitating information exchange on SCP, developing and maintaining a directory of African experts on SCP, compiling and disseminating case studies on application of SCP policies and strategies, providing technical and policy inputs to regional initiatives such as NEPAD, developing subregional and regional projects on SCP, organizing training workshops and seminars on selected topics and promoting research partnerships in the area of SCP. The ARSCP Secretariat has been established in Dar-es-Salaam, Tanzania and ARSCP has become a legally registered regional not-for profit organization.

93. Subsequently, UNEP and UNDESA, in close consultation with the Secretariats of AMCEN and ARSCP, facilitated development of the African 10-YFP. The First African Expert Meeting on SCP was held in Casablanca, Morocco in May 2004. The meeting deliberated on the key issues to be addressed under the framework programme and identified four thematic areas of focus: energy, water and sanitation, habitat and sustainable urban development, and industrial development. The strategic focus of the African 10-YFP is linking SCP with the challenge of meeting basic needs in more sustainable ways. The Second Expert Meeting was held in Nairobi, Kenya in February 2005 and further deliberated on the four thematic areas, proposing key activities to be undertaken under each area. Thus, the African 10-YFP lists detailed priorities and recommendation for action (UNEP, 2005), for example:

a. Energy: promoting renewable energies, energy efficient technologies and modernized energy systems in agriculture, industries and households;
b. Water and sanitation: sustainable management and use of water and sanitation, and safe reuse of waste water;
c. Habitat and urban development: Integrated Solid Waste Management (ISWM), sustainable urban mobility, reduction of vehicle emissions, and sustainable urban development; and
d. Industrial development: strengthening ARSCP capacity, financing business transition, value-added chains for agro-products and by-products, markets for sustainable goods and services, and early warning system to improve the value of African products.

94. The outcome of the two African expert meetings on the 10-YFP was presented to the technical segment of AMCEN in February 2005, which endorsed it for submission to AMCEN's Ministerial Session. AMCEN, through its Dakar Declaration, approved the 10-YFP in Dakar, Senegal in March 2005. In May 2006, His Excellency Girma Woldeghiorgis, President of the Federal Democratic Republic of Ethiopia, launched the African 10-YFP in Addis Ababa at a high-level session jointly organized by the African Union Commission (AUC), ECA and UNEP. The launch was immediately followed by the Fourth Meeting of ARSCP (ARSCP-4) which identified five focal areas for the follow up, namely: production and use of bio-fuels; water efficiency and provision; labelling of African products; waste management; and knowledge and information sharing (AU, ECA, and UNEP (2006)). The Fifth African Roundtable on Sustainable Consumption and Production (ARSCP-5) was organized in June 2008 in Johannesburg, South Africa and activities and issues related to the African 10-YFP were discussed. The meeting was successful in building greater cooperation between the region and the Marrakech Task Forces (ARSCP-5, 2008)). Concrete areas for collaboration were identified on Sustainable Public Procurement, Sustainable Lifestyles and Sustainable Building and Construction.

95. AMCEN Dakar Declaration called upon its development partners to provide concrete support to follow-up activities and programmes based on the approved African 10-YFP .In response to this call, Germany took the lead in announcing the initiative for the Task Force on Cooperation with Africa during the Second International Expert Meeting of the Marrakech Process in Costa Rica in 2005. This provided the basis for establishment of the Regional Steering Committee (RSC) for the African 10-YFP, the overall objective of which is to facilitate the required coordination of efforts and support for further development and implementation of the African 10-YFP. Members of the Committee are AMCEN, ARSCP, AUC, ECA, UNIDO, UNEP and the Federal Ministry of Environment, Germany. Membership is also open to other bilateral and multilateral development partners (ARSCP and UNEP, 2006; UNEP 2006). Based on the outcomes of ARSCP-4 and conclusion of the first meeting of the RSC, the Marrakech Task Force on Cooperation with Africa identified the following key focal areas for its activities (UNEP/ECA, 2006):

a. Development of an eco-labelling scheme for Africa;
b. Support for development and implementation of SCP action plans at national and local levels;
c. A research study on leapfrogging possibilities for SCP in Africa;
d. Collection of best practices on SCP projects in Africa by development agencies; and
e. Support to the development of networks and knowledge-based information tools in the selected fields of action such as waste management and recycling, biofuels, and drinking water.

96. Additionally, the Task Force has published the findings of a project on best practices in SCP in African countries (MTFCWA, 2007) and has provided support to ARSCP-5, for participation of regional experts, provision of technical inputs and organization of a plenary session on Inter-Task Forces collaboration.

3.1.2 Key projects and initiatives undertaken under the African 10-YFP

97. The following projects and initiatives have been undertaken specifically under the African 10-YFP:

a. Pilot projects on SCP of Plastics in Africa, supported by UNEP and implemented by the Government of Kenya;
b. Developing capacities for SCP in Lake Victoria Region, coordinated by UNEP, and implemented by the Governments of Burundi, Rwanda, Kenya, Tanzania, and Uganda and UNEP;

c. Life Cycle Analysis Awareness and Inventory Training Workshop coordinated by UNEP: about 23 countries represented at training workshop for country-level life cycle inventory databases;

d. Sustainable Procurement Workshops in Ghana and Morocco, coordinated by UNEP, implemented by the Governments of Ghana and Morocco and UNEP and a regional training workshop held by the Marrakech Task Force on Sustainable Procurement;

e. Eco-labelling for Africa implemented by the Marrakech Taskforce Cooperation with Africa. A Regional Expert Meeting on Development of an African Eco-labelling Scheme was held in June 2007 in Addis Ababa, Ethiopia. As a follow-up to the Regional Expert Meeting, AUC, ECA, UNEP and the Task Force on Cooperation with Africa agreed on key elements as the way forward;

f. National SCP programmes in Egypt, Mauritius, Mozambique and Tanzania, coordinated by UNEP and supported by the Marrakech Taskforce on Cooperation with Africa (Germany);

g. Best practices in Africa in the areas of water, energy and waste management, coordinated by the Marrakech Taskforce Cooperation with Africa. This report contains information on selected practices in different parts of the regions and is disseminated to countries for possible replication of such practices;

h. The first issue of Bio-Energy International Africa Newsletter was published, under the editorship of the members of ARSCP and the African Lifecycle Assessment Network (ALCANET) as part of the September 2007 edition of the Bio-energy International Online Magazine;

i. Study on Opportunities for Leapfrogging, implemented by Marrakech Taskforce Cooperation with Africa;

j. Capacity building for local SMEs in the accommodation sector, supported by the Marrakech Taskforce on Sustainable Tourism; and

k. Based on information provided through the existing regional networks, five members of ALCANET competed for the UNEP/SETAC Award on Life Cycle Initiatives. Out of the five submissions, the teams working at the University of Zimbabwe and University of Cape Town took two of the three awards provided for the year 2007. More on this can be obtained from http://lcinitiative.unep.fr.

3.1.3 Achievements

98. Africa as a region is at the forefront of the global Marrakech Process on the 10-Year Framework of Programmes as it has: a) a regional 10-YFP that is approved by AMCEN and included in its work plan; b) created a regional institutional mechanism by establishing ARSCP as a regional focal institution; and c) have the

Marrakech Taskforce on Cooperation with Africa supported by the Federal Ministry of Environment of Germany as the only region-focused taskforce under the global support mechanism. Africa has therefore established appropriate structures, political goodwill and mechanisms for sharing information. The Marrakech Process has not only contributed to development of the regional 10-YFP, but is also a substantive forum for dialogue and cooperation on SCP issues among governments and other stakeholders at the regional level.

99. SCP activities in the region have been strengthened, leading to a number of results including the following:

a. In addition to the SCP programmes of the existing ten NCPCs, several African countries have moved forward with establishment of their respective NCPCs while a number of others are considering their next steps;

b. A few pilot projects on SCP have been launched and some of them include integration of the concept into poverty reduction strategies;

c. Some national/regional roundtables and expert meetings on SCP have been organized since 2004, including organization of a regional SCP roundtable for French-speaking countries of Western and Central Africa, the SCP Roundtable for the Lake Victoria region which led to further collaboration between the NCPCs in Kenya, Tanzania and Uganda on developing a regional SCP programme for the Lake Victoria region which now also includes Rwanda and Burundi; and

d. Support has been provided for selected pilot countries developing National and City Action Plans which led to useful lessons and experiences that could be shared with other countries.

100. Many initiatives combining poverty alleviation with safeguarding the environment have been initiated. Some notable examples include:

a. A project to transform domestic waste into wealth in Kenya by employing techniques which turn waste paper into fuel briquettes and plastic waste into roof tiles. This has not only helped to reduce the amount of waste in slum areas, it has also created employment, provided shelter and improved access to energy while at the same time diminished the pressure on trees as a fuel source;

b. A business centre in a poor Ghanaian village uses solar panels to augment erratic grid power for telecommunications applications. Now people in the village can charge their mobile phones locally without having to travel about 5 kilometres to the nearest village connected to the electricity grid. In doing so, the centre has improved access to information, a key to development;

c. The establishment of a biogas plant in Nigeria running on abattoir waste to create a source of domestic energy, lessening pollution and greenhouse gas

emissions. The biogas plant will benefit from technological support from Thailand; and

d. The use of mosquito nets placed in acacia trees, in a semi-arid area of Kenya, to breed silk worms which produce high-quality silk for the local market4. The silk creates a stable income, often benefiting women, far beyond what the tree would have fetched if it had been reduced to charcoal.

101. The above examples illustrate the potential of resource efficiency and SCP and how innovative and sometimes surprisingly simple solutions can help to increase poor people's incomes and access to resources throughout Africa, while at the same time reducing environmental damage. Where the initiatives include introduction of modern technologies, they also offer an opportunity for leapfrogging - the ability for these countries to by-pass inefficient, polluting and ultimately costly phases of development and jump onto a sustainable development path.

3.2 Energy for sustainable development

102. NEPAD recognizes the critical role that energy plays in the development process, first as a domestic necessity but also as a factor of production, whose costs directly affects prices of other goods and services. WSSD called on countries to: diversify energy supply and substantially increase the global share of renewable energy sources; improve access to reliable, affordable, economically viable, socially acceptable and environmentally-sound energy services and resources; remove market distortions; establish domestic programmes for energy efficiency and accelerate the development and dissemination of energy efficiency and energy conservation technologies. It its Africa chapter, the JPOI enjoins the international community to, inter alia, establish and promote programmes, partnerships and initiatives to support Africa's efforts to implement NEPAD objectives on energy, which seek to secure access for at least 35 per cent of the African population within 20 years, especially in rural areas. It also calls for support to implement energy initiatives, including the promotion of clean and renewable energy, and to improve energy efficiency and access to advanced energy technologies, including cleaner fossil fuel technologies.

103. Concrete initiatives and actions taken include:

a. Establishment of a multi-donor NEPAD Infrastructure Project Preparation facility at the African Development bank (AfDB) for provision of funding for preparation of several regional projects including the Kenya-Uganda oil pipeline, the Benin-Togo-Ghana power interconnection project, and the Zambia-Tanzania-Kenya electricity interconnection project. Additionally, the Bank has approved financing for the Ethiopia-Djibouti Power Interconnection project and for a hydropower project and transmission feasibility study for the *Organization pour la Mise en Valeur du fleuve Gambie (OMVG)*;

b. In its infrastructure short-term action plan, NEPAD has identified seven projects related to energy distribution and production among its top 20 priorities. These priorities which are being translated into specific projects, encompass creation of power pools, the reinforcement of power interconnection and oil and gas pipelines and the strengthening of regional cooperation through the African Energy Commission;

c. The West Africa Gas Pipeline project which is expected to supply clean and affordable energy from Nigeria to Benin, Togo, and Ghana. A feasibility study is being carried out by the NEPAD secretariat and AfDB on the Greater Inga Integrator Study, which aims to assess the feasibility of developing the hydropower potential at Grand Inga in the Democratic Republic of Congo to supply the subregions of Africa and transmit the surplus power to neighbouring continents;

d. Under the African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA), project activities will be implemented by the International Atomic Energy Agency (IAEA) in partnership with the NEPAD Secretariat, the African Energy Commission and UNIDO to support AFRA members in elaborating national energy strategies and strengthening institutional capability for energy planning. In the framework of UN-Energy/Africa, ECA and IAEA conducted a regional workshop in Ethiopia in December 2006 on integrated resource planning for energy/electricity in Africa. The objective of the workshop was to build the capacity of energy planners to use integrated resource planning effectively;

e. UN-Habitat's energy scale-up initiative aimed at increasing energy access in poor rural and urban areas;

f. UNDP/*Institut de L'Energie et de l'Environnement de la Francophonie* programme for capacity-building and investment in mini/micro hydropower, which is being implemented in partnership with ECA, UNIDO and UNEP in 11 African countries;

g. The UNIDO energy productive use programme and the UNEP African rural energy development project;

h. Regional rural electrification strategies developed in different forms by various regional economic communities (RECs) such as the Southern Africa Development Community (SADC) and the East African Community (EAC). A subregional rural energy programme is well advanced in SADC and in the Economic Community of West African States (ECOWAS), with plans to harmonize national policies;

i. Development of Renewable Energy and Energy Efficiency by UNEP, UNESCO and UNIDO; and

j. Energy planners in some countries are benefiting from technical assistance to enhance their capacity to use integrated resource planning effectively, to mainstream sustainable development in the planning of investments in the electricity supply industry at the regional and national levels.

104. In recognition of the fact that the problem of access to energy in rural Africa requires much more attention, means and renewed commitments by all stakeholders, increased country-to-country and city-to-city dialogue and cooperation are taking place on the issue of clean energy access for the urban poor. Energy access scale-up initiatives led to design of new energy supply schemes integrating energy services to development of productive and income-generating activities, entrepreneurship, and promotion of indigenous energy resources. Off-grid systems, based on renewable energy, have been developed in the rural areas of many countries, and are validated as an important option for increasing energy access. Progress has been made in capacity development and investments in mini-hydro power systems, with identification of a large number of potential mini/micro hydropower sites. A subregional rural energy programme is well advanced in ECOWAS and SADC, with plans to harmonize national policies. Institutional and other barriers to development of SME energy enterprises were identified and approaches for their removal have been implemented in some countries.

105. Although Africa is endowed with substantial renewable energy resources, there is still emphasis on conventional energy options and a higher proportion of funding is allocated to the conventional energy sector such as large-scale hydro and petroleum projects Medium- to small-scale initiatives such as co-generation, Liquefied Petroleum Gas (LPG), wind-pumps, solar water heaters, off-grid electrification, solar dryers, improved stoves, and so on, which have an increased impact on the population, are largely left out. Estimates show that up to 16 SSA countries could meet significant proportions of their current electricity consumption from bagasse-based co-generation in the sugar industry (Karakezi, 2003). Efforts to improve and modernize small-scale biomass energy constitute an important component of national energy strategies in many of its countries. The diffusion of solar water heaters has in general been slower than anticipated and the bulk of those in use are bought by high-income households, institutions and large commercial establishments such as hotels. Solar photovoltaics have been promoted in the region but are still unaffordable to the majority of the population given the high levels of poverty.

106. Development of renewable energy technologies has significant implications for the poor through increased reliability, enhanced competitiveness of agro-industries and the job creation potential. Renewable energy can enhance the competitiveness of agro-industries. There is no indication however of regulatory agencies in Africa setting specific targets for the share of electricity from renewable energy technologies. With the exception of Mauritius, the regulatory framework in most of SSA does not provide

for attractive tariffs to sustainable energy generation options such as small-scale hydro, wind, bagasse-based cogeneration and geothermal.

107. Regarding changing patterns of energy consumption and production, in many countries, national capabilities on forestry services and energy agencies for wood energy planning and policy development have been enhanced. Wood energy statistics and information have been improved and promoted as tools for promotion of sustainable wood energy systems. Furthermore, various practical actions such as geographical mapping of renewable energy resources have been undertaken to increase the share of renewable energy in the energy mix. Solar, thermal and other renewable sources of power have considerable potential in parts of Africa. At the community level, initiatives such as the Cows to Kilowatt project in Nigeria, demonstrate how small-scale initiatives can be developed to offset energy shortage. This project uses the methane produced by degradation of abattoir wastes, and the city of Ibadan and its partners expect to provide energy for 2000 households in the neighbourhood. As a result of similar initiatives, progress has been made in pro-poor access to energy for cooking and heating, as well as in electricity-grid connections.

108. Many network initiatives (e.g. The Global Network on Energy for Sustainable Development, the Renewable Energy and Energy Efficiency Partnership, the Global Village Energy Partnership, and the African Energy Policy Research Network) have contributed to enhancing knowledge and capacity in many countries on cleaner energy technology options for energy production. Additionally, functional networks for sharing information and knowledge on sustainable transport infrastructure investment, cleaner technologies and air quality management, have been established between individuals, institutions and government representatives in many countries.

109. There has been progress in means of implementation. The United Nations system and the international community have increased their efforts through various mechanisms at the international level, such as the special office for NEPAD, and at the regional level, such as the United Nations regional consultation meeting, to support African countries in implementing NEPAD. Financial investments in NEPAD energy projects have increased and are projected to grow further. The internal capacity of several development and commercial banks and private investors to assess investments in the energy sector has improved. Several measures have been implemented to strengthen the capacity of energy planners and developers, education and research institutions and centres of excellence. Several actors, including the African Energy Commission, have made progress in the collection, management and dissemination of energy information in Africa. However, less than 3 per cent of the Clean Development Mechanism (CDM) projects registered under the Kyoto Protocol have been registered in African countries. The Nairobi Framework has been initiated by UNDP, UNEP, the World Bank Group, AfDB and the United Nations Framework on Climate Change (UNFCC) with the specific target of helping developing countries, especially those in SSA, to improve their level of participation in CDM.

110. There are major plans in many African countries for development of bio-fuels. Twelve African States joined Senegal in 2006 in forming the Pan-African Non-Petroleum Producers Association, aimed in part at developing a robust bio-fuel industry in Africa (UN-Energy, 2007). According to Bio-energy International (2007), South Africa in July 2007 began to construct Africa's first production plant for ethanol, based on grains. Seven similar factories are expected to be up and running by 2010. Nigeria plans to build 15 ethanol plants with technical assistance from Brazil. Senegal has launched an experiment on colza plantations to produce bio-diesel, and distillation is underway by a Senegalese sugar firm to produce bio- ethanol. Senegal and Mauritius have created new Ministries entirely devoted to renewable energies. The Democratic Republic of Congo has set up a special commission to study the possibility of producing bio-fuels in the vast central African nation, which cultivates less than five per cent of its arable land.

111. Several southern African countries including Mozambique, Zambia, Zimbabwe and Tanzania are also processing different projects for bio-diesel and bio-ethanol. Commercial bio-fuel markets could become a major factor in raising the economic viability of rural enterprises in Africa. The increased investment in infrastructure for bio-fuel processing, distribution and transport would also contribute to the overall development of the agricultural sector. While bio-fuels offer potentially significant benefits, they also entail many trade-offs and risks. Experience with the associated economic, environmental, and social impacts is limited, but the types of impacts will depend largely on local conditions and on policy frameworks implemented to support bio-energy development. The production of biomass for bio-fuels needs to be sustainable and a key sustainability issue in Africa is the implication for food security. The expansion of liquid bio-fuel production could threaten the availability of adequate food supplies by diverting land and other productive resources away from food crops. This can affect food security at the household, national and global levels through each of four major dimensions: availability, access, stability and utilization (UN-Energy, 2007).

112. More research and analysis are needed to fully understand the long-term impacts of expanded bio-energy production and use on food security in Africa. The effects of bio-energy on food security will be context-specific, and an analytical framework based on country typologies should be developed to facilitate understanding of country-specific effects. The life-cycle analysis methodology and tools need to be further developed in African countries to enable them to assess bio-energy systems.

3.3 Water supply and sanitation

113. WSSD underscored the importance of provision of clean drinking water and adequate sanitation to protect human health and the environment. In this respect, it endorsed the Millennium Declaration targets. The JPOI, with specific reference to

Africa, called for actions to provide access to potable domestic water, hygiene education and improved sanitation and waste management at the household level. It indicated that this could be done through initiatives to encourage public and private investment in water supply and sanitation that give priority to the needs of the poor within stable and transparent national regulatory frameworks provided by governments. Water and sanitation has also been an integral component of the NEPAD infrastructure programme and one of its objectives is to ensure sustainable access to safe and adequate clean water supply and sanitation, especially for the poor.

114. Concrete regional and national actions in various areas include:

a. Development of water infrastructure, as a national priority in most African countries over recent decades. Many multilateral organizations have been involved in working towards achievement of the MDGs on water and sanitation access. Some countries have achieved good progress in expanding access to services and improving operating performance;

b. Establishment of the African Ministerial Council on Water and the Africa Water Task Force to enhance cooperation and coordination and promote development and implementation of coherent policies and strategies for water resources management. The water resources management component of the NEPAD short-term action plan has been developed and focuses on seven river basins;

c. Provision of AfDB assistance to NEPAD, to implement its water and sanitation infrastructure development programme with a view to enhancing regional integration. Under the auspices of UN-Habitat, the Water for African Cities programme is being implemented with the aim of reducing the urban water crisis in African cities;

d. Undertaking policy, legal and institutional reforms and developing strategies for water resources development and management, on the basis of IWRM, in an increasing number of countries;

e. Attention to better water management practices that give due weight to SCP. A pilot project on community water management carried out by Ivory Consult Ltd. in the Chumvi Laikipia district in Kenya has led to reduced water conflicts, better conservation of water sources, fairer distribution, higher water quality and a more effective water management system in the area. This has been achieved through establishment of a cooperative water scheme in the district, with many advantages such as protection of sources and users and their legal rights, and capacity to serve as a source of income. Another example is in Zambia where the cooperative model for water management has performed very well in the Lusaka district and has been able to reduce poverty and unemployment;

f. Improving water efficiency and reducing water pollution from industry are some of the functions of NCPCs. In a Uganda fish-processing plant, for example, cleaner production methods reduced water consumption by 30 per cent, with a savings of $6000 per year (www.uneptie.og/pc). The promotion of efficient water utilization in African industries is recognized as one of the key factors that could contribute to improvement of the quality and quantity of water in the region. The African Brewery Sector Water Savings Initiative (ABREW), implemented by UNEP in collaboration with ARSCP and the Uganda Cleaner Production Centre (UCPC), was carried out between 2006 and 2008. It aimed to assess the current status and opportunities for reducing water and wastewater generation in the African brewery sector through the cleaner production approach, and to carry out a framework analysis of water consumption in African breweries. The study (UNEP, 2008) concluded that most breweries in Africa were still far from the accepted international best practice benchmark for water consumption and cleaner production, although its use has the potential to make a major contribution to reducing water consumption in African breweries.

3.4 Habitat and urban development

115. In its Africa chapter, the JPOI calls for support to African countries in their efforts to implement the Habitat Agenda and the Istanbul Declaration through initiatives to strengthen national and local institutional capacities in the areas of sustainable urbanization and human settlements, providing support for adequate shelter and basic services and developing efficient and effective governance systems in cities and other human settlements. In its Africa chapter, the JPOI advocates for support to African efforts to develop affordable transport systems and infrastructure that promote sustainable development in Africa. Transport is an integral part of the NEPAD infrastructure programme. UN-Habitat has launched the Global Campaign for Sustainable Urbanization to operationalize at country level, the Habitat Agenda, through various programmes such as Water for African Cities, Urban Observatories, Safer Cities, Good Urban Governance and Local Agenda 21. Furthermore the UN Habitat Regional Office for Africa and the Arab States (ROAAS) supported the global campaign launched in various countries. UN-Habitat provided technical assistance in collaboration with Cities Alliance to implement the Plan of Action on slum prevention and upgrading, and Cities Development Strategies (CSD). Furthermore, UN-Habitat and other partners have launched the Global Land Tool Network (GLTN), which tries to document best land practices and in which Africa will be an important beneficiary. In collaboration with the European Union, UN-Habitat has implemented the Regional Urban Sector Profile for Sustainability (RUSPS), in over 23 countries in Africa, to develop medium to long term policies.

116. Many African cities are beginning to adopt the principles and norms of good governance. The Global Campaign will also promote security of tenure and improvement of the living standards of the poor by providing them affordable housing, employment and sustainable livelihoods. Many African countries have mainstreamed sustainable urbanization into their PRSPs, and have introduced programmes and projects for provision of basic urban services such as water and sanitation, and for slum upgrading and prevention policies, as well as social housing schemes. With support from ROAAS and the Habitat Programme Managers, several countries in the region have undertaken initiatives to review and reform national housing and urban development, and policies and legislation for adequate access to land, water and sanitation, shelter, and slum prevention and upgrading. The African Sustainable Cities Network (ASCN), established in 1995 within the framework of LA21 and coordinated by ICLEI through its office in Africa, aims to build the capacity of local authorities in Africa to institute participatory environmental planning as an ongoing function of local public administration.

117. The responses to the challenges of urbanization vary from city to city. Most cities have tended to respond on an ad hoc basis, by employing both sectoral and top-down approaches to solving problems. In some cases, the role of either a city or local government has been dominant, especially in cities that are organized along mayoral principles (UN Habitat 2006). Initiatives undertaken by African countries to meet the target of improving the quality of life of 100 million slum dwellers range from review of national housing policies (Namibia), introducing programmes for provision of basic urban services (Nigeria) and introduction of legislation and policy on housing rights, access to land and secure tenure (Tanzania, South Africa and Namibia) (ECA/UN Habitat, 2003). Countries such as Egypt, South Africa and Tunisia have developed specific slum upgrading and prevention policies as an integral part of their national poverty reduction policies and strategies (UN-Habitat, 2006.)

118. However, with the exception of a few countries such as South Africa, efforts made have not had much impact on housing provision, slum upgrading and poverty reduction. The NEPAD City programme initiative, if successfully implemented, will go a long way in easing the lives of city dwellers, including those living in slums. NEPAD aims to address urbanization and its consequences to make African cities more attractive for economic investment (UN-Habitat, 2005).

119. Cape Town is the only African city on the list of the world's 10 cities most likely to become a global sustainability centre by 2020, according to the Ethisphere Institute, which released its findings in 2008 (Ethisphere, 2008). It has a vision for future sustainability. For example, the city has a goal of having 10 per cent of homes using solar power by 2020, as well as 10 per cent of the city's energy consumption coming from renewable sources by that time. Moreover, the Department of Housing in South Africa has embarked on implementing energy-efficient housing designs with the view of creating thermal comfort levels in housing units in the low-income housing sector,

as well as reducing greenhouse gas emissions. It is also establishing standards for energy efficiency in the low-income housing sector. Many countries in Africa are beginning to put strategic policy and institutional frameworks in place the to address some of the transport-related problems, However, transport concerns are still not integrated as well as they might be into spatial planning policies, and this is vital given that land-use patterns have such a fundamental effect on shaping transport demand. Given the still moderate levels of private transport use and car ownership, and the need for modernization of the transport systems, there are opportunities for African countries to avoid the widespread transport problems of developed western countries.

120. In most large cities of the developing world, public municipal transport systems have not kept up with rapid urban growth, and informal transport services have grown rapidly to meet the growing needs and to respond to emerging demands for services not provided by the formal system. The informal transportation sector thus provides essential transport services, especially for informal settlements and poor people. This informal transport often complements municipal services, serving areas not served by municipal services and providing feeder services to the large buses on main routes. The rapid growth of informal transport, while meeting essential needs and contributing to economic growth and poverty reduction, has also posed major challenges to sustainable urban development, in part because of lack of regulation. The vehicles are often old, highly polluting and unsafe, and operators usually have no insurance to cover injuries or damage. In many cases, informal transport vehicles are old used buses, vans or cars imported from developed countries. Some cities are addressing these problems by licensing and regulating the informal sector and setting vehicle standards and insurance requirements.

121. Inadequate urban planning is a significant driving force behind rising emission levels, because residential and commercial centres are often far apart, forcing mass movement of workers on a daily basis. Poor economic development has also contributed to air pollution by creating dependence on old vehicles and dirty fuels. The Clean Air Initiative in Sub-Saharan Cities (CAI-SSA) , launched in 1998, and sponsored by the World Bank in collaboration with a number of partners, has the objective to improve air quality through the reduction of air pollution originating, particularly, from motorized transport but also from industries and households. Studies carried out since 1998 in Dakar, Ouagadougou, Cotonou and Abidjan indicate that urban air pollution negatively impacts the economy by 1.8 to 2.7 per cent of GDP. If nothing is done in the near future, this impact is expected to increase significantly given the effects of urban population growth and increase in car ownership (www.cleanairnet.org/ssa)). Some countries, mostly developed countries, require periodic inspection of vehicles to eliminate those that do not meet standards. The old, polluting vehicles that cannot be used in those countries are sometimes exported to developing countries that do not have standards or inspection systems.

122. To address environmental and safety issues arising from old cars, some developing countries restrict imports of used cars beyond a certain age. While such restrictions are not as effective as standards applied to all old cars, they are much easier to administer. Air pollution from traffic can be reduced through the use of clean vehicles and fuels. Some progress has been made in improving the quality of transport fuel, e.g. banning leaded petrol. Studies have shown that every dollar invested in cleaner fuels and vehicles can yield up to $40 in health and other economic benefits (World Bank, 2000). Bicycles can be an effective means of reducing traffic congestion and air pollution. In Kenya, a luxury tax on bicycles at the rate of 80 per cent until 1986 was gradually reduced, and finally eliminated in 2002, resulting in a large increase in bicycle sales. Unfortunately, most African countries still tax bicycle imports as luxury items, limiting access by poor people to low-cost and environmentally-sound transportation.119. Cities across Africa are urged to push harder to access a growing range of global environment funds to help them finance sustainable public transport systems that use cleaner, less polluting, energy supplies. The streets and infrastructure of far too many of Africa`s cities are being overwhelmed by traffic leading to rising levels of health-hazardous air pollution and adverse impacts on the economies. An increasing number of cities in the developing countries of Asia and Latin America are starting to introduce modern 21st century, rapid bus transit systems alongside measures to boost safer cycling and walking. In terms of sustainable transport projects, only Dar es Salaam in the United Republic of Tanzania is taking advantage of GEF funding with a rapid bus transit system earmarked there. South Africa is also hoping to use GEF funding to help its cities boost sustainable public transportation for the 2010 World Cup.

3.5 Sustainable industrial development and corporate social responsibility

123. In its Africa chapter, the JPOI enjoins the international community to enhance the industrial productivity, diversity and competitiveness of African countries through a combination of financial and technological support for the development of key infrastructure, access to technology, networking of research centres, adding value to export products, skills development and enhancing market access in support of sustainable development. These support the NEPAD objectives on manufacturing, which include increased production and improved competitiveness and diversification of the domestic private sector, especially in the agro-industrial, mining and manufacturing sub-sectors with potential for exports and employment creation. However, any industrialization strategy must be environmentally sustainable and must not contribute to further environmental degradation.

124. The JPOI includes numerous references to eco-efficient production, pollution prevention, resource/energy efficiency, and the transfer and diffusion of environmentally-sound technologies. Sustainable development and poverty reduction will be achieved through the contribution of the private sector. Corporate Social Responsibility (CSR)

has become a central element of corporate image in the global economy, where companies source raw materials and components through global supply chains. CSR programmes include codes of conduct, environmental management systems, stakeholder dialogues, community investment and philantrophy, and reporting, auditing and certification. WSSD called for enhancement of the CSR concept, and the JPOI further emphasized the contribution of the industrial sector to sustainable development in Africa by supporting broad-based participation, social and environmental responsibility. CSR is also an important criterion of the corporate governance objective of the NEPAD African Peer Review Mechanism (APRM).In its Africa chapter, the JPOI enjoins the international community to enhance the industrial productivity, diversity and competitiveness of African countries through a combination of financial and technological support for the development of key infrastructure, access to technology, networking of research centres, adding value to export products, skills development and enhancing market access in support of sustainable development. These support the NEPAD objectives on manufacturing, which include increased production and improved competitiveness and diversification of the domestic private sector, especially in the agro-industrial, mining and manufacturing sub-sectors with potential for exports and employment creation. However, any industrialization strategy must be environmentally sustainable and must not contribute to further environmental degradation.

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126. Concrete regional and national initiatives include:

a. In July 2004 the AU Assembly endorsed the Africa Productive Capacity Initiative (APCI) as the NEPAD Sustainable Industrial Development Strategy. In particular it requested that the AU commission and the NEPAD Secretariat provide assistance to member States in their implementation of the strategy through the development of concrete action plans. An action plan has been developed for the West African region and planning for other subregions is ongoing (UN, 2005). UNIDO is providing technical assistance through the APCI, which aims to increase MVA in selected industrial sectors

identified in Africa's five subregions. The African Productive Capacity Facility (APCF) has been established as a financial mechanism to support the APCI and UNIDO has provided seed money to the facility to start implementation. Through the Initiative, selected industrial sectors in Africa's five subregions are benefiting from technical assistance to increase manufactured value added.

b. UNIDO has assisted many African countries to develop and implement programmes aimed at improving the competitiveness of selected industries and, wherever possible, identify new market opportunities, thus opening the door to the global economy. In the leather industry, UNIDO has assisted countries in tackling critical environmental problems by assisting companies in installing or upgrading effluent treatment plants and providing training at the Nairobi Leather Development Centre. For SMEs, UNIDO activities have been focusing on policy formulation and implementation, institutional capacity-building and improving entrepreneurial skills at the enterprise level.

c. UNIDO and UNEP supported by UNDP or bilateral donors are actively promoting Cleaner Production in Africa. Since 1994 10 have been established in Africa: Egypt, Ethiopia, Kenya, Morocco, Mozambique, South Africa, The United Republic of Tanzania, Uganda and Zimbabwe. Additional centres are in the process of being established and many African countries have requested to have NCPCs established (ECA, 2006).

d. There are development of industrial environmental policy, regulation and guidelines, including the adoption of corporate social responsibility codes in some countries.

e. Establishment of national industrial information networks, capacity-building in information technology and promotion of linkages between research and development of institutions and industry.

f. Development of policies for investment promotion and foreign direct investment (FDI).

g. Metrology standards, testing and quality institutions provide complementary support to the introduction of such standards by allowing proper control of product, health and environmental quality and by providing the means for certification against the standards. Such institutions also promote best practices and encourage the development of new products through R&D.

h. Countries have also established agro-processing ventures and medium-sized and micro-enterprises, and are gradually accessing finance, technology transfer and capacity-building for growth oriented and competitive medium-sized and micro-enterprises, with an increased emphasis on creating opportunities for women.

127. According to the International Organization for Standardization (ISO), by the end of 2005, at least 111,162 ISO 14001 certificates had been issued in 138 countries, a 24 per cent increase over 2004. African countries accounted for only a very small share of ISO 14001 certifications issued worldwide. Of the 630 ISO 14001 Certificates issued to organizations in Africa in 2003, 378 went to South African organizations. Through global supply chains, international trade and investment, CSR practices are gradually being transferred to companies in developing countries. The main vehicles for CSR commitment and reporting are the UN Global Compact and the Global Reporting Initiative (GRI). Launched in 2000, the UN Global Compact is one example of a voluntary multi-stakeholder initiative to promote corporate responsibility in the fields of human rights, labour standards, environment and corruption. CSR reporting generally remains low or non-existent so far. Concrete actions taken and progress made in the area of CSR include:

a. The NEPAD Business Group (NBG) acts as a medium between NEPAD and private companies that support its aims, functions as information hub on trade and investment opportunities in Africa and encourages private sector involvement in sustainable development projects. The African Institute of Corporate Citizenship (AICC) was officially established in 2001, as an NGO-promoting the role of business in building sustainable communities. The AICC also aimed to raise awareness and mobilize constructive action and collaboration between communities. The Institute has established various forums and centres aimed at ensuring the adoption of sustainable practices by African and foreign companies operating in Africa. The Africa Corporate sustainability forum (ACSF), one of the bodies of AICC, is a member of the NBG (AICC, 2006).

b. Participating organizations from Africa in the UN Global Compact international initiative include 17 business associations and several stakeholders from civil society and academia.

c. The GRI is one of the most widely recognized and important initiatives for CSR. South Africa is a leading country in terms of companies using sustainability reporting. The WBCSD has member companies in South Africa and partner organizations in a few other countries.

d. The United Nations Environment Programme Finance Initiative (UNEP-FI) is a global public private partnership between UNEP and 239 firms from across the global financial services sector. Its mission is to collaboratively integrate relevant environmental, social and corporate governance criteria into financial sector operations and services (UN/SFDFA, 2004). UNEP-FI activity areas include investment, banking, financing, social security, insurance and reporting. The African Task Force (ATF) was launched in 2002 to support and expand sustainable financial practice in Africa, with AICC as its secretariat. The ATF has released the Sustainability Banking in

Africa Report, which was produced by the AICC Centre for Sustainability Investing. The Equator Principles provide a framework for financial institutions to manage environmental and social issues in project financing. The Principles have so far been adopted by 30 of the world's major financial institutions (AICC, 2004, Agbazue, T., 2005).

e. The World Business Council for Sustainable Development (WBCSD) is a CEO-led, global association of some 200 companies dealing exclusively with business and sustainable development. Its mission is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues. The council has member companies in South Africa and partner organizations in Egypt, Algeria, Nigeria, Zimbabwe, Mozambique and South Africa (http://www.wbcsd.ch, 27-06-07).

f. National actions: In most African countries, the practice and concept of CSR is relatively recent. Given its developmental context, the application of CSR in Africa mainly contributes to addressing those issues affecting the daily lives of Africans. CSR in most countries is perceived and practiced as corporate philantrophy (Amaeshi et al; 2006). In Kenya, surveys suggest that the cause receiving the highest proportion of corporate donations is health and medical provision. Donations are also directed towards education and training, HIV/AIDS, agriculture and food security and underprivileged children.

g. CSR is an important issue in mining companies and sugar industries in Southern Africa.

h. African business associations and several stakeholders from civil society and academia are participating in global compact initiatives and a UNEP financial incentive. An African Task Force has been launched to support and expand sustainable financial practices in Africa.

3.6 Food production and consumption

128. The JPOI stressed in paragraph 67 the crucial role of agricultural productivity and sustainable production in achieving food security in Africa. The Plan calls upon African countries to develop and implement food security strategies, within the context of national poverty eradication programmes, by 2005. This supports the NEPAD agriculture sector objectives, which include: to improve the productivity of agriculture, with particular attention to small scale and women farmers; to ensure food security for all people and increase the access of the poor to adequate food and nutrition; and to develop Africa into a net exporter of agricultural products. Food supply chain members share the responsibility to produce and supply food in the most environmentally sustainable way. Consumers on the other hand indirectly affect upstream environmental impacts through their purchasing decisions. Scientifically

reliable and understandable environmental information can help consumers in cities to consider the wider sustainability implications of their purchasing decisions and behaviour. There is great potential for organic food production in African countries but the development of certified organic farming in African countries lags significantly behind.

129. African countries have taken measures at national, subregional and regional levels to improve agricultural production, which include the following:

a. The Maputo Summit Declaration that endorsed the Comprehensive Africa Agriculture Development Programme (CAADP) plan of Action calling for 6 per cent agricultural growth rates, and the commitment by African leaders to allocate at least 10 per cent of their national budget to agricultural and rural development by 2008. The latest AU figures show that only six countries have reached this target of 10 per cent of the national budget allocated to agriculture and only 11 countries have fulfilled the commitment on agriculture growths contained in the CAADP;

b. The 2004 Sirte Declaration on the Challenges of Implementing Integrated and Sustainable Development in Agriculture and Water in Africa, which contains 25 ambitious commitments;

c. The Fertilizer Summit that adopted the resolution to increase fertilizer use in Africa from 8 kg per ha to 50 kg per ha by 2015;

d. The 2006 Abuja Food Security Summit that recommended the establishment of African common market for basic food products;

e. FAO works directly with RECs in promoting cross-country partnership and regional integration to enable countries to confront the challenges of food security successfully and solve regional problems through collective action;

f. In the context of the 2008 food crisis, AU/NEPAD adopted in March 2008 an ambitious Framework for African Food Security which encompasses immediate, medium term and long-term priorities to increase food supply;

g. IFAD plays a key role in the specific NEPAD Pan African Cassava Initiative (PACI) aimed at disseminating new cassava-processing technologies and developing regional markets for the crop. IFAD also supports rice production;

h. The Forum for Agricultural Research in Africa (FARA) is assisting African countries in developing their research capacity for improved agricultural productivity and sustainable management of natural resources;

i. Production of cassava, exports of fruits and vegetables, tea production and exports and fish catch are subsectors which have been performing relatively well; and

j. Livestock and fisheries are major sources of food for African people. The meat consumption per capita in SSA was 13 kg per year, compared to a world average of 40 kg per year and to about 100 kg in developed countries. As a result of economic and environment constraints, fishing and livestock raising activities have failed to keep up with the growing African population. Per capita fish consumption over the last two decades has decreased by an average of 2.1 kg per person per year while between 1990 and 2005 per capita meat production fell in 30 out of 47 SSA countries (UNDESA, 2008b) . To stimulate growth in fishing and livestock production, African countries have requested the NEPAD Steering Committee to undertake a comprehensive review of the potential benefits and constraints specific to those sectors. Dialogue between various stakeholders in the fishing industry has been promoted through initiatives such as the 10-year Fish for All initiative, launched in 2002, and the donor-supported, FAO-executed Sustainable Fisheries Livelihood Programme in West Africa.

3.7 Chemicals and hazardous waste management

130. Chemicals are essential requirements of modern society that need to be managed properly in order to achieve sustainable levels of agricultural and industrial development, and high levels of environmental and human health protection. The potential socio-economic impacts and costs of toxics are large and are borne disproportionately by poor communities. WSSD called for renewed commitment to sound management of chemicals throughout their life cycle, for sustainable development. Countries are also to take action at all levels to promote ratification and implementation of relevant international instruments on chemicals. Additionally, countries were asked to work on further developing a strategic approach to international chemicals management based on: the Bahia Declaration; the Priorities for Action of the Intergovernmental Forum on Chemical Safety (ICFS); and implementation of the new Globally Harmonized System (GHS) for the classification and labelling of chemicals, with a view to having the system fully operational by 2008. Specifically, the Plan calls on development partners to support African countries in strengthening their capacity for sound management of chemicals, and to provide the necessary technical and financial assistance.

131. Adopted by the International Conference on Chemicals Management (ICCM) on 6 February 2006 in Dubai, United Arab Emirates, the Strategic Approach to International Chemicals Management (SAICM) is a policy framework to foster sound management of chemicals. SAICM supports achievement of the goal agreed in the JPOI, of ensuring that by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on human health and the environment. The NEPAD Environmental Action Plan (NEPAD-EAP) sets an Africa-wide approach to environmental management, with chemicals management identified as a cross-cutting issue.

Box 1: The 2006 Ivory Coast Toxic Waste Spill

On August 19, 2006 a ship called the *Probo Koala* offloaded more than 500 tons of toxic waste, rumoured to be dirty water used for cleaning the ship's gasoline tanks, for disposal. The waste was transferred into tankers owned by a firm under agreement that it would be treated and disposed of. However, soon after, it became apparent that the untreated slops had been dumped illegally at municipal refuse dumps. The toxic waste, an alkaline mix of water, gasoline, and caustic soda allegedly gave off many poisonous chemicals, including hydrogen sulphide. In the weeks following the incident the BBC reported that 17 people died, 23 were hospitalized, and a further 40,000 sought medical treatment (due to headaches, nosebleeds, and stomach pains). The *Probo Koala* was a Panama-registered tanker chartered to the Dutch company, Trafigura. Before it dumped the waste in Abidjan, it attempted to have the waste processed in Amsterdam, Netherlands, but Amsterdam Port Services BV, the company that had contracted to take the waste, refused after its staff reported an incredible smell coming from the waste. A company specialized in the disposal of chemical waste; *Afvalstoffen Terminal Moerdijk* tendered for disposal of the waste (based on the samples it received), for 500,000 Euro. The *Proba Koala* then left for Côte d'Ivoire where "Compaigne Tommy", which was registered only days before the arrival of the Probo Koala, was contracted for $18,500 to dispose of the waste.

132. Concrete actions taken and progress to date include:

a. Thirty-seven African countries have become Parties to the Rotterdam Convention of 1998 to promote shared responsibility and cooperative efforts in the international trade of chemicals;

b. Forty-four countries have either ratified or acceded to the Stockholm Convention on Persistent Organic Pollutants (POPs);

c. The African region has played an active and leading role in development of the Strategic Approach to International Chemicals Management (SAICM) that was adopted by the International Conference on Chemicals Management (ICMM) in 2006. AMCEN, at its eleventh regular session held in Brazzaville, Congo in May 2006 adopted a decision on the implementation of SAICM in Africa. During the African regional meeting held in Cairo, Egypt in September 2006, African countries endorsed a regional action plan for implementation of SAICM. A second regional meeting on SAICM was organized in Dar es Salaam in July 2008 in collaboration with the Government of The United Republic of Tanzania;

d. In February 2006, ICCM established the Quick Start Programme (QSP) to implement the objectives of SAICM. African countries have demonstrated

commitment to SAICM implementation through the contribution in 2006 of $100,000 and $50,000 by the Governments of South Africa and Nigeria, respectively. Currently, a number of chemicals management projects are being undertaken in the region under the SAICM-QSP. The Basel Convention Regional Centre in Pretoria (BCRC) and the Swedish Chemicals Agency (KemI) are currently undertaking a regional project towards developing a regional needs assessment to promote SAICM in African countries;

e. In response to requests from countries for capacity-building to support GHS implementation, UNITAR and ILO initiated the 2001 UNITAR/ILO Global GHS Capacity Building Programme. ECOSOC endorsed the initiative in July 2003 (ECOSOC, 2004). The programme is supporting national GHS implementation and capacity-building projects in Nigeria, Senegal, Gambia, South Africa and Zambia. Regional activities have also been carried out in SADC;

f. The international community has continually lent support to Africa's chemicals management efforts through bilateral and multilateral cooperation and also through various UN organizations responsible for chemicals management training and capacity-building. A number of OECD countries have been actively supporting African countries through provision of technical and financial resources for meeting obligations under the various chemicals-related MEAs, currently, through the implementation of priority and enabling activities under the SAICM QSP;

g. A regional study on the possible effects on human health and the environment in Africa of the trade of products containing lead, cadmium and mercury for UNEP Chemicals has been carried out by the ARSCP; and

h. Environmental law has been strengthened across Africa since UNCED. However, the development of national legal instruments to implement a comprehensive approach to chemicals is still lagging. This is exacerbated by shortages of resource allocation for enforcement, monitoring and training. Technology and capacity issues also need to be addressed in the implementation of legislation. For example, the development of environmentally acceptable disposal facilities requires a delicate balance between technological complexity and applicability. The requirement of the Stockholm Convention, that the parties develop NIPs, provides unique opportunities for countries to reassess their strengths and weaknesses in the area of chemicals management at national level, with global support.

133. In addition to the threat of trans-boundary movement of hazardous wastes from developed countries, Africa also produces hazardous wastes but does not have adequate technical, technological and institutional capacities to manage them in an environmentally-sound manner. The priority hazardous wastes streams in Africa include healthcare wastes, industrial/petrochemical/petroleum, mining wastes, stock

of obsolete pesticides and other chemicals banned internationally, used oil, used automotive and dry cell batteries, and e-wastes. Africa is littered with non-engineered landfill sites and other inefficient means of waste disposal .Africa is also littered with contaminated sites. These include dumpsite areas, thermal power plants, polluted rivers, streams and drinking water wells, oil spill sites, oil refineries, etc. (Basel Secretariat, 2004).

134. WSSD called for renewal of the A21 commitment to sound management of hazardous wastes for sustainable development as well as for the protection of human health and the environment. The JPOI stated that countries could achieve this by promoting the ratification and implementation of relevant international instruments on hazardous waste. The plan also called for the promotion of efforts to prevent international illegal trafficking of hazardous wastes and to prevent damage resulting from the trans-boundary movement and disposal of hazardous wastes in a manner consistent with obligations under relevant international instruments.

135. Concrete actions taken and progress made in hazardous waste management to date, include:

a. Some 47 African countries have acceded to the Basel Convention on the Trans-boundary Movement of Hazardous Wastes and their Disposal which aims to protect human health and the environment against the adverse effects resulting from the generation, management, trans-boundary movements and disposal of hazardous and other wastes(http://www. basel. int/ratif/convention.htm, 21-09-07). Significant progress has been realized in the implementation of the convention, due to an enlarged scope that now includes patterns of production, product design, technological innovation, and consumer behaviour. The convention has made further progress through consolidation of its control system, legal framework, and operation through improved classification of wastes and refined hazard classification. A regulatory system for the monitoring and control of hazardous wastes has been set up and is displayed in the full text of the convention.

b. To date, the Bamako Convention on ban of the import into Africa and the control of trans-boundary movement and management of Hazardous Wastes within Africa has either been ratified or acceded to by 23 countries (http://www.africa-union.org/Official_documents/Treaties_%20Conventions, 21-09-07). The Bamako Convention recognizes the sovereignty of States to ban the importation and trans-boundary movement of hazardous wastes into their territories and considers nuclear wastes as hazardous. In spite of its significance for African countries in regulating the hazardous waste trade, it has been noted that the ratification and implementation of the Convention has been very slow. The first COP is yet to be held.

c. An amendment to the Basel Convention was introduced in 1995. This amendment stated that Parties which were members of OECD and EC were to prohibit all trans-boundary movements of hazardous wastes destined for final disposal to other States Such activities were to be phased by 31 December 1997 and all trans-boundary movements of hazardous wastes prohibited as of that date. A critical factor acknowledged by the Conference of the parties was that trans-boundary movements of hazardous wastes, especially to developing countries, had a high risk of not constituting environmentally-sound management of hazardous wastes as required by the Convention. The amendment brought the objectives of the Basel Convention closer to those of the Bamako Convention. This complementarity was one of the main reasons that prompted the then Organization of African Unity (OAU) to encourage African countries to ratify the Basel Convention after ratifying the Bamako Convention. The amendment had not yet entered into force in 2007, but 11 African countries had acceded to it. http://www.basel.int/ratif/ban-alpha.htm, 21-09-07.

d. The Protocol on Liability and Compensation was adopted in Basel in 1999, during the Tenth Anniversary of the Basel Convention. The aim of the Protocol was to provide a comprehensive regime for adequate and prompt compensation, including reinstatement of the environment, for damage resulting from the trans-boundary movement of hazardous wastes and their disposal. The Protocol is yet to enter into force. To date, only eight countries have acceded to the Protocol, seven of which are African countries http://www.basel.int/ratif/ protocol.htm, 21-09-07.

e. Other regional initiatives include the African, Caribbean, and Pacific (ACP) and the European Union (EU) Treaty on hazardous wastes. The treaty bans the export of hazardous and nuclear waste from the EU countries to the member countries of ACP. The treaty also prohibits the ACP countries from importing these wastes from any other non-EU countries. Also, the ECOWAS resolution calls for specific penalties for those involved in dumping toxic wastes in member countries. Subsequently, member countries such as Ivory Coast adopted a law that specifies up to 20 years in jail and fines up to $1.6 million for anyone convicted of hazardous waste dumping (Olurominiyi, I, 2006).

f. Parties to the Basel Convention established Basel Convention Regional and subregional Centres (BCRCs) to address specific regional and subregional needs. The BCRCs have been delivering training, dissemination of information, consulting, awareness-raising activities and technology transfer on matters relevant to implementation of the Basel Convention and to environmentally sound management of hazardous and other wastes in the countries they served. African countries were served by four Centres: Cairo, Egypt for Arab States; Dakar, Senegal, for French-speaking countries in

Africa; Pretoria, South Africa for English-speaking countries in Africa and Ibadan, Nigeria which hosted the coordinating centre for the Africa Region: http://www.basel.int/centres/centres.html, 21-09-07. The Centres organized several capacity-building activities for hazardous wastes and chemicals management. NEPAD and AMCEN endorsed use of BCRCs in Africa for capacity-building and project execution on wastes and chemicals, with a view to enhancing the competencies of governments to implement the various conventions on wastes and chemicals. This supported the UNEP-led initiatives aimed at improving synergies among chemicals and wastes-related conventions.

g. Parties to the Basel Convention recognized the importance of developing strategic partnerships with business and industry and NGOs to support the Basel Declaration on Environmentally-sound Management. In this regard, the Strategic Plan for the Implementation of the Basel Convention to 2010 was adopted. Activities carried out in Africa within the framework of this plan included demonstration of a regional approach for environmentally-sound management of PCBS, used-oil partnerships, and biomedical and health care wastes. The African Stockpile Project (ASP) was established to clean up stockpiled obsolete pesticides, catalyze development of prevention measures and build capacity for chemicals-related issues. The project started in 2001,supported by FAO, WWF, PAN-UK, the World Bank, the Basel Convention, UNEP Chemicals, UNIDO, UNECA, AU and Crop Life International. The project was envisioned to span 12 to 15 years and was estimated to cost $250 million. Implementation began in 2002 in seven African countries, including Ethiopia, Mali, Morocco, South Africa, The United Republic of Tanzania, Tunisia and Nigeria.

h. International development partners such as the World Bank, UN Agencies, particularly UNEP, and developed countries through bilateral arrangements, lent support to Africa's waste-management initiatives and efforts. The World Bank and AfDB funded urban solid-waste management projects in many African cities, aimed at improving sanitation and primary health care. The four BCRCs in Africa were established with support from UNEP through the Secretariat of the Basel Convention. The Governments of Norway and Sweden have been funding projects at the BCRCs in Egypt and South Africa. GEF has also been funding a project at the BCRC in Senegal. The EU pledged EU1 million at the Eighth Conference of Parties (COP) of the Basel Convention, held in Nairobi, Kenya in 2006 to support projects on e-waste.

i. Many African countries have adopted policies and legislation on hazardous waste, including hazardous waste management, and have been implementing activities to support environmentally-sound management of hazardous waste.

136. The decreasing cost of replacing computers, mobile phones and other electronic gadgets, and the speed with which technology goes out of date, has meant increasing amounts of material for disposal. Traditionally, much of the waste found its way to Asian countries such as China and India, but tighter regulations in these countries have meant increasing amounts ending up in Africa. A recent study by the Basel Action Network concluded that a minimum of 100,000 computers a month were entering the Nigerian port of Lagos alone (www.ban.org). Policies are needed to protect African nations from unregulated imports of electronic wastes (e-waste) that release heavy metals and chemicals into the environment.

3.8 Sustainable tourism development

137. WSSD called on countries to promote sustainable tourism development, especially non-consumptive and eco-tourism. Promoting sustainable tourism development in Africa was also a set out in paragraph 43 of the JPOI, the goal being to increase the benefits from tourism resources for the population in host communities while maintaining the cultural and environmental integrity of the host communities, and enhancing protection of ecologically sensitive areas and natural heritages. The Africa chapter of the JPOI recognized the need to support Africa's efforts to attain sustainable tourism that contributed to social, economic and infrastructure development. NEPAD has also called for capacitating African communities to actively engage in sustainable tourism, including adventure tourism, ecotourism and cultural tourism.

138. Concrete actions taken and progress made are as follows:

a. NEPAD has identified tourism as an important vehicle to address the current development challenges facing the African continent. The Forty-first meeting of the UNWTO Commission for Africa (CAF) in 2004 approved the NEPAD Tourism Action Plan. Its main objective was to provide an engine for growth and integration, and to contribute to poverty eradication. Currently, most African governments include tourism in their national development strategies and some have adopted policies that create opportunities for the poor within tourism. (UNWTO, 2006a).

b. Many African countries have adopted the Global Code of Ethics for Tourism and are reporting on implementation progress. The code is a set of basic principles whose purpose is to guide tourism development and serve as a frame of reference for the different stakeholders in the tourism sector. This code has the objective of minimizing the negative impact of tourism on the environment and on cultural heritage, while maximizing the benefits of tourism in promoting sustainable development. In a 2004-2005 UNWTO survey on the implementation of the code, Africa recorded the second-highest number of respondents (27 countries compared to Europe's 28) (UNWTO, 2005).

c. Since sustainable tourism is an important niche market in the global tourism industry, it can play a very important role in sustainable development. In this regard, UNWTO and the United Nations Conference on Trade and Development (UNCTAD) launched the Sustainable Tourism-Eliminating Poverty (ST-EP) initiative at WSSD, aimed at linking the development of sustainable tourism to the cause of eliminating poverty. The ST-EP Programme targets LDCs, especially those in Africa and its main objective is to contribute to poverty reduction through community-based tourism development projects that respect the environment and benefit the most disadvantaged populations. It is closely linked to the MDGs. UNWTO organized seven regional training seminars on tourism and poverty reduction during 2004 and 2005, in order to build capacities among public officials in developing countries, three of which took place in Africa; Benin, The United Republic of Tanzania and Mali. Furthermore, WTO together with UNEP, has produced a set of policy guidelines and tools aiding governments particularly at local level to promote sustainable tourism (UNWTO, 2006b).

d. In 2002, stakeholders in the tourism industry including 20 countries in Africa, made a declaration on responsible tourism in Cape Town with reference to major sustainable development milestones, NEPAD and the UNWTO/ UNCTAD ST-EP initiative: (http://www.responsibletourismpartnership.org/ declaration. html, 28-06-07). UNWTO launched the specific programme for the promotion of tourism development in SSA in 2003. The programme was structured around six major axes, namely: economic knowledge of African tourism; application of the Global Code of Ethics for Tourism; development of ecotourism and nature parks; mastery and application of new information technologies; adaptation of air-transport conditions to the needs of African tourism; and enhancement of the image of African destinations (UNWTO, 2006).

e. There is still an essential need for capacity-building for those involved in ecotourism and protected-area management, and in providing technical advice and support in the field. In an effort to meet this need, UNWTO organized seminars on Ecotourism in National Parks and Protected Areas in Rwanda in 2003 and in Guinea in 2004, within the framework of the UNWTO Special Programme for Africa (UNWTO, 2006a). The third regional workshop was held in Gabon in January 2007 (UNWTO, 2007).

f. Many efforts are under way to increase understanding of how tourism can contribute to poverty reduction and how to translate this understanding into concrete actions. The objectives of these efforts include increased tourism arrivals, more out-of-pocket spending, and a bigger share of the tourist economy benefiting the poor (SNV and ODI (2006). Realizing the benefits of Pro Poor Tourism (PPT), some countries have started adopting policies that unlock opportunities for the poor within tourism. A case

study conducted in Gambia demonstrated how partnerships at the local level between the private sector, government and poor producers could significantly raise incomes for the informal sector in resorts. In order to assist tourism companies implement local linkages and partnerships and enhance local impact, a Pro Poor Tourism Tools and Tips Project has been launched in Southern Africa (http://www. responsibletourismpartnership.org/, 19-08-05). Development Assistance Agencies (DAA) have also been involved in bottom-up approaches to tourism development. For example, SNV has been involved in tourism projects since the mid 1990s, including Tanzania's Cultural Tourism Programme, Botswana's Community Based Tourism, Uganda's Community Based Tourism Association, and Ghana's Ecotourism Development Programme. SNV has recently moved from supporting community-based tourism to mainstreaming pro-poor tourism principles in the tourism sector to enhance impacts in the field (UNWTO 2006b).

g. The WTO Global Codes of Ethics for Tourism, the UNEP Principles on Implementation of Sustainable Tourism that advises governments to integrate sustainable tourism into national development strategies, and the award schemes and certifications such as Green Globe and ISO 14001 all help in putting tourism on a sustainable path. The Marrakech Task Force on Sustainable Tourism, with UNEP and other partners, which was launched in June 2008, developed an interactive teaching pack for the hospitality industry to be disseminated to hospitality schools worldwide through UNEP partnering associations. Another initiative of the Task Force was launching of an online campaign with green travel tips for the world's growing number of international tourists. The Internet-based campaign, 'Green Passport' also aims to raise awareness of tourists of their ability to contribute to sustainable development by making responsible holiday choices.

h. Thus, tourism is a top priority for attracting investment in developing countries. When done correctly, tourism investment can create local jobs, conserve natural resources and infuse long-term wealth. Many conscientious investors and developers are searching for guidance on how to develop tourist destinations responsibly. The Sustainable Investment and Finance in Tourism Network (SIFT) created by the United Nations Foundation shares best practices for tourism investments, facilitates coordination between existing funds, donors and investors that have developing-country destinations and connects professionals worldwide through research, workshops and publications.

3.9 Cleaner production and eco-efficiency

139. The promotion of efficient development and utilization of African resources with a particular focus on energy, water and mineral resources is of high importance to the region. In this context, the promotion of resource efficiency and demand-side management programmes need to be given priority consideration by all African countries. Poor energy and resources efficiencies in economic sectors not only waste resources but also lead to unnecessary pollution, a situation that is not only costly to businesses but also to governments. Application of cleaner production (CP) can significantly improve the competitiveness of industry and reduce the negative environmental impact of existing production processes due to more efficient use of water, energy and raw materials. CP and Energy Efficiency (EE) can help bring about environmental and economic benefits.

140. CP can only be sustained if capacity is in place to adopt and adjust it to local conditions. To make such programmes a reality and promote the application of CPby enterprises in developing countries, UNIDO and UNEP launched the International Programme in National Cleaner Production Centres (NCPCs) in 1994 with the purpose of building national capacity in developing countries and economies in transition to set up NCPCs. Since then, NCPCs have been established in more than 40 countries globally including in Africa: Ethiopia, Egypt, Kenya, Morocco, Mozambique, South Africa, Tunisia, Uganda and Zimbabwe. With the support of UNIDO and UNEP, they are providing technical assistance and capacity-building to these countries. Most CP activities driven by NCPC programmes have so far focused on the industrial sector, despite the enormous potential of the agricultural and other sectors of the economy. The overall progress of the NCPC programme is satisfactory as recognized by several third party evaluations, especially the effectiveness of the NCPCsin their evolving capacity as CP network facilitators. After an incubation stage, most NCPCs are now at an implementation stage.

141. NCPCs have their work programmes focused on three key activities: awareness raising and training, demonstrations and assessments, and CP-related technical support .Other activities have included CP policy advice, product-related work and consumer-awareness initiatives:

a. *Awareness raising and training:* Spreading awareness of the CP concept through examples has been one of the major strategies towards improving both its acceptance and understanding across a wide range of stakeholders. Activities by NCPCs involved mainly awareness raising and training seminars for SME staff on CP and Environmental Management Systems (EMS), industry CP assessments, policy advice to governments and technical assistance on EMS implementation.

b. *CP demonstrations and assessments:* Many demonstration projects have been launched to convince industrial leaders of the economic and environmental

benefits of CP. Sectors where most of the demonstrations were performed have been mainly textiles, metal finishing and tanneries.

c. *CP-related technical support:* A wide range of technical support services was also rendered to industry. They included collecting, collating and distributing information to needy industries, development of EMS, review of curricula at universities, CP-based policy advice to governments, technology assessments, Ecodesign-based product development and carrying out environmental assessments.

142. By far the most common services delivered by existing NCPCs are those related to cleaner production, EMS, and training and capacity-building. However, even though they they report that they have trained several hundred individuals, it is estimated that only a small number of qualified CP, EST and EMS consultants is available. Involvement of NCPCs in financial engineering projects is much more limited, and few NCPCs have carried out CSR services. Most NCPCs depend heavily on donor financing for their operation and project implementation. The NCPCs are the real drivers of the CP concept in countries wherever they have been established. However, the ability of these centres to deliver better results is hampered by various factors including low funding, and understaffing. Considering their limited capacities, these NCPCs have achieved a great deal but this is still not enough to create national-level impacts. Strategies are needed to enable NCPCs to play a greater role towards scaling up their small, localized impacts. Although strategic partnerships are needed for implementation of CP, few such partnerships have been created. Other CP promoters are not taking the lead in spearheading CP and SC activities. Similarly, there is a need to create knowledge networks involving a wide range of stakeholders in the region and abroad, to support research and development and transfer of technology supportive of CP and SC objectives. More needs to be done to document successes to enable evidence-based promotion of CP. Activities largely focus on the manufacturing sector. Applications of CP in other important economic sectors, products and services have been minimal, if any.

143. NCPCs are focusing their activities in a few key sectors, before expanding to others in the future. For example the South African NCPC focuses on the following prioritised sectors: Chemicals, Clothing and Textile, Automotive and Agro-processing. The Mozambique NCPC is currently focusing on SCP in the sugar and tourism industries, and the soap and oil industry. Strategies to enable NCPCs to play a greater role towards scaling up small, localized impacts are desirable. Few partnerships tend to exist between NCPCs and national bodies and other stakeholders are not taking the lead to promote SCP activities. Important stakeholders such as financing institutions, industry associations and government industry departments need to be more actively involved. The NCPC area of focus needs to expand beyond industries into regional development programmes. One example is the Lake Victoria Environmental Management Programme where the KNCPC, UCPC and the CPCT can have a

major input in management of the basin. Such stronger linkages are required between NCPCs and regional development initiatives and programmes.

144. In 2007/2008, UNIDO, in cooperation with UNEP and the Governments of Austria and Switzerland, carried out an independent programme evaluation of the UNIDO-UNEP CP Programme. The evaluation confirmed sustained success in building and strengthening of local institutions to provide CP services to enterprises, government institutions and other organizations. The majority of the interventions were geared towards establishment of new institutions (NCPCs) and the evaluation concluded that in terms of institution building and strengthening this approach was appropriate for the situation in most developing and transitional countries. However, the evaluation also indicated a number of issues that would require resolution to improve programme effectiveness, efficiency and sustainability, such as lack of an explicit and systematic programme strategy, absence of a formal link between the two UN agencies and absence of funding at programme level. To address these issues, a revised Programme Strategy for the Joint UNIDO-UNEP Programme on Resource Efficient and Cleaner Production (RECP) was elaborated. Operationally, this programme strategy built upon the experience of the last 14 years on NCPCs and addressed the root causes for low uptake of CP concepts, methods, techniques and policies in developing and transitional economies and the resulting low productivity and high pollution intensity of industries.

145. The mining industry has already adopted the so-called Energy Efficiency Accord, which aimed to cut energy consumption by 15 per cent by the year 2015. Already thirty-two signatories have signed the accord. In order to meet the target, implementation has to address recovery of waste heat in industries, upgrading of equipment, zero flaring of excess gases as well as other energy-management options.

3.10 Development of policies and plans in support of SCP in Africa

146. Governments across Africa have made efforts to establish a national regulatory framework, to create an environmental administration, to provide funding for strategic programmes and to ensure more effective enforcement. Many countries have now built up institutions responsible for environmental protection, established environmental laws and regulations, and streamlined environmental responsibilities. Most countries have developed basic laws and national strategies or plans for sustainable development or environmental protection. In the 1990s, most countries drew up National Environmental Action Plans (NEAPs), often with the assistance of international experts and support from donors. Implementation mechanisms in use throughout the region include environmental laws and regulations, economic instruments, environmental-permitting systems and environmental impact-assessment requirements. Policies specifically targeting SCP have not yet been developed in African

countries. However, in most countries, there are examples of addressing SCP-relevant topics, albeit in an isolated fashion. Cross-cutting in nature, SCP brings under its umbrella the environment, consumption and consumers, and a supply of products and services. A number of horizontal policies, strategies and instruments are under establishment in Africa are discussed below.

3.10.1 Legislation and enforcement

147. Policies and legislative instruments exist to govern environmental management in the countries. CP and SC per se are not specifically legislated in the countries today. Similarly, there are no legal instruments that can be used to enforce the reduction in the wastage of electricity and water. There are, however, a number of laws and overarching policies that are aimed at sustainable development and sound environmental management, and which are relevant and consistent with CP requirements. In some countries such as Ethiopia, however, these instruments seem to put emphasis on pollution control. Uganda presents a unique case of SCP legislation, demonstrating that it is possible to incorporate the concept into national policy and legislation. The country's National Environment (Waste Management) Regulations of 1999 required industries to adopt CP methods.

148. Producer responsibility includes product design and waste management – not at the cost of consumers. The African region is lacking sufficient legislation in these areas, which makes international conventions like the Basel Convention important. Consumers should not have to cover the costs for waste management. Producers must take on this economic responsibility. Extended producer responsibility has to be a way forward. Another issue for African countries is the lack of sufficient environmental legislation. To get non-signatories to ratify the Basel Convention is of great importance according to Consumer International. Environmental data for African production at sectoral and company level are often missing, which makes it difficult to estimate the emissions from production and consumption of goods and services in Africa.

3.10.2 Economic instruments

149. Few economic instruments are in use in African countries which provide financial incentives for SCP. Pollution fees and charges are commonly used, continuing the pre-transition system where fees and fines were charged for the use of natural resources and adverse impacts on the environment. The examples of instruments used range widely. Some charges fees on environmentally harmful products (petrol, diesel, packaging materials, tires and batteries) while some governments encourage more environment-friendly products by applying differential taxation. Introduction of a tax exemption to support resource- and energy-efficient equipment and low-waste technologies is non-existent. This can also encourage setting up facilities for waste recycling and processing.

Other types of economic incentives include preferential loan systems, and the use of pollution fees to support environmental protection projects.

150. Natural resources form the basis for economic growth in Africa and proper valuation of natural resources is important. Economic tools such as natural resources accounting and resource taxation need to be more widely used. More concretely, Payments for Ecosystem Services (PES) provide a mechanism by which those who benefit from services provided by Ecosystems-such as water supply and filtration, flood control, erosion protection, biodiversity conservation and carbon sequestration-can pay for them and those who provide the services can realize financial benefits of their efforts. The innovation and the characteristic that differentiates PES from previous paradigms or approaches is that the payments are conditional or contingent on the ecosystem service provider maintaining a flow of a specified ecological service. In Africa, there is potential for significant growth of such markets and payments for ecosystem services.

3.10.3 Eco-labelling

151. To educate consumers and to increase their SCP awareness, it may be a good strategy to have a variety of policies and campaigns that focus on other aspects but where SCP is a side benefit. The area of food safety and consumer protection is a good example. The development and marketing of environment-friendly products is one of the major elements of achieving a shift in consumption and production patterns. This could be either an opportunity or a threat to African products depending on their level of preparedness. Given the predominantly organic and flexible nature of production processes in Africa, it may benefit significantly through the development and implementation of eco-labelling programmes in the region. Of a number of eco-labelling initiatives operating, the majority are international Eco-labelling schemes relevant to a sector (i.e. fisheries, forestry, organic agriculture, etc.) and used by African products or services, although there are some that are eco-label specific to the region (UNEP-ARSCP (2007)).

152. A number of sectoral eco-labelling schemes are being implemented on a regional basis, such as the East African Organic Standard and the West African Organic Cotton initiatives. There is currently one national eco-labelling scheme in operation in Africa, which is the Tunisian Eco-Label. There are also a number of national energy-efficient appliance-labelling schemes that have been initiated in African countries. In 2007, 24 South African beaches and 4 Moroccan beaches were awarded the Blue Flag eco-label, awarded for compliance with 29 criteria covering water quality, environmental management activities, various aspects of environmental education and information, safety, and services provided.

153. The project on the African eco-labelling initiative was launched in 2007. The overall objective of the project is to expand the market access of African Products

in regional and international markets by improving the environmental profiles of African Products and establishing a mechanism that promotes their marketability, thereby contributing to the NEPAD objective of promoting African exports. The first phase entailed an overview of on-going activities on eco-labelling in Africa in order to develop an appropriate strategy to harness the synergies, identify the main opportunities and challenges, bring together the key partners and set up a work plan. In this context, two studies on eco-labelling activities were commissioned, which were reviewed at a regional expert group meeting in June 2007 jointly facilitated by UNEP, ECA, and the AU Commission in collaboration with the Marrakech Task Force on Cooperation with Africa (UNEP, ECA, AU, 2007). The conclusions of the meeting were that development of an African eco-labelling scheme would make significant contribution to expanding market access for African products in a global market, while enhancing the region's ability to achieve the MDGs. In this regard, the meeting called for a regional consultative process under the leadership and guidance of the AU Commission, UNEP and ECA in the further development and implementation of the mechanism.

154. The proposed launching of the African Eco-labelling Mechanism (AEM) under the general guidance of the AU Commission and with a secretariat based at the African Organization for Standardization (ARSO) is believed to have improved the environmental and social profile of African products and expanded market access for African products. The draft strategy document of AEM was drafted by UNEP based on a combination of regional assessment, technical review and institutional consultations. The aim of the AEM was to support market access for African products regionally and internationally, while at the same time improve the environmental performance of African industries. The four key functions of the AEM have been validation and harmonization, accreditation and certification, promotion and market facilitation, as well as research and advocacy. The governance structure included an Executive Board to be chaired by the AU Commission, a Technical Board to be chaired by ARSO and a Secretariat to be hosted at ARSO. The draft strategy document also included aspects of operationalizing the AEM by introducing short-term (three years) and medium-term (additional two years) focus activities and partnership arrangements with regional and international partners.

155. UNEP, together with Inwent and other partners, is implementing the 4-year project "Enabling developing countries to seize eco-label opportunities" aimed at promoting ecolabelling in developing countries. Through capacity-building and technical assistance, the project helped national industry stakeholders in Kenya to have a key export product –footwear, awarded the EU eco-label; it also assisted South Africa to develop its own eco-label scheme starting with the textiles product group, with the same environmental criteria of the EU Eco-label, plus other social and quality criteria. A National Eco-label Initiative (NELI) was launched in South Africa in May 2008 based on a Public-Private-Partnership (PPP) for a national eco-labelling framework.

The NCPC-SA is the project leader and textiles are the product group chosen to pilot the process.

3.10.4 Sustainable Public Procurement (SPP)

156. Governments are the largest consumer, representing 8-30 per cent of GDP, hence a shift towards sustainable public procurement can promote SCP substantively. However, SPP does not only promote a significant environmental, economic and social impact, but also catalyses innovations and governments to set role models in procurement to other consumers. Considering that public procurement accounts for 10–15 per cent of GDP the implementation of SPP could provide a strong impulse for implementing SCP. Governments exercise great influence as major consumers of goods and services, spending large amounts of money every year on public procurement. The concept of Sustainable Public Procurement takes into account economic, environmental and social criteria in the tender process. The JPOI highlights the following: 'Encourage relevant authorities at all levels to take sustainable development considerations into account in decision-making, including on national and local development planning, investment in infrastructure, business development and public procurement. This would include actions at all levels to promote public procurement policies that encourage development and diffusion of environmentally-sound goods and services'. However, there has been very little progress with implementing SPP in Africa. The challenge is to initiate SPP on both policy and operational levels.

157. The Marrakech Task Force on SPP defines 'Sustainable public procurement is a process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life-cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimising damage to the environment.' The objective of the Taskforce is for fourteen countries to test the SPP approach by the year 2011. The main outputs so far include developing the SPP approach, principles and definitions, designing and launching a website, status assessment, implementation plan, training as well as guidance material. A Regional Training of Trainers was carried out 2–3 June 2008 in Midrand, South Africa back-to-back with the Fifth African Roundtable on SCP. The pilot African countries that are currently considered for the global project are Mauritius and Tunisia.

158. Incite Sustainability, presented a survey (ARSCP5, 2008)) which assessed the current state of SPP in South Africa and identified potential barriers. While in South Africa social criteria in procurement decisions are often applied, green criteria are hardly used. Some of the barriers are lack of expertise, lack of high-level support or an inappropriate policy framework. In Ghana, it is hoped that the setting up of a national task force on SPP will contribute to the implementation of the SPP approach by introducing activities such as public education and establishing indicators. SPP is

not yet part of national action plans and very few social and environmental criteria are applied in public tenders so far, social criteria are used to a certain extent.

159. 155. Public procurement offices or agencies are being established in many African countries. Typically, these public institutions are involved in developing or amending PP legislation and are responsible for providing training to operational PP offices on all levels, including central/regional/local government and other public institutions, which are subject to PP legislation. Adoption of SPP practices is facilitated when national public procurement legislation contains appropriate provisions. In general, it appears that SPP is not practiced to any significant extent. LCA and LCC are important methods for helping to determine the overall environmental impacts of goods or products, and their lifetime cost. This is especially important in procurement. A life-cycle based approach is increasingly being adopted in environmental policy-making in the EU. However, at the present time no African country has adopted policies introducing LCA and LCC.

3.10.5 SCP national and city-wide action plans

160. Several regional and international meetings of the Marrakech Process pressed home the importance of supporting national SCP programmes as well as devising monitoring mechanisms and indicators to measure progress. It was agreed that to make SCP a reality, coordinated and integrated programmes were essential, considering in particular the cross-sectoral nature of consumption and production patterns. Individual policies and activities-no matter how innovative-stand little chance of bringing about wholesale changes in consumption and production patterns. The reason for developing a National SCP Programme and Action Plan is the necessity to tackle the issue of SCP in a systematic and active way. UNEP has produced the following report - "Guidelines for National Programmes on Sustainable Consumption and Production". The guidelines recommend a 10-step process for developing and implementing national SCP programme and action plans and these have been followed for the development of this programme.

161. Many countries such as Mauritius have instituted policies and are carrying out initiatives to promote sustainable consumption and cleaner production. However these actions are often not sufficiently coherent or are driven by an isolated strategy or programme. Some key challenges identified during the development of the SCP programme are as follows:

- There is generally a high consensus for the need for SCP among stakeholders but however there is little implementation;
- There are policies and initiatives but which are isolated. There is a need for coherence and coordination to integrate and work for the same target;
- It is important to develop national dialogues and engage all stakeholders;

- There is a lack of transversal cooperation in government; and
- There is a need to identify and communicate better the economic, social and environmental benefits.

162. Individual policies and activities-no matter how innovative-stand little chance of bringing about wholesale changes in consumption and production patterns. The reason for developing a National SCP Programme and Action Plan is the necessity to tackle the issue of SCP in a systematic and active way. A strategic programmatic approach can help balance the necessary interventions for the consumption and production of and market for goods and services. The critical elements of an effective strategy should link long-term vision to medium-term targets and short-term action. A national SCP programme or action plan is a tool for informed decision making that provides a framework for systemic thought across sectors. Working in concert with other socio-economic and sector strategies, a SCP programme can help to institutionalise processes for resource allocation, monitoring, consultation, negotiation, mediation and consensus building on priority societal issues where interests differ. The SCP programme needs to adhere to the wider goals of poverty reduction and sustainable development.

163. Whereas in developed countries much of the focus for SCP policy and action needs to address high levels of consumption, SCP policy in developing countries needs to be more weighted to improving the efficiencies of production, consumption and resource use. National strategies or programmes specifically focusing on SCP have not yet been developed in any African country. This limited progress indicates that in reality, despite political declarations, SCP has yet to reach high priority on the policy agenda. Nevertheless, in several countries, existing strategies for sustainable development or specific sector-oriented plans address some aspects of SCP. So far, no policies in African countries address the question of minimizing the environmental impacts of products at the various stages of their life cycles. In some countries, there are general references to the principle of sustainable development in regard to products, and to the minimization of economic impacts on environment, and to sound management of natural resources.

164. International guidelines for developing national SCP programmes have been developed in response to the demands of the Marrakech Process. The two-year project was financed by the UK. Besides the development of the guideline, the project activities included demonstration projects, training seminars as well as clearinghouse and peer review services. UNEP undertook a pilot study (two national programmes: The United Republic of Tanzania and Mauritius; and two local programmes: Cairo, Egypt and Maputo, Mozambique) on facilitating the operationalization of the African 10-YFP at national and local levels. Based on national/local needs, priorities and issues, SCP priorities were identified and SCP pilots developed. The lessons learnt from the implementation of these pilots were then used to feed into a sectoral policy and strategy review, which would finally be used to mainstream SCP in national/local

policies and strategies and to generate specific lessons for mainstreaming. The overall objective of this activity is to facilitate the development of SCP programme at national and city level in selected pilot countries and cities and to generate region-specific experience that could be replicated in other countries. The specific objectives are to promote better understanding and appreciation of the key issues related to SCP and to enhance institutional capacity at national and city level; to identify the key priority areas that need to be addressed at national and city level and to provide a framework for the development and implementation of specific activities that promote SCP; and to develop region-specific knowledge on how to develop and implement programmes and activities related to SCP.

165. Currently, all the four countries have completed the development of their national or local SCP programmes through a broad-based consultative process and the documents have been endorsed by the respective competent authorities. In the case of Mauritius, the Programme Document was endorsed by the Cabinet of Ministers and an inter-ministerial implementation mechanism has been put in place to facilitate implementation. UNEP has provided support for follow-up activities and each pilot country has initiated pilot implementation activities in the following areas:

- Sustainable Tourism - Mozambique
- Sustainable Public Procurement - Mauritius
- Demand-side Management - Tanzania
- Integrated Solid Waste Management at the community level – Egypt.

3.11 Research and education for SCP

166. The development of a new culture and skills that promote SCP requires a concerted effort on environmental education and training. Despite increased awareness of the human impact on the environment and a greater focus on personal as well as global consequences of individual lifestyle choices, sustainable development and sustainable consumption are still not central topics in educational systems today. There are major challenges to implementing Education for Sustainable Consumption (ESC) in Africa and there is need to target children, youths and adults alike. To promote understanding on SCP, consumer organizations need to be strengthened. There are a number of good examples in Africa, which take environmental, ethical and social aspects into consideration, e.g. the food sector. The general awareness is quite high in these sectors and they usually have deep roots in sociological context. Informed citizens normally make good (sustainable) decision and that consumer have rights but also responsibilities. Therefore, the role of consumer organizations is important. In order to change behaviour, there is a need for education from a young age onwards, information, consumer policy, regional integration, harmonized policy and concerted work at all levels and by all stakeholders. It takes a lot to change consumer behaviour

and the role of civil society and their effective contribution to the 10-YFP on SCP cannot be underestimated.

167. The Marrakech Task Force on Education for Sustainable Consumption focuses on addressing the global challenges of sustainable consumption at local and national level, optimising opportunities for ESC and identifying relevant resources. The goal of the Task Force is to support the Marrakech process by working at the inclusion of ESC in national educational plans, national strategies for sustainable development as well as SCP action plans. Some universities in Africa have embarked upon introducing environment into their education and training programmes. UNEP has interacted with about 300 universities in 54 African countries in formulating the Mainstreaming Environment and Sustainability in African education (MESA) with the main objective of building capacity to promote good governance and educational policy in the region. The results of phase one of MESA showed progress towards the establishment of such courses. The second phase of MESA focuses on building partnerships with universities in other regions as well as networking with experts and interested faculties, developing guidelines for capacity-building and organising and encouraging exchange programmes. It also aims to encourage country-based applications of the ESC principles and to develop projects. Universities in Europe provide several start-up companies with programmes on, for example, sustainable entrepreneurship and sustainable tourism. These programmes could also be used in Africa. The UNEP/Wuppertal collaborating centre on SCP is currently undertaking a project aimed at introducing the issues and concepts of sustainable lifestyles and sustainable entrepreneurship into African universities by integrating informal educational activities with formal education.

168. Sustainable lifestyle research aims to strike a balance between basic standards and the material aspect of welfare, creating a balance between values, gender, attitudes and habitat. It requires enabling, engaging, encouraging and exemplifying. The Task Force has a project in Africa involving creative communication for sustainable lifestyles and introducing sustainable lifestyles. A new project on creative communities for Sustainable Lifestyles will be started in Africa. It will be based on previous projects carried out in Europe, Brazil, India and China, and will take advantage of social innovation and the good ideas that move around the world. The project will consider food networks and new ways of looking, for example, at food, aging, childcare and creative communities in Africa. The project will consider existing traditions, networks and the sense within communities. Initiatives on service and production that are based on collaboration will also be considered. There is a need for a paradigm change in Africa. For example, in urban areas even poor people make consumption choices and there are health problems related to such consumption patterns.

169. One main issue is the lack of Internet accessibility – this means that people are at risk of being excluded from the information society and from taking part in programmes and activities presented on the web. The IT infrastructure remains

underdeveloped in the region, as the penetration rate of telecommunications is only about 9 per cent and of the Internet only about 3 per cent. If South Africa is excluded, the penetration rates are much lower. However, the trends are favourable, with great efforts to increase equipment availability and improve telecommunications infrastructure in most African countries. From 2000 to 2004, the number of personal computers rose by 83 per cent and Internet usage in SSA increased steeply to about 24 million users in 2005.

170. Africa's stock of secondary and tertiary-level skills is small and its quality highly variable and undermined by mortality from infectious diseases and by emigration. African nations need to produce a larger pool of good quality tertiary graduates and postgraduates and to produce them particularly in the disciplinary and interdisciplinary fields relevant to a country's chosen strategy for economic development. In 2004, just 28 per cent of tertiary students in SSA were enrolled in science and technology fields. Likewise, research output faded as Africa devoted just 0.3 per cent of GDP to research and development, and the number of professional researchers fell. These trends make it increasingly difficult to provide the relevant knowledge and core skills needed for African nations to boost competitiveness and sustain growth.

171. Sustainable development requires taking longer-term perspectives, integrating local and regional effects of global change into the development process, and using the best scientific and traditional knowledge available. The development process should be constantly re-evaluated, in light of the findings of scientific research, to ensure that resource utilization has reduced impacts on the Earth system. Even so, the future is uncertain, and there will be surprises. Good environmental and developmental management policies must therefore be scientifically robust, seeking to keep open a range of options to ensure flexibility of response. The precautionary approach is important.

172. Often, there is a communication gap among scientists, policy-makers, and the public at large, whose interests are articulated by both governmental and non-governmental organizations. Better communication is required among scientists, decision-makers, and the general public. Enhancing national, regional and global capacities for carrying out scientific research and applying scientific and technological information to SCP is needed. This includes a need to increase financial resources for global and regional scientific and technological information networks, as may be appropriate, so that they will be able to function effectively and efficiently in satisfying the scientific needs of African countries.

Chapter 4: Challenges and constraints

4.1 Status of SCP in Africa

173. Despite the achievements mentioned in the previous chapter, the impact and penetration of SCP activities is still very limited in most countries. Few key activities have been conducted in most countries as part of the implementation of the African 10 YFP. SCP is a relatively new concept in the region and there are only very few examples of integrated SCP activities. There are several examples of activities and efforts targeting particularly sustainable production and to a much lesser extent, sustainable consumption and SCP are mainly approached as separate issues. Sustainable production activities are focused on CP, on environmental management systems (particularly ISO 14000) and on corporate management practices. More advanced sustainable production concepts and instruments, which take a systems view, such as LCA, Product Service Systems and product design, are still in their infancy in the region. There are ten NCPCs, numerous case-studies and training materials. However, national CP actions plans and policies are not yet established for targeting key sectors besides manufacturing industries. Only to a smaller degree has the CP concept been introduced to service sectors, and CP activities tend, for the time being, to be an urban affair. Key drivers should be identified to enable greater CP penetration and impact.

174. The state of sustainable production in Africa may be described as progressing but with a long way to go before becoming widely adopted and fully integrated as an everyday practice. The enabling environment for its adoption is generally poor due to numerous barriers ranging from poor awareness, lack of access to finances, lack of market incentives, lack of information on emerging clean technologies, insufficient human and technical capacity, weak policies and regulations, and lack of enforcement capacity. Francophone African countries in West and Central Africa show virtually little institutional capacity in CP due to the absence of NCPCs. So far in Africa, SP has primarily addressed how to produce products more efficiently, with only limited attention given on how to use products efficiently or how to produce the right products. To move towards sustainable production, the service and product components of the CP definition need to be further developed and adopted while the CSR concept needs to be mainstreamed.

175. The regional capacity for promoting sustainable consumption is far less developed than for sustainable production. There are no strategy or policy frameworks for promoting sustainable consumption at the national level. In comparison, sustainable consumption is a far less-developed and less-recognized concept. This is due to the wide range of different consumption styles and patterns that exist alongside each other and within countries. The region is still dominated by people living in poverty. Alongside this group, there are a large number of people in urban areas with lifestyles having a large environment footprint. Another important explanation for the little

attention paid by government to sustainable consumption is that consumption is often perceived as necessary for economic growth. The level of consumption is used to measure economic growth in most economic models. More sustainable consumption is perceived by authorities as lowering economic growth, and benefits resulting in reduced costs to society and increased sustainability are being missed. Also, since sustainable consumption is a relatively new concept, consumer activism, when it exists, is still focused on prices, quality and consumer safety. The concept is still not mainstreamed in the consumer movement. There is also a general lack of capacity in handling sustainable consumption tools.

4.2 Challenges and constraints in implementing SCP activities

176. Despite the great variety among the 53 countries in Africa, many problems faced in designing and implementing SCP are similar. Often, the problems have similar solutions, applicable and transferable to many other countries. Priority areas for SCP will differ from one country to another, but the following challenges and constraints seem to be common to most:

a. Poor education and lack of awareness of the benefits of SCP among all stakeholders;

b. Government failures due to lack of legislation and/or enforcement, weak recognition of SCP in most policies, weak institutional capacity for monitoring and use of economic instruments, absence of enforceable pollution standards, lack of decentralization to local authorities, lack of appropriate consumer rights, policies and legal instruments for promotion of SC, incoherent policies, lack of human and technical capacity for product development, formulating bankable CP projects in industry, using SCP tools in government, avoiding wide-scale reliance on obsolete technologies, and accessing information on emerging clean technologies;

c. Economic factors such as the financial instability of NCPCs, under-pricing of natural resources, lack of appropriate financing mechanisms for SCP investments, lack of financial incentives, and widespread poverty;

d. Systemic inadequacies resulting in poor monitoring, and lack of systematic training of employees, R&D in industry, reliable data on pollution and resources use, research on SCP, besides the nature of consumer traditions;

e. Organizational issues including poor institutional setting and absence of collaborative projects and exchange programmes in the region to facilitate knowledge sharing.

177. Creating awareness: awareness raising about SCP and how SCP links to other concerns and priorities in society is the most important factor to address in creating

support for SCP. Only by explaining that SCP will contribute to meeting other objectives, would SCP be perceived as a priority in its own right by stakeholders. Awareness is needed to support new policies, legislation, education, research, and consumer life styles. In order to achieve commitment and public support for a sustainable consumption programme, it is crucial that people understand why it is important and what it means in practical terms. It is a common misunderstanding that sustainable consumption means "consuming less" to many people, and that it has no relevance to other more urgent priorities perceived by concerned stakeholders. In order to make further progress on SCP, there is therefore a need for massive education and awareness-raising campaigns at all levels of society. Long-term educational programmes and short-term, aggressive, public-awareness campaigns, targeting businesses, civil society, and financing institutions, among others, will need to be part of any SCP strategy.

178. *Government, policies and legislation*: For African countries, leapfrog changes in systems of production and consumption offer the possibility of a development path that will de-link economic development and environmental degradation. However, SCP does not yet feature prominently on the political agendas of African countries though it can provide an ideal framework for achieving development goals such as the MDGs. There is a need for high political support for SCP as well as development of national strategies and integration of SCP actions into national sustainable development and poverty reduction strategies. National and local governments are therefore key stakeholders in initiation of SCP programmes. They have the power to adopt the tools and mechanisms required to achieve coordination among a wide range of stakeholders in society.

179. Governments across Africa, however, are not doing enough to create the right conditions for SCP, develop a consistent policy framework or lead by example. National action plans on SCP do not yet exist in most countries. The existing institutional setting does not favour planning and implementation of SCP and better coordination is needed among the various institutions responsible for environmental protection and sectoral policies. Integrating sectoral policies and environment concerns is still lacking. For example, spatial planning and municipal management are still not coordinated with environmental and SCP considerations, although they could be used to good effect in energy supply, building, transport and waste management. There is room for dramatic improvement in environmental management in industry but more effort is needed by government to improve compliance with environmental legislation. Also, despite their effectiveness, limited economic incentives are in place to stimulate business and consumers to reduce the environmental pressures they exert.

180. Inconsistent enforcement and the low level of pollution fines do not provide strong incentives for more proactive environmental management. Moreover, many existing environmental institutions suffer from a weak mandate, overlapping or poorly defined responsibilities, frequent restructuring, and inadequate budgets, particularly at

the local level. Coordination between various environmental bodies, including central and local authorities, remains a major challenge. Environmental policy-making is also negatively affected by limited systems for collecting and processing pollution and environmental data. In many cases, information that has been collected locally is not compiled at the national level to support policy-making. Concerning consumption patterns and their environmental impacts, little data of relevance have been collected at all, although this is not a phenomenon limited to the Africa region

181. Stakeholder cooperation: Lack of stakeholder cooperation and poor relations with authorities are also constraints to SCP. Cooperation between different stakeholders in the production - consumption system (producers, consumers, authorities, retailers, NGOs, advertising agencies, designers, financial institutions, etc) is generally poorly developed in Africa. This may be due to the culture of information confidentiality and a lack of involvement of stakeholders during project formulation. The vast majority of companies in the region pay little or no attention to improving their sustainability records. On the other hand, government agencies are often reluctant or incapable of engaging in partnership with industry to promote SCP. There is a need for more integration of NCPC activities with those of appropriate government agencies.

182. Creating market conditions: The market demand and supply for SCP solutions are poorly developed; yet, they need to be created and maintained in order to make the changes in the consumption-production system viable. Greening of public procurement and of private-sector supply chains are examples of initiatives that have a significant effect on creation of the right market conditions. Labelling schemes can also help to address product impact during use and disposal phases and to support regulation and promotion of SP. The Swiss Fair Trade Label in the Kenyan flower industry is an example. Extended Producer Responsibility is another tool that can be promoted, for example, in the electric and electronic goods industry. Voluntary initiatives could play a large part in helping to compensate for weak regulatory enforcement capacity in the region.

183. Integration into the local context: For the majority of people in Africa, affluent consumption is only a dream and the grim reality is rather characterized by poverty and lack of access to basic services. This scenario also offers opportunities for leapfrogging from subsistence-based consumption to more sustainable livelihoods, by bypassing the unsustainable affluent-consumption pattern. Many traditional values and cultural ideals in Africa are better in tune with SCP than with affluent consumption. Opportunities at local level for adopting existing values and cultural norms, rather than importing unsustainable consumer ideas from abroad, should be evaluated and taken advantages from. Economical, environmental and lifestyle evidences of adopting SCP are key factors in convincing the local community for active contribution. Small-scale projects, which could easily be replicated elsewhere, should be implemented. Involvement of the grass-roots level is necessary and support for community pressure groups promoting SCP through pilot projects is needed. Many of these activities and

partnerships already exist but resources are needed to scale them up in a region, or training, adaptation and financing are needed to diffuse to other regions.

184. Knowledge sharing: There are occasional campaigns of action directed to reducing consumption of particular sensitive resources such as water or electricity, or changing the patterns of consumption of specific goods or services such as plastic carry bags. Unlike actions and policies intended to shift consumption patterns in whole economies, these campaigns of action are often conducted in localized areas-regions, cities, towns, communities. Examples include shifting modes of transport from cars to public transport, reducing water consumption, reducing energy consumption, shifting energy consumption towards renewable energy and reducing and recycling household waste. Such campaigns arise when a relatively focused pattern of consumption is recognized as having detrimental localized effects. Creating a database of case studies of such actions could provide a valuable resource and inspiration for communities interested in dealing with local consumption issues, particularly in critical resource areas such as water and fossil-fuel energy. There is a need to support the development and implementation of concrete demonstration projects with support from donors and then replicate them elsewhere, making for example better use of the Internet and distance-education to create easy access to knowledge.

185. Involvement of the Development Cooperation Community: The effective development and implementation of sustainable consumption and production in African countries could be significantly facilitated through the mainstreaming of SCP in the priorities and decision- making criteria of bilateral and multilateral development financing agencies. Development partners should be called upon to mainstream the SCP approach in their bilateral financing procedures. The launching of the specific task force, "Task Force on Cooperation with Africa", led by the Federal Government of Germany, is important in this respect.

186. Strengthening NCPCs: NCPCs are the real drivers of the SCP concept wherever they have been established. However, the ability of these centres to deliver better results is hampered by various factors including low funding and understaffing. Although NCPCs have achieved a great deal, it is yet not enough to create national-level impacts. The independent country evaluation reports prepared in the framework of the Independent Evaluation of the UNIDO-UNEP Cleaner production (CP) programme show that most NCPCs appear to be currently in an implementation stage, having advanced from the initial incubation stage.

187. There is good evidence of output in information dissemination and awareness creation, in-plant demonstrations, training, policy advice and to a lesser extent, in technology transfer. It is recommended that NCPCs continue their network-facilitator role and improve the relevance, effectiveness and efficiency of their service delivery. They further need to establish and facilitate an effective and permanent learning and development platform from the diverse CP initiatives nationally and regionally and

develop a transparent system for monitoring CP achievements. These achievements are the basis for further evidence-based improvements in CP promotion, training, methods and policies. Strategies are needed for enabling NCPCs to play a greater role in scaling up the initiatives taken so far. Few partnerships exist between NCPCs and national bodies, and other stakeholders are not taking the lead in promoting SCP activities. Important stakeholders such as financing institutions, industry associations and government industry departments need to be more actively involved.

188. Most CP activities driven by NCPCs are still focused on the industrial sector despite potential opportunities in the agricultural, natural resources and services sectors. Efforts to promote rural development and alleviate poverty can be effective if rural incomes are raised through small-scale manufacturing activities, for example in agro-processing, in which CP has a major role to play. Much needs to be done by NCPCs to train national experts in identifying and formulating CP investment projects for obtaining financing from funding institutions and for providing policy advice to national and local governments, to favour the SCP concept. Funding has so far mostly relied on government and/or international donors, mainly through demonstration projects. Initial improvements are usually achieved at little cost. In the initial stage, the focus of NCPCs was to promote these low-cost improvements. It is clear that the industries will have to implement more changes such as the adoption of Environmentally-sound Technologies (EST). Unless alternative innovative financing options emerge in the short to medium term, it is likely that SCP activities will remain NCPC guided, donor funded, and programme/project based, implying unsustainability.

189. With rising raw materials and energy prices in the future, increasing eco-efficiency will remain the most optimistic strategy for sustainable production with strong support from industry and NCPC will have a major role to play in that respect. The three major barriers for companies in developing countries are that they often do not know how to apply for investment funds, where to apply for CP-related investment funds, and financial institutions do not recognize the added value to them of investing in CP. All centres need capacity-building to assist their clients with investing in CP projects. There is an urgent need for structured capacity-building of NCPC staff in SP policies and tools.

190. Sustainable consumption tools: These tools are very poorly developed in the region. Tools aiming at raising consumer awareness and at providing information to consumers about the products they use are relatively better developed than tools constituting systematic approaches to sustainable consumption. The exception is external waste-recycling systems, which are comparatively better known and implemented. Eco-labels are a good example of tools used to provide information about the environmental standards of a product. However, there are very few eco-labelling schemes successfully implemented in Africa and methodologies on how to develop and implement eco-labels need to be devised.

191. For example, while the Marine Stewardship Council's (MSC) eco-labelling programme, which focuses on achieving SCP of seafood receives wide acceptance worldwide from the fisheries sector, consumers and supermarket chains, uptake by African fisheries is slow due to certification costs, data requirements, awareness, capacity and stakeholder participation. To overcome this slow uptake, the MSC addresses key challenges in Africa by providing guidance for assessing data-deficient fisheries, outreach programmes, stakeholder involvement in MSC governance bodies, establishing partnerships, facilitating funding opportunities and developing local certification capacity. A cornerstone for truly integrating sustainable consumption and production are systemic approaches such as Life Cycle Assessment and Green Procurement. These tools are presently almost absent in all countries, being confined for the time being to the academic and research community.

192. Monitoring, indicators and research: Reliable data are lacking on pollution and resources use, industrial emissions, and environmental impacts of consumption. Relevant SCP indicators are also lacking in national statistics. These constitute major obstacles to the development of targeted and effective policies and goals. The importance of having good indicators cannot be overstated. What is not measured will be ignored. Few research studies are being carried out at national level on consumption and production patterns.

193. Capacity-building: Many countries face a number of constraints related to low skill levels and limited entrepreneurial culture. Skills development is important in the context of SCP. For example, ESTs tend to require higher skill levels. It is also essential to improve institutional capacity to achieve more SCP. A critical mass of stakeholders is needed to spur implementation of SCP activities.

194. Knowledge and information sharing: A key opportunity for addressing the above challenges lies in regional cooperation due to the fact that countries often face similar problems. Many successful initiatives have been implemented at local level, in such areas as energy efficiency, waste management, building, and transport. Quite a number of the lessons learnt are applicable and replicable throughout the region.

4.3 SCP challenges in specific sectors

195. African countries face many challenges related to a weak policy environment, limited access to the latest technologies, inadequate local awareness of environmental issues, a predominantly unskilled labour force, whereas sustainable industrialization tends to require higher levels of skill. African countries face additional challenges that emanate from the pattern of economic transformation and the increasingly competitive environment that does not allow opportunity for learning. The continent lacks capacity, a conducive business and policy environment, and financial and other support systems for growth, structural change and economic diversification.

196. Small-scale and informal enterprises dominate the private sector in Africa and the quality and standards of local products are often rather low. There is limited research and development, innovation, diversification and technology diffusion. Limited skills hamper the potential of knowledge-based industries. Infrastructure, energy and water bottlenecks also make the transition to sustainable industrialization more difficult. Much of Africa has also failed to take advantage of the opportunities provided by globalization such as greater trade liberalization, easier transfer of capital, technology and labour, as well as greater attention to environmental issues in world trade.

197. Additionally, there has been capital flight as well as net outflows in skilled labour. Africa needs appropriate industrial development strategies to facilitate and maximize the integration of large-scale industries, mainly concentrated in the extractive sector (e.g. oil, gas and minerals) with other sectors of local economies. Africa also needs a critical mass of companies and institutions willing to cooperate, network and share industrial development knowledge and information in pursuit of sustainable development. It also needs strong industrial associations. Data about pollution and resource use in industrial companies, as well as industry sector-specific data sets are not systematically collected and published in African countries. The absence of reliable data obstructs development of realistic, targeted and effective policies on environmental management in industry, and hinders measurement of progress towards more sustainable industrial production. The challenge for all countries in Africa in better addressing sustainable industrial production at a strategic level is to ensure compliance with relevant legislation, promote market-based provision of relevant services such as EMS and audits and ensure that financing mechanisms exist that favour use of eco-efficient technologies.

198. Progress in implementing environmental management in enterprises in Africa has been limited. Compliance with environmental regulations does not currently represent a strong driving force for companies to improve their environmental management significantly. African countries face many challenges related to inadequate local awareness of environment issues, a weak policy environment, limited access to the latest technologies, a predominantly unskilled labour force and a competitive environment that does not allow the opportunity for learning. African countries account for a negligible share of ISO 14001 certifications issued worldwide and there are very few examples of CSR projects in the region. Among the various services supporting environmental management in enterprises, only EMS services are provided on a commercial basis. All other relevant services continue to be supported mainly through donor funded programs.

199. Some of the issues hampering effective CSR practice in Africa include poor enforcement of legislation, largely absent civil society scrutiny, relatively weak consumer activism for responsibly produced products. The immediate pressure on businesses to effect change voluntarily is also largely absent. Few consumers are sufficiently informed or able to pay a premium for "responsibly" produced goods. Furthermore, given that

financial margins are generally very thin, companies are unlikely to adopt higher standards voluntarily unless there is a clear business case. In effect, there are relatively few incentives for businesses to adopt responsible or "pro-development" practices.

200. Water provides an important link not only to energy and industrial development, but also to agriculture. Integrated water resources management (IWRM) is a planning and implementation process that encourages a community-participation approach for pursuing forward-looking management and development of water resources. Developing countries need to be assisted with the preparation of integrated water resources management plans, in accordance with the JPOI. Governments in Africa face a twin challenge: to close the gap in rural areas-where only two in five people have access to water supply and fewer than one in five have access to sanitation-and to keep up pace with rapid population growth in urban areas. The concentrated nature of the water demand for cities poses a heavy burden on limited local water supplies. Utility performance in WSS in Africa is mostly very poor. There is a need to simultaneously increase investments and to build implementation capacity by strengthening institutions.

201. The development and promotion of innovative ways of providing water and sanitation services to the population is another key challenge with respect to meeting the basic needs. The disadvantages of the conventional approach are that they are water- and energy-intensive, require skilled labour and often use imported equipment. Rainwater harvesting systems, small-scale irrigation systems and mini-hydropower systems can be effective low-cost means of expanding the productive use of water resources without large investments. Moreover, sanitation processes such as ecological sanitation is appropriate for a warm climate, and requires no energy, low skills and simple construction. The process also generates nutrients, which can be used for food production.

202. Senegal is increasing its urban sanitation coverage with onsite sanitation systems that aim to treat the increasing volumes of faecal sludge in decentralized treatment plants, in collaboration with the Department of Water and Sanitation in Developing Countries at the Swiss Federal Institute for Environmental Science and Technology. The idea of "Closing-the-Loop" in excreta and waste management is not new in Africa; it has been applied for many years. Many pilots schemes for municipal composting (with source separation of refuse) and household composting latrines (in cases where re-use of stabilized excreta is advocated strongly) have been tried but with little follow-up. Experience has shown that little was achieved by previous donor-driven attempts at promotion of ecological sanitation systems in Africa. However, there are opportunities for increasing the demand for ecological sanitation in Africa.

203. Competition for clean water will only intensify further. However, as the ABREW study has shown (UNEP, 2008), awareness is still limited among water-intensive industries such as the brewery industry, government and the public. Currently, the

primary drivers for reduced water consumption and pollution reduction are corporate environmental policies of multinational companies active in the brewing industry. Other drivers, such as national regulation, water fees or general public pressure appear to be relatively weak. Much can therefore be done to enhance the efficiency and environmental performance of the African brewery sector in the framework of a structured CP programme and product improvement.

204. The challenges and implementation constraints for SCP in the energy sector could be summarized as follows: inadequate policy, legal, regulatory and institutional framework and limited financial flows for development and provision of sustainable energy, especially for the poor; low energy production due to largely untapped energy resource potential, particularly renewable; uneven regional availability and distribution of energy resources; underdeveloped transportation, production, transmission and distribution infrastructure, and high up-front energy investment and use costs that act as barriers to energy access by the urban and rural poor; low private sector participation and investment in the energy sector; inadequate access to energy in rural Africa as a result of high cost in production, transmission, distribution and depletion of energy resources; high dependence on, and inefficient use of, biomass energy sources and the associated environmental, economic and social impacts, especially on women and children; and inadequate skill and education levels among the rural population, which holds back their participation in the implementation of energy programmes and projects.

205. The challenge in Africa is also to move away from traditional bio-energy with its limitations and impacts on the environment and human health towards modern bio-energy, which provides significant opportunities for sustainable development in Africa. However, it is wise to put in place the necessary safeguards to ensure sustainable management of the entire production and consumption chain.

206. Two of the major problems regarding food consumption and production are the large use of water in food production and the huge losses of food in the food chain. Waste of food along the food chain means that twice as much food is produced than is actually consumed resulting in high water and energy use. In order to reduce water consumption – which is of great concern in Africa – it is urgent to minimize food waste. While in developed countries losses are large in the consumption phase, in Africa losses are largely due to lack of good harvesting technology, transportation and storage and the presence of vermin.

207. The construction sector is one of the biggest consumers of raw materials, other than fossil fuels, in most countries. The impacts of extraction and fabrication of construction materials in African countries are not documented, but it can be assumed to have impacts on land use, impacts related to energy and water consumption and to generation of quarrying waste. The environmental impact of the use phase of buildings mainly relate to pressures arising from primary fossil fuel use either directly

in buildings or at power stations and district heat plants. Concern over sustainability in the building sector is focused on three issues: energy efficiency, construction waste, and indoor air pollution. Ideally, sustainable buildings should provide for these needs for all social groups as efficiently as possible with the least environmental impact. Typically, 80-90 per cent of total energy used during the lifespan of a building is consumed during the use phase (Ala-Juusela et al., 2006).

208. Therefore, increased investment in the design and construction phase, aimed at reducing energy consumed in the use phase, can give strong environmental and economic benefits over a building's lifetime. Conversely, lack of consideration and awareness at the design and construction stage can result in a building predisposed to high energy consumption, regardless of the behaviour of its occupants. The technology exists today to create sustainable buildings entirely independent of external energy supplies and with lower lifetime costs than conventional buildings. Typical barriers to the widespread implementation of these technologies include real estate markets which place emphasis on cutting costs of construction, lack of building codes for architects and contractors which would promote construction of sustainable buildings and widespread lack of knowledge and resistance to change within the construction industry. A sustainable buildings policy needs to tackle all of these barriers. Moreover, it must optimize interactions with heating, electricity and water distribution systems in order to increase efficiencies.

209. A sustainable building policy should also focus on improvements in efficiencies of the existing building stock. More efficient building infrastructure will also yield social benefits by increasing access to and affordability of comfortable inner environments, considerable economic gains, and an increase in the security of the energy supply. Finally, the construction industry is one of the sectors that consume the greatest amount of material resources. Virgin material consumption can be reduced by extending the useful life of buildings, improving material efficiency, making greater use of renewable materials, integrating reusability into building design, and mobilizing recycling and reuse of demolition waste. However, some data available demonstrate that reuse of demolition waste is unlikely to occur on a significant scale.

210. A major challenge for sound chemicals management relates to the inadequate awareness of policy-makers on its link with poverty reduction and sustainable development, which does not engender the political will and support required at regional and national levels. This results in the lack of integration of chemicals management priorities into sustainable development strategies and efforts and poor synergies with priority sectors such as health and agriculture. Another important constraint is limited resources and capacity to ensure appropriate government action in effective chemicals management, facilitation of necessary regulatory reforms, effective enforcement of legislation and monitoring of the use of chemicals. The gross lack of practical guidance and data on the economic impacts of chemicals management are also major constraints. Others include: lack of and access to cleaner production systems and technologies for

chemicals and waste management; and insufficient capacity to deal with poisoning and contamination and management of obsolete chemicals, stockpiles and waste.

211. Proper treatment of municipal waste remains a problem. In many municipalities, the waste-management systems need to be modernized. The lack of statistics makes it difficult to estimate the amount of waste in Africa. Only limited data are available on urban areas and these often amount to estimates. There are technical, financial, institutional, economic and social constraints linked to the issue of waste management. Furthermore, end-of-life vehicles, waste electronics, household appliances, and packaging and construction waste are set to increase. Development of action plans for Integrated Solid Waste Management (ISWM) at city-levels, better enforcement of legislation and introduction of financial incentive mechanisms for waste management are necessary to achieve more SCP-oriented waste management.

212. Countries lack adequate institutional, technical and technological capacities to effectively deal with hazardous wastes generated in Africa and to monitor their illegal importation. Countries also lack adequate environmental regulations and standards for the proper design of hazardous waste treatment and disposal facilities. This results in the disposal of wastes in environmentally unsound ways. Additionally, there is a general lack of awareness of the effects of hazardous wastes and their residues. There is also a lack of adequate health-care facilities and personnel for adequate diagnosis and treatment of hazardous waste-related health problems. Poverty is a major constraint to the success of African efforts in the area of environmentally sound management of hazardous waste.

213. Other constraints identified in achieving environmentally-sound management of hazardous waste in Africa include: lack of adequate information on the volume, location and sources of hazardous wastes generated; lack of knowledge and skills for identifying the technologies affordable by African countries for the environmentally-sound management of hazardous wastes; lack of public awareness of the nature of hazardous waste and the danger they pose to their health and environment; lack of political will to put appropriate legislation in place to deal precisely with the issue of hazardous waste management; inability to measure and quantify the level of degradation that has occurred as a result of unsound management of hazardous wastes; and insufficient financial and human resources. In terms of trans-boundary movements and illegal disposal of hazardous wastes, poverty is a motivating factor.

214. Most African countries have relatively high levels of poverty, low Gross National Product (GNP) and high foreign debt; hence, importing hazardous waste as a source of foreign exchange, can be highly tempting. Second, lack of stringent environmental regulations (such as requirements for high performance, health-based standards for the design, location and closure of toxic waste disposal facilities. Further, the low level of implementation of existing policies means that toxic waste treatment and disposal facilities can be built cheaply and without consideration of the adverse human health

and environmental effects. Third, the level of corruption in some countries encourages government officials to receive bribes and to surreptitiously import toxic waste into their countries. Fourth, most SSA countries lack the technical expertise necessary for proper identification of both the elements of the imported hazardous waste and their human health and environmental impacts. The exporting companies are aware of this lack of technical expertise on the part of these destination countries; hence, they often disguise the hazardous wastes as useful commodities that are relatively harmless (Olurominiyi, I., 2006).

Chapter 5: Lessons Learnt and the Way Forward

5.1 SWOT Analysis of SCP in Africa

Strengths

215. These include:

- Political will and commitment through AMCEN, the African 10-YFP, ARSCP as a regional networking institution and the Marrakech Task Force on Cooperation with Africa;
- Already some on-going SCP pilot projects (but which need to be scaled-up);
- An existing network of ten NCPCs in the region;
- A number of other institutions which deal with innovation or knowledge creation exist, although the potential for SCP is still not a priority in their mandate; and
- Increasing importance of the services sector in the economy, which has less environmental impact/GDP output.

Weaknesses

216. These include:

- Low level of awareness of stakeholders on the benefits of SCP;
- Lack of focus on identifying priority interventions, given that problems are multi-faceted while resources are limited;
- Limited enforcement capacity and limited use of economic instruments in policy-making;
- Under-pricing of environmental goods and services;
- Environment continues to be perceived as an "add-on cost" of doing business;
- Lack of economic incentives and lack of information to consumers for buying sustainable products such as energy-efficient appliances;
- Demand-side management policies in energy and water sector poorly developed
- Low development of renewable energy sources;
- Lack of systematic data collection on pollution and resource use in industry;
- Few companies holding environmental certifications;

- Limited ability of SMEs in industry, hotels and services sector to adopt cleaner production;
- Lack of demonstration projects/lack of experts in SCP;
- Low level of waste recycling and limited development of the extended producer responsibility policy;
- Increasing use of private cars;
- Little research on consumption and production patterns at national and regional levels;
- Lack of involvement of consumer associations/NGOs in SCP;
- Awareness/educational campaigns on efficient resources use inadequate;
- Low level of recognition of the contribution of SCP to the development process by bilateral donor agencies at the country level; and
- Limited funding, for example, for eco-labelling certification schemes.

Opportunities

217. These include:

- The on-going economic and social restructuring offers a unique opportunity for leapfrogging and avoid repeating the mistakes of developed countries;
- Integration of SCP into new policies being drafted;
- Inter-Marrakech Task Forces cooperation in Africa;
- Introduction of new environmental policy tools (economic instruments, extended producer responsibility, corporate environmental reporting, etc);
- Inflow of environment-friendly foreign investment;
- Sustainable government practices;
- Increasing importance of CESR in business;
- Use of NGO-level expertise to promote SCP at local level;
- Development of a waste recycling plan at local levels;
- Setting up of NCPCs in more countries especially in Western Africa;
- Increase of competition to force modernization using best available environmental-friendly technologies;
- Eco-tourism development;
- Development of the ICT sector and e-government;
- Development of sustainable new cities and sustainable buildings;
- Taking advantage of CDM potential for renewable energy development;
- Job creation through an environment industry that develops around the SCP concept; and

- National and international awareness of impacts of climate change and the food and energy crisis which is mobilizing political efforts to adopt sustainable practices.

Threats

218. These include:

- Lack of political and public commitment for a SCP programme, leading to lack of a national programme and action plan on SCP;
- Weak inter-sectoral and inter-ministerial coordination of SCP activities;
- Insufficient capacity building in SCP tools and instruments;
- Insufficient research and development expenditure on SCP;
- Lack of integration of SCP in educational curricula;
- Lack of institutions supporting the execution of innovative projects in SCP;
- Increasing environmental pressure by consumers following the westernized model of consumption;
- Weak media contribution to promoting SCP;
- Insufficient development of environmental policy tools and lack of enforcement capacity; and
- Lack of consolidated international financial support for SCP.

5.2 Lessons learnt

219. The need for political will and commitment is one of the important lessons learnt about the generic vital components needed for effective SCP strategies, drawn from the analysis during this review. It is essential to successful implementation of the African 10-YFP. The organizational support that has been provided by UNEP together with the political leadership and support provided by AMCEN and the financial support provided by the Marrakech Taskforce on Cooperation with Africa have been highly instrumental for the achievements that have been registered so far and for the significant level of interest amongst development partners to work with the region. The leadership and guidance being provided by the AU Commission, ECA and UNEP in the further development and implementation of the programme should be maintained, if not enhanced. In addition to regional cooperation, international cooperation is important in ensuring programme implementation and the leapfroging towards SCP. In this regard, the region's cooperation with development agencies, such as the Government of Germany and the Marrakech Task Forces should be fostered. The ARSCP must be better able to use the opportunity provided by the political commitment through AMCEN, Marrakech Task Force on Cooperation with Africa and the other Marrakech Task Forces to strengthen its strategies and programmes.

220. A basic condition for SCP is to achieve general awareness and understanding of the concept among all people. The pilot projects on developing national and local SCP programmes have showed clearly that education and awareness raising on SCP is one of the prominent cross-cutting issues that need to be addressed. The meaning of SCP as applied to the local context need to be developed and explained through education and communication and SCP has to be perceived as a relevant priority by all stakeholders. In comparison to sustainable consumption, terms such as sustainable production and sustainable development are better known. Possibly because of the low awareness and understanding of the concept, sustainable consumption is normally regarded as having a low priority and relevance to national development goals than, for example, sustainable production. Long-term educational programmes and short-term aggressive public-awareness campaigns, targeting businesses, civil society, and financing institutions, among others,, need to be part of any SCP strategy. It is also important to communicate SCP in an innovative way so that it is understood in the context of other issues in which producers and consumers are more interested. For example, energy-efficiency labels can effectively communicate cost savings to which consumers respond.

221. Individual initiatives will not bring about wholesale changes in SCP patterns unless there is a national integrated strategy to promote SCP using a range of policies. Governments should develop appropriate national policy frameworks to effectively support integration and development of SCP, and the coordination between different government departments. SCP should be integrated into PRSPs, National Strategies for Sustainable Development (NSSDs) or National Environment Action Plans (NEAPs). Once integrated, a second step is to develop concrete sectoral action plans or frameworks (e.g. on energy, water, agriculture, transport) that aim to promote and adopt sustainable patterns of consumption and production, with concrete targets and indicators. A "two-pronged" approach of promoting SCP, both as a priority in its own right and as a cross-cutting issue contributing to other priorities, is therefore beneficial.

222. 210. In light of the variety of situations nationally,, it is necessary for governments to develop, in partnership with a wide range of stakeholders, national SCP strategies or action plans that reflect a country's specific priorities, and with concrete actions to carry them out. The experience drawn from the four pilot countries shows that national and local SCP programmes that take existing national development policies as their basis prove to be more effective in demonstrating the contribution of SCP to national development objectives. Besides its direct contribution towards promoting resource efficiency at all levels of production and consumption, the development and implementation of an SCP programme could also be instrumental in promoting synergies amongst the key development sectors outside the Ministry of Environment. In this context, it is recommended that African Ministries should designate a focal

point unit for SCP that facilitates inter-sectoral cooperation for SCP programme development and implementation.

223. The effective development and implementation of SCP in African countries could be significantly facilitated through such mainstreaming of SCP in the priorities and decision-making criteria of bilateral and multilateral development financing agencies. Hence, development partners need to mainstream SCP in their bilateral financing procedures.

224. Governments should include SCP indicators in national statistics. These indicators are an essential tool for policy-making and give the opportunity for capturing the SCP concept in statistics. A guidance framework on SCP-related indicators for developing countries has been developed by UNEP to guide developing-country actors to prepare indicators that better reflect (lack of) progress towards SCP patterns. Such indicators will be particularly useful for countries planning or in the process of developing SCP programmes, and could also strengthen the monitoring and evaluation framework of national strategies for sustainable development or national development plans. Development of SCP indicators should become a component of all SCP country-level programme activities.

225. A mix of policies and instruments is desirable for implementation of SCP, with financial and economic instruments, information tools, and voluntary approaches complementing regulation. Enforcement capacity of regulations and institutional capacity for economic instruments need to be strengthened in all African countries.

226. In contrast to the difficulty of targeting individual consumers, there is more consensus on the tools for targeting institutional purchasing such as sustainable procurement. All African countries and local governments require assistance in starting sustainable procurement, including guidance on specific products.

227. Visible implementation of SCP activities at an early stage is important to demonstrate the concept and to show that it can have a significant impact on the production-consumption system. Examples of such activities include government green-procurement programmes, waste-recycling schemes, SME-support programmes for cleaner production, introduction of compact fluorescent lamps (CFL), and incentives for use of solar water heaters and solar panels, and biodegradable packaging, etc. It is recommended that only one area be targeted initially but that the means to address SCP in that area are enrolled on a wide scale. For example, a green-procurement programme would be implemented by adopting new regulations, supported by partnerships, education, public information, economic incentives, advertisement, etc. Coordination among partners will thus be established.

228. Capacity-building and skills development are important in the context of promotion of SCP. Tools to support or promote sustainable consumption need to be strengthened and integrated with production activities. Systemic approaches such as

Life Cycle Analysis (LCA) and green procurement are either non-existent or are still at an infancy stage, in need of further development.

229. Public-private partnerships are highly recommended for the further development of SCP initiatives. National SCP programmes can play a key role in bringing together government, industry, academia and civil society to ensure the development and application of innovative and dynamic SCP policy instruments. The NCPCs, for example, can play an active role in facilitating supply-chain integration, enhancing the productivity of SMEs and facilitating access of their products to international markets.

230. Sustainability in Africa will require not only a focus on accelerating industrialization, but also on initiating a shift from current production processes to less highly polluting, resource-wasting industries and production processes. It requires investment in rapidly evolving technology that saves on inputs, is more efficient in energy use, is based on renewable resources and that generates less waste along the life cycle of a product. There is need for broader adoption and implementation by industry, of values consistent with corporate social and environmental responsibility, such as those embodied in the Global Compact and the ISO standards on CSR. Companies investing in Africa need to root their CSR practices in African realities.

231. Despite much effort and resources spent by the NCPCs, only a small part of industry has nationally adopted SCP. It will be impossible to assist each company individually to realize the benefits of sustainable production. It therefore seems necessary to focus on the demand side by creating demand for SCP, rather than focusing on the supply side. Such demand is created when enforcement of legislation is practiced, suitable economic incentives are established and efficiency improvements offered by SCP provide a competitive edge. The NCPC areas of focus need to expand beyond industries into other economic sectors. The early years of the NCPC programme have also shown that substantial environmental benefits can be gained from the implementation of relatively simple and cheap CP options. However, it is equally clear that it is important to move industry beyond these simple options, to start implementing more complex, but more costly solutions.

232. The three major barriers in developing countries are that companies often do not know how to apply for investment funds, where to apply for CP-related investment funds, and why financial institutions do not recognize the added value to them of investing in CP. All Centres must have built-in capacity to assist their clients with investing in CP. The Centres, now more mature, still need external support in training and advice in structuring more efficient and innovative services to their clients, especially in the area of technology transfer.

233. SCP interventions usually take place at the national level. However, these interventions need to be localized in order to promote ownership at the grassroot level to effect greater impact. Economical, environmental and lifestyle evidence of

the benefits of adopting SCP is the key issue in convincing the local community to contribute actively. Small-scale projects, which could easily be replicated elsewhere upon successful implementation, should also be encouraged. In order to make further progress on sustainable lifestyles, there is a need for massive education and awareness campaigns utilizing TV and media to inspire actions for shifting to sustainable lifestyles and involving civil society actively. Development and implementation of region-relevant education and awareness programmes covering all levels of the society including youth groups constitute an important instrument for addressing the existing lack of awareness on the value of SCP and creating the required capacity for promoting SCP in the region. The Marrakech Task Forces are important mechanisms that have built North-South cooperation, and demonstrated the commitment of a number of industrialized countries to provide technical and financial support for the shift towards SCP in developing countries. This has entailed development of SCP tools and methodologies and implementation of concrete projects. There are potential areas for Inter-Task Force cooperation in Africa in collaboration with the ARSCP and NCPCs.

5.3 Role of stakeholders in the promotion of SCP

234. Development towards SCP applications presupposes that efforts are informed by a holistic approach and are built on cooperation between different sectors. This implies that responsibility lies with everyone: central government, local governments, the business sector, development agencies, civil society, the research community, the media, and individuals and households.

235. Governments as both consumers and policy setters have an instrumental role to play in SCP. Central government must take the main responsibility for drawing up frameworks and incentives that guide other actors in the right direction. Information and education campaigns, and economic instruments and regulations can influence consumption and production patterns. Central and local governments have an important role to play in creating enabling conditions and setting a good example, such as support for sustainable procurement.

236. The business sector has a role as producer of products and services. One of its important tasks is to produce goods and services that promote sustainable development and make them available on the market. CP and optimizing resource use helps companies to improve their competitiveness, while the demand for sustainable products and services create opportunities. Business and industry can adopt various voluntary instruments and CSR initiatives such as the Global Compact, the Global Reporting Initiative, etc. Retailers and shops can also influence consumer choices by their supply of goods, product information and showcasing.

237. Development cooperation agencies need to integrate SCP issues in their sectoral projects as SCP can contribute further to poverty reduction in Africa. CSOare also

very important in spreading messages on sustainable lifestyles, creating awareness and encouraging involvement. The media is also another important stakeholder for pursuing changes in consumption and production patterns. It has the power to influence consumer preferences toward more sustainable products and lifestyles.

238. Household consumption accounts for a significant part of environmental impacts and one important element is to take various steps to create good conditions and make it easier for households to make sustainable choices. This includes availability of sustainable products on the market, infrastructure development, waste management systems, information and education and other factors.

5.4 The way forward

239. The region is large and diverse. There are 53 countries in the region, all with their own specific characteristics with regard to economy, culture, language, climate, industry structure, politics, etc. Even within most countries, the conditions vary from region to region, especially from cities to the rural countryside. Therefore, the recommended approach for promoting SCP will vary from country to country and within individual countries as well. Priority SCP projects to be implemented at the regional level in the short to medium term as identified during the Regional Expert Meeting on SCP in June 2009 are presented below, after discussion of the Priority approaches and actions needed to enhance programme implementation to effectively address SCP in the region under the following four clusters:

a. Institutional and Policy Mechanisms;
b. Supporting Tools and Instruments;
c. Education for SCP; and
d. Means of Implementation.

5.4.1 Institutional and policy mechanisms

240. The enabling policy framework covering a broad range of policy interventions required to influence the activities of key stakeholders uses various mechanisms. These are discussed below.

241. Support governments to develop and implement target-oriented national and local action plans on SCP: SCP is a cross-sectoral issue that requires integration into different policy areas. Establishment of dedicated national/local SCP programmes is recommended, as it encompasses economic and social issues besides environment issues. In addition to its direct contribution towards promoting resource-efficiency at all levels of production and consumption, development and implementation of an SCP Programme will be instrumental in promoting synergies amongst key development sectors. This can be achieved by working with the existing initiatives (UNEP and Marrakech Task Force on Cooperation with Africa) that provide technical assistance,

financial support and forums for exchanging best practices in inclusion of SCP in development strategies and sector strategies. In 2008, UNEP produced Guidelines for preparation of indicators for national programmes on SCP. Brokering access to financial support for development of such action plans is also needed.

242. Coordinate SCP implementation across sectors: Use sectors or projects with direct government involvement or strong government support to adopt sustainable practices by fully integrating SCP at the design stage (e.g. industrialization, tourism, transport, housing projects, etc.) because much of the value added of SCP resides in ex-ante, cross-sectoral coordination and planning. This can be done by ensuring the active involvement of local authorities and urban planners and by developing an assessment framework to document social and environmental benefits of cross-sectoral design for SCP pilot projects. African governments should designate a focal line institution for SCP that facilitates this inter-sectoral cooperation in the context of SCP national programme development and implementation.

243. Enable national statistical institutes and other producers of statistical information to monitor economic, social and environmental pressures of consumption and production: Currently, the statistical system in many countries does not allow monitoring of indicators related to consumption and production. Where countries do collect and present such data, it is often in different formats that make comparisons difficult. There are important economies of scale in this activity when nomenclatures are the same, surveys look a lot alike, etc. This can be done by building upon existing national and international efforts to harmonize nomenclatures, survey methods, and economic-environmental accounting systems.

244. Promote/support integration of SCP in the policies of major development organizations and agencies: Major development organizations such as UNDP, the World Bank, GEF, regional development banks, and national development cooperation agencies play a key role in developing infrastructure and institutions in Africa. Hence, such organizations can help African countries to 'leapfrog' to sustainable patterns of consumption and production. African regional and subregional organizations such as the Regional Economic Communities (RECs) also need to be encouraged to integrate and promote SCP through the subregional offices of ECA (SROs). This integration and promotion of SCP can be done by setting up a dialogue or roundtable between such institutions and by strengthening the existing Marrakech Task Force on Cooperation with Africa. Existing projects elaborated by these organizations that may not be labelled as SCP but which provide successful case studies need to be shared widely.

245. Promote the internalization of environmental costs and the use of economic instruments: There is too much reliance on command and control measures in the regulatory framework in Africa. Without the internalization of environmental costs, it may not be in the interest of business to invest in CP. There is need to diversify the policy instruments through institutional and capacity strengthening in economic

instruments. For example, a variety of ways to finance waste management should be explored, including general tax revenues, property taxes, extended producer responsibility, deposit-return schemes, product taxes, Public-Private-Partnerships and partnerships with community organizations. In Africa, there is also a potential for significant growth of payments for ecosystem services which provide a mechanism by which those who benefit from services provided by ecosystems - such as water supply and filtration, flood control, erosion protection, biodiversity conservation and carbon sequestration - can pay for them and those who provide the services can realize financial benefits for their efforts. The domestication and operationalization of Multilateral Environmental Agreements (MEAs) such as the CDM of the Kyoto Protocol on Climate Change offer a chance to better promote SCP.

246. Enhance corporate environmental and social responsibility and accountability: Business and Industry should be encouraged to improve social and environmental performance through voluntary initiatives, including Environmental Management Accounting (EMA), codes of conduct, certification and public reporting on environmental and social issues, taking into account such initiatives as the UN Global Compact and the ISO and GRI guidelines on sustainability reporting. Business and financial institutions (Chambers of Commerce, Employers Federations, Development Banks, etc.) need to play a more active role in this area. National and regional chapters of the World Business Council on Sustainable Development (WBCSD) should integrate SCP in their CSR agenda.

247. Strengthen demand-side management programmes: The promotion of efficient development and utilization of African resources with a particular focus on energy, water and mineral resources is of high importance to the region. Further, promotion of resource efficiency and demand-side management programmes has to be given high consideration by all African countries. Action plans should be formulated in these specific sectors. Water and sanitation projects provide an ideal opportunity for promoting and applying SCP principles in Africa. Demand-side management approaches are needed, based on the principle that consumers need effective water services for showers, flushing toilets, washing clothes, among others, rather than a specific quantity of water. In many cases, it may be more effective to meet the growing demand for water services in cities by increasing the efficiency of use of available water supplies rather than by increasing the volume delivered.

248. Water conservation measures such as reducing leakages from the municipal water distribution system, development of rainwater harvesting systems, reusing treated but non-potable water from wastewater treatment plants, having an increasing block-tariff pricing structure and water rationing during severe droughts need to be implemented, supported with effective public information campaigns. For industrial use, demand-side management approaches include recycling of cooling and process water and reducing the water consumption of evaporative coolers and boilers. Water audits can be a useful way of identifying cost-effective means of reducing water

consumption. Water management in water-scarce areas should also take into account the "invisible" or embodied water contained in products, particularly agricultural products. Water-scarce areas can make best use of limited water resources by exporting products requiring little water to produce and importing water-intensive products.

249. Support the scientific and technical community through public and private sector funded R&D for SCP: In order to advance technological innovation for cleaner production, and in order to better understand how to influence consumer societies in their transition to sustainable lifestyles a minimum research capacity is needed in any country. In addition to developing and disseminating best practices, research centres/help desks could identify critical economic, social and environmental aspects of SCP that need further research. This can be done by strengthening collaboration, partnerships and funding on research, development and diffusion. For instance, help desks (housed at the ARSCP or in specific universities) could be nodes for dissemination of SCP toolkits developed by Marrakech Task Forces and other stakeholders.

250. Support the shift in focus on Life Cycle Analysis (integrating the whole production and consumption process): Sustainable consumption and production is by nature a holistic concept that includes decisions of design, use, marketing and distributions of products as well as their disposal. The joint UNEP/Society of Environmental Toxicology and Chemistry (SETAC) Life Cycle Initiative has the goal to put life cycle thinking into practice worldwide and African countries should take the opportunity of this initiative to promote it in government and business.

251. Ensure the financial and institutional sustainability of SCP-promoting institutions: Besides setting up NCPCs in West and Francophone African countries and broadening the scope of existing NCPCs from consumption and production to sustainable consumption and production (SCP), it is important that appropriate business models be adopted in the operation of these centres so that they can implement their strategic plans. With increasing awareness of the benefits of SCP and the effective enforcement of regulations, NCPCs should be able to provide support services and programmes on a cost-recovery basis. The African Roundtable on Sustainable Consumption and Production (ARSCP) should be strengthened to enhance its role at the regional level. Specific tools and instruments that target one or more stakeholders for the promotion of SCP and creating cross-sectoral opportunities are highlighted in the next section.

5.4.2 Supporting tools and instruments

252. Promote sustainable manufacturing and value chains: SMEs represent most of the industrial fabric in all countries. Lack of access to financial, technology and human resources have proven to be critical bottlenecks for the adoption of both green and social best practices. Multinational corporations need to be involved to implement socially responsible supply chains with their suppliers, often SMEs, and adapting and using guidelines for greening the supply-chain projects. Consumer groups need to

be supported to provide the transparency and push-factor to create incentives for the participation of more companies in these programmes.

253. Support Sustainable Public Procurement (SPP): Enhance the ongoing work notably that of UNEP and the Marrakech Task Force, to support governments at all levels working to implement sustainable procurement policies and procedure: Accelerating SPP is a powerful way to shift consumption patterns. There are a number of African countries wanting to implement SPP. Disseminating the MTF-developed assessment and training materials on sustainable procurement, mobilizing financial resources for developing further tools, and conducting further training in interested countries can provide the momentum.

254. *Promoting sustainable products:* Support the creation of databases and the provision of information on sustainable products and address ways to raise awareness among consumers: Information on sustainable products is a powerful tool to influence purchases, especially by governments and firms that want to put sustainable procurement in place. Development and maintenance costs of such databases are high and partnerships may have to be built for their creation. The construction and dissemination of electronic databases of sustainable products need to be supported, including connecting with various national and regional efforts. This can be done through technical assistance from countries that have developed such tools for their public/private procurement (US, Japan) for requesting countries, and through financial support to those African countries wanting technical assistance on such tools.

255. Eco-labels are an effective tool to measure and communicate the environmental properties of sustainable products. More successful labels however relate to consumers on issues such as personal health and monetary benefits. Examples include organic food and energy labelling. Most African countries however have no environmental labels and national certifying and accrediting agencies. Eco labelling can become very effective if it is combined with green public and private procurement. The implementation of the African Eco-labelling Mechanism (AEM), currently being worked out between UNEP and the African Organization for Standardization (ARSO), should be included in the marketing and information campaign. The AEM, which has the potential to promote African exports, should take the specificities of the African production and consumption environment into account. In the context of international trade and the on-going talks at the level of WTO, expanding market access to sustainable products should be included in the agenda.

256. Promoting the production of sustainable products: Businesses are often the most capable actors for making product changes, since many environmental aspects can be prevented at the product design stage and during manufacturing. Businesses can use a variety of analytical tools such as life cycle assessment (LCA), life cycle costing (LCC), risk assessment, and ecological footprinting for the systematic evaluation of environmental impacts along the entire supply chain or product life cycle. Approaches

such as eco-design, life cycle management, supply chain management, and corporate social responsibility can be used to collect and analyse life-cycle information. These analytical tools and managerial approaches need to be mainstreamed into business-sector policies and operations in Africa. With regard to the specific problem of generation of plastic wastes in African cities, it is recommended that AU Commission and ECA in collaboration with development partners, should promote clean and biodegradable packaging technology on the continent by providing technical guidance to governments on evidence-based policy options.

257. Supporting local governments to better integrate environmental, social and economic costs into urban planning and integration of sustainable cities/communities plans in Local Agenda 21: If sustainability and SCP concerns are not there from the planning stage in long-lived network infrastructure and other capital stock, ex-postretrofitting is costly, inefficient, and cannot achieve cross-sectoral synergies. Many sustainability issues can only be dealt with at the local level. Stocktaking and sharing of best practices with local governments is useful. It is suggested that cooperation between ICLEI and UNEP should be explores, at city level, as they have similar priorities and successful partnership on other continents, but not in Africa so far.

258. UNEP, represented by its Division of Technology, Industry and Economics, International Environmental Technology Centre (UNEP-DTIE-IETC), is assisting national and local governments to develop and implement integrated solid waste management (ISWM) plans based on the 3Rs (reduce, reuse and recycle) approach. This capacity-building initiative targeting local government authorities in developing ISWM plans must be scaled up so as to include all major cities in Africa.

259. Support key production-consumption chains: From an SCP perspective, research shows the three most important production-consumption chains in developed countries. These are built environment and housing, mobility and food. Despite a lack of similar studies in Africa, it can be expected that infrastructure development (including housing and the provision of energy, mobility, water and sanitation services), food, mining and tourism would represent the critical production-consumption chains. A large part of the population still lacks proper housing and basic sanitary facilities, while urbanization continues to take place. This fuels demand for new housing and utility stock which is met through quick building of houses with low environmental performance. Furthermore, transport systems are being developed with the same negative characteristics as exist in developed countries.

260. Food production and consumption are directly connected to a number of environmental and social issues and offer significant opportunities for SCP programmes. New ways of producing food sustainably need to be explored. According to the International Federation of Organic Agriculture Movements, organic farming is a form of agriculture which is based on sustainability principles of health, protection of ecosystems, and social equity. Organic farming has a smaller footprint

on the natural resource base, ecosystems and the health of agricultural workers than conventional agriculture. While voluntary, it is supported by certification systems for farms. Certification systems differ from country to country but common elements are the avoidance of use of artificial fertilizers and pesticides, plant growth regulators, livestock feed additives, the existence of minimum indoor space, and access to pastures for animals.

261. However, the ability to enter such profitable markets presents significant challenges for producers in Africa; including the fact that they are relatively small in terms of traded volumes and that they require substantial investments in developing certification bodies and securing recognition for that certification in developed country markets. It is to be noted that most of African agriculture is organic yet the benefit of it is not captured by Africa due to the lack of a certification system. Indigenous NGOs and farmers' groups are particularly active in the organic field in East and Southern African countries such as Kenya, Uganda, South Africa and Zimbabwe. It is likely that for some years to come the market for organic products will continue to be driven by demand for exports to EU, rather than by demand at home. The Marrakech Task Forces and the NCPCs have a key role to organize international experience exchange, knowledge brokering, financial brokering and initiation of experimental and testing projects in these key production-consumption chains.

262. Create networks of excellence on SCP, particularly linking African countries with developed countries and with each other: SCP has so far been perceived mostly as a developed-country concern. Specific solutions and implementation methods have to be assessed or otherwise designed and adapted for African countries. Applied research and pilot projects on SCP need to be linked to African universities, while centres of excellence such as the NCPCs could deliver training courses such as those developed by the Marrakech Task Forces. Education and information on SCP influence producer and consumer behaviour and values and are one of the prominent cross-cutting instruments that need to be addressed for promotion of SCP.

5.4.3 Education for SCP

263. Develop and disseminate SCP modules for education curricula at all levels (schools, college, public service, on-the-job training: For SCP to succeed, the values of people have to be changed starting from a young age, and a wide array of educational and training institutions have to be used. Building on the preliminary curriculum development work of the MTFs on education and sustainable lifestyle, curricula need to be developed and adapted to each grade level. At the college and university level, SCP curricula specific to Science, Engineering and Management Faculties must be developed. The project "Introducing sustainable lifestyle and sustainable entrepreneurship into African universities and colleges" was launched at the end of 2009 and targeted students in African universities. It has helped to introduce the concept of SCP as an opportunity for students to elaborate business ideas. In parallel to formal education programmes,

informal education on SCP should also be carried out targeting, for example, women, employees, and journalists and other media practitioners.

264. Support governments wanting to promote low-resource intensity societies/lifestyles: Without involvement of governments, a shift to more sustainable consumption patterns will occur much more slowly. It is necessary to take stock of what works best for shaping consumer preferences and then to publish guidelines and provide technical assistance to governments. Public communication and advertising play a key role in making SCP understandable and fashionable. SCP communication campaigns will have to be devised. It is important that SCP is understood in the context of other issues in which consumers may be more interested, such as climate change, economic growth and poverty reduction.

265. Encourage and leverage forums on alternative ways of consuming (including NGOs, community groups, cooperatives, and consumer groups): Awareness is still insufficient among policymakers and other stakeholders and widening the net of stakeholders will allow a more rapid diffusion of ideas and concepts. Networks and think-tanks dedicated to SCP need to be supported by governments. Activities could include creation of a resource repository and translation facility. This can include databases on-going SCP activities that are yielding a wealth of best-practice examples, guidelines, and tools. They must, however, be made available in a library-like e-system and, where possible, be translated for practical use. Resources need to be made available to translate tools, materials, best practices on SCP into all the major UN and AU languages. All SCP practitioners would benefit, especially those in non-English-speaking environments.

*266. Upscale traditional knowledge, practices and experiments, with local sustainable communities, thus stimulating grassroots sustainable action:*_Much local traditional knowledge and practices in Africa have SCP values and merits and could be up- scaled and widely disseminated. There is also a vast array of examples showing that consumers and citizens can be drivers for SCP changes. The existing MTF on Sustainable Lifestyles and Education for Sustainability can play a major role in networking, brokering, initiation of projects and adaptive reflections on this topic. Using the curriculum modules and tools developed by the MTFs on education and on sustainable lifestyles (e.g., Creative Communities for Sustainable Lifestyles) communities can encouraged to imagine their sustainable future and develop a plan to get there. Systematic SCP education and awareness campaigns have to be conducted for example, on energy and water-use efficiency using national TV channels and other media to inspire actions for change towards sustainable lifestyles

5.4.4 Means of implementation

267. The array of above programmes needs support. Many countries have ideas or needs with regard to SCP policies and practices, but lack the finances, knowledge or institutional capacity to implement them. Brokering access to knowledge and

financing, and networking to facilitate experience exchange are the logical answers. This section indicates the necessary mechanisms to implement such programmes.

(a) Institutional framework

268. An effective institutional framework at national, regional and global level is crucial for SCP promotion. It is important to enhance the roles of existing institutions and initiatives such as the NCPCs, the ARSCP, the Marrakech Process and the Marrakech Task Forces. Countries should also establish appropriate institutional frameworks at the national level including designation of a focal institution for SCP promotion.

(b) Mobilization of financial resources

269. The SCP action plan will be an instrument providing strategic intent and a brokering function for linking demand for SCP actions and supply of supportive resources. There is a whole array of programmes and support structures that can help such as the GEF, EU funding programmes, and bilateral donor agencies at the country level.. An SCP Action Plan would provide donors with a coherent agenda of useful activities and projects to be implemented. Developed countries need to provide financial support for demonstration and other specialized projects at country level to assist African countries to develop, implement and monitor national SCP programmes. Many pilot projects aimed at demonstrating the benefits of SCP are donor funded. The challenge is to institute appropriate financing mechanisms that ensure the sustainability and replicability of projects. In Mauritius, the Minister of Finance in his 2008-2009 budget speech created a special fund (the "Maurice Ile Durable" Fund) to support renewable energy, energy efficiency and waste recycling. The Fund mobilizes resources from taxes, government subsidies, development partners, carbon credits and the private sector including airlines offsetting their carbon footprints. Other African countries could take similar steps as a demonstration of government commitment.

270. The financial sector should be better involved in the SCP agenda so as to increase investments in sustainable infrastructure. This can be done by promoting dedicated public- and private-funding mechanisms to enable the bundling of small-scale enterprises and projects. Public-private partnerships on SCP need to be strengthened with the aim of making better use of skills and resources.

(c) Technology transfer and capacity-building

271. There is a need in any given country to develop a critical mass of professionals for implementing SCP activities. Capacity has to be built that is responsive and inclusive of social and environmental factors in the investment decisions related to infrastructure projects. Institutional capacity for planning, analysis and modelling also must be built, using specific national and regional data to inform decision-making and policy development. Development partners should provide resources to African countries to help them meet their capacity needs for training, technical know-how, and

strengthening national institutions. International development partners could enhance their technical and financial support in this direction by boosting implementation of the NEPAD initiatives, support to development of action plans and to matrices for best SCP practice, and assistance with monitoring of progress. The NCPCs already play a role in technical brokering and this can be enhanced and better structured with the collaboration of the Marrakech Task Forces.

(d) Information and outreach

272. Outreach needs to be developed to third parties relevant for implementing the SCP agenda. Many agencies and bodies perform activities that are related to SCP, including UNDP and the World Bank. Internalizing SCP principles in work programmes will be of high value for the SCP agenda in Africa. The current Marrakech Process already includes activity in this field and dialogue could be facilitated and expanded to other relevant parties. The visibility of SCP should be increased on the agenda of appropriate regional Ministerial Conferences. More use of the platforms of the African Ministerial Conference on Environment (AMCEN) and of the Technical Committees of the AU Commission should be made. Other actions could include:

- Build, under the ARSCP, information tools and networks on SCP (an interactive web platform, electronic newsletters, seminars, etc);
- Establish a strong working relationship with the African Environmental Journalists Network and use its members as effective dissemination agents; and
- Utilizing existing NCPCs and other SCP-promoting institutions as information nodes at the national level.

(e) Partnerships and collaboration

273. The region's cooperation with development agencies in the area of SCP should be fostered. The different Marrakech Task Forces have an important brokering and networking function through more cooperation with the Cooperation with Africa Task Force, ARSCP and the NCPCs. The Task Forces on Sustainable Public Procurement, Sustainable Buildings Construction, Sustainable Tourism and Education cover issues that are relevant for the African region. Cooperation between the Task Forces would strengthen the implementation of respective activities, projects and policies.

274. An SCP collaboration research initiative between ARSCP and the various other roundtables such as the European Roundtable could help to structure research on SCP in Africa. Particularly, research on the economic and human-welfare case for SCP needs to be carried out, examining in more depth the gains that can be made by using resources more efficiently and in a less polluting manner. The evidence has to be collected and presented in a clear and accessible form to key decision-makers, supported by stronger "communications efforts".

5.4.5 Priority SCP projects for Africa

275. It is important to focus on concrete, priority SCP projects at the regional level and then mobilize support for their implementation. The following priority projects to be implemented in the region in the short term were identified during the Ad Hoc Expert Group Meeting on the Sustainable Development Report on Africa (SDRA) 2008-2009, held in Addis Ababa from 24 to 26 June 2009. The implementing organizations for the different projects identified during the meeting are given in parentheses:

a. Capacity-building for national SCP action plans (UNEP, ARSCP, Marrakech Taskforce (MTF) on Cooperation with Africa and MTF on Sustainable Public Procurement);

b. African Local SCP Initiative (ICLEI Africa, ARSCP, UNEP and MTFs);

c. Regional programme on Resource Efficiency and Cleaner Production (RECP) including building capacities of NCPCs and SCP institutions (UNEP, UNIDO and RECP);

d. African Eco-labelling Mechanism (African Organization on Standardization, ARSCP, Marrakech Taskforce (MTF) on Cooperation with Africa);

e. Promoting an Integrated Solid Waste Management (ISWM) System in Africa (UNEP, Local Governments (ICLEI-Africa, ARSCP);

f. Education for Sustainable Consumption and Production in Africa (ARSCP, MTFs on Education for SCP and Sustainable Lifestyles, ICLEI-Africa);

g. Sustainable building and construction in Africa (Green Building Council –South Africa, ICLEI-Africa, MTF on Sustainable Building and Construction, ARSCP);

h. Promotion of small scale renewables and biomass-based co-generation (UNIDO, UNEP, ARSCP);

i. Regional Knowledge Management and Information Exchange on SCP in Africa(ARSCP, MTF CWA); and

j. Inviting development partners are invited to support these projects which will have a significant impact in the promotion of SCP in the region.

Chapter 6: Conclusions

276. In Africa, the overall aim of reducing poverty while attaining sustainability can be accomplished through actions that are directly SCP-relevant. The challenge is to provide more people with a better quality of life without undermining the natural-resource base or destroying the ecosystems on which everybody depends. SCP contributes to meeting other development objectives in Africa including sustainable economic development by ensuring that resources are utilized in an efficient way through improved technologies, increased public awareness, better integration of government policies, economic instruments, and legislation, among others. Several African countries already have an ecological footprint that is larger than their countries' bio-capacity per capita. Unsustainable economic growth will further increase ecological footprints in the futures and achieving sustainability will require an absolute decoupling of resource use and impacts related to economic growth. The on-going economic and social restructuring in Africa offers a unique opportunity to establish more resource efficient SCP patterns. There are many opportunities to "leapfrog" towards more SCP patterns before consumption-driven impacts reach the levels observed in developed countries. SCP strategies applied now will safeguard against unsustainable patterns of consumption and production in the future.

277. The impact and penetration of SCP activities are still very limited in most African countries. Few key activities have been conducted as part of the implementation of the African 10-YFP. SCP is a relatively new concept in the region and there are only very few examples of integrated SCP activities. There are several examples of activities and efforts targeting sustainable production particularly and to a much lesser extent, sustainable consumption. African countries continue to face a number of challenges and constraints that impede and hamper progress in attaining SCP. Notable are poor education and lack of awareness on the benefits of SCP among all stakeholders, government failures, lack of human and technical capacity, economic, and systemic and organizational constraints. These impediments merit urgent attention if progress is to accelerate. The review has identified some best practices and lessons learnt that can inform the development and implementation of programmes and projects leading to SCP patterns in African countries.

278. Africa as a region is at the forefront of the global Marrakech process on the 10-Year Framework of Programmes as it has: a regional 10-YFP that is approved by AMCEN, a regional networking structure in the form of ARSCP that has served as an effective platform for programme development and knowledge exchange, an international support mechanism through the Marrakech Taskforce on Cooperation with Africa which is the only region-focused taskforce under the global support mechanism of the Marrakech Process. Africa as a region has therefore established appropriate structures, political goodwill and mechanisms for sharing information and these need to be fostered by governments, AMCEN and development partners.

279. The main priority approaches and actions proposed to accelerate progress are grouped under four main clusters of actions: develop and strengthen the institutional and policy mechanisms, develop the supporting tools and instruments, enhance education and awareness activities for SCP and ensure the means for implementation for effective development and implementation of the African 10-YFP at the national and local levels. Even with regional and international support, SCP is a concept that needs to be built from the national level. Change towards SCP is a systemic challenge. Systems of production and consumption are constrained by existing operating contexts (infrastructures and institutions, paradigms, social norms and practices, legal and institutional frameworks, economic frameworks). As a consequence, the ability of both business and consumers to initiate changes towards SCP by themselves is limited. Businesses, consumers and policy-makers usually cannot solve problems alone but must work together in a 'triangle of change'. There is also a need for enhanced political will and commitment at all levels.

280. SCP is a vehicle for greener economies in Africa and it is a broad agenda, touching almost all economic activities. It will inevitably overlap with the activities of many agencies that do focus on energy, mobility, water, and waste, but who do not label their activities as SCP. A two-pronged approach to SCP is necessary: SCP should be seen as a strategic objective while having specific and cross-cutting objectives at the same time. The strategy described in this review report tries to push the SCP agenda forward through an integrative vehicle that covers most economic processes. Lessons learnt from niche experiments and pilot studies and their sharing and replication throughout the region will help in mainstreaming SCP in national policies and strategies and in achieving the aim of changing the socio-economic landscape toward more SCP patterns and greener economies in Africa.

References

Achankeng, E. (2003). Globalization, Urbanization and Municipal Solid Waste Management in Africa. African Studies Association of Australasia and the Pacific 2003 Conference Proceedings - Africa on a Global Stage.

ADI, (2007). Africa Development Indicators (2007). The World Bank. Washington D.C.

AfDB, (2007). Selected Statistics on African Countries,volume XXVI.

Agbazue, T. (2005). The African Connection: Driving Responsible Growth on the Continent.

Agenda 21, (1992). Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol.1, Resolutions Adopted by the Conference, resolution 1, annex II.

AICC, (2004). Sustainability Banking in Africa.

AICC, (2006). Five-Year Overview - 2002 to 2006

Ala-Juusela, M; Husvila, P; Jahn, J; Nystedt, A and Vesanen, T. (2006). Study on Energy Use and Greenhouse Gas Emissions from Construction and Buildings. SBT Task Force Workshop, Helsinki, 2006.

Amaeshi, K; Adi, A; Ogbechie, C; and Amao, O. (2006). "Corporate Social Responsibility in Nigeria: Western Mimicry or Indigenous Influences?" Available at SSRN: http://ssrn.com/

ARSCP and UNEP, (2006). Sustainable Consumption and Production Activities in Africa: Second Regional Status Report (2004-2006).

ARSCP5, (2008). Report of the Fifth African Roundtable on Sustainable Consumption and Production, 4-6 June 2008, Midrand, Johannesburg, South Africa.

Ashley. C. (2006). Facilitating Pro-Poor Tourism with the Private Sector: Lessons Learnedt from Pro-Poor Pilots in Southern Africa.

AU, (2001). New Partnership for Africa's Development Framework Document, Abuja, Nigeria.

AU, ECA and UNIDO, (2006). Report of the Seventeenth Meeting of the Conference of African Ministers of Industries (CAMI-17), Cairo, Egypt, 21 June 2006.

AU, ECA, UNEP, (2006). Report of the High-level Launch for the African 10-Year Framework Programme on Sustainable Consumption and Production, Addis Ababa, Ethiopia.

AU, UNEP, ECA, (2007) Draft Summary Note on the Development of an African Eco-labelling Scheme: Outcome of a Regional Consultation Process.

Basel Secretariat, (2004). Report of Regional Workshop on Successful Case Studies of Recycling, Reuse and Resource Recovery Methods Towards The Environmentally-sound Management (ESM) of Hazardous Wastes in Africa, Conference Centre, University of Ibadan, Ibadan, Nigeria. 9 –12 August.

Bio-energy International, (2007). Bio Energy International Africa Newsletter. September.

Cal Recovery, Inc, UNEP and IETC, (2005). Solid Waste Management, volume II, Regional Overviews.

ECA, (2005a). The Millenium Development Goals in Africa: Progress and Challenges.. Addis Ababa.

ECA, (2005b). Africa Review Report on Industry for Sustainable Development. Addis Ababa.

ECA, (2008). Sustainable Development Report on Africa. Addis Ababa.

ECA/UN-Habitat, (2003). African Regional Implementation Review for the Commission on Sustainable Development (CSD-12): Report on Human Settlements.

ECOSOC, (2004). Overview of Progress Towards Sustainable Development: A Review of Implementation of Agenda 21, the Programme for the Further Implementation of Agenda 21, and the Johannesburg Plan of Implementation.

Ethisphere, (2008). 2020 Global Sustainability Centres.: http://ethispere.com/2020-global sustainability-centres

GEO-4, (2007). Global Environment Outlook 4. United Nations Environment Programme, Nairobi.

Global Footprint Network, (2008). Africa: Ecological Footprint and Human Well-being. USA.

IEA, (2005). World Energy Outlook 2005. Paris.

JPOI, (2002). Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002, Chap. I, resolution 2, annex.

Karakezi S. (2003). Renewable Energy in Africa: Prospects and Limits. Workshop for African Energy Experts on Operationalizing the NEPAD Energy Initiative. Dakar. 2-4 June.

Lavergne C. and Gabert J. (2005). Waste Collection in Major Cities in Emerging Countries, C. de Lavergne and J.Gabert, Experians Association, September.

MTFCWA, (2007). Marrakech Taskforce on Cooperation with Africa: Best Practice in African Countries. Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany.

Muchiri L. and Gitonga S. (2000). Gender and Household Energy Technology in East Africa. *Energia News, vol 3, issue 4*. Energia Secretariat. The Netherlands.

NEPAD, (2003). Action Plan of the Environment Initiative. New Partnership for Africa's Development. South Africa. October.

Olurominiyi I. and Burns W. (2006). "Trans-boundary dumping of hazardous waste". In: Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment.

Oslo Symposium, (1994) .Oslo Roundtable on Sustainable Production and Consumption. September. Norwegian Ministry of the Environment. Oslo.

PFIA21, (1997). UN General Assembly resolution S-19/2, annex.

SAICM, (2006). Report of the first African Regional Meeting on the Strategic Approach to International Chemicals Management. Cairo, Egypt, 11-14 September.

SAICM-QSP, (2007). SAICM Quick Start Programme (QSP) Executive Board. Summary of Projects approved in the first and second round of applications to the QSP Trust Fund. June.

SNV, ODI (2006). How Can Governments Boost the Local Economic Impacts of Tourism? Options and Tools.

UN–Habitat (2008). State of the World's Cities 2008/2009: Harmonious cities. United Nations Human Settlements Programme.

UN, (2003). World Summit on Sustainable Development: Johannesburg, 2002, Political Declaration and Plan of Implementation.

UN, (2005). Report of the Secretary-General: New Partnership for Africa's Development. Third consolidated report on progress in implementation and international support

UN, (2006). Report of the Secretary-General: New Partnership for Africa's Development. Fourth consolidated report on progress in implementation and international support.

UN, (2007). Report of the Secretary-General: Committee for Programme and Coordination, Coordination questions: United Nations system support for the New Partnership for Africa's Development.

UN, (2008). The Millennium Development Goals Report of 2008. New York.

UN, (2005) Sixtieth Session. Item 43 of the provisional agenda for Report of the Economic and Social Council. Report by the World Tourism Organization on the implementation of the Global Code of Ethics for Tourism.

UN, (2005). Report of the Secretary-General: New Partnership for Africa's Development. Third consolidated report on progress in implementation and international support.

UNCTAD, (2008). Economic Development in Africa. Export Performance Following Trade Liberalization. Trade and Development Board. 55th Session. September.

UNDESA, (2005). CSD 13th Session. Changing Unsustainable Patterns of Consumption and Production, Human Settlements and Water. New York.

UNDESA, (2007). CSD 16th Session. Overview of Progress towards SD: A review of the implementation of Agenda 21, PFIA 21 and JPOI. New York.

UNDESA, (2008a). Trends in Sustainable Development. Africa Report 2008-2009. United Nations. New York.

UNDESA, (2008b). Report of the Secretary-General. Commission on Sustainable Development. Sixteenth Session.5-16 May 2008. United Nations. New York.

UN-Energy, (2007). Sustainable Bioenergy: A Framework for Decision Makers. United Nations. New York.

UNEP, (2004). Sustainable Consumption and Production in Africa. Regional Status Report (2002-2004). Regional Office for Africa. Nairobi.

UNEP, (2005). The African 10-Year Framework Programme on Sustainable Consumption and Production..

UNEP, (2006a). Minutes of the First Meeting of the Regional Steering Committee of the African 10-Year Framework Programme on Sustainable Consumption and Production. 1 June.

UNEP, (2006b). African Environment Outlook 2: Our Environment, Our Wealth. http://unep.org/dewa/africa/aeo2_launch/

UNEP, (2007). Innovation for Sustainable Development-Local Case Studies for Africa. Nairobi.

UNEP, (2008). Africa's Atlas on Changing Environment. Nairobi.

UNEP, (2008). Sustainable Water Utilization in African Breweries: Current Practices and Prospects. Report prepared for the UNEP project on African Brewery Sector Water Saving Initiative (ABREW).

UNEP, ECA (2006). Final Report on UNEP consultations with ECA on the African 10-YFP follow-up activities.

UNEP, ECA, (2007). Background Note for the Regional Experts Meeting on the Development of an African Eco-labelling Scheme, 11 to 13 June.

UN-Habitat, (2005). Annual Report 2005.

UN-Habitat, (2006). African Cities driving the NEPAD Initiatives.

UNIDO-UNEP (2009). Joint UNIDO-UNEP Programme on Resource Efficient and Cleaner production (RECP) in Developing and Transition Countries. Programme Strategy.

United Nations/Swiss Federal Department of Foreign Affairs (2004). The Global Compact: Who cares Wins-Connecting Financial Markets to a Changing World.

UNWTO (2005). Report on the WTO Survey on the Implementation of the Global Code of Ethics for Tourism. World Tourism Organization

UNWTO (2006a). WTO in Africa: 2004-2005. World Tourism Organization.

UNWTO (2006b). Final Report of the Specific Programme for Africa Seminar-Workshop on: "Sustainable Tourism Development and Poverty Reduction", Tangiers, Morocco, 5-7 July 2006.

UNWTO (2007). Final Report of the Special Programme in Favour of Tourism Development in Africa- Regional Seminar: Workshop on Eco-tourism in National Parks and Protected Areas of Africa, Libreville, Gabon, 15 to 18 January 2007.

World Bank (2000). The Environmental Costs of Fossil Fuels. World Bank Environment Department.

Annex 1

JPOI Chapter III

III. Changing unsustainable patterns of consumption and production

14. Fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development. All countries should promote sustainable consumption and production patterns, with the developed countries taking the lead and with all countries benefiting from the process, taking into account the Rio principles, including, inter alia, the principle of common but differentiated responsibilities as set out in principle 7 of the Rio Declaration on Environment and Development. Governments, relevant international organizations, the private sector and all major groups should play an active role in changing unsustainable consumption and production patterns. This would include the actions at all levels set out below.

15. Encourage and promote the development of a 10-year framework of programmes in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems by addressing and, where appropriate, delinking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste. All countries should take action, with developed countries taking the lead, taking into account the development needs and capabilities of developing countries, through mobilization, from all sources, of financial and technical assistance and capacity-building for developing countries. This would require actions at all levels to:

a. Identify specific activities, tools, policies, measures and monitoring and assessment mechanisms, including, where appropriate, life-cycle analysis and national indicators for measuring progress, bearing in mind that standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries;

b. Adopt and implement policies and measures aimed at promoting sustainable patterns of production and consumption, applying, inter alia, the polluter-pays principle described in principle 16 of the Rio Declaration on Environment and Development;

c. Develop production and consumption policies to improve the products and services provided, while reducing environmental and health impacts, using, where appropriate, science-based approaches, such as life-cycle analysis;

d. Develop awareness-raising programmes on the importance of sustainable production and consumption patterns, particularly among youth and the relevant segments in all countries, especially in developed countries, through, inter alia, education, public and consumer information, advertising and other media, taking into account local, national and regional cultural values;

e. Develop and adopt, where appropriate, on a voluntary basis, effective, transparent, verifiable, non-misleading and non-discriminatory consumer information tools to provide information relating to sustainable consumption and production, including human health and safety aspects. These tools should not be used as disguised trade barriers; and

f. Increase eco-efficiency, with financial support from all sources, where mutually agreed, for capacity building, technology transfer and exchange of technology with developing countries and countries with economies in transition, in cooperation with relevant international organizations.

16. Increase investment in cleaner production and eco-efficiency in all countries through, inter alia, incentives and support schemes and policies directed at establishing appropriate regulatory, financial and legal frameworks. This would include actions at all levels to:

a. Establish and support cleaner production programmes and centres and more efficient production methods by providing, inter alia, incentives and capacity-building to assist enterprises, especially small and medium-sized enterprises, particularly in developing countries, in improving productivity and sustainable development;

b. Provide incentives for investment in cleaner production and eco-efficiency in all countries, such as state-financed loans, venture capital, technical assistance and training programmes for small and medium-sized companies while avoiding trade-distorting measures inconsistent with the rules of the World Trade Organization;

c. Collect and disseminate information on cost-effective examples in cleaner production, eco-efficiency and environmental management and promote the exchange of best practices and know-how on environmentally-sound technologies between public and private institutions; and

d. Provide training programmes to small- and medium-sized enterprises on the use of information and communication technologies.

17. Integrate the issue of production and consumption patterns into sustainable development policies, programmes and strategies, including, where applicable, into poverty reduction strategies.

18. Enhance corporate environmental and social responsibility and accountability. This would include actions at all levels to:

a. Encourage industry to improve social and environmental performance through voluntary initiatives, including environmental management systems, codes of conduct, certification and public reporting on environmental and social issues, taking into account such initiatives as the International Organization for Standardization standards and Global Reporting Initiative guidelines on sustainability reporting, bearing in mind principle 11 of the Rio Declaration on Environment and Development;
b. Encourage dialogue between enterprises and the communities in which they operate and other stakeholders;
c. Encourage financial institutions to incorporate sustainable development considerations into their decision-making processes; and
d. Develop workplace-based partnerships and programmes, including training and education programmes.

19. Encourage relevant authorities at all levels to take sustainable development considerations into account in decision-making, including on national and local development planning, investment in infrastructure, business development and public procurement. This would include actions at all levels to:

a. Provide support for the development of sustainable development strategies and programmes, including in decision-making on investment in infrastructure and business development;
b. Continue to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interest and without distorting international trade and investment;
c. Promote public procurement policies that encourage development and diffusion of environmentally-sound goods and services;
d. Provide capacity-building and training to assist relevant authorities with regard to the implementation of the initiatives listed in the present paragraph; and
e. Use environmental impact assessment procedures.

* * *

20. Call upon Governments as well as relevant regional and international organizations and other relevant stakeholders to implement, taking into account national and regional specificities and circumstances, the recommendations and conclusions adopted by the Commission on Sustainable Development concerning energy for sustainable development at its ninth session, including the issues and options set out below, bearing in mind that in view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. This would include actions at all levels to

a. Take further action to mobilize the provision of financial resources, technology transfer, capacity-building and the diffusion of environmentally-sound technologies according to the recommendations and conclusions of the Commission on Sustainable Development, as contained in section A, paragraph 3, and section D, paragraph 30, of its decision 9/1**9** on energy for sustainable development;

b. Integrate energy considerations, including energy efficiency, affordability and accessibility, into socio-economic programmes, especially into policies of major energy-consuming sectors, and into the planning, operation and maintenance of long-lived energy consuming infrastructures, such as the public sector, transport, industry, agriculture, urban land use, tourism and construction sectors;

c. Develop and disseminate alternative energy technologies with the aim of giving a greater share of the energy mix to renewable energies, improving energy efficiency and greater reliance on advanced energy technologies, including cleaner fossil fuel technologies;

d. Combine, as appropriate, the increased use of renewable energy resources, more efficient use of energy, greater reliance on advanced energy technologies, including advanced and cleaner fossil fuel technologies, and the sustainable use of traditional energy resources, which could meet the growing need for energy services in the longer term to achieve sustainable development;

e. Diversify energy supply by developing advanced, cleaner, more efficient, affordable and cost-effective energy technologies, including fossil fuel technologies and renewable energy technologies, hydro included, and their transfer to developing countries on concessional terms as mutually agreed. With a sense of urgency, substantially increase the global share of renewable energy sources with the objective of increasing its contribution to total energy supply, recognizing the role of national and voluntary regional targets as well as initiatives, where they exist, and ensuring that energy policies are supportive to developing countries' efforts to eradicate poverty, and regularly evaluate available data to review progress to this end;

f. Support efforts, including through provision of financial and technical assistance to developing countries, with the involvement of the private sector, to reduce flaring and venting of gas associated with crude oil production;

g. Develop and utilize indigenous energy sources and infrastructures for various local uses and promote rural community participation, including local Agenda 21 groups, with the support of the international community, in developing and utilizing renewable energy technologies to meet their daily energy needs to find simple and local solutions;

h. Establish domestic programmes for energy efficiency, including, as appropriate, by accelerating the deployment of energy efficiency technologies, with the necessary support of the international community;

i. Accelerate the development, dissemination and deployment of affordable and cleaner energy efficiency and energy conservation technologies, as well as the transfer of such technologies, in particular to developing countries, on favourable terms, including on concessional and preferential terms, as mutually agreed;

j. Recommend that international financial institutions and other agencies' policies support developing countries, as well as countries with economies in transition, in their own efforts to establish policy and regulatory frameworks which create a level playing field between the following: renewable energy, energy efficiency, advanced energy technologies, including advanced and cleaner fossil fuel technologies, and centralized, distributed and decentralized energy systems;

k. Promote increased research and development in the field of various energy technologies, including renewable energy, energy efficiency and advanced energy technologies, including advanced and cleaner fossil fuel technologies, both nationally and through international collaboration; strengthen national and regional research and development institutions/centres on reliable, affordable, economically viable, socially acceptable and environmentally-sound energy for sustainable development;

l. Promote networking between centres of excellence on energy for sustainable development, including regional networks, by linking competent centres on energy technologies for sustainable development that could support and promote efforts at capacity-building and technology transfer activities, particularly of developing countries, as well as serve as information clearing houses;

m. Promote education to provide information for both men and women about available energy sources and technologies;

n. Utilize financial instruments and mechanisms, in particular the Global Environment Facility, within its mandate, to provide financial resources

to developing countries, in particular least developed countries and small island developing States, to meet their capacity needs for training, technical know-how and strengthening national institutions in reliable, affordable, economically viable, socially acceptable and environmentally-sound energy, including promoting energy efficiency and conservation, renewable energy and advanced energy technologies, including advanced and cleaner fossil fuel technologies;

o. Support efforts to improve the functioning, transparency and information about energy markets with respect to both supply and demand, with the aim of achieving greater stability and predictability, and to ensure consumer access to reliable, affordable, economically viable, socially acceptable and environmentally-sound energy services;

p. Policies to reduce market distortions would promote energy systems compatible with sustainable development through the use of improved market signals and by removing market distortions, including restructuring taxation and phasing out harmful subsidies, where they exist, to reflect their environmental impacts, with such policies taking fully into account the specific needs and conditions of developing countries, with the aim of minimizing the possible adverse impacts on their development;

q. Take action, where appropriate, to phase out subsidies in this area that inhibit sustainable development, taking fully into account the specific conditions and different levels of development of individual countries and considering their adverse effect, particularly on developing countries;

r. Governments are encouraged to improve the functioning of national energy markets in such a way that they support sustainable development, overcome market barriers and improve accessibility, taking fully into account that such policies should be decided by each country, and that its own characteristics and capabilities and level of development should be considered, especially as reflected in national sustainable development strategies, where they exist;

s. Strengthen national and regional energy institutions or arrangements for enhancing regional and international cooperation on energy for sustainable development, in particular to assist developing countries in their domestic efforts to provide reliable, affordable, economically viable, socially acceptable and environmentally-sound energy services to all sections of their populations;

t. Countries are urged to develop and implement actions within the framework of the ninth session of the Commission on Sustainable Development, including through public-private partnerships, taking into account the different circumstances of countries, based on lessons learnt by Governments, international institutions and stakeholders, including business and industry, in the field of access to energy, including renewable energy and energy-

efficiency and advanced energy technologies, including advanced and cleaner fossil fuel technologies;

u. Promote cooperation between international and regional institutions and bodies dealing with different aspects of energy for sustainable development within their existing mandate, bearing in mind paragraph 46 (h) of the Programme of Action for the Further Implementation of Agenda 21, strengthening, as appropriate, regional and national activities for the promotion of education and capacity-building regarding energy for sustainable development;

v. Strengthen and facilitate, as appropriate, regional cooperation arrangements for promoting cross-border energy trade, including the interconnection of electricity grids and oil and natural gas pipelines; and

w. Strengthen and, where appropriate, facilitate dialogue forums among regional, national and international producers and consumers of energy.

* * *

21. Promote an integrated approach to policy-making at the national, regional and local levels for transport services and systems to promote sustainable development, including policies and planning for land use, infrastructure, public transport systems and goods delivery networks, with a view to providing safe, affordable and efficient transportation, increasing energy efficiency, reducing pollution, congestion and adverse health effects and limiting urban sprawl, taking into account national priorities and circumstances. This would include actions at all levels to:

a. Implement transport strategies for sustainable development, reflecting specific regional, national and local conditions, to improve the affordability, efficiency and convenience of transportation as well as urban air quality and health and reduce greenhouse gas emissions, including through the development of better vehicle technologies that are more environmentally-sound, affordable and socially acceptable;

b. Promote investment and partnerships for the development of sustainable, energy efficient multi-modal transportation systems, including public mass transportation systems and better transportation systems in rural areas, with technical and financial assistance for developing countries and countries with economies in transition.

22. Prevent and minimize waste and maximize reuse, recycling and use of environmentally friendly alternative materials, with the participation of government authorities and all stakeholders, in order to minimize adverse effects on the environment

and improve resource efficiency, with financial, technical and other assistance for developing countries. This would include actions at all levels to:

a. Develop waste management systems, with the highest priority placed on waste prevention and minimization, reuse and recycling, and environmentally-sound disposal facilities, including technology to recapture the energy contained in waste, and encourage small-scale waste-recycling initiatives that support urban and rural waste management and provide income-generating opportunities, with international support for developing countries; and
b. Promote waste prevention and minimization by encouraging production of reusable consumer goods and biodegradable products and developing the infrastructure required.

* * *

23. Renew the commitment, as advanced in Agenda 21, to sound management of chemicals throughout their life cycle and of hazardous wastes for sustainable development as well as for the protection of human health and the environment, inter alia, aiming to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment, using transparent science-based risk assessment procedures and science-based risk management procedures, taking into account the precautionary approach, as set out in principle 15 of the Rio Declaration on Environment and Development, and support developing countries in strengthening their capacity for the sound management of chemicals and hazardous wastes by providing technical and financial assistance. This would include actions at all levels to:

a. Promote the ratification and implementation of relevant international instruments on chemicals and hazardous waste, including the Rotterdam Convention on Prior Informed Consent Procedures for Certain Hazardous Chemicals and Pesticides in International Trade10 so that it can enter into force by 2003 and the Stockholm Convention on Persistent Organic Pollutants11 so that it can enter into force by 2004, and encourage and improve coordination as well as supporting developing countries in their implementation;
b. Further develop a strategic approach to international chemicals management based on the Bahia Declaration and Priorities for Action beyond 2000 of the Intergovernmental Forum on Chemical Safety12 by 2005, and urge that the United Nations Environment Programme, the Intergovernmental Forum, other international organizations dealing with chemical management and

other relevant international organizations and actors closely cooperate in this regard, as appropriate;

c. Encourage countries to implement the new globally harmonized system for the classification and labelling of chemicals as soon as possible with a view to having the system fully operational by 2008;

d. Encourage partnerships to promote activities aimed at enhancing environmentally-sound management of chemicals and hazardous wastes, implementing multilateral environmental agreements, raising awareness of issues relating to chemicals and hazardous waste and encouraging the collection and use of additional scientific data;

e. Promote efforts to prevent international illegal trafficking of hazardous chemicals and hazardous wastes and to prevent damage resulting from the trans-boundary movement and disposal of hazardous wastes in a manner consistent with obligations under relevant international instruments, such as the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and Their Disposal;[13]

f. Encourage development of coherent and integrated information on chemicals, such as through national pollutant release and transfer registers; and

g. Promote reduction of the risks posed by heavy metals that are harmful to human health and the environment, including through a review of relevant studies, such as the United Nations Environment Programme global assessment of mercury and its compounds.

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9 Official Records of the Economic and Social Council, 2001, Supplement No. 9 (E/2001/29), chap. I.B.

10 UNEP/FAO/PIC/CONF.5, annex III.

11 www.chem.unep.ch/sc.

12 Intergovernmental Forum on Chemical Safety, third session, Forum III final report (IFCS/Forum III/23w), annex 6.

13 Intergovernmental Forum on Chemical Safety, third session, Forum III final report (IFCS/Forum III/23w), annex 6.

Annex 2

Synthesis of responses to questionnaire

A focus-group e-mail survey of participants who attended the Fifth African Roundtable on SCP in Johannesburg was carried out in December 2008 to identify barriers to SCP in Africa and discuss the way forward. Out of the 30 participants to which the questionnaire was e-mailed, 16 responded. The participants were from Government, Private Sector, NGOs including consumer associations and from regional/ international organizations. The selection ensured a regional balance. The synthesis of the survey is given below.

Question 1:

What would be, in your opinion, the main benefits of an SCP programme for Africa that should be used to gather more support from policy-makers? Please rank the following benefits by order of importance.

Answer:

1. Contributing to poverty reduction
2. Contribution to major environmental challenges
3. Ensuring better access to basic services
4. Creating new market opportunities and new sources of employment
5. Reduction of future costs and increases competitiveness
6. Enabling leapfrogging

Question 2:

From your knowledge on the consumption and production trends in Africa, which are of utmost concern to you? Please rank the following issues by order of importance.

Answer:

1. Energy use
2. Water use
3. Food production and consumption
4. Land use, including deforestation
5. Waste generation and disposal
6. Industrial production pattern

7. Human settlement patterns
8. Transportation
9. Tourism development and use of resources
10. Domestic material consumption

Question 3:

Please rank the five key challenges to SCP in Africa below by order of importance.

Answer:

1. Lack of awareness and knowledge both at decision makers and the general public level
2. Absence of appropriate policy and legislative framework
3. Weak technical capacity and lack of technical support institutions
4. Providing the right infrastructures for sustainable lifestyles
5. Absence of alternative products and services that are more sustainable

Assumption:

Lack of awareness about SCP and about how SCP links with other concerns and priorities in society is one of the most important barriers. This lack of awareness is linked to weak support for SCP, lack of legislation and policies, poor education, lack of R&D and consumer traditions.

Question 4:

What would be, according to you, the best short- to long-term approaches to create the awareness on the benefits of SCP to Africa amongst the following groups?

Answer:

Policy and decision-makers:

- Conduct issues-based awareness seminars to parliamentary groups and inter-ministerial committees by relating SCP to concrete development issues that is being addressed
- Put the SCP initiatives on the political agenda of international and regional political meetings of decision-makers.
- Merge the SCP concept into the national policies and strategies

- Create awareness of policy-makers on best practices and their benefits through simple fact sheets
- Visit best practice sites

Industry and business:

- Identify champions from business and industry and work through these champions to reach the broader industry and business group
- Raise awareness-through seminars and workshops
- Involve industry and business associations in formulation of national strategies on SCP
- Use demonstration projects and disseminate information on the benefits of SCP case studies for the industry
- Create a link on SCP between the national industry/business associations with similar regional/international associations.
- Develop relevant curricula in educational and training institutions

Consumers and the general public:

- Target youth and professional groups which can be instrumental in organizing public events and platforms; working with journalists, media professionals and advertising agencies to influence messages conveyed to the general public through all media.
- Inculcate the "SCP culture" in the younger generation through education and awareness creation.
- Carry out survey and interview different levels of consumers to investigate their preferences on SCP
- Raise awareness through seminars and workshops on SCP for consumers
- Enhance the role of NGOs and Consumer Protection Associations in promotion of the SCP concept
- Put the power of the Internet to better use
- Use mass media more effectively and involve radio and TV channels to a greater extent.

Assumption:

Finding champions for the mainstreaming of SCP is crucial. National and local governments are the most important drivers for SCP. SCP is to a large extent a government responsibility, with CP centres, industry associations and business organizations and NGOs as important partners. Governments should create policy frameworks that are conducive to assisting other stakeholders in initiating SCP activities

Question 5:

With respect to champions, which stakeholder(s) according to you must take the role of champions for SCP in any given country? Please rank the following stakeholders by order of importance.

Answer:

1. Ministry of Environment
2. Local governments
3. Industry Associations/Business Organizations
4. NGOs, including Consumer Associations
5. Development Aid Agencies
6. Ministry of Finance

Comments:

Governments (local and national) need to be informed and sensitized first and foremost in order to create an enabling and conducive environment for the stakeholders to contribute positively. Therefore the most important actors as champions are the SCP institutions and practitioners (e.g. CP centres, universities, NGOs, individuals, etc). Government officials responsible for national strategies and plans and members of parliament should be sensitized on SCP before conducting a national dialogue with the various stakeholders on national priorities and how SCP should be mainstreamed in national plans, policies, and legislation. Every sectoral ministry should have an SCP desk officer to oversee and coordinate the mainstreaming of SCP in the various sectoral activities. S/he should work with the SCP champions.

Question 6:

Name three to five key SCP-related activities that have been carried out in your country and indicate the source of funding for these activities.

Answer 6:

Libya:

It not has been started yet, However the National Agency for Industrial Estates is currently working on a national plan to promote SCP within the newly established industrial zones

Senegal:

1. Information and sensitization by the National Commission for Sustainable Development(CNDD) on the recommendations of the Johannesberg Plan of Action relative to SPC (SPC);

2. Establishment of a working group on formulation and adoption of the Decade Plan of Action on the SPC for Senegal;

3. Organization of meetings on the integration of SPC in the PRSP, OMD and SNDD.

4. Participation in the various meetings of the Roundtable on SPC ;;

5. Organization at Dakar, in collaboration with UNEP/ROA, of two meetings on the advantages of SCP to French-speaking countries.

These activities were achieved by the Government of Senegal within the framework of budgetary support from the Low Countries (activity 2) and UNEP (activities 3, 4, 5).

- Elaboration of a Decade Framework Plan on modes of SCP financed by the royal governments of the Low Countries.
- Integration of SCP into the PRSP document financed by UNEP.
- Capacity-building of French-speaking experts on the SCP financed by IEPF.

Uganda

- Energy-saver bulb replacement - Government
- Organic farming development – Private sector
- Eco Tourism – Private sector
- Plastic bottle recycling – Private Sector and DANIDA
- Development of draft national SCP Policy with UNIDO funding
- Promotion of SCP activities in Lake Victoria Basin with funding from Swedish International Development Agency (SIDA)
- SCP activities in the hotel industry with funding from Uganda Ministry of Tourism, Trade and Industry.

Egypt

- The Egypt National Cleaner Production Centre which was established by the Ministry of Trade and Industry in Close Cooperation with UNIDO. The ENCPC is financed by UNIDO (Austrian and Swiss Governments) and in-kind contribution from the Egyptian Government;

- Egyptian Pollution Abatement Project - Phase II which is implemented by the Egyptian Environmental Affairs Agency (EEAA) and financed by the World Bank and French Development Agency, European Investment Bank and Japanese Bank for International Cooperation (JIBC), in addition to the European Commission, Government of Finland and Government of Egypt.

South Africa

- NRSCP by UNEP
- CP by UNIDO and Department of Trade and Industry
- Industrial Action Plan by Department of Trade and Industry
- CP policy by Department of Trade and Industry
- CP in metal finishing industry by DANIDA
- Sustainable cities programme by UNEP

Mozambique

- Cleaner production programmer funded by the Italian Government through UNIDO
- Energy Management Programme in the Ministry of Energy and Eduardo Mondlane Public University with focus on industrial energy efficiency funded by DANIDA
- Cleaner Development Mechanism (CDM) capacity-building programme funded by World Bank and the Netherlands, in the Ministry for Coordination of Environmental Affairs (MICOA)
- Development of Innovation and Cluster Programme funded by Swedish Government

Nigeria

- Workshop on Mainstreaming Education for Sustainable Development in Africa (MESA) co-sponsored by SIDA and OAU, now Africa Union (AU)
- Stakeholders Workshop on Education for Sustainable Development sponsored by the Nigerian Universities Commission (NUC)
- Establishment of GreenCam, an NGO for sustainable management of the campus environment, and private funding at AU

Zimbabwe

- Solar home systems in Zimbabwe funded by UNDP/GEF

- Electricity export from micro-hydro scheme funded privately
- Export of electricity from the sugar industry by Hippo Valley Sugar Estates funded by the company

Assumption:

SCP implementation at the city level is very important for Africa due to the increasing urbanization. The opportunity for large-scale environmental and social gains may be greater in cities through more integrated and efficient spatial planning, investment in collective transport, waste collection and management, among other measures..

Question 7:

What kind of initiatives can be taken for integration of SCP in the sustainable cities programmes in Africa?

Answer :

- Partly because of the unchecked growth rate and rapid urbanization in African cities, the initiatives undertaken by urban planners and managers for better integration of the issues linked to SCP in urban policies and programmes should be perceived from a global perspective, through local implementation of Agenda 21. In effect, SCP integration in strategic planning documents should encourage better management of the strategic planning associated with the issues of spatial use in land management to better take into account urban land management plans (SAU), urban master plans and also, land use plans (POS), master plans for waste management, urban transportation and disaster management of risks and catastrophies, etc. Most of the environmental and social challenges emanating from the urbanization process in Africa call for SCP solutions. It is therefore inevitable that decision- makers and planners at the city level (local government) have to be sensitized about SCP through education and awareness creation. Subsequently, demonstration programme activities should be initiated to showcase how SCP can be applied to solve various challenges within cities. This will lead to greater acceptance and integration for SCP in the various cities programmes within the region;
- Organic waste separation; Energy saver bulbs; Solar panels for water heating; Charcoal production and use systems analysis;
- Sustainable public procurement programmes; integrated solid waste management programmes; demand-side management programmes; sustainable building and construction programmes;
- Cooperative planning by concerned stakeholders is a very important tool to promote the SCP concept at local levels in African cities;

- Public-private partnership is highly recommended for furthering SCP initiatives;
- Economical, environmental and lifestyle evidence for adopting SCP are key in convincing the local community to actively contribute. Implement small-scale projects that could easily be replicated elsewhere upon successful implementation;
- Exchange of experiences between African cities on implementation of SCP through the African Roundtable on SCP;
- Implement waste management programmes such as recycling, reuse, etc ;involvement of urban authorities in promotion of SCP in cities; promotion of Environmental Management Systems in Urban Centres; awareness and prompt information dissemination; strengthening of National Cleaner Production Centres (NCPCs) in SCP activities;
- Ensure that local development plans integrate sustainable development agendas and use SCP as a tool to achieve sustainable development;
- Construction of sustainable buildings; urban planning; sustainable transport; sustainable integrated waste management programmes; demand-side water- and energy-use programmes; education on SCP; and
- The initiatives that can be developed within the framework of city programmes are:
    - Support to environmental education;
    - Sustainable management of solid and liquid wastes Promotion of behaviour patterns among the population to change to more sustainable consumption; and
    - Public-private partnerships to achieve sustainable production means
- Recycling of paper by the city authorities; creation of waste-to-energy recovery plants by city councils; establishment of appropriate public transportation systems such as the GAUTRAIN subway system and bus-only lanes being built in Johannesburg.

Assumption:

Dissemination and replication of successful SCP activities are needed to create easy access to knowledge. Creating a database of case studies and innovative approaches could provide a valuable resource and inspiration to communities interested in dealing with specific local consumption issues such as water, energy, solid waste, transport, etc.

Question 8:

What kind of innovative approaches could be used to disseminate and replicate successful SCP activities across Africa?

Answer:

- Carry out pilot regional projects and university research;
- Organize subregional meetings on SCP in collaboration with regional economic communities (RECs) and other intergovernmental organizations (AMU, CEDEAO/UEMOA, IGAD, CEEAC/COMIFAC ;commission a diagnostic study of successful experiences and activities on SCP in Africa (databank); assist African countries (francophone ones especially) to formulate SCP strategies and plans; disseminate information about SCP programmes and processes on-going in Africa at the national level (francophone countries in particular).These different activities cited above should be closely implemented with NEPAD whose Environment Initiative has the same objectives, namely, promotion of sustainable development and reduction of poverty;
- Squarely address the issue of SCP knowledge management in the region (Africa). Database(s) creation is inevitable for sustaining and disseminating SCP solutions in the region. The ARSCP Secretariat could be charged with the task of maintaining the SCP solutions database where contributions of case studies and innovative approaches would be coming from the various SCP practitioners within and outside the region. Information dissemination could be electronic or through conferences, roundtables, etc. SCP practitioners should be encouraged to access the database for the successful replication of SCP solutions in the region;
- Organize exchange visits, prizes for best practices, subsidies for energy-saving developments, support for organic agriculture, use of high-profile promotion campaigns, such as done with HIV/AIDS in Uganda;
- Develop an interactive web platform under ARSCP; utilize existing NCPCs and other SCP-promoting institutions as information nodes at the national level; Establish a strong working relationship with the African Environmental Journalists Network and use its members as an effective dissemination agents; make more use of the platforms of the African Ministerial Conference on Environment (AMCEN);
- Organize radio talks and drama. These have proved to be the most effective way of reaching the majority of people use TV especially in urban areas. Another effective option is to organize and coordinate workshops, including SCP talks and speeches to government officials and traditional leaders;

- Create capacity-building programmes through workshops and training seminars at national and city levels, on how to develop and implement Pilot Sustainable Consumption and Production Programmes in all African countries;
- Use Internet, ICTs and national television and radio stations more effectively. Sports is also one viable route for sharing the vision of SCP;
- Attachment and training of policy-makers and implementing personnel in best practice locations in Africa and abroad
    - Popularize best practices and lessons learnt in SCP by: **Strengthening South-South cooperation;**
    - Developing inter-country communications networks and information exchange mechanisms;
    - **Increasing the organization of subregional workshops (for each subregion of Africa to share experience on SCP**.

Assumption:

Africa as a region is at the forefront of the global Marrakech Process on the 10-Year Framework of Programmes as it has a regional framework programme, the Africa 10-YFP approved by AMCEN.

Question 9:

What are the specific follow-up activities you may have carried out as part of the development and implementation of the African 10-Year Framework Programme?

Answer:

Senegal:

- Following up the Decade Plan of Action on Suivi du Plan d'Action Décennal sur les SCP;
- Promoting environmental management tools, such as systematizing EIE and Environment Audits;
- Discussing opportunities with the private sector, as well as the goals of the of the Mechanism for Appropriate Development and the Bali Strategic Plan for Technology Transfer Preparing a national management strategy for integrated, sustainable management of solid wastes in Senegal;
- Revising Senegal's ongoing Decade Plan, for compliance with the guidelines set by UNEP on SCP. Priority SCP projects have been submitted to technical and financial partners

Uganda:

- Promotion of organic agriculture;
- Energy saver light installation;
- Tree planting promotion;
- Advocacy where possible;
- Subregional project (Kenya, Uganda, The United Republic of Tanzania, Rwanda) on SCP in Lake Victoria Basin;
- Drafting of National SCP Policy for Uganda;
- Inclusion of SCP activities in the National Industrialization Policy; and
- Involvement of local governments in SCP activities.

Mozambique:

- Development of the Pilot 10-Year Framework Programme on Sustainable Consumption and Production for the cities of Maputo and Matola. This was officially endorsed by the Ministry for Coordination of Environmental Affairs (MICOA), of Mozambique to UNEP in October 2008

South Africa

- Research on social and environmental impacts of bio-diesel in collaboration with Brazilian researchers;
- Environmental and energy assessment of sugar manufacturing in South Africa; and
- Environmental assessment of freight transportation in South Africa

General comments:

- Adoption of policies to give consumers an incentive to move towards more sustainable patterns of consumption is needed;
- Further and detailed actions need to be implemented to study and include t uncovered development areas other than the identified SCP- selected priority areas;
- Capacity-building and training activities on SCP will greatly assist in the making progress and ensuring sustainability of the SCP process;
- Building of a comprehensive database, to include all the issues related to the SCP patterns is also very important;
- Setting up a Permanent National SCP Steering Committee is required in African countries;

- Using the Ecological Footprint Initiative, Life Cycle Analysis (LCA) and Life Cycle Costing (LCC) as important methods for helping to determine the overall environmental impacts of goods or products, and their lifetime costs;
- Ensuring public engagement and participation in the process. This has been lacking. There is a strong need to link AMCEN, ARSCP and the 10- yr Framework to regional programmes and this is central to NEPAD, development banks and other initiatives that are part of the continental programme aimed at accelerating poverty reduction and economic growth

  Networking of all community stakeholders in sustainable development. Integrating SCP into poverty eradication strategies, according to the norms of sustainable best practices

Assumption:

The creation of sustainable systems of production and consumption is increasingly viewed as a process that will depend more on a radical restructuring of existing systems than an incremental improvement. For African countries, leapfrog changes in systems of production and consumption, products and services offer the possibility of a development path that will de-link economic development from environmental degradation.

Question 10:

Please list any innovative SCP activities or innovative instruments/approaches/policies contributing to sustainable consumption and production that you are aware of and which need to be up-scaled in Africa?

Answer:

- The demonstration programmes in the promotion of SCP in SMEs carried out by NCPCs within the region stand out as testimony to the leapfrogging initiatives. Various sectoral enterprises including services have been covered. Government policies and environmental legislations have adopted the SCP concept. Examples from The United Republic of Tanzania include, among others:
  - Sustainable Industrial Development Policy (1996)
  - Environmental Policy (1997);
  - Environmental Management Act (2004); and

    - Three (3) municipalities (Morogoro, Mwanza and Tanga) have worked with the SCP centre in the demonstration programme.
- Free energy light bulb switch; no tax on solar equipment;
- Creating a pragmatic action plan and programme to achieve the 10-year framework aspiration and have each country commit and monitor its improvement plan over a given time frame;
- The Pan African Competitiveness Forum is an instrument created to stimulate sustainable development through the innovative cluster programme that started in East Africa, which needs to be up-scaled in Africa;
- Experiences exist but data have to be collected because information on SCP in Senegal is lacking. At policy level, a decade plan on SCP modes has been attached to the growth and poverty reduction strategy. Moreover, the core policy on development of the Environment sector has SCP promotion as an axis for strategic intervention;
- The MESA should be encouraged in all universities in Africa as a tool for education on SCP; and
- Electricity production in the sugar industry, learning from Mauritius; development of bus highways and procurement of 1100 buses being done by the City of Johannesburg; promotion of organic food production as is done by Woolworth South Africa; production of grid-export electricity in the pulp and paper industry as is being done by SAPPI in South Africa.

Annex 3

Area, population and GDP of the 53 countries in Africa

	Population (millions)	Land Area (thousands of sq Km)	Population density (people per sq Km)	GDP per capita, PPP(Dollars) Constant 2000 prices	% share of rural population to total population	Gini coefficient (data for the most recent year available)
Sub-Saharan Africa	801	23,629	33.9	601.6	64.1	
Angola	17.0	1247	13.7	5160	44.2	
Benin	9.0	111	81.6	1239	59.2	36.5
Botswana	1.9	567	3.3	12,664	41.2	
Burkina Faso	14.7	274	54.0	1061	80.9	39.5
Burundi	8.5	26	330.8	321	89.9	
Cameroon	18.5	465	39.8	2005	44.1	44.6
Cape Verde	0.5	4	131	2871	41.2	
Central African Republic	4.3	623	6.9	673	61.6	
Chad	10.7	1259	8.6	1395	73.8	
Comoros	0.6	2	336	1084	71.9	
Congo, Dem. Rep.	62.4	2267	27.5	282	66.7	
Congo, Rep. of	3.8	342	11.0	3315	39.0	
Cote d'Ivoire	19.3	318	60.6	1579	51.9	44.6
Djibouti	0.8	23	35.9	1946	13.1	
Equatorial Guinea	0.5	28	18.1	28923	60.8	
Eritrea	4.8	101	47.9	507.7	79.7	
Ethiopia	79.1	1000	79.1	736	83.3	30.0
Gabon	1.3	258	5.2	14325	15.4	
Gambia	1.7	10	170.7	1164	44.4	
Ghana	23.5	228	103.1	1260	50.7	
Guinea	9.8	246	38.2	1076	66.0	38.6
Guinea-Bissau	1.6	28	60.3	450.9	70.2	
Kenya	37.5	569	66.9	1449	78.7	
Lesotho	2.0	30	66.1	1455	75.3	
Liberia	3.7	96	38.9	338	40.5	
Madagascar	19.7	582	33.8	882	70.8	47.5
Malawi	13.9	94	147.9	713.2	81.7	39.0
Mali	12.3	1220	10.1	1023	68.4	40.1
Mauritania	3.1	1025	3	1820	59.2	39.0
Mauritius	1.3	2	622	10647	57.6	
Mozambique	21.4	784	27.2	752	63.9	47.3
Namibia	2.0	823	2.5	4882	63.7	
Niger	14.2	1267	11.2	593	83.5	
Nigeria	148	911	162.5	1866	52.4	43.7
Rwanda	9.7	25	394.6	818	81.9	46.8
Sao Tome and Principe	0.2	1	164.5	1547	40.3	
Senegal	12.4	193	64.5	1572	57.9	41.3
Seychelles	0.1	0.46	185	13595	46.1	
Sierra Leone	5.8	72	81.7	639	62.5	
Somalia	8.7	627	13.9	….	63.9	
South Africa	47.6	1214	39.2	9191	39.7	57.8
Sudan	38.6	2376	16.2	1970	57.4	
Swaziland	1.1	17	66.6	4639	75.3	50.4
Tanzania	40.4	884	45.6	1141	74.9	34.6
Togo	6.6	54	121	763	58.7	
Uganda	30.9	197	156.9	886.3	87.2	45.7

	Population (millions)	Land Area (thousands of sq Km)	Population density (people per sq Km)	GDP per capita, PPP(Dollars) Constant 2000 prices	% share of rural population to total population	Gini coefficient (data for the most recent year available)
Zambia	11.9	743	16.0	1282	64.7	50.8
Zimbabwe	13.4	387	34.6	…..	63.1	
North Africa	157	5738	27.3	2136	47.1	
Algeria	33.8	2382	14.2	7507	35.42	
Egypt, Arab Rep.	75.5	995	75.8	5052	57.2	34.4
Libya	6.2	1760	3.5	13895		
Morocco	30.8	446	69.1	3835	44.3	
Tunisia	10.2	155	65.9	7086	33.9	39.8
All Africa	958	29,367	32.6	852	61.2	

Source: ADI, 2007