

# National Programme on Sustainable Consumption and Production (SCP) for Mauritius (2008-2013)

“Achieving More with Less”

VOLUME I

## FINAL REPORT

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Mr Sateaved SEEBALUCK, Permanent Secretary, Ministry of Environment and NDU  
UNEP - Division of Technology, Industry and Economics

## **Project Consultant:**

*Prof. Toolseeram RAMJEAWON*, University of Mauritius

## **Advisory Committee:**

### **Chair**

*Oomaduth JADOO*, Principal Assistant Secretary, Ministry of Environment and NDU

### **Co-Chairs**

*D Lan NG (Mrs)*, Director of Environment

*P Kallee* , Deputy Director, Ministry of Environment and NDU

## **Chairpersons of technical working groups:**

*Dr. K Coonjan*, Executive Director, National Productivity and Competitiveness Council ; *Dr. P M K Soonarane*, Deputy Director , Technical Services , Ministry of Public Utilities; *L Juggoo* , Principal Engineer / *V Bissessur*, Senior Engineer / *D Jahajeah*, Senior Engineer, Water Resources Unit; *P Kowlessar* , Director, Ministry of Local Government ; *T S Ramyeed*, Journalist , Mauritius Times ; *Mr F Wong*, Architect, Mauritius Association of Architects

## **Stakeholders in working groups and advisory committee:**

*K.Ah Nien*, Ministry of Environment & NDU, *S Appadoo* , Ministry of Finance and Economic Development; *D Appalswamy*, National Productivity and Competitiveness Council (NPCC); *J Aukhez*, Ministry of Public Infrastructure, Land Transport & Shipping; *R. Awotar- Mauree*, Ministry of Information Technology and Telecommunications ; *D Babooa*, Mauritius Council of Social Services; *Dr. B K Baguant*, Quality Assurance , University of Mauritius; *P Bapoo- Dundoo*, GEF Small Grants Programme- UNDP; *B Beerachee* , Ministry of Local Government ; *R*

**Bheekho**, Ministry of Industry, Small & Medium Enterprises, Commerce & Cooperatives (Commerce Division) ; **Dr. R. Bholah**, Mauritius Institute of Education; **V Bissessur** , Water Resources Unit ; **G P Bobeechurn**, Central Water Authority; **Dr. C Bokhoree** , University of Technology ; **S Boodhoo** , Water Resources Unit; **C Boncoeur**, Ministry of Finance and Economic Development; **H. Buddhu**, Ministry of Youth & Sports ; **R Bundhun** , APEXHOM; **D Bunjun** , Mauritius Association of Architects; **V R Bumma** , Ministry of Housing and Lands ; **R.Callychurn** , Ministry of Public Infrastructure, Land Transport & Shipping ; **B Candassamy**, Ministry of Public Infrastructure, Land Transport and Shipping (Architects Division); **P Chaundee**, Ministry of Public Utilities; **J Chellum** , Association des Consommateurs de L’Ile Maurice ; **V Chingadu**, AHRIM ; **Coonjul** , Central Electricity Board; **C Dabeedin**, Central Electricity Board; **Dr. S Deenapanray**, Mauritius Research Council; **H K Dhunnoo**, Central Water Authority ; **Dr. K Elahee**, University of Mauritius; **D Ellapen**, APEXHOM; **J Ellapen**, Mauritius Standards Bureau; **R. Essoo** , ATICS ; **K F Ho Fong**, Mauritius Standards Bureau; **R K Foolmaun**, Ministry of Environment and National Development Unit; **S Gheerdharry**, State Trading Corporation ; **A Ghoorah** , Ministry of Environment and NDU; **A Gopaul**, Association of Quantity surveyors ; **T Guness**, Mauritius Standards Bureau; **R Hauzaree**, Irrigation Authority; **Dr. K Heeramun**, Enterprise Mauritius; **S Jingree**, Ministry of Public Utilities; **R Joorawon**, Ministry of Education and Human Resources; **C Jugroo**, Central Water Authority; **P Khurtoo** , NPCC; **Tony Lee Luen Len**, LEED AP, Ecosis Ltd; **J Lobin**, Municipality of Curepipe; **B Lobin**, Moka- Flacq District Council; **S Lukhoo**, Industrial and Vocational Training Board; **B Lutchmiah**, Ministry of Education and Human Resources; **R. Makoond** , Joint Economic Council ; **N Manic**, Ministry of Environment & NDU ; **Matadeen**, Enterprise Mauritius; **D Mariette**, Outdoor Advertising Association c/o Trait d’Union Ltée ; **D. Moodely**, AHRIM; **J Naugah**, Ministry of Environment and National Development Unit; **P Ng Cheong Tin** , Climate Change Action Forum; **S K M Padya**, Ministry of Public Infrastructure, Land Transport and Shipping (Architects Division); **P. Poinen**, Ministry of Environment & NDU; **K Poonoosamy** , Board of Investment ; **D Prithipaul**, Ministry of Environment and National Development Unit; **N Rainier**, L’Express; **Dr. B Rajkumarsingh**, Mauritius Research Council ; **N Ramburn** , AREU; **Dr. A Ramjaun**, Mauritius Institute of Education ; **C Ramma**, Institut Supérieur de Technologie ; **I Ramma**, Agricultural Research and Extension Unit; **H. Romsokok**, NPCC; **R Ramsurn**, Ministry of Finance and Economic Development; **Dr K Reesaul**, Ministry of Public Infrastructure, Land Transport & Shipping; **S Rungoo**, Ministry of Education and Human Resources ( Rajiv Gandhi Science Centre); **M E Sauntally** , Small Enterprises and Handicraft Development Authority ; **K. Seebundhun** , Ministry of Finance and Economic Development ; **D. Seetaramoodoo** , Mauritius College of the Air ; **A Soobratee**, Ministry of Education and Human Resources; **D Subratty** , Ministry of Environment & NDU; **V Sujeebun**, Small Enterprises and Handicraft Development Authority ; **R. Sultan** , National Economic and Social Council; **N Thannoo** , National Housing Development Company Ltd; **N Toolsy**, National Productivity and Competitiveness Council ; **G M Veeramootoo**, Central Water Authority ; **D Vithilingum**, Ministry of Environment and NDU ; **Michel Wan Bok Nale** , Central Procurement Board; **L. Wong**, Mauritius Employers Federation (MEF); **A Wong Min** , Grandes Surfaces Reunies (GSR); **A Wozir**, Ministry of Public Infrastructure, Land Transport & Shipping ; **P Yvon**, Le Mauricien

# National Programme on Sustainable Consumption and Production (SCP) for Mauritius (2008-2013)

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## **ABBREVIATIONS**

AHRIM: Association hôteliers et restaurateurs de L'île Maurice

AREU: Agricultural Research and Extension Unit  
APEXHOM: Association Professionnelle des Producteurs/Exportateurs des Produits Horticoles de Maurice  
CDM : Clean Development Mechanism  
CEB: Central Electricity Board  
CSR: Corporate Social Responsibility  
CSO:Central Statistics Office  
CWA:Central Water Authority  
DOE: Department of Environment  
DMC:Domestic Material Consumption  
EF: Ecological footprint  
EIA: Environmental Impact Assessment  
EIP:Environment Investment Programme  
EPA:Environment Protection Act(2002)  
EPR: Extended Producer Responsibility  
ESCO: Energy Service Companies  
GDP: Gross Domestic Product  
GEF: Global Environment Facility  
GHG: Greenhouse gas  
GWh: Gigawatt hour  
ICT: Information and Communication Technology  
ICZM: Integrated Coastal Zone Management  
IRS: Integrated Resort Scheme  
ISO: International Organization for Standardization  
JEC:Joint Economic Council  
JPOI: Johannesburg Plan of Implementation  
kg: kilogramme  
km: kilometres  
Ktoe: Thousand tonne of oil equivalent  
LCM: Life Cycle Management  
LPG: Liquefied petroleum gas  
MAAS: Multi-Annual Adaptation Strategy  
MEPS: Minimum Energy Performance Standards  
MID: Maurice Ile Durable  
MOE: Ministry of Environment and National Development Unit  
MOEd:Ministry of Education and Human Resources  
MOF:Ministry of Finance and Economic Development  
MOLG:Ministry of Local Government  
MoU: Memorandum of Understanding  
Mm<sub>3</sub>: Million cubic metres  
MPU: Ministry of Public Utilities  
MPI:Ministry of Public Infrastructure , Land Transport and Shipping  
MRC: Mauritius Research Council  
MSB:Mauritius Standards Bureau  
NCCRD: National Centre for Curriculum Research and Development  
NDS:National Development Strategy  
NDU: National Development Unit

NEAP:National Environment Action Plan  
NEP:National Environment Policy  
NES:National Environment Strategies  
NGOs:Non Governmental Organisations  
No. : Number  
NPCC:National Productivity and Competitiveness Council  
OECD: Organisation for Economic Co-operation and Development  
PBB: Programme- Based Budgeting  
QBTU: Quadrillion British Thermal Units  
Rs : Mauritian Rupees  
SC: Sustainable Consumption  
SCP:Sustainable Consumption and Production  
SEHDA: Small Enterprises and Handicraft Development Authority  
SMEs:Small and Medium Enterprises  
SP: Sustainable Production  
Toe: Tonne of oil equivalent  
TMRSU:Traffic Management and Road Safety Unit  
UN: United Nations  
UNDP:United Nations Development Programme  
UNDESA:United Nations Department of Economics and Social Affairs  
UNEP:United Nations Environment Programme  
UOM:University of Mauritius  
US\$: United States Dollar  
VAT: Value Added Tax  
WRU:Water Resources Unit  
WSSD: World Summit on Sustainable Development  
YFP: Year Framework of Programmes

## **Executive Summary**

At the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, “changing unsustainable patterns of production and consumption” was singled out as one

of the main elements of sustainable development. It was emphasized that all countries should promote sustainable consumption and production (SCP) patterns. SCP can be broadly defined as a holistic approach to minimizing negative environmental impacts from production and consumption in society. It can be considered as a practical implementation strategy to achieve sustainable development and can be viewed as the two legs on which sustainable development stands. In practical terms, SCP means **“getting more well-being from less”**.

The Johannesburg Plan of Implementation (JPOI) encourages the development of a 10-year framework of programmes (10-YFP) in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production. The “Marrakech Process” was launched at the first international expert meeting on the 10-YFP held in Marrakech, Morocco, 16-19 June 2003. The Marrakech Process, led by UNEP and UNDESA, includes regular global and regional expert meetings, voluntary task forces, development cooperation dialogue and other activities designed to promote progress on elaboration of the 10-YFP on SCP. 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 is the necessity to tackle the issue of SCP in a systematic and active way. As such, Mauritius has been selected as one of the pilot countries by UNEP to develop a National Programme on Sustainable Consumption and Production (SCP). A Memorandum of Understanding was signed between UNEP and the Ministry of Environment and NDU in May 2007 for the elaboration of the programme by July 2008.

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.

Analysis of consumption and production trends show that the environmental impacts from consumption and production activities have grown over the last two decades and are expected to intensify in the next decades with the same patterns of consumption and production. Current and projected production and consumption patterns are influenced by a number of driving forces, including rising per capita incomes, demographics and accompanying changes in lifestyles. Technology, institutions and infrastructure also play an important role in influencing consumption and behaviour.

Sustainable Production activities are mainly focused on the implementation of environment management systems (ISO 14000) in large companies or Green Globe certification in major hotels. However, action plans and policies remain to be established targeting all key sectors of the Mauritian Economy including especially the SMEs. As compared to many developing countries, there is no dedicated institution in Mauritius promoting the concept of cleaner production in Industry. More advanced sustainable production concepts such as Life Cycle Assessments and Eco-design are not applied. One of the main drivers for sustainable production is effective enforcement – however the latter needs to be strengthened and industry must realise that enforcement will in the medium to long term increase its competitiveness. Important stakeholders such as industry associations and financing institutions need to be more actively involved in cleaner production projects. The state of Sustainable Production (SP) may thus be described as being slowly in progress but yet having a long way to go before being widely adopted and fully integrated as an everyday practice in all businesses, including SMEs.

It is only recently through the National Environment Policy of 2007 that a policy framework for promoting Sustainable Consumption (SC) at the national level has been devised. Compared to SP, SC is a far less developed and recognized concept. SC is a

relatively new concept and consumer activism is still focused on prices, quality and consumer safety. Sustainable consumption still needs to be mainstreamed in consumer organizations' activities. Tools to support or promote SC need to be strengthened.

Based on a scoping exercise which included focused interviews and a national workshop, the following strategic priorities form the focus of the SCP programme framework:

- Resources Use Efficiency with a Focus on Energy , Water and Sustainable Buildings and Construction
- Education and Communication for Sustainable Lifestyles
- Integrated Solid Waste management and Recycling
- Sustainable Public Service Practices
- Increase Market Supply and Demand for Sustainable Products

Multi-stakeholder working groups were constituted by the Ministry of Environment and NDU in order to develop the action plans on the priority areas. One principle that working groups adopted was to “make SCP visible at an early stage” by developing concrete pilot projects for implementation. Visible implementation of SCP activities at an early stage as possible is important, both to highlight and demonstrate the concept. As shown in the table below, the SCP programme encompasses 44 projects, each of which is to be led by the agency with most appropriate direct responsibility of the sector or resource.

## **SCP Programme Component Projects**

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### **A. Sustainable Energy Consumption**

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- 1 Develop MEPS for Key Household Appliances

- 2 Phase out Incandescent Lamps
  - 3 Capacity Building of Energy Audit Providers and Promotion of Energy Service Companies
  - 4 Develop MEPS for Industrial Major Energy Consuming Equipment
  - 5 Mandatory Energy Auditing for high energy users
  - 6 Assist SMEs in carrying out Energy Audits
  - 7 Require Public Bodies to purchase only energy efficient lighting systems
  - 8 Increase consumer knowledge about Sustainable Driving and Energy Efficient Vehicles
  - 9 Survey on Vehicular Emissions and Capacity Building on Emission Testing
  - 10 Influence Consumer to transport modal shift and behavioural change
  - 11 Formulation of a Strategic Research Action Plan on Energy
- 

**B. Sustainable Water Consumption**

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- 1 Establish Water Efficient Plumbing codes and regulations
  - 2 Mandatory Water Efficiency Audits for high water users
  - 3 Development of Rain Water Harvesting Systems
  - 4 Sustain a National Awareness Campaign on Water Savings
- 

**C. Sustainable Buildings and Construction**

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- 1 Develop a Shared Vision
  - 2 Develop Guidelines and a Rating system
  - 3 Amendment of Building Regulations
  - 4 Develop Public and Financial Incentives
  - 5 Launch an Awards Program
  - 6 Initiate Demonstration Projects
  - 7 Develop Curriculum for Industry Professionals and Conduct Training Programs
  - 8 Education and Outreach
  - 9 Research and Development
- 

**D. Integrated Solid Waste Management and Recycling**

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- 1 Recycling of Supermarket Wastes with a focus on cardboards and plastics
  - 2 Diversion of Organic Wastes from the Hotel Sector
  - 3 Promotion of Backyard Composting
  - 4 Elaboration of Integrated Waste Management Action Plans in all Local Authorities
  - 5 Study on the Economic, Environmental and Social Benefits of Extended Producer Responsibility on certain key products
- 

**E. Sustainable Public Service Practices**

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- 1 Sustainable Government Procurement Framework
- 2 Monitoring Energy use and Performance in the public sector & Annual Reporting
- 3 Water savings in the Public sector

- 4 Sustainable Paper use in the Public Sector
- 5 Computer Refurbishment and Reuse
- 6 Implement Environmental Reporting in Government Departments

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**F Improve Market Supply and Demand of Sustainable Products and Services**

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- 1 Development of a National Eco-labelling Framework, with an initial focus on Agricultural and Food products
  - 2 Promotion of Sustainable Products through financial incentives and improving their visibility.
  - 3 Capacity Building of Industry in Life Cycle Management and Corporate Sustainability Reporting
- 

**G. Education and Communication for Sustainable Lifestyles**

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- 1 Sustain a National Awareness Campaign on Energy Savings
- 2 Training on YouthXchange
- 3 Develop Locally adapted Education Resource Materials on SCP
- 4 Capacity Building of NGOs on Sustainable Consumption
- 5 Develop an education resource material targeting SMEs on the benefits of resources efficiency
- 6 Launch Awards Programs recognising efforts towards Sustainable Lifestyles.

The total cost of the SCP programme is estimated to be approximately Rs 35 million with much of the expenditure falling in the first 3 years. The following mechanisms for funding the programme are:

- Direct funding by government organisations through the Programme-Based Budgeting (PBB) process and through taxation of various types by the Ministry of Finance and Economic Development
- Making use of the “Maurice Ile Durable” (MID) Fund for specific projects
- The SCP Action Plan is a sort of a “brokering system” and an ideal instrument to link the demand for SCP technical support and the supply of technical /financial services by development cooperation agencies.
- Liaising with Marrakech Task Forces to identify technical and financial support
- The UNEP centre on Sustainable Consumption and Production, based at Wuppertal Institute in Germany, will provide technical support and input to the MOE on

developing the pilot projects into full project documents that could be submitted for fund mobilization by countries.

- Sponsorship by the private sector through their Corporate Social Responsibility (CSR) activities

SCP is a cross-sectoral issue that requires integration between different policy areas. It is recommended to have a dedicated National SCP Programme, as it encompasses economic and social issues besides environment issues. Besides its direct contribution towards promoting resource-efficiency at all levels of production and consumption, the development and implementation of the SCP Programme will also be instrumental in promoting synergies amongst the key development sectors outside the Ministry of Environment and NDU. By its cross-cutting nature, SCP have a major part to play in achieving a number of the national objectives adopted in different policy areas: economic objectives including job creation, environmental quality objectives, public health objectives, business sector objectives, energy and water savings and poverty reduction objectives.

Implementing the programme will be more challenging than developing it. The monitoring and evaluation of the national SCP Programme is a critical step. It demonstrates accountability of stakeholders concerned and demonstrates achievements and worthiness of the programme itself. Continuous monitoring of changes in consumption and production patterns (typically indicator based) needs to be differentiated from periodic evaluation of the programme itself. It is recommended to adopt a system of internal and budgetary reviews through the Programme Based Budgeting and Performance Monitoring Processes, as well as indicator-based quantitative monitoring where appropriate. Taking into account the priority areas of the SCP programme, a set of 30 SCP indicators are recommended. Recommendations are also made regarding participatory schemes for stakeholders, the specific role of the media, the management, coordination and revision of the Programme and for on-going consultation.

Lessons learnt from the pilots should help in sectoral policy and strategy review and ultimately in mainstreaming SCP in national policies and strategies. Public communication and advertising have a key role to make SCP understandable and

fashionable. Communication campaigns on SCP will have to be devised so that it is understood in the context of other issues in which consumers are more interested such as climate change, economic growth and poverty reduction, etc.

The SCP Programme will be submitted for approval by Cabinet. The implementation agencies will then be able to complete detailed design and to take forward the implementation of the programme. It relies on effective partnerships between all stakeholders. The Advisory Committee set up by the MOE for the development of the SCP programme is to be re-named as the SCP implementation committee which will coordinate the implementation of projects. This committee will be reconstituted to comprise relevant implementing agencies and will meet on a regular basis to review progress on the programme implementation and to consider policy changes.

SCP is directly linked with many other development priorities, such as economic growth and competitiveness, job creation, environmental protection, water and energy security; poverty alleviation; health and education. The main benefit of an SCP programme is that it enables resource efficiency and help meets basic needs in a sustainable manner with a decoupling of economic growth from environmental degradation. The on-going restructuring of the economy of Mauritius offers an opportunity to establish more resource efficient, safe and sustainable production and consumption patterns. There are many promising opportunities to “leapfrog” and avoid many of the production and consumption-related problems common in developed countries. The SCP programme will enable this “leapfrogging” and will help in the implementation of the “Maurice Ile Durable” project initiated by the Prime Minister of the Republic of Mauritius.

# **Chapter I**

## **Introduction**

### **1. Introduction**

#### **1.1 Background**

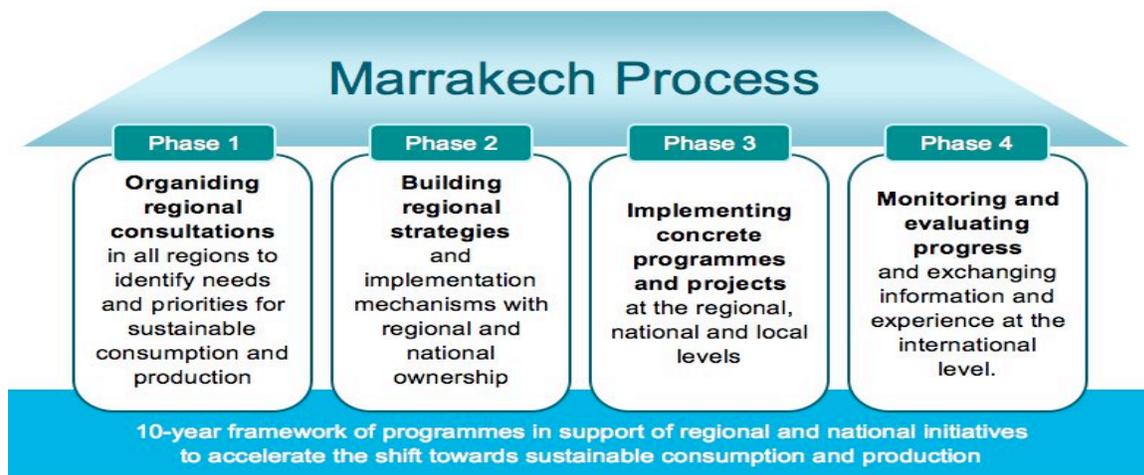
At the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, “changing unsustainable patterns of production and consumption” was singled out as one of the main elements of sustainable development, the others being poverty eradication and protecting and managing the natural resource base. WSSD called for fundamental changes in the way societies produce and consume goods and services. Moreover, it was emphasized that all countries should promote sustainable consumption and production (SCP) patterns, with developed countries taking the lead.

The Johannesburg Plan of Implementation (JPOI) encourages the development of a 10-year framework of programmes (10-YFP) in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production. The objective of this 10-YFP is to promote social and economic development within the carrying capacity of ecosystems by de-linking 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. The JPOI calls for mobilization, from all sources, of financial and technical assistance and capacity-building to support developing countries in their efforts to promote more sustainable patterns of consumption and production. UNEP and UNDESA have been identified as the international lead agencies in promoting and developing the 10-YFP.

The “Marrakech Process” was launched at the first international expert meeting on the 10-YFP held in Marrakech, Morocco, 16-19 June 2003. The Marrakech Process includes regular global and regional expert meetings, voluntary task forces, development cooperation dialogue and other activities designed to promote progress on elaboration of the 10-YFP on SCP. The development of the Marrakech Process consists of the following four phases:

**Phase 1:** Organising regional consultations in all regions to promote awareness and identify priorities and needs for SCP (through regional expert meetings and national/regional roundtables)

- Phase 2:** Building regional strategies and implementation mechanisms with regional and national ownership
- Phase 3:** Implementing concrete projects and programmes on the regional, national and local levels to develop and/or improve SCP tools and methodologies (with the Marrakech Task Forces as the main mechanism and the cooperation Dialogue with development agencies)
- Phase 4:** Evaluating progress, exchanging information and experiences, and building international cooperation and coordination.



**Figure 1.1: The four phases of the Marrakech Process (Source: UNEP (2008))**

Under the Marrakech Process, Marrakech Task Forces have been organised with the main objectives of:

- Supporting the implementation of concrete projects for SCP (Phase 3 of the Marrakech Process)
- Focus on specific SCP themes or sectors
- Strengthening North-South cooperation in the SCP implementation

These Task Forces are voluntary initiatives led by countries or groups of countries that – in cooperation with other partners – commit themselves to carrying out a set of activities

which support the implementation of specific SCP projects. To date, seven Task Forces are active on the following themes:

- **Cooperation with Africa (hosted by Germany)**
- **Sustainable Products (hosted by the UK)**
- **Sustainable Lifestyles (hosted by Sweden)**
- **Sustainable Public Procurement (hosted by Switzerland)**
- **Sustainable Tourism (hosted by France)**
- **Sustainable Buildings and Construction (hosted by Finland)**
- **Education for Sustainable Consumption (hosted by Italy)**

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. As such, Mauritius has been selected as one of the pilot countries by UNEP to develop a National Programme on Sustainable Consumption and Production (SCP). An MoU was signed between UNEP and the Ministry of Environment and NDU in May 2007 for the elaboration of the programme by July 2008. A Cabinet Information Paper on the SCP project was presented in Cabinet on 5<sup>th</sup> September 2007 so as to get the collaboration of various Ministries for the successful development, implementation and monitoring of this programme.

## **1.2 Purpose and Benefits of the SCP Programme**

SCP can be defined as *“the production and use of goods and services that respond to basic needs and bring a better quality of life, while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the ability to meet the needs of future generations.”* (Norwegian Ministry of Environment, Oslo Symposium, 1994).

SCP can also be broadly defined as a holistic approach to minimizing negative environmental impacts from production and consumption in society. It can be considered as a practical implementation strategy to achieve sustainable development and can be viewed as the two legs on which sustainable development stands. In practical terms, this means “**getting more from less**”.

Many countries like Mauritius have instituted some policies and are carrying out some 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 concern on SCP among stakeholders but little implementation
- There are policies and initiatives but they 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
- There is a need to identify and communicate better the economic, social and environmental benefits.

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 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 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,

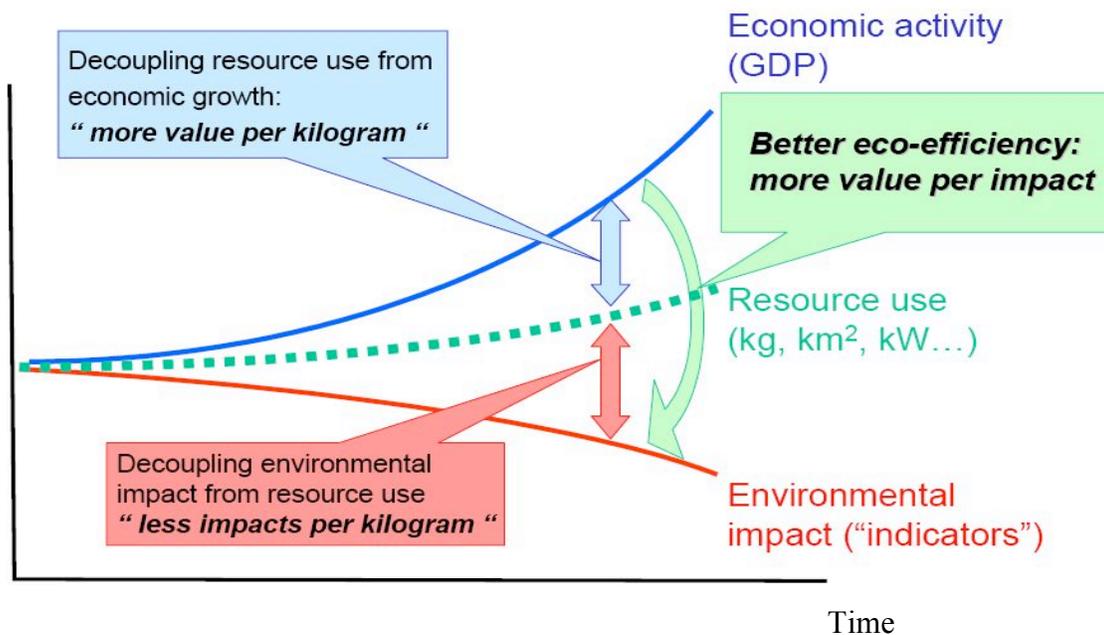
consultation, negotiation, mediation and consensus building on priority societal issues where interests differ. The SCP programme needs to adhere to the wider goals of poverty reduction and sustainable development.

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 like Mauritius needs to be more weighted to improving the efficiencies of production, consumption and resource use. A fundamental question for policy makers is “What is the cost of unsustainable consumption and production patterns in Mauritius? .....or “what is the cost of delayed action?” Some key facts are given below to illustrate the potential benefits of an SCP programme:-

- Wasted natural resources from manufacturing industries are estimated at about 5 to 10% of total manufacturing profit
- Energy efficiency can be increased by about 30% if all known cost-effective actions were taken by businesses and individuals
- The present annual cost of waste collection and disposal is about Rs 1500 per tonne of waste, not taking into account the value of resources lost.
- The annual cost of traffic congestion due to the absence of a sustainable transport system is estimated at more than Rs 2 billion rupees
- The cost of mobilizing 1000 litres of water through construction of dams and treatment plants is more than 3 times the water recovered through water efficiency measures
- Application of a World Bank tool-Cost of Environmental Degradation-in many countries has shown that environmental degradation cost between 2 to 5% of GDP

It should be recognized that **SCP is directly linked with many other development priorities, such as economic growth and competitiveness, job creation, environmental protection, water and energy security; poverty alleviation; health and education.** The main benefit of an SCP programme is that it enables resource efficiency and helps in meeting basic needs in a sustainable manner with a decoupling of

economic growth from environmental degradation (see Figure 1.2). The SCP programme will enable “leapfrogging” and will help in the implementation of the “Maurice Ile Durable” project initiated by the Prime Minister of the Republic of Mauritius.



**Figure 1.2: SCP Objective of Decoupling**

### 1.3 Strategic Priorities for the SCP Programme

Strategic priorities of the SCP Programme have been selected based on the following criteria:

- Results of Consultation Exercises and Focused Interviews with key stakeholders
- Encouraging linkages between existing policies and programmes
- Avoiding duplication with existing strategies and programmes
- Accomplishing the objectives of Government and the UN
- Using the potential for significant progress in SCP
- Focusing initially and concentrating efforts

Based on the above, the following strategic priorities form the focus of a SCP framework that may bring the best possible effects:

**Priority 1: Resources Use Efficiency with a Focus on Energy, Water and Sustainable Buildings and Construction**

**Priority 2: Education and Communication for Sustainable Lifestyles**

**Priority 3: Integrated Solid Waste Management and Recycling**

**Priority 4: Sustainable Public Service Practices**

**Priority 5: Increase Market Supply and Demand for Sustainable Products**

#### **1.4 Methodology and Reports Produced**

- UNEP, with the financial support from the Government of UK, 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 (see Figure 1.3). The model highlights the importance of establishing a process of continuous improvement for the SCP programme and to consider communication, consultation and integration with existing strategies at each stage of the process. The steps are divided into three phases to develop, implement and monitor the programme. These steps have been followed for the development of this programme.
  
- In developing the national SCP programme, some key elements include:
  - (i) Initiate a multi-stakeholder process
  - (ii) Design effective actions and define clear objectives-A SCP programme is usually concentrated on a few initial key priority areas, as attempting to do everything at once is neither practical nor possible.
  - (iii) The programme must be based on comprehensive and reliable analysis
  - (iv) Define objectives, targets and indicators
  
  - (v) Build the programme from existing national policies
  - (vi) Integrate it with existing national strategies such as NEAP or NDS
  - (vii) Develop Sectoral Action plans

- (viii) Ensure management and coordination of the process (political, technical, participative and mobilization of resources)
- As per the first step of the guidelines, an Advisory Committee comprising relevant stakeholders has been set up to monitor the development and implementation of the SCP Programme. The Advisory group recommended a consultation exercise with key stakeholders in order to identify the key priority areas. It was proposed to conduct focused interviews of 30 individuals representing Government, NGOs, Business and Research to raise their awareness on SCP and to identify priority areas for the programme.
  - A scoping exercise consisting of a mapping exercise to identify existing SCP policies and activities in the country, potential SCP priority areas and actions, and links to existing national strategies and other mechanisms was conducted in November 2007. The Scoping exercise included focused interviews with key stakeholders in order to identify SCP priority areas for Mauritius.
  - A multi-stakeholder national workshop was held on 25-26<sup>th</sup> October 2007 to confirm the priority areas identified in the scoping exercise as well as to improve the understanding and appreciation of stakeholders on the importance of SCP.
  - Multi-stakeholder working groups were constituted by the Ministry of Environment and NDU in order to develop the action plans on the priority areas of :
    - Sustainable Energy Consumption
    - Sustainable Water Consumption
    - Sustainable Buildings and Construction
    - Integrated Solid Waste Management
    - Sustainable Public Service Practices
    - Education and Communication for Sustainable Lifestyles
    - Increase the Market Supply and Demand for Sustainable Products

The objectives of the working groups were as follows:

- Select the specific areas on which each priority area will focus on , as well as identify barriers, potential gaps in policies and tools
- Define objectives and targets for the specific areas identified
- Define the activities required to achieve the targets
- Define who will implement the plan, time frame , costs and funding
- Define indicators for monitoring and implementation

Working groups developing specific action plans were chaired by the relevant responsible Ministry or organisation. About 75 people participated in the 7 working groups to develop the different Action Plans. **The action plans for the SCP priority areas are at Appendix I.**

- One principle that working groups adopted was to “make SCP visible at an early stage” by developing concrete pilot projects for implementation. Visible implementation of SCP activities at an early stage as possible is important, both to highlight and demonstrate the concept. Also the groups looked at the possibility of promoting linkages with the activities under the existing Marrakech Taskforces structure
- As part of the development of this National Programme on SCP , 2 demonstration projects have been undertaken:-
  - (i) Production and airing of TV and radio spots for raising public awareness on sustainable consumption. A multi-stakeholder Committee was set up under the aegis of the Ministry of Environment and NDU in order to brainstorm on the content of the spots.
  - (ii) Report on Carbon Footprint and Resource Consumption of the Ministry of Environment 2007

**A report on the outcome of these demonstration projects is included at Appendix II.**

- The following reports have been prepared during the development of the SCP National Programme:
  - Proceedings of the First National Workshop on SCP(25-26 October 2007)
  - Scoping Report(November 2007)
  - Examples of International SCP Best Practices(November 2007)
  - Background Papers on the 7 SCP Priority Areas(February 2008)
  - SCP Action Plans for the 7 Priority Areas (June 2008)
  - Proceedings of the Second National Workshop on SCP ( 17 July 2008)
  
- This National programme on Sustainable Consumption and Production report presents the main findings made by the multi-stakeholder working groups and recommendations for the successful implementation of the programme. The appendices to this main SCP report should be referred to for further details during the implementation phase.

**Appendices:**

Appendix I SCP Action Plans in Priority Areas  
Appendix II Demonstration Projects

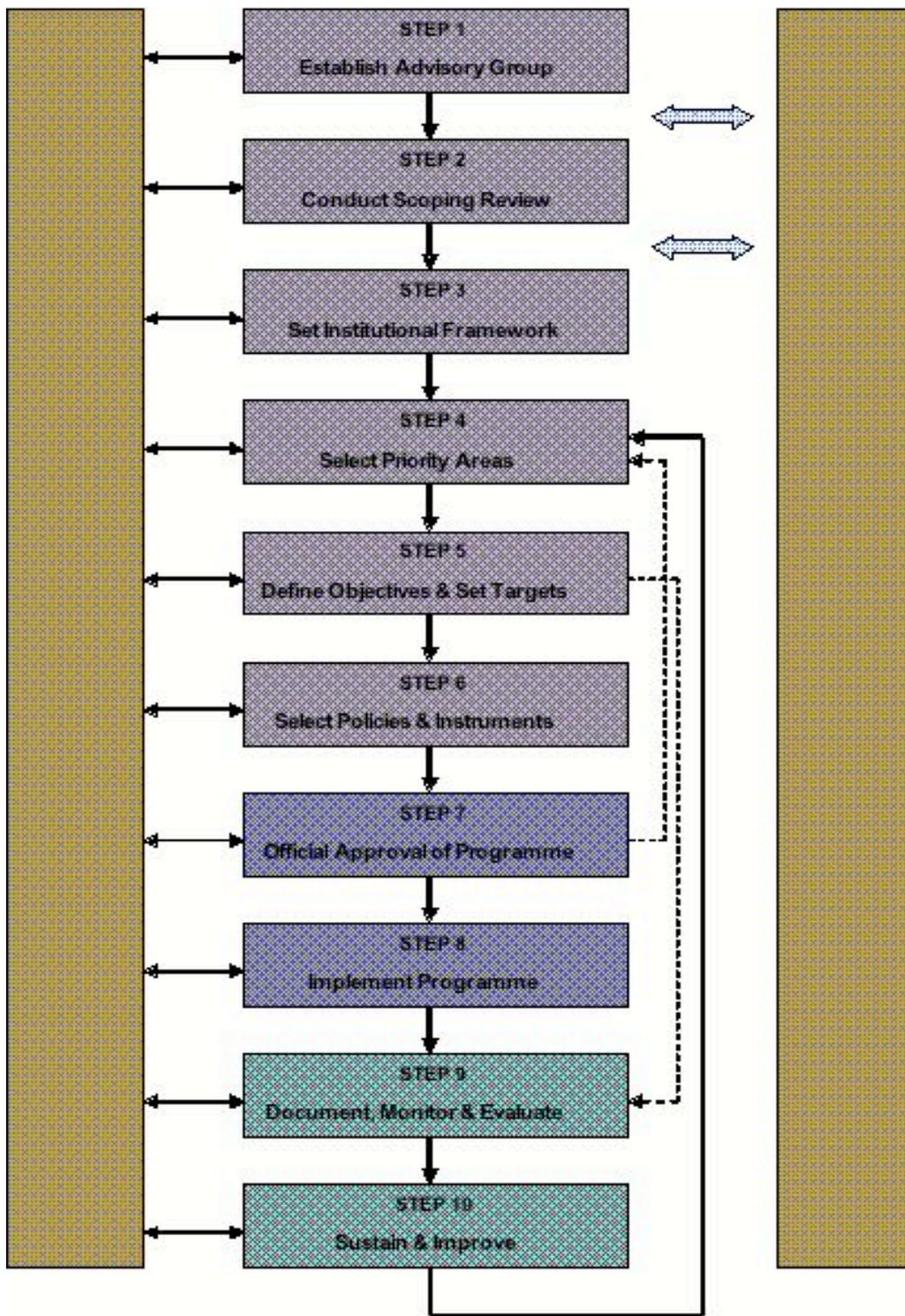


Figure 1.3: UNEP'S SCP Programme Development Process

**Chapter II**

**Status of Consumption  
And  
Production patterns**

## **2. Status of Consumption and Production Patterns**

### **2.1 Consumption and Production Trends**

Quantitative indicators can help to gauge whether we are moving closer to or farther away from sustainable consumption and production patterns and it is an important tool for stimulating debate and focusing attention. Below are trends in some key areas of consumption and production in Mauritius during the last two decades. The data are from Central Statistics Office (CSO) publications: the Demographic, Socio-Economic and Environmental Data (1996 to 2007) and the Digest of Environment Statistics (2006).

#### **2.1.1 Socio-Economic Trends**

In 2007, the population was estimated to be 1.26 million, growing at approximately 0.6% per year, which indicates an ageing population. Over the past fifteen years, Mauritius has achieved 5-6% annual economic growth and steady growth in per capita incomes. The per capita GDP increased from US\$ 3,595 in 1998 to US\$ 5,956 in 2007 and Mauritius is now classified as an upper middle income country. Agriculture, manufacturing, tourism, financial services and ICT constitute the main pillars of the economy. In 2007, more than two thirds (69.0%) of GDP was generated by the tertiary sector comprising the services industries, compared to slightly over a quarter (26.5%) by the secondary sector, that comprises of mostly manufacturing and construction. The remainder 4.5% was attributable to the primary sector consisting mainly of agricultural activities.

Income distribution is uneven, real wages have not been rising as fast as GDP and the gap between top and bottom incomes have recently been widening. The most recent Household Budget Survey (2006/07) conducted by the CSO showed that the proportion of poor households below the relative poverty line (set at the half median monthly household income per adult equivalent) increased from 7.7% in 2001/02 to 8.0% in 2006/07. The number of poor households increased from 23,700 in 2001/02 to 26,900 in 2006/07. Furthermore, the degree of inequality in income can also be measured by the Gini coefficient that ranges from 0 (complete equality) to 1 (complete inequality). This

coefficient increased from 0.371 in 2001/02 to 0.389 in 2006/07 indicating an increase in income inequality.

The end consumption of households is about 70 % of GDP and the state's consumption is about 15% of GDP, which means that the volume of "governmental" consumption has a high incentive potential for greening companies' production.

### **2.1.2 Household income and expenditure**

A comparison of the results of the 2001/2002 and 2006/2007 Household Budget Survey indicates a tendency towards smaller households (average household size was 3.9 in 2001/2002 compared to 3.7 in 2006/07). The survey also showed that the average monthly expenditure was Rs 15, 188 in 2006/2007 compared to Rs 10,812 in 2001/02. Food and Non-Alcoholic beverages took the largest share of household consumption expenditure(30.0%) followed by Transport(15.0%), Housing, water, electricity, gas and other fuels (10.0%) and Alcoholic beverages and tobacco(10.0%). The remaining categories of expenditure including clothing, footwear, household equipment and maintenance, health, education, communication and recreation together accounted for the remaining 30.0%. Spending on recreation as share of disposable income increased from 4.6% in 2001/02 to 5.0% in 2006/2007. Figure 2.1 below shows the household consumption expenditure for year 2001/2002 and 2006/2007.

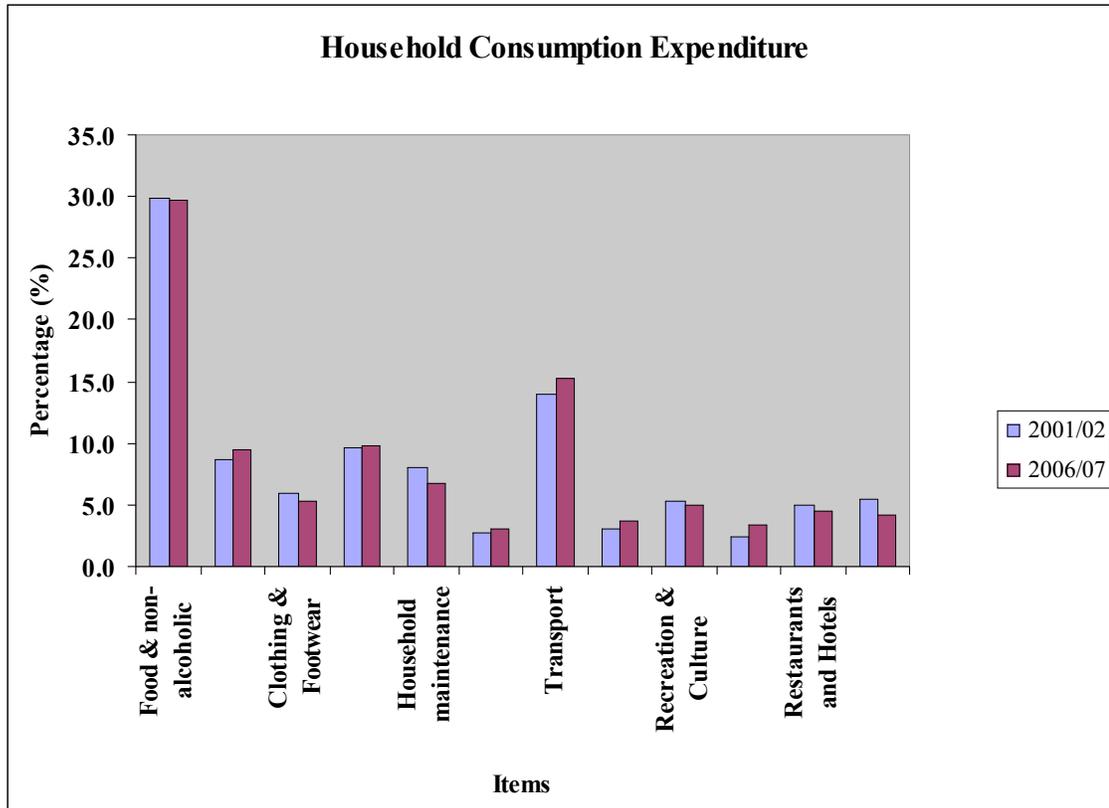


Figure 2.1: Household Consumption Expenditure

### 2.1.3 Domestic Material consumption

Imports of goods (excluding energy imports) increased from 3.7 million tonnes in 2000 to 4.6 million tonnes in 2006. The Domestic Material Consumption (DMC) accounts for all materials directly consumed by the economy in a country and is defined as all materials entering directly the national economy (used domestic extraction plus imports), minus the materials that are exported. In economic terms, it is related to the consumption activities of the residents of a national economy. In environmental terms, DMC is a proxy for potential environmental pressures on the domestic environment. It is considered as a good indicator for measuring the decoupling of economic growth and the use of natural resources and is nowadays compiled by all European statistical offices. Its compilation is laid down in a methodological guide by Eurostat (2001): Economy-wide Material Flow Accounts and derived Indicators: A Methodological Guide, Luxemburg (<http://europa.eu.int/comm/eurostat>).

**The DMC per capita in Mauritius was estimated at about 9 tonnes in 2006 and increasing with time. In comparison, the DMC of industrialized countries ranges from 15 tonnes per capita in Japan to 26 tonnes in Australia, depending on the eco-efficiency of the economy.**

The material intensity in Mauritius is about 1.5 tonnes DMC per US\$ 1000 of GDP, which is more than double of those in Europe (0.51 tonnes in UK or 0.45 tonnes in Netherlands), showing the potential for eco-efficiency.

#### **2.1.4 Industrial production**

In 2007, there were about 807 large manufacturing establishments (employing more than 10 persons as per definition of CSO) and 2500 registered SMEs (manufacturing enterprises that use production equipment with an aggregate value of less than Rs 10 million). Data about pollution and resource use in industrial companies, as well as industry sector specific data sets are not systematically collected and published in Mauritius. This absence of reliable data obstructs the development of realistic, targeted and effective policies on environmental management in industry and hinders measuring progress towards more sustainable industrial production. However, a few waste audits carried out in industry, especially in SMEs show that industrial progress has been slow in improving eco-efficiency.

ISO 14000 is a series of voluntary international standards on environmental management. It provides a framework for the development of an environmental management system, environmental auditing, environmental labeling, environmental performance evaluation and life cycle assessment. Only 10 enterprises in Mauritius are certified ISO 14001.

The level of innovations in the Mauritian economy, mainly industry, should be considered unsatisfactory. A reflection of this fact is the expenditure on Research &

Development as a share of GDP is only 0.3%, a tenth of that in high performing developed and developing economies and that purchase and use of foreign technologies is limited. Royalty and license payments were just US\$ 1.7 per capita compared to US\$ 2000 in Ireland.

### **2.1.5 Energy consumption**

The annual primary energy requirement per capita has increased from 0.69 toe (tonnes of oil equivalent) in 1990 to 1.1 toe in 2007. The total primary energy requirement was 1379 ktoe in 2007. Mauritius is heavily dependent on imported fossil fuels for its energy needs. Around 82% of the total primary energy requirement was met by imported fuels (oil, LPG and coal) and the remaining 18% obtained from local sources (bagasse, hydro and fuel wood). The largest consumers of energy were the transport and manufacturing sectors which accounted for 47.9 % and 30.6% of the total energy consumption respectively. Household consumption accounted for about 12.9% of the total energy consumption.

The share of fossil fuels in the total energy requirement increased from 62% in 1992 to 82.2% in 2007. Programmes for increasing efficiency and expanding renewable energy are thus not keeping pace with increasing demand and economic growth.

The increase in electricity consumption is at a sustained rate of 5%. The share of electricity from renewable sources (bagasse and hydro) has decreased from 30% in 1996 to about 22.4% in 2007. The share of coal in electricity production rose to 40.3% in 2007 while contribution of fuel oil and diesel fell marginally to 37.2%.

The intensity of energy use is 0.54 toe per 1000 USD of GDP. This can be compared to 0.19 toe per 1000 USD in OECD countries or 0.17 toe per 1000 USD in EU-15. The potential for better energy productivity is evident from today's large gap between developed countries like Japan and Europe and Mauritius.

Figures 2.2 and 2.3 below show the increase in GDP per capita and the increase in energy consumption from 1992 to 2007 respectively.

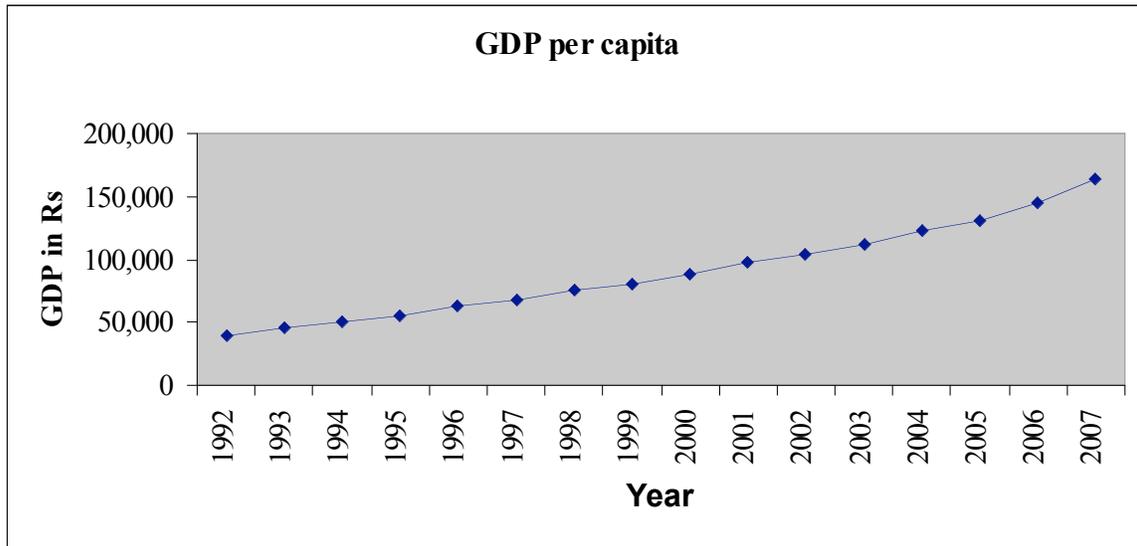


Figure 2.2: GDP per capita

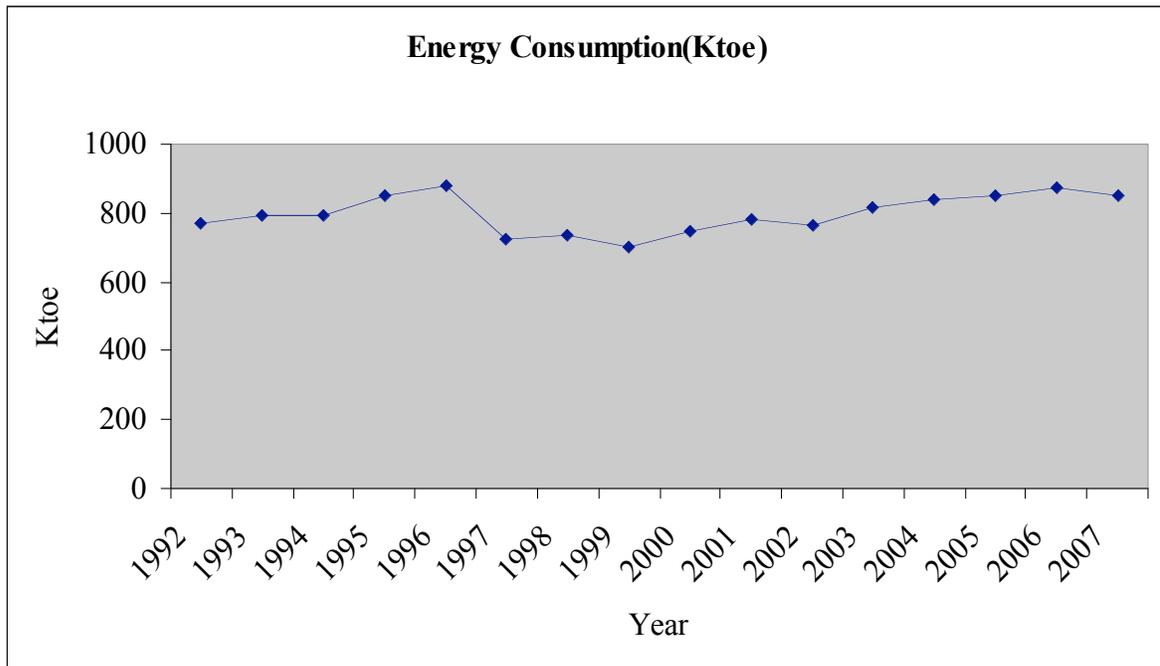


Figure 2.3: Energy Consumption (Ktoe)

Figures 2.4 and 2.5 below show the increase in the share of fossil fuels and total annual electricity production from 1992 to 2007 respectively.

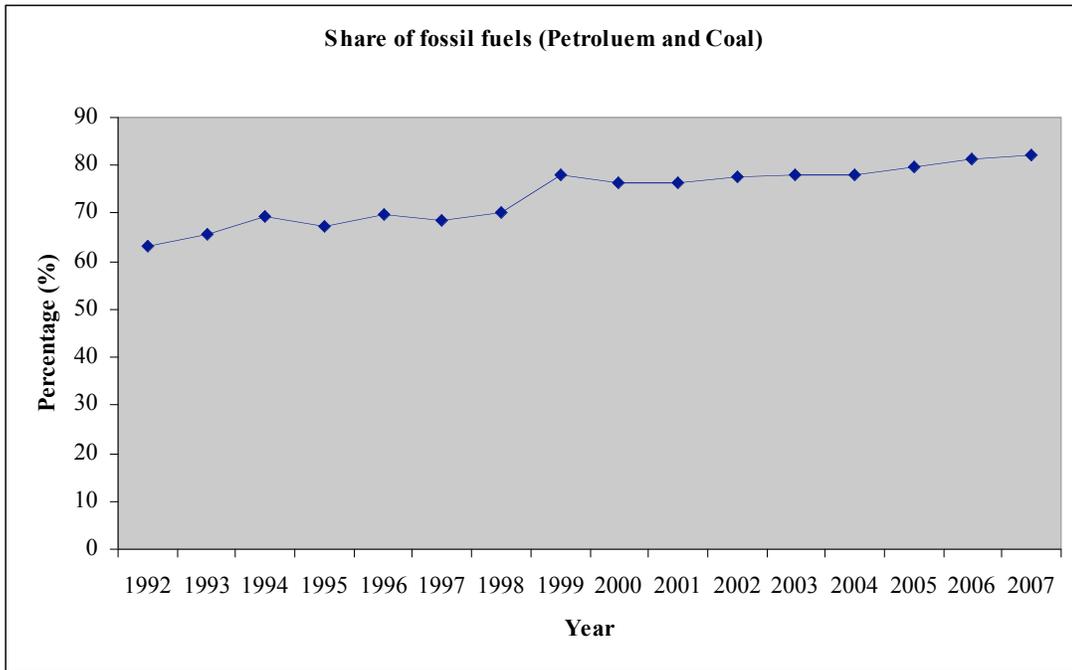


Figure 2.4: Share of fossil fuels (Petroleum and Coal)

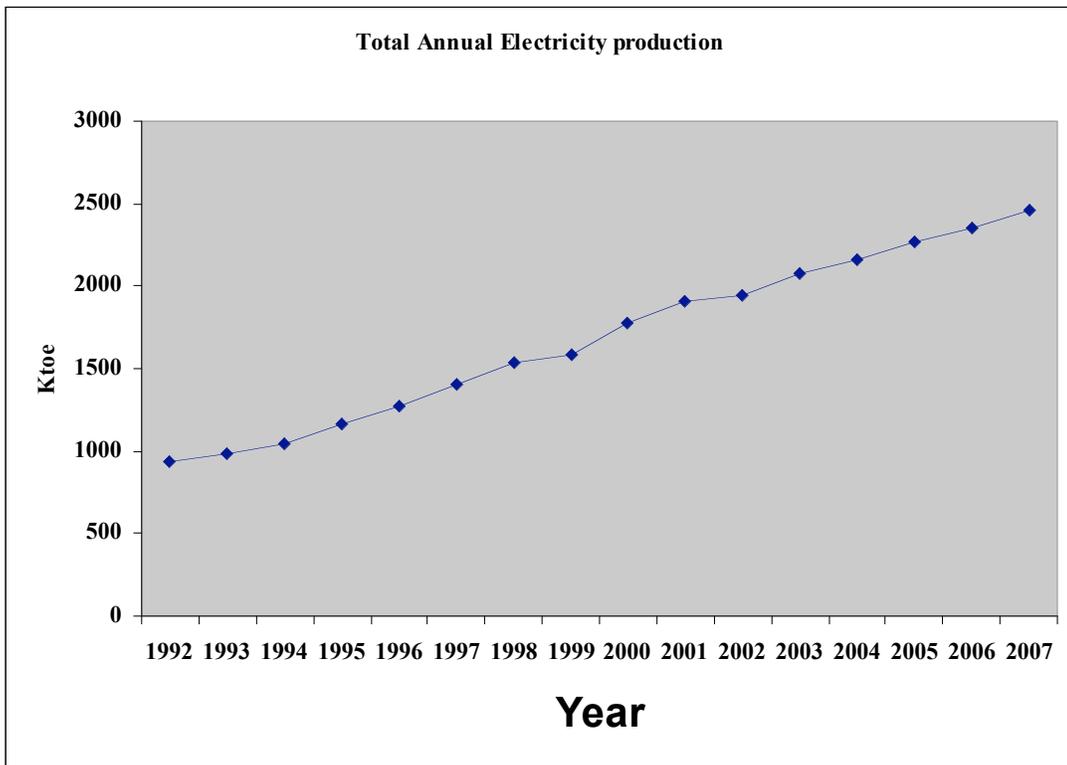


Figure 2.5: Total Annual Electricity Production

Figure 2.6 below compares the energy efficiency of Mauritius with Japan, Europe and the World.

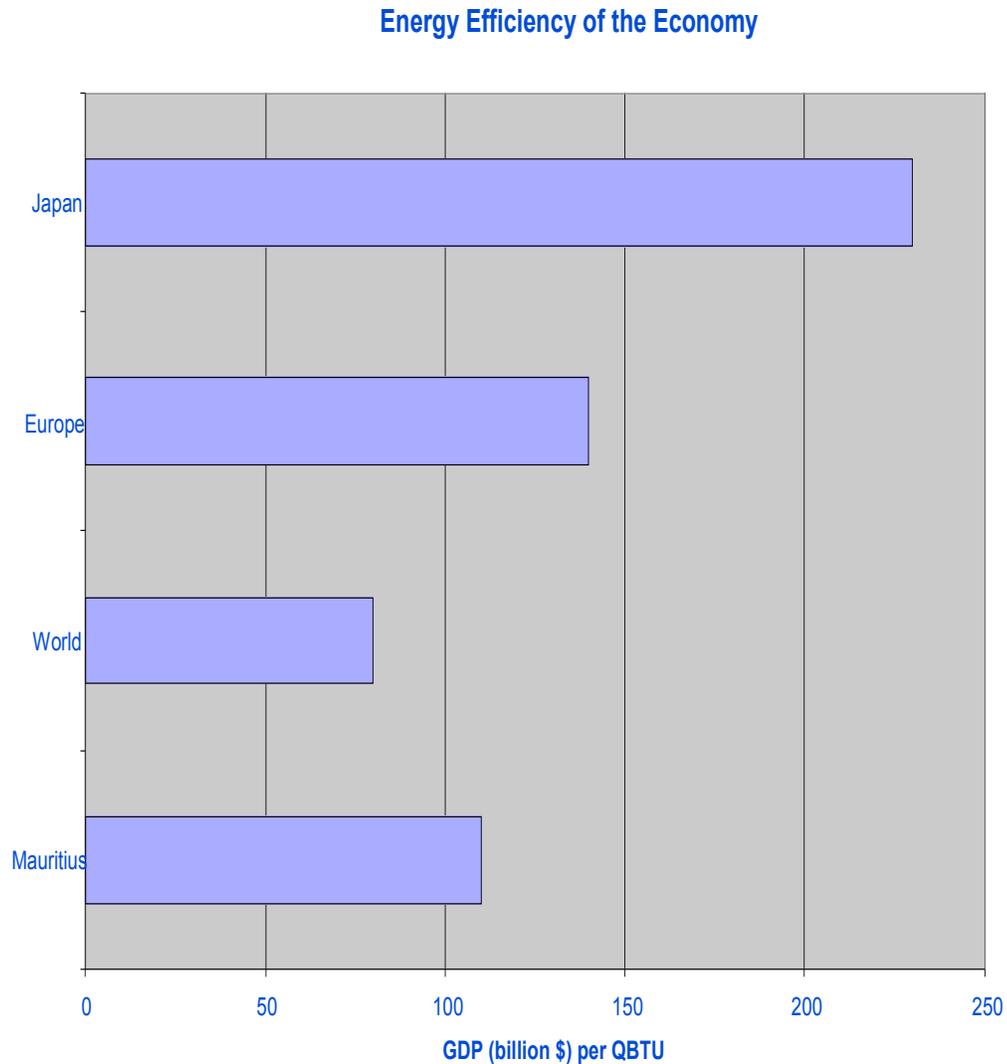


Figure 2.6: Energy Efficiency of the Economy

### 2.1.6 Greenhouse gas emissions

Net CO<sub>2</sub> emissions increased by 22% from 2000 to 2006 to reach 3.1 million tonnes (or about 3 tonnes per capita per year). The energy industries remain the principal source of CO<sub>2</sub> emissions (57%), followed by the transport sector (25%) and the manufacturing industries (12%).

### **2.1.7 Water consumption**

Mauritius is classified as a water-stressed country. Usable freshwater potential estimated at 1300 Mm<sup>3</sup> per year equivalent to 1083 m<sup>3</sup>/person/year, which puts Mauritius in the water-stressed category.

Water demand has increased by 56% from 1990 to 2006. The water demand in 2007 was estimated at 884 Mm<sup>3</sup>, of which 48% was used for irrigation, 28.7% for hydropower and 22.7% for domestic, industrial and tourism purposes. Around 87 % of total freshwater supply came from surface water and the remaining 13 % from groundwater.

During the period 1993 to 2007, the domestic per capita consumption of water has risen from 141 to 162 litres per day. With rising consumption, surface water supplies have to be supplemented by groundwater, which accounted for 53% of total potable consumption in 2007.

By 2040, total demand is projected at 1200 Mm<sup>3</sup> per year, close to the utilizable renewable potential of 1300 Mm<sup>3</sup>. Thus, if more effective management is not introduced, demand threatens to outstrip supply within 50 years.

With climate change, a decrease in the overall amount of rainfall is expected. A decrease in the average amount of rainfall has already been noted over the past decade.

### **2.1.8 Waste Generation and disposal methods**

Daily per capita waste generated increased from 0.7 in 1997 to 0.9 kg in 2007, such that our annual waste generation amounts currently to about 400,000 tonnes. The total amount of solid waste disposed at the Mare Chicose landfill went up from 180,788 tonnes in 1999 to 394,118 tonnes per year in 2007, representing a decrease of 3.2% from 2006.

Waste generation forecast made in 2004, projected a growth of 1% annually to reach about 398,000 tonnes in 2009 and about 510,000 tonnes in year 2034. However, from the

above figures, it is clear that we have already exceeded the 2009 projections. The cost of municipal waste management in 2005 was Rs 500 millions that is about Rs 1548 per household.

All wastes collected are compacted at transfer stations before being disposed to the sole disposal facility at Mare chicose. Recycling rates are still very low, which is not slowing the rate of growth of waste for final disposal. Only about 9 % of paper, 3% of plastics and 31% of textiles are recycled. Figure 2.7 below shows the increase in solid waste generation and GDP per capita from 1999 to 2007.

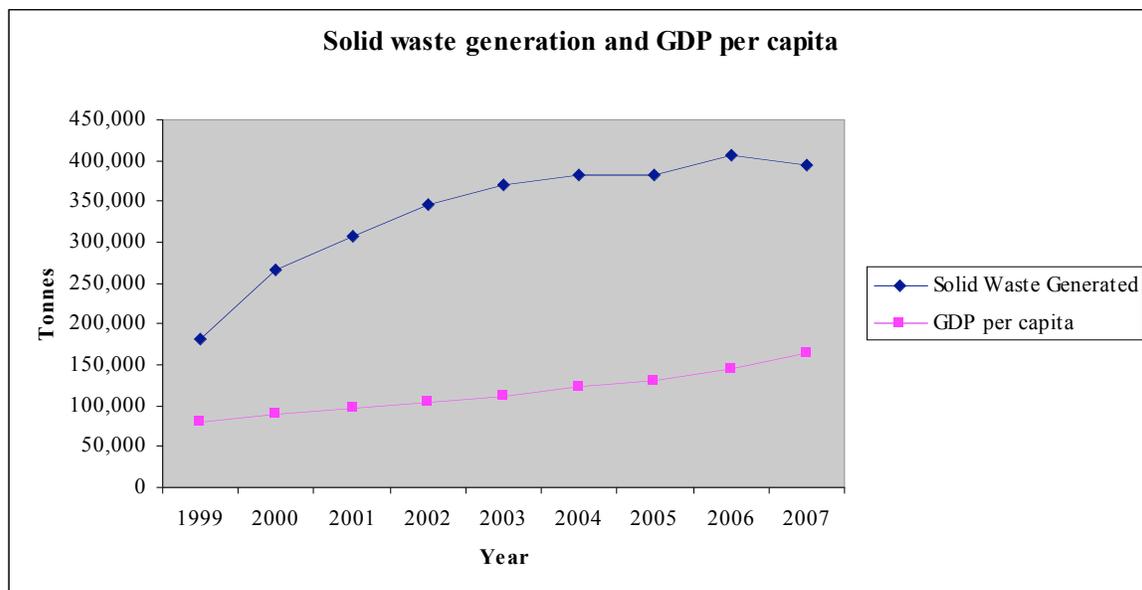


Figure 2.7: Solid Waste Generation and GDP per capita

### 2.1.9 Transport

The vehicular fleet has been growing at an average annual rate of around 5%. From 1990 to 2007, the total number of vehicles has gone up from 123,545 to 334,145, a rise of 63%. 30% of the vehicular fleet is private cars. Traffic congestion is a serious problem and the total cost to the economy of congestion is estimated to be about 1.3% of GDP. The density of vehicles has been considerably increasing and reached 165 vehicles per km of road in 2007 from 105 in 1996. The number of private cars per 1000 population rose from 28.5 in 1990 to 92.9 in 2007, representing an increase of 69%. This expansion in the

number of vehicles has also been accompanied by a corresponding growth in energy consumption and carbon dioxide emission in the transport sector.

Figures 2.8 below shows the increase in number of cars and GDP per capita from 1990 to 2006 and figure 2.9 shows the increase in number of vehicles per km of road from 2000 to 2007.

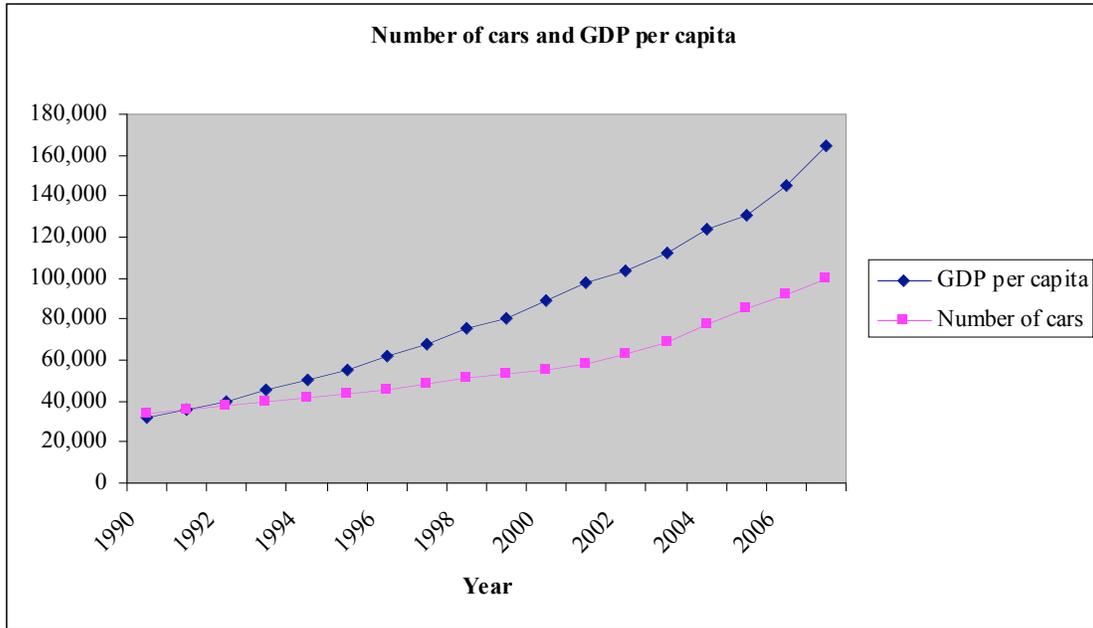


Figure 2.8: Number of cars and GDP per capita

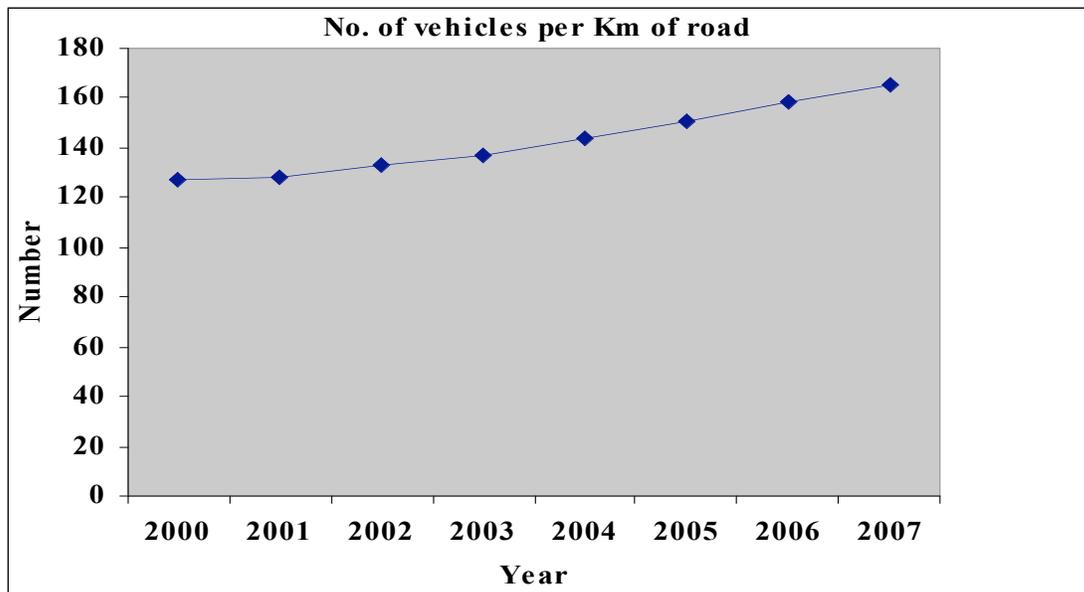


Figure 2.9: Number of vehicles per km of road

Figure 2.10 shows the increase in number of private cars per 1000 households from 1990 to 2006.

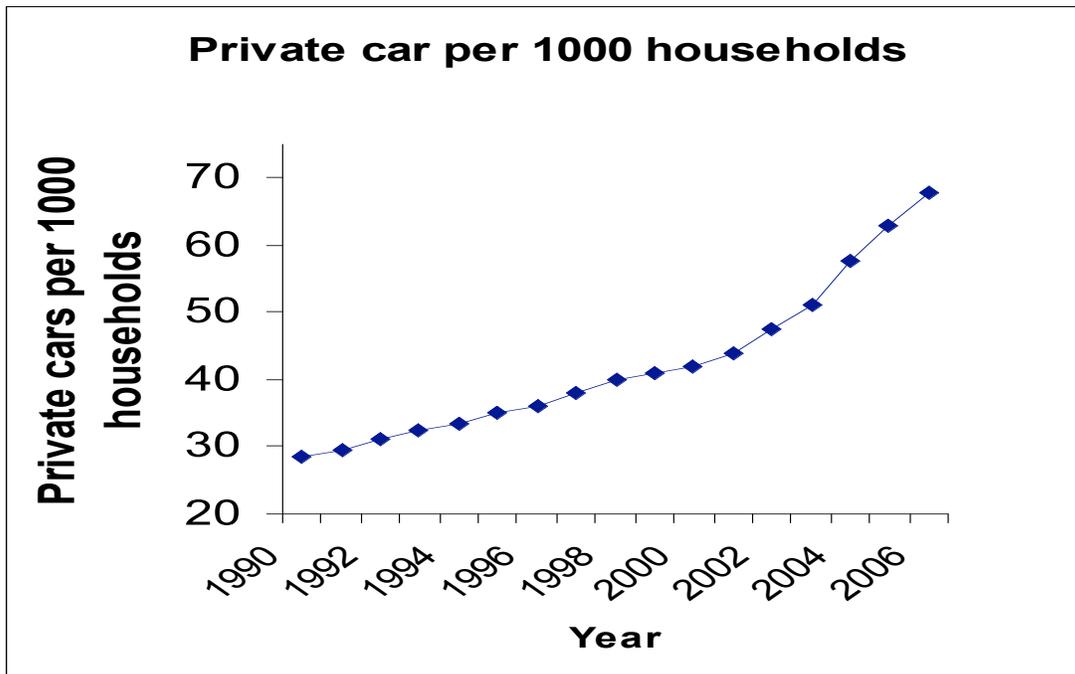


Figure 2.10: Private car per 1000 households

### 2.1.10 Land use and Buildings

From 1996 to 2007, the population density increased from 560 to 620 per km<sup>2</sup>. Mauritius has one of the highest population density in the world, and is expected to rise by nearly a further quarter before leveling off in the middle of this century. This, together, with rising living standards, will put increasing pressure on the finite land space available. Housing and infrastructure development, new investment sectors, sugar sector reforms and tourism/IRS developments are bringing profound modifications to our land regime.

From 1995 to 2005, the proportion of land under sugarcane has decreased by 6 %, tobacco plantations has declined by 82 % and forestry by 17 %. Land used for other agricultural activities has increased by 33% while built- up areas has expanded by 28 %.

Of the future demand for land-use development, housing represents the largest single sector requirement. About 1000 ha of residential space are granted each year for development purposes.

Residential, public and commercial buildings account for a large part of material and energy use of the economy. An increasing population coupled with multiple economic activities, including tourism has given rise to a net increase of 28.4% in the number of buildings from 200,626 in 1990 to 257,521 in 2000.

#### **2.1.11 Tourism and IRS Development**

Land-take for tourism is a critical issue in tourism development in Mauritius. With about 906,971 tourists visiting Mauritius in 2007, the actual number of tourists is around 25 000 at a peak period, or about 2% of the population. In 2007, there were about 102 registered hotels in operation with a total room capacity of 10,857. With the new policy of Government to increase the number of tourists arrival to 2 million by 2015, this would imply about 70,000 tourists at any one time or the equivalent of 5% of the resident population.

According to 2000 figures, hotel sites occupy 41.9 kilometres of coastal zones which represent 13% of the total 322 km of coastline (compared to 9% in 1990). In terms of the length of sandy beaches, hotels occupy about 30% of the total.

#### **2.1.12 Food production and consumption**

On average, the total food requirement of the country is estimated at 686,000 tonnes annually, with a local production meeting only 23% of our consumption. The annual domestic demand for food crops ranges from 90,000 to 110,000 tonnes and a large amount of processed food is imported on a regular basis to meet local demands. The value of processed food imported on an annual basis is over Rs 761 millions and our total food import bill is Rs 12 billions per year.

The average annual production of food crop over the last 5 years amounts to 100,000 tonnes which are produced on some 3,500 ha of land (with approximately 2 crop cycles). With the new projection of tourist arrival, the natural increase of the population and introduction of novel crops, it is expected that demand for food crop will increase to 125, 000 tonnes with an additional land area of 1,100 ha.

The total amount of fertilizers and pesticides consumed by the agricultural sector (sugar cane and food crops) in 2006 was 48,109 tonnes and 2,000 tonnes respectively.

Organic farming is presently very limited in Mauritius. Though the market for organic products is currently experiencing rapid growth worldwide with the increasing consumer awareness on safer food and environment-friendly practices, it is still a new concept in Mauritius.

Products from slaughtered and live animals in Republic of Mauritius increased from 45,100 tonnes in 2000 to 54,400 tonnes in 2007. The dependency on imported meat and milk has been increasing over the last 5 years. In 2007, the local meat production was 44,362 tonnes and that of poultry was 40,160 tonnes and met only 6% of our requirement which amounted to 21,800 tonnes. In respect to poultry and egg demand, the country is self sufficient.

### **2.1.13 Ecological Footprint**

The Ecological Footprint (EF) is a widely recognized indicator of human pressure on the environment. The EF of a nation is the amount of land area that would be required to produce the resources it consumes and to absorb the wastes it generates. The EF can be compared with the biologically productive capacity of the land and sea available to that country's population. In 2003, the available bio-capacity was 1.8 global hectares per capita of biologically productive area exists on our planet.

The Ecological Footprint of Mauritius was 1.9 global hectares per person in 2003 compared to 1.5 in 1995, representing an increase of about 25%.

## **2.2 SWOT Analysis**

### **2.2.1 Status of Sustainable Production**

Data about pollution and resource use in industrial companies, as well as industry sector specific data sets are not systematically collected and published in Mauritius. This absence of reliable data obstructs the development of realistic, targeted and effective policies on environmental management in industry and hinders measuring progress towards more sustainable industrial production.

Sustainable production activities are mainly focused on the implementation of environment management systems (ISO 14000) in large companies or Green Globe certification in major hotels. However, action plans and policies remain to be established targeting all key sectors of the Mauritian Economy. As compared to many developing countries, there is no dedicated institution in Mauritius promoting the concept of cleaner production in Industry. There must be greater penetration of cleaner production in industries, particularly in SMEs. Much needs to be done to train experts in identifying and formulating cleaner production investment projects to help in obtaining financing from funding institutions. More advanced sustainable production concepts such as Life Cycle Assessments and Eco-design are not applied. One of the main drivers for sustainable production is effective enforcement – however the latter needs to be strengthened and industry must realise that enforcement will in the medium to long term increase its competitiveness. Important stakeholders such as industry associations, financing institutions need to be more actively involved in cleaner production projects.

The state of Sustainable Production (SP) may thus be described as being slowly in progress but yet having a long way to go before being widely adopted and fully integrated as an everyday practice in all businesses, including SMEs.

### 2.2.2 Status of Sustainable Consumption

It is only recently through the National Environment Policy of 2007 that a policy framework for promoting Sustainable Consumption (SC) at the national level has been devised. Compared to SP, SC is a far less developed and recognized concept. One important explanation for the little attention paid by government to sustainable consumption is that consumption is often perceived as necessary for economic growth. More sustainable consumption is perceived by policy makers in the lowering of economic growth though the benefits resulting in reduced costs to society and sustainability achievement are being missed. Also, since SC is a relatively new concept, consumer activism is still focused on prices, quality and consumer safety. Sustainable consumption still needs to be mainstreamed in consumer organizations activities. Tools to support or promote SC need to be strengthened.

### 2.2.3 SWOT Analysis and Conclusion

**Table 2.1: SWOT Analysis of Consumption and Production Patterns**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Already some on-going SCP type of projects (but which need to be scaled-up).</li> <li>- Increase of energy prices tends to tame consumption patterns.</li> <li>- A number of institutions which deal with innovation or knowledge creation exist (however the potential for SCP is not a priority in their mandate).</li> <li>- Increasing importance of the services sector in the economy which has less environmental impact/GDP output</li> <li>- Media coverage and potential influence on consumers</li> </ul>	<ul style="list-style-type: none"> <li>- Environment continues to be perceived as an « add-on cost » of doing business</li> <li>- Lack of economic incentives to consumers for buying sustainable products</li> <li>- Demand-side management policies in energy and water sector poorly developed.</li> <li>- Energy Efficiency relatively low</li> <li>- Low development of renewable energy sources other than bagasse</li> <li>- Few companies holding environmental certifications. No eco-tourism facility has an environmental certification yet</li> <li>- Poor integration of SCP in EIAs</li> </ul>

	<ul style="list-style-type: none"> <li>- Limited ability of SMEs in industry, hotels and services sector to adopt cleaner production</li> <li>- Lack of demonstration projects/lack of experts in SCP</li> <li>- Limited enforcement capacity</li> <li>- Low level of waste recycling. Limited development of the extended producer responsibility policy.</li> <li>- Increasing use of private cars</li> <li>- Few research on Consumption and Production patterns</li> <li>- Lack of involvement of Consumer Associations/NGOs in SCP</li> <li>- Awareness/Educational campaigns on efficient resources use inadequate</li> <li>- Low level of awareness of public and policy makers on benefits of SCP</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Leapfrogging and avoid repeating the mistakes of developed countries</li> <li>- Integration of SCP into new policies currently being drafted</li> <li>- Introduction of new environmental policy tools (economic instruments, producer responsibility, Corporate Environmental Reporting, etc)</li> <li>- Inflow of environment friendly foreign investment</li> <li>- Sustainable Government practices</li> <li>- Increasing importance of CSR in business</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of political commitment for a SCP programme</li> <li>- Insufficient Capacity Building in SCP</li> <li>- Insufficient Research and Development expenditure on SCP</li> <li>- Lack of integration of SCP in educational curriculum</li> <li>- Lack of institutions supporting the execution of innovative projects in SCP</li> <li>- Increasing environmental pressure by consumers following the westernised model of consumption</li> </ul>

<ul style="list-style-type: none"> <li>- Use of NGOs expertise to promote SCP at local level</li> <li>- Development of a Waste Recycling plan at local levels</li> <li>- Setting up of a Cleaner production Centre</li> <li>- Increase of competition to force modernisation using best available environmentally friendly technologies</li> <li>- Eco-tourism development</li> <li>- Development of the ICT sector and e-government</li> <li>- Development of Sustainable New Cities</li> <li>- Taking advantage of CDM potential for renewable energy development</li> <li>- Job creation through an environment industry that develops around the SCP concept</li> <li>- National and international awareness of impacts of climate change and the food and energy crisis which is mobilizing political efforts to adopt sustainable practices.</li> <li>- Global and national efforts to leverage funding to support sustainable practices like new funding windows like the Adaptation Fund under the Kyoto Protocol and the Climate Investment Fund by the World Bank.</li> </ul>	<ul style="list-style-type: none"> <li>- Weak media contribution to promoting SCP</li> <li>- Insufficient development of the system of environmental policy tools and implementation/enforcement.</li> <li>- Strategies or policies specifically targeting SCP may not develop due to the fact that SCP is not high on the political agenda and that there is a weak inter-sectoral and inter-ministerial coordination.</li> </ul>
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The consumption and production trends presented in section 2.1 shows that the environmental impacts from consumption and production activities have grown over the last two decades and are expected to intensify in the next decades with the same patterns of consumption and production. Current and projected production and consumption

patterns are influenced by a number of driving forces, including rising per capita incomes, demographics and accompanying changes in lifestyles. Technology, institutions and infrastructure also play an important role in influencing consumption and behaviour.

In a nutshell, through a programme on SCP, we will have to answer the following questions:

**Can we devise systems of consumption and production in Mauritius which are less resource intensive, but serve our needs and deliver better quality of life? If so, how can government, private sector and the general public facilitate the necessary transition? What incentive structures and institutional rules could be changed to favour more sustainable lifestyles on our small island?**

## **Chapter III**

# **Strategic Framework and Instruments of Implementation of the SCP Programme**

### **3. Strategic Framework and Instruments of Implementation of the SCP Programme**

#### **3.1 Existing Strategies and Policies**

- The present policies for environmental management are contained in several documents such as the National Environment Policy 2007, the National Environment Strategies 1999 and several sectoral action plans. The National Environment Policy developed by the MOE in 2007 includes section 7.8 which deals specifically with the issue of SCP (See Box 1).
  
- The National Environment Action Plan 1 (NEAP1) was formulated in 1988 focussing largely on developing a policy, legislation and institutional framework for environmental management in Mauritius and implemented with the Environment Investment Programme 1(EIP1: 1988-1998). With the implementation of NES2 formulated in 1999 environmental concerns were integrated into main environment related sectors of national planning and development through a set of policies, strategies and EIPs (National Development Strategy 2003; National Forest Policy; Tourist master Plan; National Biodiversity Strategic Action Plan etc). One of the main output reports of the NES2 is the Second National Environmental Action Plan (NEAP2). In the last part of the NEAP2, a detailed implementation programme, the Second Environment Investment Programme (EIP2), has been developed for the first five years (2000-2005) of the NES2 which consists of an investment and implementation framework that includes project proposals, activities, costs, and responsibilities for 72 projects under 4 major programmes , namely:-
  - I. Overall Management and Coordination Programme (15 projects)
  - II. Resource Management Programme (24 projects)
  - III. Sector Management Programme (14 projects) , and
  - IV. Rodrigues Programme (19 projects)

Presently, 33 projects have been completed; works are on-going for 23 projects while 14 projects are yet to start. The implementation of 2 projects has been cancelled under EIP2. SMEC International PTY LTD (Snowy Mountains Engineering Corporation of Australia) has been appointed by the Ministry of Environment and NDU for the updating of the National Environment Strategies and review of the Implementation of the Second National Environmental Action Plan. A project entitled “**Facilitating Sustainable Environmental Practices**” has been identified as one of the 6 priority Environment Investment Programmes under the updating of the NES.

- The primary legislation encompassing all sectors is the Environment Protection Act 2002, whereby the Department of Environment has been vested with responsibilities for general environmental protection. Environmental management is not centralized and enforcement in environment concerns is handled by many agencies. Mauritius is planning the introduction of industrial waste audit regulations to encourage industries to self-regulate and adopt cleaner technologies, as a precursor to the eventual adoption of ISO 14 000 The Environment Protection Act 2002 as amended in 2008 makes provision to empower the Minister of Environment to make regulations in relation to SCP for:
  - the introduction of eco-labeling schemes for products
  - carrying out cleaner production opportunity assessments in industry
  - the introduction of producer and importer responsibility
- In the EU-Mauritius Country Strategy paper 2008-2013, the priority programmes identified by the Ministry of Environment comprise of three main components with an overall environmental management at capacity building in the environment sector, a resource management programme for developing the ICZM strategy and framework, and a sector programme aiming at reducing the environmental impacts of industry and development of adequate environmental industrial management including the setting up of the National Cleaner Production Centre.

- Promotion of SMEs through a business facilitation programme has been given priority by the government through the Business Facilitation (miscellaneous provisions) Act 2006 and a significant number of SMEs have been established over the last two years.
- The national tourism policy emphasizes low impact, high spending tourism. Selective, up-market, quality tourism is favoured, and although such tourism is not the only type, it constitutes the major segment of our tourists who stay in high class hotels. A Tourism Development Plan was prepared in 2000 whereby an objective of Mauritius acquiring a “Green Destination” status by 2020 was set. This would involve eliminating unsustainable environmental practices throughout the island, in hotels, businesses and the local community. Mauritius is relying on tourism to remain a strong growth pillar of the economy in the medium-term. The target is 2 million tourist arrivals by 2015, through an annual growth rate of 10%. To support this growth, international consultants have been appointed in April 2008 to develop the ‘Tourism Sector Strategy’ over the 2008 -2015 horizon. The strategy will address policy issues, capacity building, marketing brand, quality of service, greater involvement of stakeholders and infrastructure facility.
- An outline of Energy Policy 2007-2025 was prepared in April 2007. The target is that over the next 50 years Mauritius should be able to achieve about 70% self sufficiency in terms of energy supply through a progressive increase in the use of renewable energies. By 2025, renewables would account for about 44% in the electricity sector. Kantor Management Consultants has recently prepared the National Energy Policy for the country and the report is currently going through the approval process. Preparatory work on an Energy Efficiency Bill is ongoing which will look into energy efficiency standards for appliances, buildings, vehicles, etc.

- The need to develop a shared vision for managing water resources in a sustainable manner has been recognized and a National Water Policy is currently under preparation.
- A draft report on Strategic Options for crop diversification and livestock sector for the period 2007-2015 has been prepared by the Ministry of Agro-industry and Fisheries. Sustainable Agriculture policies including Organic agriculture and Good Agricultural Practices (GAP) have been formulated in the report.
- The Multi-Annual Adaptation Strategy- Action Plan 2006-2015: Safeguarding the future through consensus” (MAAS) aims to increase the competitiveness of the Mauritian sugarcane sector. The MAAS foresees among others a concentration of the industry, rightsizing of its labour force and optimizing the use of sugarcane by-products for energy production. The principal measures/intervention areas outlined by the MAAS include (1) improving the cost competitiveness of the sugar milling sector via mill centralization (2) increasing the contribution of the sugarcane cluster to national electricity production with the installation of new power plants in the remaining mills. Electricity will be generated using bagasse, one of the main by-products of sugarcane; the present production of 300 GWh (16% of national electricity output) will be doubled to 600 GWh; and (3) producing 30 million litres of ethanol from molasses in two of the four remaining sugar factories to be used locally for blending with gasoline. This would provide additional revenue to the sugar industry and reduce total gasoline imports.
- Budget 2008-2009: Building Green Mauritius - “Maurice Ile Durable”: In the 2008-2009 budget speech, the Minister of Finance announced the revamping of the National Energy Fund into a Maurice Ile Durable (MID) Fund. The Fund, which will be under the aegis of the Ministry of Public Utilities, will support efforts to protect the environment through recycling, encourage more efficient use of energy and increase the reliance on renewable energy. The Fund will mobilize

resources through taxes, government subsidies, development partners, carbon credits and the private sector, including airlines offsetting their carbon credits.

**Key measures include:**

- *A Wind Energy project at Bigara*
- *New hydro units at Midlands and La Nicoliere*
- *Landfill Gas to Electricity project at Mare Chicose*
- *Optimise the use of bagasse and cane field residues*
- *Setting up of an “Observatoire de l’Energie” and an information campaign*
- *Solar Water heater loan scheme*
- *Reduction of duty on solar water heater and spare parts*
- *Introduction of summer time(pilot project in 2008)*
- *Setting up of a solid waste recycling programme*
- *50% reduction of taxes on hybrid vehicles*
- *Presentation of an “Energy Efficiency Bill”*
- *Increase of Road Tax according to engine capacity*

Paragraph 149 and 150 of the Budget speech 2008/09 also specifies that

- All future government purchases of light bulbs will be of energy saving type
  - All sodium vapour lamps for street lighting will be replaced by energy efficiency lamps over the next 5 years
  - The use of Light Emitting Diode lamps will be explored
- 
- The Enterprise Development Fund available through Enterprise Mauritius is specifically designed to assist qualifying businesses in Mauritius to access external resources and expertise not readily available to them. This support programme aims at overcoming organisational barriers to growth and competitiveness with particular emphasis on developing exports. The scheme supports the engagement of specialised advice and expertise to assist on well-defined mutually agreed priority projects or concepts that lead towards:
    - increased exports

- enhanced business capability
- increased profitability
- improved international competitiveness

The 2008-2009 Budgetary measures in respect of enterprise development and SMEs include the creation of a Manufacturing Adjustment and SME Development Fund, with an initial contribution of Rs 500 million, to help enhance the global competitiveness of Mauritian enterprises.

- Under the new regulations regarding payment of an Environment Protection Fee, hotels, guesthouses and tourist residences need to pay a fee of 0.85% of their monthly turnover to the Mauritius Revenue Authority. Premises used in connection with an enterprise engaged in stone crushing or in the manufacture or processing of aggregates, concrete blocks, pre-cast units, coral sand, rock sand or basalt sand need to pay a fee of 0.75% of their monthly turnover while companies dealing with the assembly and import of mobile phones, vehicle batteries and pneumatic tyres need to pay a fee of Rs 50 per unit imported or assembled locally. Other economic instruments which have been introduced to mobilize financial resources for environmental protection include the Rs 1.15 tax on plastic bags, the 15 cents environment tax on each litre of gasoline and diesel and the increase of the Road Tax according to engine capacity.

**Box 1: National Environment Policy Section 7.8: Strategic Objective on Sustainable Production and Consumption**

**Objective**

Achieve sustainable consumption and production patterns

**National Targets**

- (i) Set up and operationalise the National Cleaner Production Centre in the short term.
- (ii) Reduce significantly material and energy consumption within manufacturing organisations through eco-efficiency tools.
- (iii) Develop and implement market-based instruments to foster energy efficiency and increase the generation of renewable energy.
- (iv) Promote an Environment Industry contributing to the GDP in the short to medium term.
- (v) Ensure that the business sector has regular Environmental Reporting.
- (vi) Introduce a Government Green Procurement Policy.
- (vii) Promote green consumerism.
- (viii) Promote sustainable farming and develop a food security plan.
- (ix) Promote clean and affordable technology

**Strategies and Policy Instruments**

**Government will**

- Develop a 10-year framework of programmes in support of national initiatives to accelerate the shift towards sustainable consumption and production.
- Encourage industry to adopt cleaner production through applying regulations, using economic instruments; providing support measures and obtaining external assistance; encourage financial institutions to incorporate sustainable development considerations in their decision-making processes.
- Consider making Cleaner Production Opportunity Assessments mandatory through regulations.
- Provide consumers as well as producers with incentives to move towards more sustainable consumption patterns and lifestyle choices:
  - Lead by example through green procurement policies that promote the diffusion of environmentally sound goods and services;
  - Provide a consistent policy framework through awareness raising schemes;
  - Encourage community-based debates that question and challenge the sustainability of current production and consumption patterns.
- Strengthen the Enforcement Capacity for industrial pollution control.
- Design information and training programmes to assist SMEs to achieve sustainable production.
- Encourage industries to adopt voluntary policy instruments such as environmental management systems, Codes of Conduct, Certification and public environmental reporting, taking into account such initiatives such as the ISO Standards and the Global Reporting Initiative Guidelines on Sustainability reporting. Introduce an Environmental Reporting Award to give recognition to such companies.
- Develop an aggressive awareness raising campaign on the importance of sustainable production and consumption patterns, targeting among others our youth, through inter alia, education, public and consumer information, advertising and other media.
- Consider the use of Life Cycle Assessments and Product Service Systems tools in policy-making
- Consider the introduction of Eco-labelling schemes and Environmental Product Declarations as consumer information tools.

SCP is a cross-sectoral issue that requires integration between different policy areas. The strategic objective of the SCP Programme is to achieve sustainable consumption and production in the specific conditions of Mauritius as an essential precondition for achieving sustainable development. The SCP programme can either be a dedicated program on its own or viewed as a key component of the NES and NEAP.

*It is recommended to have a dedicated National SCP Programme, as it encompasses economic and social issues besides environment issues. Besides its direct contribution towards promoting resource-efficiency at all levels of production and consumption, the development and implementation of the SCP Programme will also be instrumental in promoting synergies amongst the key development sectors outside the Ministry of Environment and NDU (see Figure 3.1).*

The National SCP programme helps to institutionalise processes for resources allocation, monitoring, consultation, negotiation, mediation and consensus building on priority issues where interests may differ. By its cross-cutting nature, SCP have a major part to play in achieving a number of the national objectives adopted in different policy areas: economic objectives including job creation, environmental quality objectives, public health objectives, business sector objectives, energy and water savings and poverty reduction objectives.

## Integrating with existing national level strategies

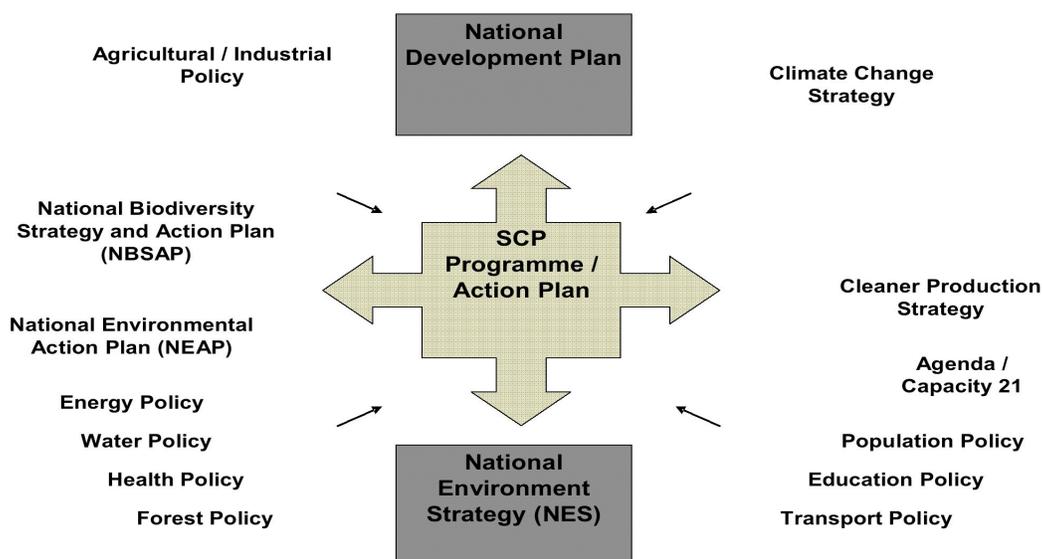


Figure 3.1: SCP Programme/ Action Plan creating synergies with other strategies

### 3.3 Instruments of the Implementation of the Programme

**Normative Instruments** (Obligations, limits, standards, prohibitions) such as requirements concerning appliances, building regulations, prohibition of import of unsustainable products or reduction of consumption and production of hazardous products. The normative instruments of SCP programmes should be simple, specific, comprehensible, practicable and enforceable.

**Economic Instruments** (taxes, fees, penalties, subsidies) stimulate sustainable practices and the import of sustainable products as well as the innovation of production processes and sound consumption. For example, reduced VAT on efficient appliances and vehicles is a marketing tool in many countries to influence consumer purchasers.

**Informative Instruments** are a prerequisite for the functioning of numerous other instruments, such as education and training. Information regarding the impacts of

products must be provided through eco-labelling, environment product declarations or consumer information campaigns

**Education and Training** is a long term instrument for the shaping of attitudes and value preferences of the society. Both the consumer and producer should be aware of the impacts of their behaviour that does not correspond with the principles of sustainable development and with SCP. It is necessary to ensure that all individuals, and children and youth in particular, are provided with sufficient information regarding sustainable development. This is a continuous, life long process covering the population from pre-school to adults.

**Institutional Instruments** (functions of public administration institutions in the areas of compliance, supervision and elimination of risks) should be effective and coordinated. The consumption of public institutions should serve as an example of sustainable consumption.

**Voluntary Instruments** include activities that business entities and other parties implement on the basis of their free, voluntary decision and that go beyond the framework of regulatory requirements. Examples: Green Procurement, Environment Management Systems, Corporate Sustainability Reporting etc.

## **Chapter IV**

# **Projects within the SCP programme and Action Plans**

#### **4. Projects within the SCP programme and Action Plans**

The SCP programme consists of specific projects in each of the strategic areas as identified during the scoping exercise. These projects are elaborated in the Appendix document: National Programme on Sustainable Consumption and Production for Mauritius, Volume II. The projects have been selected by the working groups on the basis of their cost-effectiveness and for opportunities of synergy and replicability.

As shown in Tables 4.1 to 4.8, the SCP programme encompasses 44 projects, each of which is to be led by the agency with most appropriate direct responsibility of the sector or resource. Priority actions are indicated by assigning a category of “urgent”, “high” or “medium” to the projects, where

- “urgent” indicates that a project should be completed within the first year of the implementation of the SCP programme because it is either essential for other projects or that it is easily implementable so as to make the SCP programme visible at an early stage
- “high” indicates that the project should be completed within the first three years given that the financial and institutional resources are not considered to be limiting factors
- “medium” indicates that a project probably cannot be tackled for at least three years either because the resources required will have to be mobilized initially or the project is not considered a high priority.

An implementation schedule for the projects has been provided in table 4.9 as per their priority.

The cost attributed to each project is only indicative based on the identification of major inputs and the exact costs are likely to alter once detailed project design is undertaken. The main assumptions made for the costing programme are as follows:

- Cost of an International Consultant, including subsistence and one return flight = US\$ 15,000 per month
- Cost of a National Consultant= US\$ 3000 per month
- Cost of an Awareness campaign, including TV spots =Rs 1 million
- Cost of a Training Workshop for 30 participants for 3 days = Rs 150,000
- Cost of Meetings for an Implementation Team, including stakeholder consultations =Rs 100,000

The total financial requirement for this SCP programme is estimated at Rs 35 million over a period of 5 years. This excludes costs associated with sustained awareness campaigns on energy and water efficiency, which is to be met through the contribution of the private sector, and projects where sources of funding are already available (such as the “Maurice Ile Durable” Fund). It also excludes costs associated for the establishment of a dedicated unit at the level of Ministry of Public Utilities for Water Auditing of Government buildings and for the appointment of Environment officers in all local authorities.

**Table 4.1: SCP Programme Component Projects**

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<b>A.</b>	<b>Sustainable Energy Consumption</b>
1	Develop MEPS for Key Household Appliances
2	Phase out Incandescent Lamps
3	Capacity Building of Energy Audit Providers and Promotion of Energy Service Companies
4	Develop MEPS for Industrial Major Energy Consuming Equipment
5	Mandatory Energy Auditing for high energy users
6	Assist SMEs in carrying out Energy Audits
7	Require Public Bodies to purchase only energy efficient lighting systems
8	Increase consumer knowledge about Sustainable Driving and Energy Efficient Vehicles
9	Survey on Vehicular Emissions and Capacity Building on Emission Testing
10	Influence Consumer to transport modal shift and behavioural change
11	Formulation of a Strategic Research Action Plan on Energy
<b>B.</b>	<b>Sustainable Water Consumption</b>
1	Establish Water Efficient Plumbing codes and regulations
2	Mandatory Water Efficiency Audits for high water users
3	Development of Rain Water Harvesting Systems
4	Sustain a National Awareness Campaign on Water Savings
<b>C.</b>	<b>Sustainable Buildings and Construction</b>
1	Develop a Shared Vision
2	Develop Guidelines and a Rating system
3	Amendment of Building Regulations
4	Develop Public and Financial Incentives
5	Launch an Awards Program
6	Initiate Demonstration Projects
7	Develop Curriculum for Industry Professionals and Conduct Training Programs
8	Education and Outreach
9	Research and Development
<b>D.</b>	<b>Integrated Solid Waste Management and Recycling</b>
1	Recycling of Supermarket Wastes with a focus on cardboards and plastics
2	Diversion of Organic Wastes from the Hotel Sector
3	Promotion of Backyard Composting
4	Elaboration of Integrated Waste Management Action Plans in all Local Authorities

- 5 Study on the Economic, Environmental and Social Benefits of Extended Producer Responsibility on certain key products
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**E. Sustainable Public Service Practices**

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- 1 Sustainable Government Procurement Framework
  - 2 Monitoring Energy use and Performance in the public sector & Annual Reporting
  - 3 Water savings in the Public sector
  - 4 Sustainable Paper use in the Public Sector
  - 5 Computer Refurbishment and Reuse
  - 6 Implement Environmental Reporting in Government Departments
- 

**F Improve Market Supply and Demand of Sustainable Products and Services**

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- 1 Development of a National Eco-labelling Framework, with an initial focus on Agricultural and Food products
  - 2 Promotion of Sustainable Products through financial incentives and improving their visibility
  - 3 Capacity Building of Industry in Life Cycle Management and Corporate Sustainability Reporting
- 

**G. Education and Communication for Sustainable Lifestyles**

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- 1 Sustain a National Awareness Campaign on Energy Savings
- 2 Training on YouthXchange
- 3 Develop Locally adapted Education Resource Materials on SCP
- 4 Capacity Building of NGOs on Sustainable Consumption
- 5 Develop an education resource material targeting SMEs on the benefits of resources efficiency
- 6 Launch Awards Programs recognising efforts towards Sustainable Lifestyles.