

# NATIONAL ASSESSMENT REPORT

IN PREPARATION FOR THE INTERNATIONAL  
MEETING ON THE 10 YEAR REVIEW OF  
THE BARBADOS PROGRAMME OF ACTION

## SINGAPORE

*“Beyond Clean & Green, Toward  
Environmental Sustainability”*



Prepared by Singapore's Ministry of the Environment in  
partnership with other Ministries and Agencies  
(<http://www.env.gov.sg>)

January 2004

# CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>3</b>
<b>INTRODUCTION</b>	<b>5</b>
<b>1. SOCIO-ECONOMIC CONTEXT</b>	<b>7</b>
1.1 KEY CHARACTERISTICS	7
1.2 KEY CHALLENGES AND RESPONSES	9
1.2.1 Globalization	9
1.2.2 Urban Development	10
1.2.3 Disaster Management	11
1.2.4 Natural Resource Depletion	12
1.2.5 National Security and Crime	12
1.2.6 Unemployment	13
1.2.7 HIV/AIDS, Malaria and Other Diseases	14
1.2.8 Water and Sanitation	14
<b>2. NATIONAL FRAMEWORK FOR SUSTAINABLE DEVELOPMENT</b>	<b>17</b>
2.1 SINGAPORE GREEN PLAN 2012	17
2.2 SGP 2012 COORDINATING COMMITTEE	20
<b>3. PROGRESS / PROBLEMS IN BPOA IMPLEMENTATION</b>	<b>21</b>
3.1 SECTORAL AREAS	21
3.1.1 Climate Change and Sea-Level Rise	21
3.1.2 Natural and Environmental Disasters	23
3.1.3 Coastal and Marine Resources	26
3.1.4 Land Resources and Terrestrial Biodiversity	26
3.1.5 Energy	28
3.1.6 Management of Waste, Water and Sanitation Services	32
3.1.7 Tourism	35
3.2 CROSS-SECTORAL AREAS	36
3.2.1 Financing and Investment	36
3.2.2 Sustainable Development Capacity Building and Education	36
3.2.3 Regional Cooperation	38
3.2.4 Research and Development	40
<b>4. TRADE AND INVESTMENT FOR SD</b>	<b>41</b>
<b>5. MILLENNIUM DEVELOPMENT GOALS</b>	<b>42</b>
5.1 POVERTY ERADICATION	42
5.2 EDUCATION AND REDUCTION OF CHILD MORTALITY	44
5.2.1 Education	44
5.2.2 Reduction of Child Mortality	44
5.3 GENDER EQUALITY AND EMPOWERMENT OF WOMEN	45
5.4 HIV/AIDS, MALARIA AND OTHER DISEASES	46
5.5 ENVIRONMENTAL SUSTAINABILITY	50
5.6 PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT	51
<b>6. EMERGING CONCERNS AND SPECIAL NEEDS</b>	<b>52</b>
Useful Internet Website Addresses	53

## EXECUTIVE SUMMARY

### Introduction

Singapore has been fortunate in its development aspirations. However, Singapore does share with its AOSIS partners many parallel concerns. These include the need to: (1) restructure our economy to tackle mounting globalization; (2) manage our scarce land area prudently to deal with rising urban development and water catchment demands; (3) manage our limited water resources strategically to ensure sufficient supply in the future; (4) diversify our sources of energy and develop renewable energy capabilities; (5) and finally, institute measures to tackle new threats such as the menace of international terrorism and the spread of new contagious diseases.

Such concerns and constraints faced by Singapore are highlighted in this report. Our Report will also indicate that after having performed well and achieved a “clean and green” living environment, Singapore’s next aim will be to progress from merely maintaining quality environmental performance in the short term to achieving environmental sustainability in the long term. We hope to accomplish this through the Singapore Green Plan 2012, which stresses ongoing innovation in managing Singapore’s limited resources, and vibrant partnerships and co-operations across what we refer to as the 3P sectors (Private, Public and People).

### Socio-Economic Context – Key Characteristics, Challenges and Responses

Singapore, being outside the Pacific Rim of Fire, is spared from natural disasters such as earthquakes and typhoons. The incidence of crime and HIV/AIDS is also relatively low and has had minimal socio-economic impact. However, being a small island city-state, Singapore faces challenges posed by globalization, land scarcity and limited water resources. Singapore’s response to such challenges is to anticipate and ameliorate such problems in advance before they overwhelm the country. Good governance and community participation in addressing major problems will be the key to Singapore’s continued success in managing issues such as globalization and limited water resources.

### National Framework for Sustainable Development

The Singapore Green Plan 2012 is our national blueprint for environmental sustainability for the coming decade. To ensure implementation of the Plan and in keeping with our policy of ensuring community participation as far as possible, a national Coordinating Committee that includes members from the

private sector and civil society has been set up to oversee the development and realization of specific action programmes.

### **Progress and Problems in the Implementation of the BPOA**

Being a small island city-state, Singapore could be highly vulnerable to changes in sea level, water supply problems, uncontrolled urbanization, over reliance on fossil fuel energy, communicable diseases and the new threat of transnational terrorism. To safeguard our citizens and ensure long-term environmental sustainability, Singapore has put in place several strategies and mechanisms. These include measures to cope with the possible effects of sea-level rise, a comprehensive framework for disaster management, and policies to promote energy and water efficiency, waste minimization and nature conservation. In addition, Singapore has also launched a number of capacity-building and training programmes for the purpose of sharing Singapore's experience and expertise with other small island and developing countries.

### **Trade and Investment for Sustainable Development**

In response to the new challenges associated with globalization, Singapore has set up an Economic Review Committee to prepare a blueprint to restructure the economy.

### **Millennium Development Goals**

Recent social and economic statistics indicate that Singapore's ongoing measures to improve poverty, child mortality, control of communicable diseases, education, environmental sustainability and gender equality, have been highly successful. Singapore will continue to ensure that its citizens enjoy a high standard of living.

### **Emerging Concerns and Special Needs**

Similar to most other Small Island Developing States (SIDS), Singapore will have to confront a range of new socio-economic challenges (such as globalization, urbanization and the threat of new diseases) and environment challenges (such as scarcity of land, limited water resources, reliance on fossil fuels and the threat of sea level rise). In addition, the recent threat of transnational terrorism is major concern for Singapore, which is a regional centre for trade and finance, and an international hub for air and sea transport. As Singapore prepares to face such challenges, it looks forward to sharing its experience and cooperating with other SIDS and the wider international community.

## INTRODUCTION

In April 1994, the first UN Global Conference on the Sustainable Development of Small Island Developing States (SIDS) convened in Bridgetown, Barbados. The Conference adopted the Barbados Programme of Action (BPOA), which set forth actions and measures to be taken at national, regional and international levels in support of the sustainable development of SIDS. However, the SIDS continued to encounter many problems and constraints owing to their special geographical circumstances.

In December 2002, the 57<sup>th</sup> Session of the UN General Assembly called for an International Meeting in 2004 for the 10 year review of the BPOA (BPOA+10). BPOA+10 will convene in Mauritius from 30 August to 3 September 2004. As part of the preparatory process for BPOA+10, the UN and the Alliance of Small Island States (AOSIS) have requested all SIDS to provide information on their respective national circumstances on BPOA implementation by using a template provided by the UN SIDS Unit. These national assessment reports would be collated into regional assessments for the Pacific, Caribbean and AIMS (Atlantic, Indian Ocean, Mediterranean and South China Sea) regional AOSIS groups respectively. The three regional assessments would be consolidated into a unified interregional SIDS position ahead of BPOA+10.

Singapore has been fortunate in its development aspirations. Nevertheless, Singapore does share with its AOSIS partners many parallel concerns. These include the need to: (1) restructure our economy to tackle mounting globalization; (2) manage our scarce land area prudently to deal with rising urban development and water catchment demands; (3) manage our limited water resources strategically to ensure sufficient supply in the future; (4) diversify our sources of energy and develop renewable energy capabilities; (5) and finally,

institute measures to tackle new threats such as the menace of transnational terrorism and the spread of new contagious diseases.

Such concerns and constraints faced by Singapore have been highlighted in Singapore's National Assessment Report for BPOA+10. Our Report will also indicate that after having performed well and achieved a "clean and green" living environment, Singapore's next aim will be to progress from merely maintaining quality environmental performance in the short term to achieving environmental sustainability in the long term. We hope to accomplish this through the Singapore Green Plan 2012, which stresses ongoing innovation in managing Singapore's limited resources, and vibrant partnerships and co-operations across what we refer to as the 3P sectors (The Private, Public and People Sectors).

We hope that Singapore's National Assessment Report will serve as a useful and informative supplement to AOSIS' overall assessment of the unique vulnerabilities and challenges faced by all small island countries.

## **1. SOCIO ECONOMIC CONTEXT**

### ***Key characteristics, challenges and responses***

Singapore, being outside the Pacific Rim of Fire, is spared from natural disasters such as earthquakes and typhoons. The incidence of crime and HIV/AIDS is also relatively low and has had minimal socio-economic impact. However, being a small island city-state, Singapore faces challenges posed by globalization, land scarcity and limited water resources. Singapore's response to such challenges is to anticipate and ameliorate such problems in advance before they overwhelm the country. Good governance and community participation in addressing major problems will be the key to Singapore's continued success in managing issues such as globalization and limited water resources.

#### **1.1 KEY CHARACTERISTICS**

##### **1.1.1 Location**

Singapore comprises the main island of Singapore and some 63 smaller offshore islands. Singapore is situated in Southeast Asia, at the intersection of the Straits of Malacca and the South China Sea, approximately 137 kilometers north of the Equator between latitudes 1°09'N and 1°29'N and longitudes 103°36'E and 104°25'E. Singapore's neighbour to the north is Malaysia and its neighbour to the south, east and west is Indonesia. Singapore's location places it in the midst of one of the world's busiest sea and air transit points.

##### **1.1.2 Physical Statistics**

Land area (Total): 685.4 sq km

Land area (Main Island): 604.2 sq km

Coastline length of Main Island: 150.5 km

Distance east to west of Main Island: 42 km

Distance north to south of Main Island: 23 km

### **1.1.3 Population Statistics (2002)**

Total population (including foreigners): 4,171,300

Percentage increase over 2001: 1.0

Resident population: 3,378,300

Percentage increase over 2001: 1.8%

Population distribution by age:

- Resident population below 15 years: 716,000
- Resident population between 15 and 64 years: 2,409,600
- Resident population 65 years and over: 252,700

Population distribution by ethnic categories:

- Chinese: 2,585,300
- Malay: 466,900
- Indian: 272,700
- Others: 53,300

Density (persons per sq km): 6,086

Sex ratio (males per 1,000 females): 993

### **1.1.4 Climate**

Temperature (Mean daily): 26.8°C

Relative humidity (Mean daily): 84.3 %

Rainfall (Mean annual): 2,345 mm

Sunshine hours (Mean daily): 5.60 hours

Singapore experiences two distinct monsoon seasons:

- the wetter Northeast Monsoon from December to March, and
- the drier Southeast Monsoon from June to September.

### **1.1.5 Economy (2002)**

GNI at current market prices (SGD million): 153,677.0

Per capita indigenous GNI at current market prices (SGD): 33,309

GDP at current market prices (SGD million): 155,726.6

GDP at 1995 market prices (SGD million): 160,853.4

Total External Trade (SGD million): 432,213.3

Imports (SGD million): 208,311.9

Exports (SGD million): 223,901.4

Official foreign reserves (SGD billion): 142.7

Balance of payments (overall balance) (SGD million): 2,286.5

Tourist arrivals (persons): 7,566,200

Tourist earnings (SGD million) – 9,157.1

*Additional statistics on Singapore can be obtained from this internet website:*

- *Statistics Singapore: <http://www.singstat.gov.sg>*

## **1.2 KEY CHALLENGES AND RESPONSES**

### **1.2.1 Globalization**

Singapore believes that the key to its future economic survival is to embrace and adapt to globalization rather than to attempt to resist it. Consequently, in 2001, an Economic Review Committee (ERC) was established by the Government to recommend ways to transform Singapore into a leading global city – a hub in the new Asian and global economic networks, and an entrepreneurial and diversified economy. Realizing our vision to become a leading global city would depend on our capacity to meet the challenges posed by globalization. This means that Singapore needs: (1) an entrepreneurial and innovative people seizing global opportunities, (2) responsive and flexible regulations, (3) high standards of corporate governance, and (4) internationally-oriented Singapore companies succeeding in the world arena. The ERC has identified the following six critical areas for change and improvement:

- External Ties
- Competitiveness and Flexibility

- Entrepreneurship and Singapore Companies
- Twin Engines: Manufacturing and Services
- People
- Restructuring

*For more information on the ERC's recommendations and Singapore's other policies to address globalization, please refer to the following internet websites:*

- *Ministry of Trade and Industry: <http://www.mti.gov.sg>*
- *Economic Development Board: <http://www.sedb.com>*
- *International Enterprise Singapore: <http://www.iesingapore.com>*

### **1.2.2 Urban Development**

Singapore is an island city-state. With an area of approximately 685.4 sq km, the foremost challenge for Singapore is the scarcity of land. Land for housing, commercial, industrial, agricultural, recreational and water catchment has to be carefully planned and managed.

Singapore's Urban Redevelopment Authority (URA), the national land use authority, handles every aspect of land use from strategic long-term planning to day-to-day development control. The URA has a comprehensive land use planning system to address land use needs. It draws up the Concept Plan (which is the strategic land use plan that guides Singapore's physical development in the long term) up to 40 to 50 years ahead. The Concept Plan lays out the broad land uses like housing, industries, infrastructure and parks to meet the needs of a larger population in the longer term. By taking a long-term perspective, our plans ensure that developments are carried out in a sustainable manner. The latest Concept Plan was completed in 2001. The broad strategies and long-term directions of the Concept Plan are then translated into the more detailed Master Plan, which prescribes the allowable land use and intensity for individual parcels of land to guide development control. The latest Master Plan was gazetted in December 2003.

*For more information on Singapore's measures to address urbanization, please refer to these internet websites:*

- *Ministry of National Development: <http://www.mnd.gov.sg>*
- *Urban Redevelopment Authority: <http://www.ura.gov.sg>*

### **1.2.3 Disaster Management**

Singapore, being geographically located outside the Pacific Rim of Fire, is spared from natural disasters such as earthquakes, typhoons and volcanic eruptions. The challenges for Singapore's emergency services, however, are in the form of preventing and mitigating potential man-made disasters in a highly urbanized environment.

Singapore's infrastructures include one of the world's busiest airports, the busiest seaport and an extensive network of underground roadways. Land scarcity and high population density has made it necessary to house and locate populations and businesses in high-rise buildings. Mishaps thus have a greater potential to inflict mass casualties and extensive destruction to properties. There is also the threat of disasters that could potentially occur in the chemical and petrochemical industries located at the brink of the city-state. A major accident could have off-site impact on population centres. Recently, the threat of terrorism has added a new dimension to emergency preparedness and response.

The Ministry of Home Affairs (MHA) is the principal authority responsible for civil defence emergency preparation and disaster management in Singapore. Under its command is the Singapore Civil Defence Force (SCDF), which is responsible for planning, coordinating and implementing an assortment of programmes and activities. The SCDF is the leading authority that will coordinate the pre-planning activities and command and control for all mitigating operations for the period of an incident. Some 18 other Ministries and Statutory Boards are also involved in supporting roles.

*For additional information on Singapore's emergency preparation and disaster management initiatives, please refer to these internet websites:*

- *Ministry of Home Affairs: <http://www.mha.gov.sg>*
- *Singapore Civil Defence Force: <http://www.scdf.gov.sg>*

#### **1.2.4 Natural Resource Depletion**

The concept of natural resource depletion, conventionally used in the context of forestry, mining and other comparable activities, is not applicable to Singapore since it is a highly urbanized city-state. Of significance for Singapore, however, are our parks, our roadside greenery, and our Nature Reserves. In spite of Singapore's land shortage, the Government's policy is to maintain these in a healthy state. In 1996, a revitalized Singapore National Parks Board (NParks) was established to create and maintain a pervasive garden environment over the whole island. Today, NParks manages about 1,700 ha of parks, park connectors and open spaces, and 2,839 ha of Nature Reserves.

*For further information on Singapore's management of its parks, nature reserves and other greenery, please refer to the following website:*

- *National Parks Board: <http://www.nparks.gov.sg>*

#### **1.2.5 National Security and Crime**

In the new security environment, Singapore could face a diverse range of new and unconventional threats. To tackle these challenges, Singapore will have to strengthen all five components its Total Defence strategy, which includes: Military Defence, Civil Defence, Economic Defence, Social Defence and Psychological Defence. The Singapore Armed Forces will continue to maintain its conventional capabilities to ensure that the military component of Total Defence remains strong. At the same time, it will work closely with other government organizations to develop an effective defence against new security challenges, especially the non-traditional threats that may arise. In the area of counter-terrorism, Singapore

has put in place various initiatives to guard against domestic terrorist acts since September 11. In addition, we strongly support the international campaign against terrorism, and we have signed on to several international conventions against terrorism.

With regard to crime, Singapore remains one of the safest places in the world. In a worldwide survey in November 2002 conducted by Mercer Human Resource Consultancy, Singapore was jointly ranked the second safest city in the world with Helsinki, Zurich, Geneva and Bern. In November 2003, Singapore's National Crime Prevention Council received the annual award for the best State anti-crime programme from the International Society of Crime Prevention Practitioners. Our National Crime Prevention Council was singled out for its leadership in promoting police-community partnerships.

*For more information on Singapore's Total Defence strategy and other national security policies, please refer to these internet websites:*

- *Ministry of Defence: <http://www.mindef.gov.sg>*
- *Total Defence: <http://www.totaldefence.org.sg>*

*For more information on Singapore's ongoing initiatives to prevent crime, please refer to these websites:*

- *National Crime Prevention Council: <http://www.ncpc.gov.sg>*
- *Singapore Police Force: <http://www.spf.gov.sg>*
- *Ministry of Home Affairs: <http://www.mha.gov.sg>*

### **1.2.6 Unemployment**

As Singapore transits to a knowledge-based economy, it will require highly skilled and productive knowledge workers. Globalization and the growing intensity in business competition among companies and economies will also create more opportunities for the workforce. On the flip side, more acute competition will also require companies to restructure, which would bring about more uncertainty for

workers in holding onto their jobs. Singapore recognizes that these trends will continue into the future, and the only way forward for the workforce is to ensure that it is well prepared to anticipate and deal with these imminent changes. The current unemployment rate in Singapore is approximately 5 per cent.

*For more information on Singapore's measures to maximize the potential of our human capital and ameliorate problems associated with economic restructuring, please refer to these internet websites:*

- *Singapore Workforce Development Agency: <http://www.wda.gov.sg/>*
- *Ministry of Manpower: <http://www.mom.gov.sg>*

### **1.2.7 HIV/AIDS, Malaria, and Other Diseases**

The prevalence of HIV/AIDS is relatively low compared to other major illnesses in Singapore, and to date has had minimal socio-economic impact at the national level. The World Health Organization has declared Singapore as malaria free since 1982. However, the control of other diseases such as SARS, dengue and West Nile Fever poses a challenge for Singapore. As a business/tourism hub in an endemic region for many such diseases, Singapore could be vulnerable to the introduction of new infections through travel and trade, and receptive to outbreaks because of the presence of mosquito vector species. The constraints faced by Singapore in combating such diseases include high cost of public health manpower resources, increasing cross-border movement of people, and high transmission potential in a densely populated urban setting.

Singapore views community participation as the key to the sustained control of such diseases. Hence, public health education and programmes to reach out to the community on preventive measures play a large part in our strategies. One such initiative is the formation of Dengue Prevention Volunteer Groups, made up of residents in neighbourhoods, who are given training by the National Environment Agency (NEA). Once trained, the volunteer groups help to educate their neighbours.

*For additional information on Singapore's personal and public health strategies, please refer to the following internet websites:*

- *Ministry of Health: <http://www.moh.gov.sg>*
- *Health Promotion Board: <http://www.hpb.gov.sg>*
- *National Environment Agency: <http://www.nea.gov.sg>*

### **1.2.8 Water and Sanitation**

Singapore, being a small island State, has to manage its limited water resources prudently to meet increasing demand and to support its industrial, economic and social development. The Public Utilities Board (PUB) is the comprehensive water authority managing Singapore's water supply and sanitation needs.

The PUB's strategy for expanding Singapore's water supply is based on an "addition and multiplication" approach. Addition refers to securing new water sources, which can be through expansion of water catchments for collection of more rainwater or desalination of seawater. Multiplication refers to reclamation of used water which is made possible through advances in membrane technologies. Singapore is able to achieve this multiplication effect through managing, in an integrated manner, our reservoirs, waterworks, rivers, drains, sewerage system and water reclamation plants. Being fully sewered, Singapore is able to collect and treat used water using advanced membrane processes to produce high-grade reclaimed water called NEWater. This closes the water loop for supply and provides sustainability to our water resources.

At the same time, Singapore has always emphasized water conservation and has in place an overall water demand management programme to address demand growth. This includes proper management of the transmission and distribution network to minimize losses. This will help to stretch our limited water resources to the fullest.

*For more information on Singapore's water and sanitation strategies, especially the PUB's "addition and multiplication" approach, please connect to the following internet websites:*

- *Public Utilities Board: <http://www.pub.gov.sg>*
- *NEWater: <http://www.pub.gov.sg/NEWater>*

## **2. NATIONAL FRAMEWORK FOR SUSTAINABLE DEVELOPMENT**

### ***National sustainable development policies and implementation frameworks***

The Singapore Green Plan 2012 is our national blueprint for environmental sustainability for the coming decade. To ensure implementation of the Plan and in keeping with our policy of ensuring community participation as far as possible, a national Coordinating Committee that includes members from the private sector and civil society has been set up to oversee the development and realization of specific action programmes.

#### **2.1 SINGAPORE GREEN PLAN 2012**

In 1992, the Ministry of the Environment unveiled the first Singapore Green Plan (SGP) at the UN Conference on Environment and Development (UNCED), also known as the Earth or Rio Summit. The Singapore Green Plan concentrated on enhancing the country's environmental infrastructure in six key areas, namely: (1) environmental education, (2) resource conservation, (3) nature conservation, (4) clean technologies, (5) environmental technology, and finally (6) environmental noise management. Over time, several milestones set out in the first Singapore Green Plan were achieved.

In 2002, ten years after the original Singapore Green Plan was conceived, the updated version was developed. The new Singapore Green Plan 2012 (SGP 2012) was unveiled internationally at the 2002 World Summit on Sustainable Development (WSSD), which convened in Johannesburg, South Africa. The SGP 2012 is more focused and action-oriented. Its purpose is to ensure Singapore's environmental sustainability by implementing comprehensive measures in the following 8 key areas:

- Clean Water
- Clean Air
- Waste Management
- Conserving Nature
- Public Health
- International Environmental Relations
- Community Partnership
- Innovation

*For a detailed itemization of the main targets in the SGP 2012 for the aforesaid 8 key categories, please refer to the table in the following page.*

*To view and download an electronic version of the complete Singapore Green Plan 2012, please connect to the following internet website:*

- *Singapore Green Plan 2012: <http://www.env.gov.sg/sgp2012/>*

## Main Targets of the Singapore Green Plan 2012

S/N	Area	Target
1	Waste Management	<ul style="list-style-type: none"> <li>i) Raise the overall waste recycling rate from 44% to 60%.</li> <li>ii) Extend the lifespan of Semakau Landfill to 50 years, and strive towards "zero landfill" needs.</li> <li>iii) Reduce the need for new incineration plants, from the current one every 5 – 7 years to one every 10 – 15 years.</li> </ul>
2	Conserving Nature	<ul style="list-style-type: none"> <li>i) Keep nature areas for as long as possible.</li> <li>ii) Verify and update information on indigenous flora and fauna through biodiversity surveys.</li> <li>iii) Put in place new parks and park connectors.</li> <li>iv) Set up a National Biodiversity Reference Centre.</li> </ul>
3	Clean Air	<ul style="list-style-type: none"> <li>i) Strive for the Pollutant Standards Index to be within the 'good' range for 85% of the year, and within the 'moderate' range for the remaining 15%.</li> <li>ii) Meet 60% of Singapore's electricity needs through use of natural gas.</li> <li>iii) Extend use of natural gas in transportation beyond public buses and taxis.</li> <li>iv) Enhance public transportation as an attractive alternative to private cars.</li> </ul>
4	Water Supply	<ul style="list-style-type: none"> <li>i) Increase catchment areas from 50% to 67% of Singapore's land surface.</li> <li>ii) Increase supply of water from non-conventional sources, such as desalination and water reclamation, to at least 25% of Singapore's water demand.</li> <li>iii) Ensure that water quality continues to meet international standards.</li> </ul>
5	Public Health	<ul style="list-style-type: none"> <li>i) Become a leading regional centre in epidemiological surveillance and research on environment-related infectious diseases.</li> <li>ii) Retain low incidence of environment-related infectious diseases.</li> <li>iii) Develop a syndromic reporting system for the early detection of emerging infectious diseases.</li> <li>iv) Take pre-emptive action against international health problems reaching Singapore.</li> </ul>
6	Community Partnership	<ul style="list-style-type: none"> <li>i) Step up public education on environmental protection and nature conservation.</li> <li>ii) Strengthen joint 3-P (public, private and people sector) ownership of environmental concerns.</li> <li>iii) Build stronger 3-P partnerships for environmental protection.</li> </ul>
7	International Collaboration	<ul style="list-style-type: none"> <li>i) Continue to work closely with ASEAN neighbours on common environmental concerns.</li> <li>ii) Increase capacity-building partnerships with developing countries.</li> <li>iii) Intensify collaboration with partners at regional and global levels to tackle environmental challenges.</li> <li>iv) Remain committed to international environmental efforts and obligations under international environment treaties.</li> </ul>
8	Innovation	<ul style="list-style-type: none"> <li>i) Enhance the environmental management industry in Singapore through greater use of technology.</li> <li>ii) Stay at the forefront of innovation and adopt best practices from the world to achieve environmental sustainability.</li> </ul>

## 2.2 COORDINATING COMMITTEE

To ensure that the Singapore Green Plan 2012 is not merely a policy statement but a concerted framework for action, the Ministry of the Environment has set up a national Coordinating Committee (CC) to implement the aims stated in the SGP 2012. The CC is chaired by the Chief Executive Officer of Singapore's National Environment Agency (NEA) and comprises active members from our 3P sectors (Public Sector, Private Sector and People Sector).

The SGP 2012 Coordinating Committee oversees 6 other committees, known as Action Programme Committees. Each Action Programme Committee (APC), also involving 3P representatives, is responsible for the development and realization of action programmes to accomplish the goals stated in the SGP 2012. Hence, there is an APC for Clean Air, Clean Water, Waste Management, Conserving Nature, Public Health and International Environment Relations. These APCs integrate the other two SGP 2012 objectives of 'Innovation' and 'Community Partnership' into the formulation of their respective action programmes.

Taken together, about 113 representatives from Singapore's 3P sectors in the CC and the APCs have come up with 155 action programmes to implement the goals stated in the Singapore Green Plan 2012 over the coming decade.

*For more information on the SGP 2012 Action Programmes, please connect to the following internet website:*

- *SGP 2012 Action Programmes: <http://www.nea.gov.sg/sgp2012aps/>*

*For more information on Singapore's overall environmental sustainability policies and programmes, please refer to the following websites:*

- *Ministry of the Environment: <http://www.env.gov.sg>*
- *National Environment Agency: <http://www.nea.gov.sg>*
- *Public Utilities Board: <http://www.pub.gov.sg>*

### **3. PROGRESS AND PROBLEMS IN THE IMPLEMENTATION OF THE BPOA *Sectoral and Cross-Sectoral Areas***

Being a small island city-state, Singapore could be highly vulnerable to changes in sea level, water supply problems, uncontrolled urbanization, over reliance on fossil fuel energy, communicable diseases and the new threat of transnational terrorism. To safeguard our citizens and ensure long-term environmental sustainability, Singapore has put in place several strategies and mechanisms. These include measures to cope with the possible effects of sea-level rise, a comprehensive framework for disaster management, and policies to promote energy and water efficiency, waste minimization and nature conservation. In addition, Singapore has also launched a number of capacity-building and training programmes for the purpose of sharing Singapore's experience and expertise with other small island and developing countries.

#### **3.1 SECTORAL AREAS**

##### **3.1.1 Climate Change and Sea-Level Rise**

Singapore ratified the United Nations Framework Convention on Climate Change on 29 May 1997. Singapore has been a party to the Montreal Protocol since 1989 and acceded to the London Amendment in 1993, and the Copenhagen and Montreal Amendments in 2000. Singapore being a party to these Multilateral Environmental Agreements indicates its ongoing support for international efforts to mitigate the adverse effects of climate change and sea-level rise.

Being a small island country with low-lying coastal areas, Singapore is especially vulnerable to climate change and sea-level rise. Some of the vulnerabilities and mitigating measures that have been implemented are listed below:

- Water Resources  
Singapore's impounded reservoirs are designed to minimise the risk of seawater infiltration from a rise in sea level.
- Flooding  
Flood prevention and protection initiatives are planned and implemented on an on-going basis.
- Land Use Planning  
In evaluating land-use / development proposals, the Ministry of National Development consults the Drainage Department of the Public Utilities Board to advise on the platform level of the development proposal. This takes into consideration sea-level changes.
- Public Health Impact from Resurgence of Diseases  
The vigorous system to control and manage communicable diseases will continue to be improved and adapted to take into account any adverse development on the disease scene caused by climate change.
- Monitoring and Data Collection  
Singapore's Meteorological Services Department (MSD) has implemented measures to monitor Singapore's long-term climate through routine data collection activities. MSD also monitors trends of climate change and sea level rise including assessments of such changes through reports tabled at international climate foras such as the Inter-Governmental Panel on Climate Change (IPCC).
- Fossil Fuel Energy  
Singapore lacks natural resources. To date, there are no renewable energy sources that Singapore could harness in an economically viable

way to reduce its reliance on fossil fuel. In the absence of alternative energy sources, Singapore has to rely on fossil fuels for primary activities such as power generation and for transportation. However, Singapore's Energy Market Authority (EMA) will continue to look into ways to diversify Singapore's sources of energy. In addition, our National Environment Agency will continue to promote the use of cleaner energy and energy efficient technologies.

### **3.1.2 Natural and Environmental Disasters**

Singapore's Ministry of Home Affairs is the principal policy and directing authority responsible for civil emergency preparedness and disaster management. Under its command is the Singapore Civil Defence Force (SCDF), which is responsible for planning, coordinating and implementing programmes and activities. The SCDF is the leading authority that will coordinate the pre-planning activities, and command and control all mitigating operations during an incident. Some 18 other Ministries and Statutory Boards are also involved in performing supporting roles under Singapore's unified framework of Operation Civil Emergency.

#### Legal Framework

The principal laws supporting Singapore's emergency preparedness and disaster management activities are:

- The Civil Defence Act 1986 – This Act provides the legal framework for, amongst other things, the declaration of a state of emergency and the mobilization and deployment of operationally ready national service rescuers.
- Fire Safety Act 1993 – This Act provides the legal framework to necessitate fire safety requirements on commercial and industrial premises, as well as the involvement of the management / owners of such premises in emergency preparedness against fires.

- Civil Defence Shelter Act 1997 – This Act provides the legal framework for buildings to be provided with civil defence shelters for use by persons needing to take refuge therein during a state of emergency.

### Incident Management System

The Singapore Civil Defence Force has developed its capabilities on the need to react to a number of major incidents at the same time. The major scenarios that have been identified include the following:

- Oil refinery fires and major industrial accident and explosions
- Mass Rapid Transit incidents, involving underground and overhead trains and cable-ways
- Maritime incidents in the port area
- Chemical related incidents involving hazardous materials
- Air Crash Incidents, both in populated and airport areas
- High-rise building fire incidents
- Building collapse incidents

### Special Capability

The Disaster Assistance and Rescue Team (DART) is a specially trained SCDF unit that can undertake high-risk fire fighting and rescue operations. This includes deep penetration, rescue in confined space, collapsed buildings and height rescue, and life detection for wide area searches. DART is also the main component in the SCDF overseas contingent and is capable of rapid dispatch for urban search and rescue missions within the region.

Hazardous Material Incident (HIT) Teams are also strategically located in four Singapore fire stations. HIT Teams are trained and equipped to handle hazardous material (HAZMAT) incidents throughout Singapore.

### Public Warning and Protection

Another significant role of the SCDF is to provide early warning and adequate protection to the population in times of national emergency. The SCDF has in place a Public Warning System (PWS) with an island-wide network of more than 240 outdoor sirens mounted strategically on high-rise buildings. The PWS will be utilized in the event of disaster to alert the affected communities to tune in to local broadcasting stations for important messages and actions to be taken.

With respect to public protection, the Civil Defence Shelter Programme has been implemented to construct hardened shelters in Singapore's Mass Rapid Transit underground train stations and new apartment buildings. Since 1997, all new residential developments in Singapore must include apartment shelters. This is an important milestone in our emergency preparedness and readiness.

### International Collaboration and Overseas Rescue

Singapore has an exchange programme with a number of countries from the Asia-Pacific region and Europe. The various emergency authorities in Singapore, especially the Ministry of Home Affairs, the Singapore Civil Defence Force and the Singapore Police Force meet their respective foreign counterparts from time to time to exchange views and experiences on emergency preparedness.

Singapore's SCDF assisted the Philippines in the Baguio Earthquake rescue operation in 1990 and assisted Malaysia in the rescue operation following the collapse of the Highland Towers in 1993. More recently, in 1999, the SCDF Overseas Rescue Contingent assisted Taiwan in the Taiwan 921 Earthquake rescue effort. The SCDF's Overseas Rescue Contingent is listed with the United Nations International Search and Rescue Advisory Group Register (INSARAG) as an international Search and Rescue Team. Since April 1999, the SCDF also registered two of its disaster management experts to be a part of the UN Disaster Assessment and Coordination Team (UNDAC).

*For additional information on the Singapore's emergency preparedness and the capabilities of the Singapore Civil Defence Force, please refer to the following internet websites:*

- *Singapore Civil Defence Force: <http://www.scdf.gov.sg>*
- *Emergency Public Information Centre: <http://www.epic.gov.sg/>*

### **3.1.3 Coastal and Marine Resources**

Singapore became a party to the United Nations Convention on the Law of the Sea on 17 November 1994 and the Convention on Biological Diversity (CBD) on 21 December 1995. Measures are in place for developing and implementing integrated coastal zone management plans, including integrating such plans within national development plans. Monitoring programmes for coastal and marine resources have been set-up by several agencies to document and apply this information to decision-making.

Singapore's Agri-Food & Veterinary Authority (AVA) supervises the development of aquaculture, including coastal and open-water aquaculture. As a member of the Southeast Asian Fisheries Development Centre (SEAFDEC), Singapore also hosts the region's Marine Fisheries Research Department (MFRD), which conducts research and training on post-harvest fisheries operations.

*For more information on the AVA and MFRD, please refer to these websites:*

- *MFRD: <http://www.seafdec.org/mfrd/index.html>.*
- *Agri-Food and Veterinary Authority: <http://www.ava.gov.sg>*

### **3.1.4 Land Resources and Terrestrial Biodiversity**

#### Land Use Planning

Singapore's comprehensive land use planning framework described in Section 1.2.2 ensures that land resources are comprehensively planned and utilized in a sustainable manner. In addition, the release of land belonging to the State at

various tenures, e.g. 60 years for industrial use, 99 years for residential and commercial uses, and shorter terms ranging from 5 to 30 years for other sites, provides the flexibility to recycle land for other uses when the tenures are up. As this applies to most of the land in Singapore, this policy will help us meet future needs and facilitate sustainable land use.

The Singapore Green Plan (pages 13-14) called on Singapore to overcome land scarcity by employing innovative ways of maximizing land use. One of our strategies was to incorporate compatible uses in our green spaces. Parks, for instance, were opened up for other compatible uses from horticulture planting to venues for staging outdoor concerts. Moreover, efforts were also taken to ensure that our parks, gardens, roadside greenery and a network of green links formed an integral part of the greening of Singapore. The Park Connectors Network is a long-term project that aims to link up major parks in continuity via an integrated series of green connectors, including jogging and bicycle tracks. In certain areas, these park connectors also function as a green corridor for wildlife. To date, this Park Connectors Network project has made much progress.

Some of the key strategies adopted in the recent Concept Plan 2001 and Master Plan 2003, which will help achieve sustainable development and minimize the impact to the environment include:

- Optimizing land use, e.g. more infill developments rather than developing on greenfield sites;
- Integrating land use and transport planning, e.g. higher density developments around transport nodes;
- Safeguarding land for environmental provisions and incorporating environmental controls in land use planning; and
- Safeguarding enough land for parks and open spaces for recreational uses, including the integration of nature areas in parks, where feasible.

In the formulation of the Concept Plan and Master Plan, the general public is consulted through exhibitions, dialogues, Internet and focus/subject groups. The finalized land use plans and the planning proposals and strategies therein are made available for public viewing and also posted on the Internet for easy reference.

### UNCCD

Singapore acceded to the United Nations Convention to Combat Desertification (UNCCD) on 26 April 1994. Desertification, however, is not a pressing issue for Singapore as our forests and other green areas are used primarily for recreation, conservation, research and educational purposes.

### Terrestrial Biodiversity

Despite Singapore's highly urban setting, nonetheless, it has a high biodiversity, comprising more than 1006 species of fungi, 2697 species of plants, 364 species of birds, 451 species of crabs and shrimps, 935 species of insects, 150 species and other species that have yet to be studied in detail.

*For further information on Singapore's land resources and terrestrial biodiversity management, please refer to the following internet websites:*

- *Urban Redevelopment Authority: <http://www.ura.gov.sg>*
- *Singapore Land Authority: <http://www.sla.gov.sg>*
- *National Parks Board: <http://www.nparks.gov.sg>*

### **3.1.5 Energy**

Singapore is reliant principally on fossil fuels to meet our energy requirements. Recognising the environmental impact of fossil fuel combustion, the Ministry of the Environment formed the National Energy Efficiency Committee (NEEC) in April 2001. The NEEC comprises four sub-committees and an R&D workgroup, and is supported by 3P (Public, Private and People sectors) participation. Its key thrusts are:

- To promote energy conservation through the efficient use of energy in the industrial, building, transportation and consumer sectors.
- To promote the use of cleaner energy sources and renewable energy.
- To promote Singapore as a location for the pilot test bedding of pioneering energy technologies and as the hub for the development and commercialization of clean energy technologies.

Some of Singapore's key initiatives to promote energy efficiency and the use of clean and renewable energy sources are listed below:

- Power Generation

Singapore's Energy Market Authority (EMA) launched the New Electricity Market (NEM) on 1 Jan 2003 to promote a competitive energy market so that the energy industry would remain efficient even as overall capacity grows over time. To remain competitive, the power generation sector has progressively been switching to natural gas (NG) and adopting the more efficient combined cycle generation technology (CCGT). In 2002, about 44% of the electricity was produced using natural gas as a fuel.

- Consumers and Households

The Singapore Environment Council (SEC) and the National Environment Agency (NEA) launched the household appliance energy labeling initiative in April 02. Appliances covered by this voluntary initiative are refrigerators and air-conditioners. In addition, SP Services Ltd, an electricity licensee, conducts various activities that are targeted at educating students and households on energy conservation and efficiency. A permanent exhibition on energy efficiency has also been established at the SP Services Ltd' Electricity Efficiency Centre. NEA, EMA and the SEC also collaborate with the private and people sectors to hold activities at community levels to spread the message of energy conservation.

- Energy Efficiency in Industry

The NEEC has developed an Energy Audit scheme for major industrial consumers of energy, such as oil refineries and petrochemical plants. The scheme was officially launched in July 2002. The voluntary scheme aims to improve the level of energy efficiency of major industrial consumers, whose typical consumption exceeds 10,000TJ annually.

- Energy Efficiency in the Building Sector

Singapore has introduced a number of measures in its building sector to enhance energy efficiency. These measures are listed below:

- The Building and Construction Authority (BCA) has introduced the Energy Efficient Building Award (EEBA) to accord recognition to building owners, architects and engineers who have integrated energy efficiency into the design of the buildings.
- Singapore's public sector is taking the lead in driving energy efficiency efforts for its buildings. The BCA conducts an annual banding exercise of some 444 public sector buildings, which are evaluated based on energy consumption and energy efficiency and ranked into 3 bands.
- Singapore's Housing Development Board has incorporated energy efficiency into the design of public housing.
- Singapore's National Environment Agency is also collaborating with the Ministry of Education on a joint programme to educate schools and junior colleges on energy conservation.
- Finally, the current building envelope and roof Overall Thermal Transfer Value (OTTV) regulation, which was introduced in 1979, will be replaced by the more stringent ETTV (Envelope TTV) regulation in the near future.

- Energy Efficient and Clean Transportation

The NEEC has introduced a Fuel Economy Labelling for passenger cars to raise public awareness of fuel economy in cars and to provide car buyers with the necessary information to make better-informed decisions on energy efficiency when purchasing new cars. In addition, existing road usage quotas and charges are effective in curtailing excessive road usage. Financial incentives have also been introduced to encourage motorists to buy alternative fuel vehicles (i.e. electric, hybrid and NG powered cars). However, by far, the best policy to reduce energy use in the transportation sector is to promote public transportation.

- R&D, Pilot Test-bedding and Development of New Energy Technologies

Solar thermal energy has found some use in hot-water applications in hotels and major food catering facilities. Although Photovoltaic (PV) cells have currently limited usage in Singapore due to the extensive cloud cover, efforts are underway to establish test-bedding opportunities for PV technology in new developments. In addition, efforts to explore other clean and renewable sources of energy are underway. Singapore's Economic Development Board had signed a MOU with DaimlerChrysler to test-bed a fleet of 7 fuel cell cars when the hydrogen-refueling infrastructure, to be developed by BP, is in place. The use of molten carbonate fuel cell power systems in sectors such as hospitals and food and beverage industries is also being explored. Singapore's National Environment Agency (NEA), the National University of Singapore (NUS) and the Nanyang Technological University (NTU) have initiated a few new energy-related projects under a memorandum of understanding for joint research projects.

- Incentives

The Government's Accelerated Depreciation Allowance Scheme aims to persuade owners to replace inefficient equipment with more efficient ones and to install energy saving equipment. The scheme allows companies to

depreciate approved energy efficient equipment or energy-saving devices in one year instead of the usual three. The National Environment Agency has also formed an Innovation for Environmental Sustainability Fund (IES) in late 2001 to encourage and assist Singapore-registered companies to undertake innovative environmental projects that could help to meet the goal of environmental sustainability. It is hoped that projects in renewable energy technologies that can be implemented island-wide through new technological advances will surface through this initiative. Additional information of the IES Fund is provided in Section 3.2.4 (page 36).

*For additional information on Singapore's energy supply and energy efficiency policies, please refer to the following internet websites:*

- *National Energy Efficiency Committee (NEEC): <http://www.neec.gov.sg>*
- *Energy Market Authority (EMA): <http://www.ema.gov.sg>*
- *National Environment Agency: <http://www.nea.gov.sg>*

### **3.1.6 Management of Wastes, Water, and Sanitation Services**

#### Environmental Land Use Planning

Environmental problems can be prevented through proper land use planning and the imposition of appropriate controls. Singapore's National Environment Agency (NEA), therefore, adopts an integrated approach in the planning controls of new developments. This is to ensure that environmental considerations and factors are incorporated at the land use planning, development control and building control stages, so as to minimize pollution and to mitigate pollution impact on surrounding land use. The Urban Redevelopment Authority (URA), which is the land use authority in Singapore, consults NEA on land use planning issues. The Housing & Development Board (HDB), other public developers and private sector developers also consult NEA on the allocation of industrial premises.

#### Water Pollution Control

The following have been adopted by Singapore to control water pollution:

- Providing sewerage infrastructure and solid waste management system to prevent pollution at source;
- Requiring industries to pre-treat their trade effluent before discharge into the sewerage system; and
- Prohibiting industries which use or store large quantities of chemicals to be sited within water catchments.

Such measures have ensured that the water quality of inland and coastal waters in Singapore has remained good.

### Toxic Waste Control

Singapore's Environmental Public Health (Toxic Industrial Waste) Regulations require all toxic industrial wastes collectors to be licensed. Approval is also required to transport toxic industrial wastes that exceed the quantities specified in the Regulations. The major types of toxic industrial wastes include spent oil, waste solvents, spent etchant and chemical wastes. NEA encourages the reuse and recovery of waste chemicals as it would reduce the amount of wastes that require treatment and disposal. Biohazardous wastes from hospitals and polyclinics are segregated and stored in colour-coded plastic bags. The wastes are then put in special containers and collected by licensed companies for disposal in special high temperature incinerators.

Singapore acceded to the Basel Convention on 2 January 1996. The Hazardous Waste (Control of Export, Import and Transit) Act and its Regulations were enacted and came into operation on 16 March 1998. The Act and its Regulations enable Singapore to fulfill the obligations under the Basel Convention. Under the Act and its Regulations, any person who wishes to export, import or transit any hazardous waste listed under the Basel Convention will have to apply for a permit from Singapore's National Environment Agency.

### Resource Conservation

All solid wastes in Singapore are collected daily through a comprehensive refuse collection system. To overcome the constraint of limited land, Singapore has chosen incineration as the primary disposal method to reduce the volume of waste for disposal so as to minimize the land requirement for waste disposal. As a policy, all incinerable wastes must be disposed of at the incineration plants. Energy is recovered from the incineration plants to generate electricity. Scrap metal is also recovered. There is only one landfill for solid waste. It is an offshore landfill and covers an area of 350 ha and has a fill-capacity of 63 million m<sup>3</sup>. Only incineration ash and non-incinerable waste are disposed of at the landfill. Singapore has given new emphasis to waste minimization and recycling as a long-term solution to address waste disposal. In 2000, 40% of the waste generated was recycled. In 2001, the rate has increased to 44% and to 45% in 2002. The target is to increase the recycling rate to 60% by 2012.

### Sanitation

100 per cent of the population in Singapore has access to modern sanitation. Any environmental and economic disruption arising from the development of Singapore comprehensive sewerage reticulation system is minimized through the harnessing of trench-less technology for the extension and upgrading of the sewerage reticulation system. Singapore hosted the first World Toilet Summit in 2001, which resulted in the formation of the World Toilet Organization (based in Singapore). The intention of both the summit and the organization is to focus attention on restroom design, water conservation, cleanliness and other pertinent sanitation issues.

### Freshwater

100 per cent of the population in Singapore has access to piped drinking water supply. The Public Utilities Board (PUB) is Singapore's comprehensive water authority. The PUB is committed to the skilful management of Singapore's water

resources. About half of Singapore's land surface is now used for water catchment. The ratio will increase to two-third with the building of more reservoirs and drains to catch and channel rainfall. Reservoirs in Singapore will also be linked up so as to maximize the yield of the various catchment areas. To ensure sustainability, Singapore is moving increasingly towards non-conventional sources of water to augment its traditional supplies. These include desalination and water reclamation. The PUB is securing 136,000 cubic metres per day of desalinated water by the year 2005. Two water reclamation plants, with a total capacity of 72,000 cubic metres per day, are supplying high-grade reclaimed water, called NEWater, to wafer fabrication plants and other industries. Attesting to PUB's achievement is the Excellence Award presented in 2002 by the National Water Research Institute of the United States of America for Singapore's major contribution in microfiltration.

*For more information on the management of waste, drinking water supply and sanitation services in Singapore, please refer to the following websites:*

- *National Environment Agency: <http://www.nea.gov.sg>*
- *Public Utilities Board: <http://www.pub.gov.sg>.*

### **3.1.7 Tourism**

Singapore's Tourism Board (STB) drives economic growth in one of Singapore's key services sector – tourism. The vision of the Board is to establish Singapore as a leading force in global tourism as well as a unique and attractive destination. With its eight strategic tourism units, the STB hopes to strengthen Singapore's position as a premier business and leisure destination. The STB will revitalize traditional segments such as attractions and shopping, and continue to grow the food and beverage, cruise, events and MICE (Meetings, Incentives, Conventions and Exhibitions) segments. The Board will also actively tap into non-traditional segments such as healthcare and education. The ultimate objective is to create exciting and innovative experiences for our visitor, etching forever in their minds an image of Singapore as a "must-see, must-visit" destination.

With respect to sustainable tourism, the STB hopes to market nature and island attractions and tourism products in and around Singapore as an epicentre of discovery and lifestyle escapism, in particular:

- Nature-based attractions, eg: Butterfly Park, Jurong Bird Park, Night Safari, Underwater World, Zoo, etc.
- Agri-tourism products and attractions, eg: farm visits, tours and activities.
- Eco-tourism products and attractions, eg: walking, biking trails, marine eco-tourism.
- Island attractions, eg: Sentosa, Pulau Ubin, Southern Islands.

*For more information on Singapore's tourism policies and programmes, please connect to the following internet websites:*

- *Visit Singapore: <http://www.visitsingapore.com/>*
- *Singapore Tourism Board: <http://app.stb.com.sg/asp/index.asp>*

## **3.2 CROSS-SECTORAL AREAS**

### **3.2.1 Financing and Investment**

Singapore has a wide range of prudent financial policies, incentives and strategic financing tools to promote inward investments and to encourage a strong and healthy economy. For more information, please refer to the following websites:

- *Economic Development Board: <http://www.sedb.com>*
- *Ministry of Trade and Industry: <http://www.mti.gov.sg>*

### **3.2.2 Sustainable Development Capacity Building and Education**

#### Singapore Environment Institute

The Ministry of the Environment has set up the Singapore Environment Institute (SEI) as a division of the National Environment Agency (NEA) to coordinate and disseminate information on environment training and capacity building efforts in Singapore. Formed in July 2002, SEI's primary objectives are to provide quality

environmental training to enhance the competence of NEA staff, the workforce and the industries, and to promote knowledge transfer with worldwide partners. In this respect, the SEI is keen to explore partnership opportunities with other countries and international organizations.

*Please refer to the following internet website for detailed information on the SEI's mission and environmental capacity building programmes:*

- *Singapore Environment Institute: <http://www.nea.gov.sg/cms/sei/abt.html>*

#### International Capacity Building and Cooperation

Singapore has offered many environment-related courses to various developing countries under bilateral or third country training programmes under the auspices of the Singapore Cooperation Programme. For the small states, Singapore offers technical assistance under the Small Island Developing States Technical Cooperation Programme (SIDSTEC). These courses are an extension of what Singapore has already been doing to promote sustainable development amongst developing countries. Our technical cooperation programmes in the environment field are intended to help developing countries meet the environment challenges of today. Five environment-related training courses of two weeks' duration each had been conducted for the FY 2003: *Developing and Managing a Garden City, Environment Protection and Health Management, Sustainable Development and Environmental Management, Urban Environmental Management* and *Water and Wastewater Management*. These courses were conducted in Singapore, and administered by the Technical Cooperation Directorate of the Foreign Affairs Ministry. So far, 2986 participants from 40 SIDS have attended courses under the aegis of the Singapore Cooperation Programme. Details of the environment courses are available at the following internet website:

- *Singapore Cooperation Programme: <http://www.mfa.gov.sg/scp/>*

#### Sustainable Development in Schools

Students in Singapore schools learn about managing natural resources, pollution prevention, ecological foundations, environmental health and management, and appreciating the natural environment in various subjects. For example, in Social Studies, students are taught sustainable development and the different strategies introduced in Singapore to sustain it. In Geography, students learn the concept of sustainable development when studying the causes and effects of environmental degradation and the various approaches to managing resources. They also learn to evaluate the effectiveness of environmental strategies related to the issue of sustainable growth in the context of different environmental systems.

### **3.2.3 Regional Cooperation**

Singapore's environment-related co-operation within the regional Association of Southeast Asian Nations (ASEAN) can be traced back to the 1977 ASEAN Sub-Regional Environment Programme, which set the framework for such regional co-operation. This cooperative effort was further enhanced when ASEAN charted its Vision 2020 in 1997, which envisioned, among other things, a clean and green ASEAN with fully established mechanisms for sustainable development.

To realise this Vision, ASEAN leaders decided to develop a series of medium-term actions plans with strategies and programmes incorporating measurable targets and outputs. The Hanoi Plan of Action (HPA), adopted in 1998, is the first such medium-term (six-year) action plan.

#### Singapore's Contribution Towards Realizing the ASEAN Vision 2020

In 2000, a set of common strategies and environmental programmes known as the ASEAN Strategic Plan of Action on the Environment (SPAEE) was developed to enhance environmental co-operation enunciated in the Hanoi Plan of Action. Singapore is the chair country for the SPAEE working group focusing on MEAs and environmentally sustainable cities.

ASEAN member States signed the ASEAN Agreement on Transboundary Haze Pollution on 10 June 2002. The Haze Agreement seeks to institutionalize and enhance existing arrangements under the Regional Haze Action Plans and serve as a legal framework to better facilitate regional and international co-operation in addressing this problem. Singapore is among the first six countries to ratify the Haze Agreement, which will come into force on 25 November 2003 (The other parties are Brunei, Malaysia, Myanmar, Thailand and Vietnam).

In addition, Singapore's Meteorological Services Department (MSD) – a division of the National Environment Agency – currently hosts the ASEAN Specialized Meteorological Centre which forewarns the region of an outbreak of land/forest fires, provides an assessment of weather conditions, and monitors the spread of hotspots and smoke haze. Singapore also works with Indonesian agencies to provide assistance in the areas that we have expertise. These include:

- Providing satellite pictures of 'hotspots' and high-resolution satellite pictures of fires showing their locations to Indonesia to facilitate their ground enforcement operations. Provided together with these pictures are co-ordinates of fires detected in Sumatra and Kalimantan. Such information is sent on a daily basis to the Indonesian agencies. Indonesia has found the information helpful towards their investigation and enforcement efforts.
- Setting up PSI air quality monitoring equipment in the Indonesian territories of Jambi and Pontianak.
- Providing equipment such as computers, Global Positioning System (GPS) sets, binoculars and modems.
- Training of Indonesian officials in satellite imagery interpretation and air quality monitoring. In August 2003, the Singapore Environment Institute conducted a 1-week training course on "Geographical Information System and Satellite Information Interpretation" for Indonesian officials from both central and provincial governments.

### **3.2.4 Research and Development (R&D)**

#### Memoranda of Understanding (MOU) with Universities

In June 1991, the Ministry of the Environment signed separate Memoranda of Understanding with the Nanyang Technology University (NTU) and the National University of Singapore (NUS) on joint applied R&D co-operation programmes. On 1st July 2002, the two MOUs were transferred to the Singapore National Environment Agency (NEA). Joint projects under the MOU are in the areas of applied R&D pertaining to engineering and the physical and general environment in Singapore. The projects are of practical importance to NEA and of academic interest to the universities. If a research area is of interest to NEA and the university, the interested staff will form a team for the joint project. Costs and incomes accruing from the programme, if any, are shared between the NEA and the two universities. In addition to the universities, the NEA collaborates with other tertiary institutions to carry out joint research projects.

#### Innovation for Environmental Sustainability (IES) Fund

The IES Fund was set up by the Ministry of the Environment in October 2001 to encourage and assist Singapore-registered companies to undertake innovative environmental projects that could help to meet the objective of environmental sustainability. NEA now administers the IES Fund. It provides assistance through grants to cover a percentage of the qualifying cost of the project, up to a maximum of SGD 2 million for each project.

## 4. TRADE AND INVESTMENT FOR SUSTAINABLE DEVELOPMENT

**In response to the new challenges associated with globalization, Singapore has set up an Economic Review Committee (ERC) to prepare a blueprint to restructure the economy.**

The Economic Review Committee's report has identified appropriate social and economic policies to create a domestic environment that is conducive for innovation and value-creation – crucial conditions that will attract businesses and global talent.

In addition to domestic reform, Singapore is seeking to strengthen our global and regional trade links. This external strategy is essential given that trade is close to three times Singapore's GDP. Singapore supports the multilateral trade liberalization effort through the WTO and believes that free trade agreements (FTAs) can function as building blocks to the multilateral process. To date, Singapore has concluded FTAs with ASEAN, New Zealand, European Free Trade Association, Japan, Australia and the United States.

*Additional information on the Economic Review Committee (ERC) Report and Singapore's FTAs can be obtained from the following internet website:*

- *Ministry of Trade and Industry: <http://www.mti.gov.sg>*

## 5. MILLENIUM DEVELOPMENT GOALS (MDGs)

**Recent social and economic statistics indicate that Singapore's ongoing measures to improve poverty, child mortality, control of communicable diseases, education, environmental sustainability and gender equality, have been highly successful. Singapore will continue to ensure that its citizens enjoy a high standard of living.**

### 5.1 POVERTY ERADICATION

Singapore's policy in helping the lower income group is that individuals and the families should as far as possible be responsible for their well-being. The government and the community will come in to provide assistance for individuals or families who are unable to cope with the present demands be it for a short duration or a longer period. The government's role is to help those who cannot keep pace with the rest of the population by providing a supportive network of resources and services that they can draw upon to become self-reliant.

The government working in partnership with the community and the voluntary sector ensures that there is a range of services available for individuals and families in need of assistance. The Community Development Councils, which are local administrative centres of government, take a lead role in providing financial assistance and delivering other forms of social support. In line with the principle of self reliance, targeted help is given according to individual needs so that there is room for the individual to motivate themselves to move out of the dependency situation with appropriate supportive help. A family-focused approach is adopted for all programmes. The help provided is also holistic in nature. For example, an individual in need of a job is assisted with employment while his immediate needs are taken care off with short-term financial assistance and a whole range of other assistance schemes that will benefit his family as a whole. On his part

the individual must show a sense of personal responsibility by seeking and holding a job and helping his family wean off assistance.

There is a range of services to help lower-income families in Singapore. Some of them are listed below:

- Public Assistance Scheme and the Special Grant, which provide families with a monthly allowance to meet their day-to-day expenses. The Public Assistance Scheme and the Special Grants assist citizens and permanent residents who are unable to work and do not have a means of support.
- The Interim Financial Assistance Scheme (IFAS) is short-term assistance to tide families over a difficult period such as unemployment etc.
- Rent and Utilities Assistance Scheme is a short-term assistance scheme provides for lower-income families staying in rental public apartments to pay the rent and maintenance charges of their apartments. Under the scheme, arrears owed would also be waived.
- Families can also tap the Centre-based Financial Assistance Scheme for Child Care (CFAC) in placing their young child in a childcare programme. The CFAC provides a monthly subsidy to make child care services affordable to children from lower-income families. This would enable them to have access to early childhood development programmes and build a foundation for formal schooling.
- Lower-income families can also have access to affordable medical care and basic educational services. Health care services are subsidized and families can be assisted under Medifund, which is a special scheme to help the needy with their medical costs.

- Subsidies are also given to needy students in the form of full waiver of school fees, subsidized miscellaneous fees, free textbooks as well as bursaries.
- The National Trades Union Congress (NTUC) of Singapore runs a Skills Redevelopment Programme to help workers acquire relevant job skills or upgrade. Lower-income workers and retrenched workers would benefit from such training.

*For more information, please refer to the following internet websites:*

- *Ministry of Community Development and Sports: <http://www.mcds.gov.sg>*
- *National Trades Union Congress: <http://www.ntuc.com.sg>*

## **5.2 EDUCATION AND REDUCTION OF CHILD MORTALITY**

### **5.2.1 Education**

Singapore's literacy rate for 2002 was 93.7 per cent. The percentage of residents with secondary or higher qualifications was 56.1 per cent. Singapore has enacted legislation for Compulsory Primary School Education in National Schools. This is aimed at giving children a common core of knowledge that will provide a strong foundation for further education, and a common educational experience, which will help to build national identity and cohesion. It will ensure that those children who would otherwise miss out on the full benefits of an education in national schools will have an opportunity to do so.

### **5.2.2 Reduction of Child Mortality**

The under-5 mortality rate in Singapore was 4 per 100,000 in 2001. This represents a 50 per cent reduction of under-5 mortality rate since 1990 (when the rate was 8 per 100,000). The commonest causes of death among children under

5 year of age are congenital anomalies, perinatal complications of prematurity, pneumonia, heart diseases, cancers and accidental falls.

The Singapore Childhood Immunization Programme and improved environmental control have played key roles in reducing the mortality from childhood infections. The Childhood Immunization Schedule includes immunization against tetanus, tuberculosis, diphtheria, pertussis, polio, hepatitis B, measles, mumps and rubella. Singapore was declared polio-free in October 2000, a major milestone in the poliomyelitis eradication efforts of the World Health Organization's (WHO) Western Pacific Region, of which Singapore is a member. Improved antenatal and perinatal care – eg. antenatal ultrasounds, genetic counseling and births supervised by trained health care workers – have also contributed to the reduction of the under-5 mortality rate.

Injuries are an important cause of under-5 mortality – and are a leading cause of death among the 5 to 18 year olds. Several organizations are involved in helping to reduce the incidence of injuries. These include the National Safety Council (NSC) which is involved in public education, the Singapore Civil Defence Force (SCDF) which teaches safety drills and the Consumer Association of Singapore (CASE) which is tasked with ensuring the safety of electrical appliances and children's toys.

*For additional information on Singapore's education and child healthcare policies and programmes, please refer to the following internet websites:*

- *Ministry of Education: <http://www.moe.gov.sg>*
- *Ministry of Health: <http://www.moh.gov.sg>*

### **5.3 GENDER EQUALITY AND EMPOWERMENT OF WOMEN**

Singapore is a small island city-state with our people as the only resource. It therefore makes sense for Singapore to develop the potential of all individuals, both women and men, for the advancement of the nation. We base our system

on meritocracy, and everyone, regardless of gender, enjoys full and equal opportunities. Equality is safeguarded under Article 12 (1) of the Singapore Constitution, which reads, “All persons are equal before the law and entitled to equal protection under the law”.

- Women in Science and Technology

Singapore's Masterplan for Information Technology (IT) in Education was launched in 1997 to provide a comprehensive strategy for creating an IT-based teaching and learning environment in every school. Investing in our students, regardless of gender, have facilitated the increasing trend of Singaporean females taking up technical subjects, including IT. More females are also taking up Science and computing subjects in our universities, making up 67 per cent and 32 per cent respectively in 2001. In Singapore's polytechnics, it reached 38 per cent for Computer and Information Science by 2000 and 38.3 per cent in 2002.

*For more information on Singapore policies and programmes to promote gender equality and empower women, please refer to the following internet websites:*

- *Ministry of Community Development and Sports: <http://www.mcads.gov.sg>*
- *Singapore Council of Women's Organizations: <http://www.scwo.org.sg>*

## **5.4 HIV/AIDS, MALARIA AND OTHER DISEASES**

### **5.4.1 HIV/AIDS**

As indicated in Section 1.2.7, the prevalence of HIV/AIDS is relatively low in Singapore compared to other diseases. The control and prevention of HIV/AIDS comes under the central control of the Ministry of Health, with the involvement of other relevant government agencies and community organizations. The National AIDS Control programme comprises the following:

- Public education and education of high risk groups;
- Legislation;

- Immigration and labour policies;
- Protection of the national blood supply through routine screening of blood and blood products;
- Management of the infected;
- Counseling those with high risk of infection;
- Monitoring the disease;
- Training of personnel.

The Ministry of Health is assisted by the AIDS Task Force, an expert advisory committee convened to advise the Ministry on medical and scientific matters relating to AIDS.

#### **5.4.2 Dengue Fever, Malaria and Other Diseases**

The Ministry of Health is responsible for the control of vector-borne diseases in Singapore and works closely with the National Environment Agency (NEA) on the surveillance and control of the vectors.

- Dengue Fever / Dengue Hemorrhagic Fever (DF/DHF)  
In Singapore, the *Aedes aegypti* and *Aedes albopictus* mosquitoes transmit DF/DHF. Close surveillance and control are kept on the *Aedes* mosquito population, particularly in the dengue-sensitive areas. The main focus is on the removal of breeding sources; the use of insecticides is only carried out to control cases or outbreaks, and to reduce high populations of the mosquitoes in certain localities when they arise. As far as possible, structural breeding habitats are re-designed to make them mosquito-proof and permanently eliminate them as breeding habitats.

Multi-disciplinary research studies are also conducted in vector control and surveillance. These include: geographic information systems (GIS) for tracking *Aedes* mosquito distribution, dynamics of vector population in disease outbreaks, molecular tools for the detection of dengue virus types

in the *Aedes* mosquito population, biochemical tools for monitoring insecticide resistance, and routine evaluation of effective, safe insecticides and products for vector control.

Singapore views community participation as the key to the sustained control of dengue fever. Hence, public health education and programmes to reach out to the community on preventive measures play a large part in our strategies.

- Malaria

Singapore has been declared as malaria-free since 1982. However, the National Environment Agency (NEA) continues to maintain an *Anopheles* surveillance program to prevent the re-introduction of malaria. These include the maintenance of anti-malaria drains, regular oiling, residual spraying and monitoring the salinity of coastal water bodies and taking remedial measures to prevent *Anopheles* breeding.

- Other vector-borne diseases

A control and surveillance programme is also in place for other vectors such as rodents, flies and cockroaches to prevent outbreak of diseases associated with these vectors.

#### **5.4.3 SARS and Singapore's Response**

An outbreak of severe acute respiratory distress syndrome (SARS) occurred in Singapore during the period Mar-May 2003 when a total of 238 cases, including 33 deaths, were reported. Majority of the cases were healthcare workers, family members, inpatients and visitors to hospitals and friends/social contacts. The disease was imported into the country by a super-spreader who was infected at Metropole Hotel in Hong Kong in February 2004.

## Singapore's Response

Key measures implemented to control SARS in Singapore were directed at three fronts:

- Prevention and control within hospitals,
- Prevention and control in the community, and
- Prevention of imported and exported cases.

In hospitals and other health care institutions, including nursing homes, strict infection control procedures, twice-daily temperature surveillance of all healthcare workers in every institution and active surveillance for clusters of febrile patients and staff from the same work area, were rigorously carried out. In the community, the key strategy was to detect, isolate and ring-fence all suspected cases and their contacts so as to limit disease transmission. Early identification was carried out through several ways, including identification of all contacts within 24 hours of notification of a case, mandatory home quarantine enforced through the use of electronic picture cameras, and intensive education of healthcare professionals and the public. For the prevention of importation of cases, the risk was minimized through health screening (temperature checks using thermal imaging scanners) of all incoming passengers and crew at air, sea and land checkpoints. All visitors were required to complete a health declaration card for SARS and all travelers who entered Singapore from affected areas were given a health alert notice to explain the symptoms of SARS and how they could get help if they fell ill with suspected SARS. Very stringent steps were taken to minimize the possibility of exporting cases to other countries through rapid containment of outbreaks in Singapore. In addition, mandatory temperature screening of all outgoing travelers were carried out at border checkpoints.

A special arrangement on the exchange of information necessary to conduct contact tracing and quarantine was set up between Malaysia and Singapore. Singapore also initiated a multi-lateral agreement among the 10 member

countries of ASEAN plus China, Japan and Republic of Korea, to share epidemiological information for the purpose of contact tracing and quarantine in relation to possible spread of SARS by travelers in these countries. Singapore was officially removed from the WHO list of SARS-affected countries on 31 May 2003.

*For more information on Singapore's public health policies and initiatives, please refer to the following internet websites:*

- *Ministry of Health: <http://www.moh.gov.sg>*
- *Health Promotion Board: <http://www.hpb.gov.sg>*
- *National Environment Agency: <http://www.nea.gov.sg>*

## **5.5 ENVIRONMENTAL SUSTAINABILITY**

As previously noted in pages 13-14, Singapore has developed the Singapore Green Plan 2012 as our environmental blueprint to help our country achieve environmental sustainability over the next 10 years. The SGP 2012 was unveiled in August 2002 and released at the World Summit on Sustainable Development (WSSD) in Johannesburg. The strategic focus of SGP 2012 is to go beyond short-term environmental performance to achieve long-term environmental sustainability. The vision or theme of the SGP 2012 is "Towards An Enduring Singapore". To meet the challenges over the next 10 years, the SGP 2012 has three key thrusts as follows:

- To ensure the innovative and efficient use of scarce resources;
- To promote the active participation of all sectors of the population to sustain quality living environment; and
- To do our part for the global environment.

*To view and download an electronic version of the complete SGP 2012, please connect to the following internet website:*

- *Singapore Green Plan 2012: <http://www.env.gov.sg/sgp2012/>*

## 5.6 PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT

Singapore recognizes that co-operation and partnerships across the 3P (people, private and public) sectors is crucial to meet sustainability challenges and to build an environmentally sustainable and enduring Singapore for generations to come. The Ministry of the Environment and other Singapore agencies will be engaging the 3P sectors in the development and implementation of action programmes to achieve the SGP 2012 targets over the next 10 years.

In addition, the Singapore Environment Institute (SEI), the leading environmental training and capacity-building coordinating agency in Singapore, participated in the Atlantic, Indian Ocean, Mediterranean and South China Seas SIDS Regional Preparatory Session for BPOA+10 held in Praia, Cape Verde from 1 to 5 Sep 03. The SEI shared with delegation members the institute's commitment to do more for SIDS in partnership with other countries and International Organizations, and hoped that this would serve as a call for reciprocal commitments from agencies such as the United Nations Development Programme (UNDP) to come forward to partner with SEI.

*For more information on Singapore's national, regional and global partnerships for sustainable development, please refer to the following websites:*

- *SGP 2012 Action Programmes: <http://www.nea.gov.sg/sgp2012aps/>*
- *Singapore Cooperation Programme: <http://www.mfa.gov.sg/scp/>*
- *SEI: <http://www.nea.gov.sg/cms/sei/index.html>*
- *PUB Conservation & Education: <http://www.pub.gov.sg/conservation.htm>*

## **6. EMERGING CONCERNS AND SPECIAL NEEDS**

Similar to most other Small Island Developing States (SIDS), Singapore will have to confront a range of new socio-economic challenges (such as globalization, urbanization and the threat of new diseases) and environment challenges (such as scarcity of land, limited water resources, reliance on fossil fuels and the threat of sea level rise). In addition, the recent threat of transnational terrorism is major concern for Singapore, which is a regional centre for trade and finance, and an international hub for air and sea transport. As Singapore prepares to face such challenges, it looks forward to sharing its experience and cooperating with other SIDS and the wider international community.

## USEFUL INTERNET WEBSITE ADDRESSES

### ENVIRONMENT AND BIODIVERSITY

Ministry of the Environment:	<a href="http://www.env.gov.sg">http://www.env.gov.sg</a>
National Environment Agency:	<a href="http://www.nea.gov.sg">http://www.nea.gov.sg</a>
National Parks Board:	<a href="http://www.nparks.gov.sg">http://www.nparks.gov.sg</a>
Public Utilities Board:	<a href="http://www.pub.gov.sg">http://www.pub.gov.sg</a>
PUB Conservation & Education:	<a href="http://www.pub.gov.sg/conservation.htm">http://www.pub.gov.sg/conservation.htm</a>
NEWater:	<a href="http://www.pub.gov.sg/NEWater">http://www.pub.gov.sg/NEWater</a>
Singapore Green Plan 2012:	<a href="http://www.env.gov.sg/sgp2012/">http://www.env.gov.sg/sgp2012/</a>
SGP 2012 Action Programmes:	<a href="http://www.nea.gov.sg/sgp2012aps/">http://www.nea.gov.sg/sgp2012aps/</a>

### INTERNATIONAL COOPERATION

Ministry of Foreign Affairs:	<a href="http://www.mfa.gov.sg">http://www.mfa.gov.sg</a>
Singapore Cooperation Programme:	<a href="http://www.mfa.gov.sg/scp/">http://www.mfa.gov.sg/scp/</a>
Singapore Environment Institute:	<a href="http://www.nea.gov.sg/cms/sei/abt.html">http://www.nea.gov.sg/cms/sei/abt.html</a>

### DEVELOPMENT AND INFRASTRUCTURE

Ministry of National Development:	<a href="http://www.mnd.gov.sg">http://www.mnd.gov.sg</a>
Agriculture and Veterinary Authority:	<a href="http://www.ava.gov.sg">http://www.ava.gov.sg</a>
Urban Redevelopment Authority:	<a href="http://www.ura.gov.sg">http://www.ura.gov.sg</a>
Singapore Land Authority:	<a href="http://www.sla.gov.sg">http://www.sla.gov.sg</a>

### TRADE AND FINANCE

Ministry of Finance:	<a href="http://www.mof.gov.sg">http://www.mof.gov.sg</a>
Ministry of Trade and Industry:	<a href="http://www.mti.gov.sg">http://www.mti.gov.sg</a>
Economic Development Board:	<a href="http://www.sedb.com">http://www.sedb.com</a>
International Enterprise Singapore:	<a href="http://www.iesingapore.com">http://www.iesingapore.com</a>

## ENERGY

Energy Market Authority (EMA):	<a href="http://www.ema.gov.sg">http://www.ema.gov.sg</a>
National Energy Efficiency Committee (NEEC):	<a href="http://www.neec.gov.sg">http://www.neec.gov.sg</a>

## SECURITY AND DISASTER MANAGEMENT

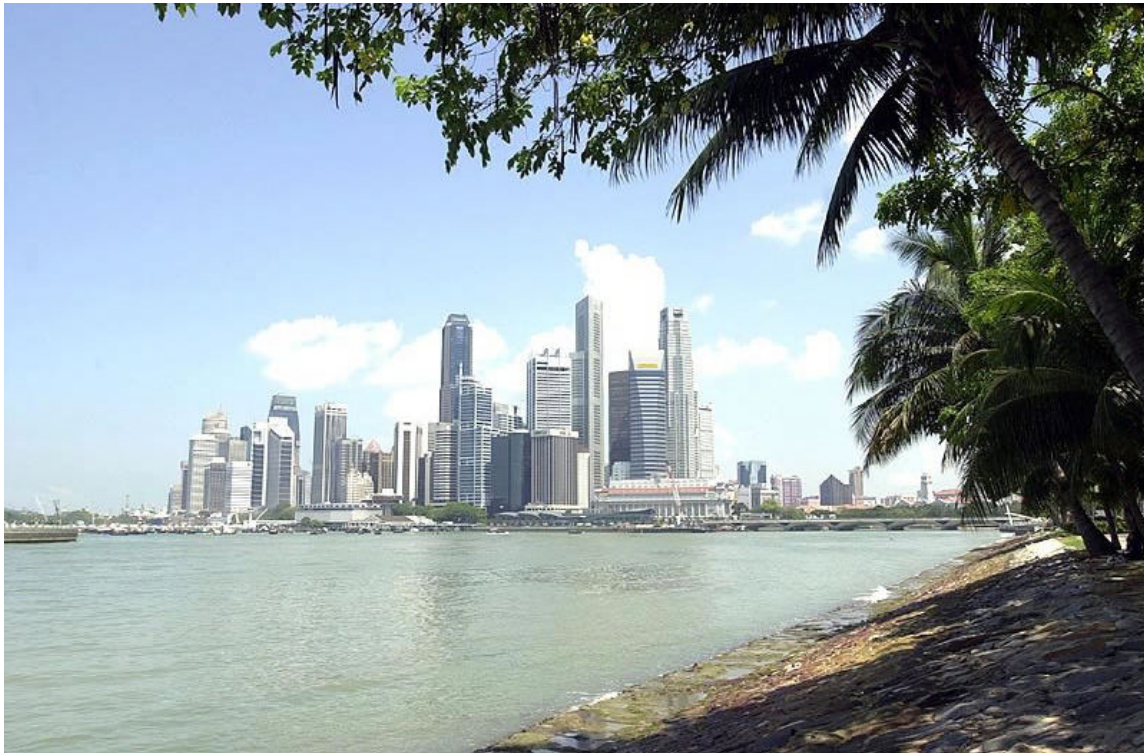
Ministry of Defence:	<a href="http://www.mindef.gov.sg">http://www.mindef.gov.sg</a>
Ministry of Home Affairs:	<a href="http://www.mha.gov.sg">http://www.mha.gov.sg</a>
National Crime Prevention Council:	<a href="http://www.ncpc.gov.sg">http://www.ncpc.gov.sg</a>
Emergency Public Information Centre:	<a href="http://www.epic.gov.sg/">http://www.epic.gov.sg/</a>
Singapore Civil Defence Force:	<a href="http://www.scdf.gov.sg">http://www.scdf.gov.sg</a>
Singapore Police Force:	<a href="http://www.spf.gov.sg">http://www.spf.gov.sg</a>
Total Defence:	<a href="http://www.totaldefence.org.sg">http://www.totaldefence.org.sg</a>

## HEALTH, EDUCATION AND COMMUNITY DEVELOPMENT

Ministry of Community Development and Sports:	<a href="http://www.mcads.gov.sg">http://www.mcads.gov.sg</a>
Ministry of Education:	<a href="http://www.moe.gov.sg">http://www.moe.gov.sg</a>
Ministry of Health:	<a href="http://www.moh.gov.sg">http://www.moh.gov.sg</a>
Ministry of Manpower:	<a href="http://www.mom.gov.sg">http://www.mom.gov.sg</a>
Health Promotion Board:	<a href="http://www.hpb.gov.sg">http://www.hpb.gov.sg</a>
National Trades Union Congress:	<a href="http://www.ntuc.com.sg">http://www.ntuc.com.sg</a>
Singapore Council of Women's Organizations:	<a href="http://www.scwo.org.sg">http://www.scwo.org.sg</a>
Singapore Workforce Development Agency:	<a href="http://www.wda.gov.sg/">http://www.wda.gov.sg/</a>

## OTHERS

Singapore Tourism Board:	<a href="http://app.stb.com.sg/asp/index.asp">http://app.stb.com.sg/asp/index.asp</a>
Statistics Singapore:	<a href="http://www.singstat.gov.sg">http://www.singstat.gov.sg</a>
Visit Singapore:	<a href="http://www.visitsingapore.com/">http://www.visitsingapore.com/</a>



**Skyline of Singapore City**

## **MINISTRY OF THE ENVIRONMENT**

Established in 1972, the mission of Singapore's Ministry of the Environment (ENV) is to provide Singaporeans with a quality living environment and a high standard of public health, protected against the spread of communicable diseases. The Environment Ministry oversees two statutory boards – the National Environment Agency (NEA) and the Public Utilities Board (PUB).

Contact: Ministry of the Environment  
40 Scotts Road  
Environment Building  
Singapore 228231

Tel: (65) 6732 7733

Fax: (65) 6731 9456

Website: <http://www.env.gov.sg>