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1 *The SUSDEV 21 Study*

Background to the Study

The Study on Sustainable Development for the 21st Century in Hong Kong (SUSDEV 21) was commissioned by the Government of the Hong Kong SAR in the Autumn of 1997. The study was conceived in response to the need to take account of environmental and social concerns as well as economic aspects when making decisions about the future of Hong Kong.

This document forms the *Executive Summary* of the Final Report for SUSDEV 21 study, summarising the key findings and recommendations of the main report. Further copies of the *Executive Summary*, other reports and Technical Reports, as well as the Final Report itself, may be downloaded from the Planning Department website (<http://www.info.gov.hk/planning>).



Sustainable Development in Hong Kong

As the HKSAR Government's first formal step towards bringing sustainability considerations into the management of day to day activities in Hong Kong, the SUSDEV 21 study has been primarily concerned with developing a systematic process to enable Hong Kong's decision makers to gain an understanding of the long term implications of strategic development decisions, using a set of forward-looking *sustainability indicators*. As a response to Hong Kong's rapid pace of change, this innovative approach differed from the review or "tracking" approach to using sustainability indicators adopted elsewhere in the world, although as a result of the interest shown in the issue by the community, a list of possible "tracking" indicators for Hong Kong, suggested by members of the public and special interest groups, has been included in the Final Report of the study, for Government to consider.

The study was thus primarily aimed at introducing the concept of sustainability into decision making, rather than towards producing a strategy for sustainable development or Agenda 21 in the SAR, although the extensive work carried out over the course of the study by Bureaux, Departments and the Study Team would certainly contribute to such a process in the future.

Another major goal of the study has been to introduce the idea of sustainability to the general public and to seek their views and ideas as to the important sustainability issues that Hong Kong faces, incorporating them into the process and appropriate tools which will enable Government to take account of the medium and long-term implications of today's decisions. Since these issues and the importance that is attached to them by society will change over time, SUSDEV21 represents a first step in an ongoing process.

Study Outputs

The key outputs of the study were:

- a *definition* of sustainable development which encapsulates the key themes and broad scope of sustainable development as it applies to Hong Kong;
- a series of *guiding principles* and *indicators* representative of the key sustainable development issues in Hong Kong at the current time;
- a *Decision Support Tool* (called the CASET), to assist in evaluating the sustainability implications of strategic policy and project proposals;
- *recommendations for institutional changes* to help Government take better account of sustainable development issues in its decision making; and
- *undertaking public consultation* on the above outputs and *awareness raising* programme of sustainable development issues generally so as to provide the public with a better understanding of the concept.

To achieve these outputs, the SUSDEV 21 has also produced a number of associated reports, including detailed reports on the current environmental and socio-economic conditions and the production of a habitat map for Hong Kong.

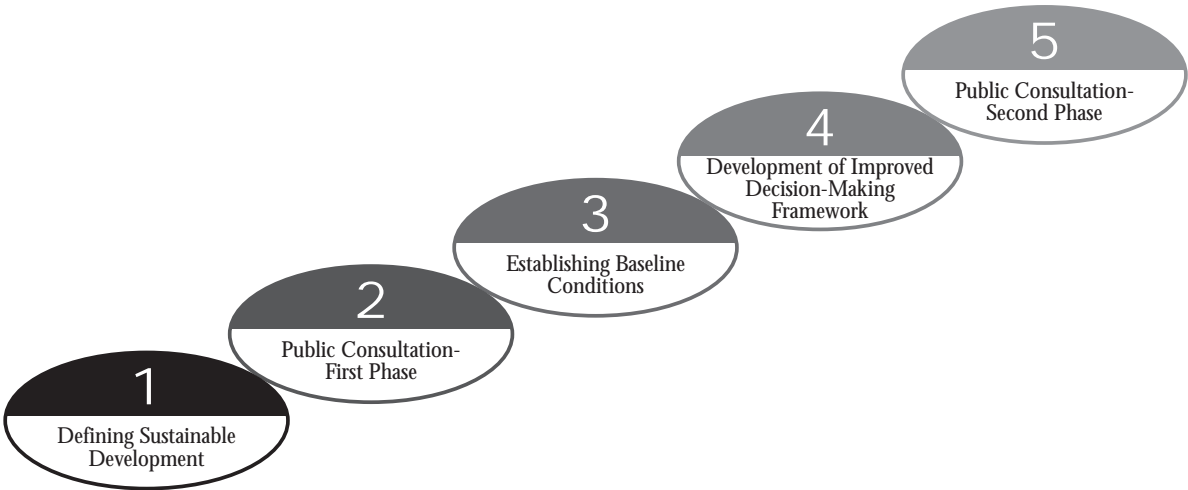
Study Approach

The SUSDEV 21 study has been unique in that it has sought to turn theory of sustainable development into a practical, forward looking process with tools and strong institutional mechanisms to assist with delivery. This approach has provided a number of potential benefits:

- The creation of a single vision and consistent sustainability framework for all those concerned

with land use, economic strategy, project development, policy formulation, environmental strategy and social progress.

- A launch point for Government Bureaux to frame and initiate their own sectoral strategies and long term policies whilst taking into account cross sectoral issues.
- Providing a framework for communicating Government decisions on policies and projects, and thereby reinforcing accountability and gaining public confidence.
- Improved efficiency and effectiveness of Governmental decision making because of greater integration of the approach and the cross-sectoral consideration of issues, resulting in better decisions.
- Flagging up of economic, social and environmental concerns at an early stage (an “early warning” system) in the decision making process.
- Helping to build consensus both within Government and the community on social, economic and environmental priorities and needs, and providing a mechanism for early engagement of stakeholders.



The Importance of Sustainable Development to Hong Kong

The adoption of sustainable development offers a number of potential benefits. In the Hong Kong context, the benefits of increased sustainability include:

- reduced wastage (through energy savings, reducing costs of waste disposal, minimising pollution impacts of wastage) thereby providing economic benefits;
- improved health and reduced economic burden on health care;
- more efficient land use and improved amenity from natural and open areas;
- greater competitive advantage as Hong Kong's regional and international image as a clean, safe and sophisticated world city is enhanced; and
- greater community ownership of quality of life issues.



These benefits cannot be realised through the completion of this study alone, but its outputs during the course of the study and at its completion, in combination with the continued efforts of Government, stakeholders and the community, can help to identify a more sustainable future for Hong Kong.



2 *The International and Regional Context*

The International Context

The term “sustainable development” was first used in a public context in the World Commission for Environment and Development (WCED) report *Our Common Future* in 1987 when it was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The 1992 United Nations Conference for Environment and Development (known as Rio Earth Summit), adopted this definition and to date, over one hundred countries have set up high level commissions or committees to promote sustainable development. Reviews of the international and regional situation were undertaken early in the study programme to provide a context for the work in Hong Kong.



In developing strategies for sustainable development, administrations at all levels have adopted differing approaches and interpretations of the concept to suit specific and local issues, priorities and objectives which may serve to emphasise particular aspects of sustainability (for example environmental or social elements).

There are three broad thrusts of governmental policy response towards sustainable development which can be identified from the review:

- actions to develop and implement long term strategies that take account of the environmental, resource and social implications of continuing the existing pattern of economic growth.
- actions to introduce concepts of sustainable development across government and bring a wider group of stakeholders into the consultation framework.
- actions to develop indicators to monitor progress and set measurable targets.

The distribution of effort across these areas differs significantly across the countries reviewed with Organisation for Economic Co-operation and Development (OECD) countries in particular concentrating more on implementing long term environmental strategies.

These strategies are generating innovation in government processes, in private-public partnerships and in public participation. It is usual practice at the national or city level to set up a high level body to encourage implementation of sustainable development strategies. Typically these bodies have a range of government representatives from environment, health, transport and economic development together with representatives from industry and commerce, non-governmental organisations and higher education.

The Regional Context

A review of development trends and pressures in the Pearl River Delta (PRD) was undertaken, structured around the geographical, administrative and economic boundaries of the PRD as defined by the Guangdong Provincial Government. In relation to Hong Kong's sustainable development the review revealed the following characteristics of the PRD:

- Significant economic linkages between Hong Kong and the PRD, historically due to the relocation of Hong Kong's light industry to the PRD as well high levels of investment from Hong Kong in PRD and an increase in the trading activity between the PRD and Hong Kong. As a result the PRD region has experienced rapid economic growth in this period, shifting from a predominantly agricultural area to a manufacturing one concentrating on textiles, food processing, footwear and electronic assembly activities. Future growth is anticipated in automobile manufacture, petrochemicals and steel in addition to advanced sectors such as biotechnology and information technology.
- Uneven spatial distribution of the PRD's growth levels in recent decades, with the coastal area, benefiting from its well-developed system of waterways and proximity to external markets, notably Hong Kong, and thus enjoying significantly higher levels of development than the mountainous hinterland. Rapid industrialisation in the PRD along with disparities in economic and urban development within the Province has caused large-scale changes in the size and composition of the population and labour force.
- A significant shift away from agriculture, due in part to the loss of one third of the PRD's farmland to urban growth, infrastructure development and serviced or semi-serviced land, with the inner delta seeing the most significant losses.
- A marked increase in transport routes for rail, road and civil aviation over the period of 1980 through to 1996. The predominant mode of passenger movements throughout this period has

been via road based public transport, though air travel has shown the greatest percentage growth during the same time period. Major transport infrastructure developments are being planned or are currently under construction in the PRD.

- A number of cross-boundary issues have a significant impact on Hong Kong's sustainable development including the relocation of manufacturing and services industries, the supply of food and water resources, movement of cross boundary traffic, electricity supply, regional movement of air and water pollution, and transboundary issues related to fisheries resources.

Lessons for Hong Kong's Sustainable Development

International Review

The international review suggested four important lessons for Hong Kong's sustainable development system:

- The first is that there is no existing sustainable development model that Hong Kong can easily adopt. Whilst Hong Kong's sustainable development system can draw on particular international practices, it must take into account the region's own socio-economic conditions, culture and environment.
- Second, achieving sustainable development has to be seen as a process occurring over time and involving all relevant players. It cannot result from a single new policy or plan, nor can it be successfully implemented by the efforts of Government alone.
- Third is the fundamental importance of creating an appropriate institutional framework for achieving sustainable development. To address social, environmental and economic issues requires cross-sectoral working within Government, breaking away from "silo" thinking, as well as extending involvement beyond Government to include business and community interest groups.
- Fourth is the need to recognise that tools or evaluation procedures in themselves cannot give the "answer" to whether a project or policy is sustainable. Thus, the Decision Support Tool is not an end product that will ensure sustainable development but is a means of facilitating it (through establishing a framework and helping the decision maker understand the implications of a project or policy).

Regional Review

The review of development trends in the PRD revealed a number of important implications for sustainable development in Hong Kong. Continuing high economic activity, and diversification in the PRD's economy as well as high interdependency should be economically beneficial for Hong Kong. Hong Kong is expected to be the primary service centre for a larger and more diverse economy.

Improperly managed, this economic opportunity and the potential prosperity it brings, also has negative environmental and social implications, including:

- pressure on the availability and quality of fresh water and food, the majority of which is imported to Hong Kong;
- increasing incidents of poor (and declining) water quality in the Pearl River estuary and inshore waters;
- an increased likelihood of poor air quality episodes caused by industrial and transport emissions in the PRD;
- greater transboundary vehicle movements and increasing intra-regional travel, with attendant environmental problems; and
- social and infrastructure issues associated with accommodating a larger and more diverse population.

3 *The Socio-Economic Baseline*

Hong Kong's comparative socio-economic performance, was assessed against Australia, Japan, the Mainland of China, Malaysia, Singapore, the UK and the USA, countries which represent a mix of key regional rivals, main trading partners and international peers in the field of business and commerce.

Economy

Amongst the comparators noted above, Hong Kong has the fourth most prosperous economy in terms of GDP per capita. On the basis of growth trends, Hong Kong enjoyed one of the highest annual average GDP growth rates from 1965 to 1996, both internationally and regionally, however Hong Kong has struggled to maintain stable and healthy economic growth recently.

Compared with the other comparator economies, Hong Kong's income distribution is the most uneven, with very large differences between the incomes of the wealthiest ten percent and the poorest ten percent. Income inequality (as measured by the Gini coefficient) has increased by around 14% between 1986 and 1996, although over that period all sections of the population have seen their incomes increase. With regard to investment, since 1981 Hong Kong has enjoyed a high and stable annual growth rate of gross domestic fixed investment, although in comparison to comparator countries Hong Kong's performance is in the middle range.



Hong Kong's level of public investment in education is relatively low, with the percentage of GNP spent on education in countries like the UK, the US and Japan being over twice that of Hong Kong. Although Hong Kong's public expenditure on education as a percentage of GDP has increased over the last 15 years by 20%, expenditure per tertiary student as a percentage of GDP per capita decreased over the same period.

Health and Hygiene

The standard of health enjoyed by Hong Kong citizens is amongst the best in the world. Life expectancy at birth in 1998 stood at 77.2 years for males and 82.6 years for females, up 3.8% and 3.4% respectively since 1988. This trend is due to, *inter alia*, improved social conditions, health education, advances in medical science and high quality health care services in Hong Kong. Despite these high standards, public and personal hygiene issues have received particular Government attention through the strengthening of public health programmes and initiatives such as the “Healthy Living Campaign”.

The Government Policy Objective (for public health programmes) seeks to safeguard the health of the community primarily through raising awareness of personal and environmental hygiene. The success of the policies for public health may be inferred in part from the high standards of health in the population at large and the results of ongoing surveys into public satisfaction with the cleanliness of Hong Kong.

Natural Resources

In comparison to the selected international comparators, Hong Kong is one of the most energy efficient economies in terms of energy used per dollar of GDP. However, the average annual growth of commercial energy use of Hong Kong is high in comparison to other international countries, coming third with an annual growth of 6.2% over the period 1980 to 1995, just behind Singapore and Malaysia.

In comparison with other international economies, Hong Kong is also one of the most energy-efficient in terms of carbon dioxide emissions per unit of GDP and per capita. On both counts, Hong Kong came second in 1995 among the international comparators, partly due to its dense urban fabric.

Society and Social Infrastructure

Median rent to income ratio is regarded as a key measurement of housing affordability. United Nations Habitat Indicators Programme (UNHIP, 1993) data suggest that Hong Kong performs well against the comparator countries, partly due to the fact that the majority of tenants live in public housing where affordability is considered when setting rents. However, for the percentage of

permanent structures, an indicator designed to measure the quality and proportion of housing that provides adequate shelter, and floor area per person, Hong Kong performed poorly against international comparators. The Government has been making concerted efforts to decrease inadequate housing, which has reduced from around 25% in 1988 to 9% in 1998. In addition, the average floor area in public housing has increased from 7.1 m² IFA per person in 1993 to 9.7 m² IFA in 1998.

Hong Kong's housing situation is unique in that around half of the population resides in public housing, which is significantly more than its comparator countries. Due to this large dependence, the lead-time required to build the housing and the scarcity of developable land, there is a considerable waiting list for public housing, which stood at 6.5 years in 1998, although this is a considerable improvement upon previous years; in 1990, for example, the waiting time was nine years.

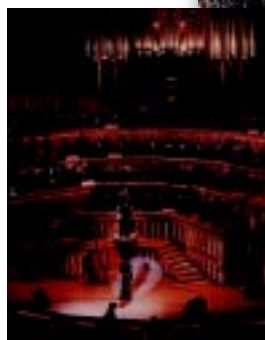
The elderly represent a growing proportion of the population in all the comparator countries. Hong Kong's growth rate for the 65+ year old group is above the average for the comparator countries as the population ages and birth rates decline. This will place pressure on the demand for residential care homes, waiting lists for which has lengthened in recent years.

In the October 1998 policy address, there was a focus on promoting the qualities, skills and sense of belonging of Hong Kong's young people through active roles in the community. The increase in overall participation rates in school-based youth groups, from 40% in the 1990/91 academic year to 45% in 1998/99 denotes the positive performance against this objective. On an international level, Putonghua and English are the two most widely spoken languages, and for Hong Kong to further establish itself as an international business centre it should profit from its proficiency in more than one language, particularly since the number of students obtaining passing grades in both English and Chinese languages at HKCEE level has increased over the last three years.

Leisure and Cultural Vibrancy

Meeting Hong Kong's open space standards is a considerable challenge, in large part as a result of the unusually high population density in Hong Kong. However, the situation will improve over time with over three quarters of the districts meeting district open space requirements by 2006. Interest in cultural, entertainment and sporting events can be measured in Hong Kong by ticket

sales for such events. Although in the past two years there has been a decline in tickets sold, perhaps due to economic factors, there has been a general increase in ticket sales since 1982, indicating an increasing interest by the community, visitors and event organisers in Hong Kong's cultural, entertainment and sporting scene.



Mobility

Compared to almost any other city in the world, Hong Kong exhibits very high levels of public transport use, with 80% of journeys being undertaken through these modes. Given the scarcity of land in Hong Kong, the need to promote energy efficiency and the desire to reduce environmental pollution, this is a positive performance. Of concern, however, is the very high reliance of Hong Kong on diesel vehicles, which account for a much greater proportion of the vehicle fleet (and of total kilometres travelled) than in other cities studied.

Due to the intensive use of highways within a small area of land, Hong Kong has an extremely congested road transportation system. This leads to a high number of vehicles per kilometre of road, and means that the cost of traffic delays is high. However, this high cost is partly a reflection of the high value of time in Hong Kong and, as a percentage of GDP, congestion costs are actually lower than in a selection of Asia's biggest cities studied by the UNDP.

Overview

The review revealed that Hong Kong, from an economic perspective, is performing extremely well, with GDP per capita figures being some of the highest in the world, which is particularly notable given the lack of natural resources and land area in Hong Kong. Hong Kong also performs well in areas such as health, energy efficiency, transport infrastructure, freedom of expression, corruption and crime. In other social areas, however, Hong Kong's performance compares less well, for example, in educational attainment, and the adequacy of housing, although considerable progress has been made in these areas in recent years. Overall, Hong Kong offers its residents a high standard of living, but not as high as might be suggested by simple economic output figures alone.

4 *The Environmental Baseline*

The environmental baseline study has adopted the natural capital stock approach which reflects both the resource input (or “source”) functions and the waste assimilation (or “sink”) functions that our natural environment performs.

The natural capital stock concept has been defined as comprising four primary components; natural resources, ecological resources, assimilative resources capacity and heritage resources, and four secondary components; recreational value, landscape value, existence value and scientific value.

Natural Resources Capital Stock

Land Use and Land Supply

Land suitable for development in Hong Kong is extremely limited and is under pressure from pollution. The current stock of land supply in Hong Kong is not sufficient to sustain current levels of development in the medium and long term and such that for development to continue, alternatives to development of natural areas will need to be identified.

Agriculture and Fisheries

The area of cultivated land in Hong Kong has declined by more than 50% between 1954 and 1996. Agricultural resources are under greatest pressure from development of land. Local marine fisheries production has also declined as has the number of commercially valuable demersal inshore fish species. Key pressures on fisheries resources are intensive fishing pressure combined with infrastructure development and increased marine pollution arising largely from population growth.



Freshwater Resources

Despite a slowing in the growth in demand since 1990, the amount of freshwater required each year in Hong Kong continues to increase, albeit per capita supply is declining. Despite the designation of extensive areas of Hong Kong as water catchments and reservoirs, local sources only meet a quarter of

the total freshwater demand, with the majority of Hong Kong's freshwater (76% in 1998) coming from the Dongjiang River, under an agreement with Mainland authorities.

Waste Arisings and Disposal

Construction and Demolition (C&D) waste and Municipal Solid Waste (MSW) are the two most significant waste streams in Hong Kong; despite some C&D waste being reused in public filling schemes, the remainder along with most MSW is disposed of to landfill. Due to a growing and increasingly affluent population, our production rate of domestic municipal solid waste is steadily growing such that domestic waste arisings are predicted to double 1997 levels by 2015.

Minerals, Aggregates and Energy Resources

Quarry production of aggregates from four sites in Hong Kong is currently around 17 million tonnes per annum (1996) and significant quantities of marine aggregates are also extracted from the seabed in Hong Kong waters. Future land based mining has effectively been prevented by competing land uses and development pressures.

Electricity is mainly supplied from three fossil fuel power stations in Hong Kong; Lamma and Castle Peak which are coal fired and the combined-cycle gas turbines at Black Point. Fuel is imported from throughout South East Asia and Australia. In addition, seventy percent of the electricity produced at the Daya Bay nuclear plant in Guangdong is also imported to Hong Kong.

Town gas is manufactured locally, with LPG being imported by sea.

With a population increasing in both size and sophistication, energy consumption will continue to increase. Nevertheless, efforts to improve the long-term sustainability of energy resources are available and under consideration, such as more efficient utilisation of non-renewable resources (eg cleaner-burning forms of transport, combined-cycle power generation, interconnection of Hong Kong generators), while renewable and alternative energy sources such as solar, wind, wave and landfill gas may also play a niche role in future.

Ecological Resources Capital Stock

Although much of Hong Kong's ecological capital has been degraded in the past few decades, recent studies indicate that a considerable range of biodiversity remains intact. Hong Kong's ecological habitats consist of a wide variety of communities which host a surprisingly diverse array of mammals, birds, amphibians, reptiles, fishes, invertebrates and plants.



These resources are, however, under threat from physical clearance, dredging and reclamation for new development, fishing pressure and increased disturbance from development encroachment.



Wetlands and other lowland habitats are particularly vulnerable to development. The protection to ecological habitats provided by current statutes and designations is not comprehensive and certain specific species and areas of important habitat remain unprotected from development.

Assimilative Capacity Capital Stock

Assimilative Capacity of Marine Waters

As a result of the unparalleled levels of population and economic growth Hong Kong has experienced since the late 1960s, and the heavy reliance on marine waters as the receiving medium for liquid, and some solid, wastes, there has been a progressive deterioration in Hong Kong's marine water quality. Hong Kong marine waters are currently under increasing pressure from local wastewater discharges such that the natural capacity of the marine environment to assimilate waste inputs now appears to be exceeded in some areas such as Deep Bay. However, where pollution control measures have been implemented (eg in Tolo Harbour), improvements in water quality have been registered.

Assimilative Capacity of Freshwater Systems

Water Quality Index data for the last 10 years show that river water quality has sustained a territory-wide improvement, with fewer than 20% of stations recording "Bad" or "Very Bad" water quality in 1998. The alteration and conversion of natural streams to drainage channels has enhanced the natural capacity of freshwaters to assimilate volumes of floodwater and surface drainage, but

channelisation also results in a loss of ecological capital stock since drainage channels cannot be colonised by normal stream assemblages of flora and fauna. Unless channel designs which provide ecological mitigation are adopted as the standard, this process is simply substituting ecological capital stock for assimilative capital stock.

Assimilative Capacity of Air (including Noise)

Longer term trends in air pollutants show increases in annual average concentrations of NO₂, decreases in SO₂, and consistently high levels of particulates with both TSPs and RSPs being close to their respective Air Quality Objectives limits. Rising levels of ozone (along with NO₂), are a cause for increasing concern over the formation of photochemical smog, although additional data is required to establish the long term trend of the background ozone level. Poor air quality at many roadside locations has been attributed to vehicle emissions, and levels of NO₂ and RSPs are particularly high in the urban areas of Hong Kong Island and Kowloon. Much of the particulate pollution in these locations can be attributed to the large stock of diesel vehicles on Hong Kong's roads.

About 1 million people in Hong Kong are exposed to excessive noise, principally as a result of road traffic sources. Whilst planning measures, building design solutions and retrofitting offer a degree of relief, Hong Kong's development densities are such that pedestrians and those living and working in urban areas will continue to be exposed to high levels of noise.

Heritage Functions Capital Stock

The heritage baseline resource has been defined for the study as comprising 67 Declared Monuments, 8 Deemed Monuments, 443 graded historic buildings and structures and a further 184 Sites of Specific Archaeological Interest (SSAI). Only Declared and Deemed Monuments however are afforded legal protection from damage or destruction. Knowledge of the historical resource has been augmented by a recently completed territory wide archaeological survey, and research shows that evidence of human settlement in Hong Kong dates as far back as the Neolithic period - up to 4000 BC.

Whilst Hong Kong's heritage resource has the potential to increase as new sites are discovered and notable buildings and structures are recognised, it is also under significant



threat from new development, particularly in urban areas where older buildings without statutory protection are commonly demolished to make way for new schemes, rather than being incorporated into urban redevelopment programmes. In addition, the areas of highest potential for archaeological resources include coastal sites where the pressure for development is greatest. Rural areas too are under increasing threat from encroaching development, particularly in growth areas such as the new towns, and the lack of development controls on private land is threatening traditional village buildings and other cultural features.

Other Natural Capital Stock Functions

Scientific Value

Areas of scientific value are closely related to areas of ecological importance as well as to areas of important or unique habitat and heritage resources of significance. Thus in addition to constituting a loss in their own right, declining natural, cultural and ecological resources also constrict the avenues of scientific research and discovery.

Existence Values

Existence values are derived from resources and features which are valued by society; natural and ecological resources, environmental quality and heritage resources all carry an existence value, albeit a subjective one dependent upon society's priorities at any one time, which will be reduced when these resources are impacted.

Recreational Functions

Recreational values apply to elements of the natural capital stock which have some value for amenity and education such as open space, Country Parks, beaches and nature reserves. The recreational value of these features is derived from both their quality and extent of the resource, while ironically, simultaneously exerting pressures upon them. The ongoing sustainability of resources which attract or promote



recreational use will depend on sensitive management to balance the demands of recreational users with ecological and conservation values, which in turn, feed back into the quality aspects of the recreational value.

Landscape Functions

Hong Kong has a diverse developed (cityscape) and undeveloped landscape by virtue of its geological, topological, ecological, climatic and anthropogenic influences. There is currently no comprehensive system of protection for important landscapes in Hong Kong, and impacts from sporadic, unchecked or visually inappropriate development are therefore a continuing threat to landscape value. Whilst the intrinsic value of the urban landscape is particularly subjective, the landscape setting of the metropolitan area of Hong Kong is important to both visitors and residents of the city.

Key Sustainability Implications

Pollution levels in Hong Kong are placing a significant stress on present conditions. This places an increasing burden upon the ability of Hong Kong's environment, our "natural capital" to maintain itself and continue to absorb and neutralise pollution from human activities. The sustainability issues this raises are not just local, but regional and global in relevance. This is particularly the case for air quality in Hong Kong, which in recent years has been increasingly influenced by cross-boundary pollution. Internationally, it is reflected in Hong Kong's contribution to international phenomena such as global warming and climate change. Threats to globally endangered species, and marine pollution similarly reflect the international importance of these issues.

Achieving an holistic approach to the environmental implications of our present and future activities will require major change in attitude and actions from Government, business and industry, and critically, among the public. To avert continued environmental decline, future development must embrace concepts of resource efficiency, social equity, environmental protection and restoration and the recognition of limits to growth.

Changes in the institutional sector must build upon current efforts to promote more sustainable approaches to development throughout the PRD region. Strategic partnering rather than piecemeal measures by separate parties is needed throughout the region. The level of effort, and the political will necessary for such changes should not be underestimated - nothing short of a long term strategy on regional resource management will deliver the necessary results given the complex socio-economic relationship between Hong Kong and the Southern Mainland.

The key response to the current condition of the natural capital stock in Hong Kong thus lies in the development of holistic and integrated policies and strategies to address the pressures acting upon

the environment. In particular, whilst acknowledging recent progress by the Government Departments and Bureaux concerned, the sectors of conservation, transport and energy were identified as lacking explicit and comprehensive policies. These areas should receive priority in the production of an integrated framework to facilitate sustainable development.

Community education, to bring about changes in individuals' expectations and lifestyles must parallel these efforts, so that the need for such policies and strategies is understood, and that the changes they will bring are supported and encouraged by Hong Kong's present, and future, custodians.

5 *The Sustainable Development System*

Introduction

The Sustainable Development System (SDS) is a combination of a means to address and evaluate the implications of sustainability for future strategic decision making (the decision support tool), and a series of institutional recommendations to facilitate the use and implementation of these tools within the governmental decision making process.

Devising the SDS involved establishing a *definition* for sustainable development for Hong Kong, providing more detail through developing *guiding principles* and then focusing upon their key aspects using *indicators*.

The Definition of Sustainable Development For Hong Kong

The idea of sustainable development was first formally discussed in 1972 at the UN Conference on the Human Environment in Stockholm.

This conference brought the world's industrialised and developing nations together to define the rights people could expect in regard to a healthy and productive environment. Since this time a great deal of effort has gone into defining what sustainable development means, and hundreds of definitions covering a spectrum of international, regional, local and sectoral



applications have been developed. Nevertheless, one of the most enduring is the Brundtland definition, developed in 1987 by the World Commission on Environment and Development (WCED). It reads:

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Implicit in any definition of sustainable development are the concepts of long term viability and preservation of quality. In Hong Kong, the approach to developing a definition involved a review of the relevant findings from the international, regional and local studies, including various definitions of sustainable development used internationally and locally. It was particularly important to reflect the distinctive economic, social and environmental influences on sustainable development in Hong Kong to set the specific local context for the study.

Since sustainable development was also a relatively new concept in Hong Kong at the beginning of the study, it was considered important that the definition clearly set out the aims of sustainable development. After several iterations involving inputs from public consultation and discussion with Government a “final” 43 word comprehensive version of a definition was produced (presented in Box 5a)

Box 5a The Final Definition of Sustainable Development for SUSDEV 21

Sustainable Development in Hong Kong balances social, economic, environmental and resource needs, both for present and future generations, simultaneously achieving a vibrant economy, social progress and a high quality environment, locally, nationally and internationally, through the efforts of the community and the Government.

The definition is an over-arching statement setting out the key elements of sustainable development and forms an outline of the type of future Hong Kong is aspiring to. It is an overall “mission statement” for the study. However, the means of developing a “bridge” between the largely conceptual definition and the application of sustainable development to day-to-day working decisions has been achieved using guiding principles and indicators.

Guiding Principles

Guiding principles were developed to translate the definition into more expansive, but readily understood phrases, summarising the issues that represent sustainability in Hong Kong. The guiding principles were developed in a structured way which brought together the local and international expertise in the study team. The exercise was initiated by international, regional and local research, reference to the key issues from the socio-economic and environmental baseline and internal

discussions. This work identified initial parameters and scoped out potentially relevant principles which were then presented for public consultation. The development of the principles therefore draws upon the wide range of issues for sustainability obtained from the first stage public consultation programme.

Stakeholders in Hong Kong clearly have a wide range of values and principles. Many of these will also fall naturally outside the scope of SUSDEV 21⁽¹⁾, which aims to enhance Government decision making with regard to policies and projects. Therefore, the guiding principles have been specifically chosen to focus on those impacts which are commonly addressed in Government decision making.

Guiding principles for the study were developed in eight key areas of sustainability across the sectors of economy, society and environment and the final version of the guiding principles are presented in Box 5b.

⁽¹⁾ Issues such as democracy, freedom of speech, human rights, citizenship etc are valid sustainable development principles. They have been excluded from the guiding principles and indicators for SUSDEV 21 due to the difficulty of their objective measurement (subjectivity), since they are unlikely to be regularly addressed in CASET, and because it is considered that they may be more appropriately discussed by institutions with a specific mandate (eg LegCo).

Box 5b The Final SUSDEV 21 Guiding Principles

<i>Economy</i>	Hong Kong should achieve a competitive and prosperous market-based economy which provides the resources to meet the needs and aspirations of the population, both now and in the future.
<i>Health and Hygiene</i>	Hong Kong should provide a living and working environment and pursue policies which promote and protect the physical and mental health and safety of the people of Hong Kong.
<i>Natural Resources</i>	Hong Kong should promote the sustainable use of natural resources to minimise its ecological footprint through improving consumption efficiency, minimising the use of non-renewable resources and re-using, recycling waste and recovering energy from wastes.
<i>Society and Social Infrastructure</i>	Hong Kong should foster a stable, equitable, ethical and progressive society and enable present and future individuals to contribute to and fulfil their potential by providing universal access to adequate and appropriate educational opportunity and social infrastructure.
<i>Biodiversity</i>	To maintain the biodiversity of Hong Kong and to minimise any threat which consumption in Hong Kong may have on biodiversity elsewhere.
<i>Leisure and Cultural Vibrancy</i>	Protect and enhance the vibrancy of Hong Kong's recreational opportunities, leisure activities, cultural diversity, archaeological, historical and architectural assets.
<i>Environmental Quality</i>	Hong Kong should be pro-active in avoiding environmental problems for present and future generations, seek to find opportunities to enhance environmental quality, and minimise the unwanted side effects, locally, nationally and internationally, of development and inefficiencies such as air, noise and water pollution or land contamination.
<i>Mobility</i>	Hong Kong should provide safe, accessible, efficient and clean transport systems and pedestrian facilities along with an efficient transport network for the movement of goods and facilitation of services for the community.

Indicators of Sustainable Development

Indicators can very simply be described as *quantified information which helps to explain how things change over time*. They are parameters or measures that can be quantified and used to assess how sustainable a society's activities are over time. The role of sustainable development indicators in policy and project appraisal is particularly important since:

- they provide a means of quantifying environmental, social and economic impacts of proposals;
- they can help to provide clarity out of the mass of data available;
- they can help to measure the extent to which policies aimed at sustainability objectives are being achieved; and
- they can be useful in communicating impacts to a non-technical audience.

There are a number of generally accepted criteria which have been developed internationally in the use of indicators and upon which the indicators developed for SUSDEV 21 have been based. These principles state that indicators should be:

- simple and robust;
- policy relevant (representative);
- sensitive to change;
- easily understood;
- measurable;
- have a target level or guideline against which to compare it;
- capable of showing trends over time;
- scientifically or analytically valid;
- capable of being updated at regular intervals; and
- based on data adequately documented and of known and acceptable quality.

The development of sustainability indicators for SUSDEV 21 has also been guided by a number of study-specific criteria. The principal issues are presented in Box 5c.

Box 5c Indicator Criteria for SUSDEV 21

- *Capable of Prediction.* Since the purpose of the indicators developed for the study is to provide the basis for the CASET decision support tool, it was important that they were formulated in such a way as to facilitate prediction of changes in their value resulting from the evaluation of strategic policies and projects.
 - *Uni-Directional.* It is important that changes in the indicator can be interpreted in a straightforward manner. For example the reason for a change in direction of some indicators, in particular those associated with resourcing, may be ambiguous. Taking an indicator on crime rate as an example, the cause of an increase in the indicator could be differently interpreted as either a worsening of the crime situation, or conversely an increase in crime detection as a result of greater police resourcing. Indicator formulation therefore needed to be undertaken with care so that changes in the indicator can be linked to clear changes in underlying conditions.
 - *Number of Indicators.* In selecting indicators to represent the range of guiding principles, a significant hurdle was the requirement to have a sufficient number of indicators to be representative of the key sustainability issues, and at the same time to restrict the overall “pool” of indicators to a workable total for use in CASET. Where possible, composite indicators which would be relevant to more than one guiding principle, were identified.
-



In reality, very few indicators fully meet the above requirements. This is often due to issues being inherently difficult to measure and forecast accurately and partly due to problems with data availability. In addition, indicators will only be known to be effective after thorough testing in real life situations - it is only through practical daily use of the indicators in the system that any shortcomings will be fully identified.

Importantly, the indicators were developed to focus on “outputs” of environmental, social and economic change, rather than drivers of change or sectoral interests. The reason for this approach was in recognition of the fact that changes in different sectors (eg transport, waste management, industry etc) may be picked up using cross-sectoral indicators (eg air quality indicators, GDP or income differential) rather than developing less flexible sector-specific indicators. Sustainability is concerned with taking a holistic view and it is the impacts of change in each sector, rather than the changes themselves, which are important in terms of measuring how the economy, community or environment is being affected. This explains why population was not adopted as a sustainability indicator: changes in population are drivers of other effects (eg increased natural resource use, strain on community facilities) rather than impacts themselves - population is not inherently unsustainable - what is crucial to sustainability however is the consumption patterns adopted by that population and the effect of this on sustainability issues such as resource efficiency, social provision and pollution.

A pool of representative indicators, focussed on specific issues associated with each guiding principle was derived from reference to experience elsewhere and discussion with Government and then refined in consultation with Government, stakeholders and the public. The current indicator set is presented in Box 5d below. Several of the indicators listed are shown in *italics*; these are indicators which represent the best currently available option for their particular topic, but which failed to meet with public approval during the study period, and will require further consideration by the Government to identify alternatives.

Box 5d The Final SUSDEV 21 Indicators

- | | |
|---------------------------|---|
| <i>Economy</i> | <ul style="list-style-type: none">• Economic return as determined through costs benefit analysis.• Percentage change in income less income tax for the upper quartile household minus the percentage change in income less income tax for the lower quartile.• Gross domestic fixed capital formation as a percentage of GDP.• Expenditure on primary, tertiary and secondary education as a percentage of GDP. |
| <i>Health and Hygiene</i> | <ul style="list-style-type: none">• <i>Hygiene indicator to be determined in consultation with Government authorities.</i>• In patient discharges and deaths per 100,000 population due to diseases of the respiratory system. |
| <i>Natural Resources</i> | <ul style="list-style-type: none">• Consumption of energy per unit of output (\$ GDP).• Quantity of municipal solid waste.• The total remaining landfill capacity (by volume).• Volume of freshwater supplied per capita.• Percentage of demand met by locally-derived freshwater resources.• Area of countryside.• <i>Indicator on Landscape/Scenic value to be included when data are available from a landscape study to be commissioned by Government.</i> |
| <i>Society and Social</i> | <ul style="list-style-type: none">• Average length of waiting list for public rental housing.• Median rent to income ratio for private housing. |
| <i>Infrastructure</i> | <ul style="list-style-type: none">• Percentage of households residing in inadequate housing.• Living space per person.• <i>Indicator on percentage of population living within a short walk of a community facility to be determined.</i>• Waiting lists for Residential Care Homes for the Elderly.• Number of student members of civic education and community services organisations.• Percentage of students receiving a passing grade or above in the Chinese and English languages in HKCEE. |
| <i>Biodiversity</i> | <ul style="list-style-type: none">• Area of Hong Kong of high terrestrial ecological value.• Area of Hong Kong of high marine ecological value.• Area of managed terrestrial habitat for conservation.• Area of managed marine habitat for conservation. |

<i>Leisure and Cultural</i>	<ul style="list-style-type: none"> • Number of recorded archaeological sites. • Number of recorded cultural and historical sites.
<i>Vibrancy</i>	<ul style="list-style-type: none"> • Percentage of population living within districts with a shortfall of required provision of open space. • Annual ticket sales for major cultural, entertainment and sporting events.
<i>Environmental Quality</i>	<ul style="list-style-type: none"> • Composite index for Criteria Air Pollutants based on percentage of the Air Quality Objectives. • Composite index for Toxic Air Pollutants based on percentage of Acceptable Risk. • Quantity (Tonnes) of carbon dioxide emitted per year (<i>or per capita per year - indicator to be finalised upon completion of Government Greenhouse Gas Emissions Study</i>) • Percentage of population exposed to excessive noise. • Number of kilometres of river ranked “Excellent” or “Good” using the EPD River Water Quality Index. • Composite index of marine water quality pollutants based on percentage of the Water Quality Objectives. • Number of beach-days per year ranked “Good” or “Fair”. • <i>Indicator on Indoor Air Quality to be included once data are available from Government Surveys.</i>
<i>Mobility</i>	<ul style="list-style-type: none"> • Average Travel Distances; the distance in kilometres travelled by passengers during morning peak by all major groups of transport modes. • Average Network Speed; calculated as total passenger kilometres divided by total passenger hours. • The cost of road-based freight transport; the cost of charges and operating costs as a percentage of GDP.

The Computer Aided Sustainability Evaluation Tool (CASET)

Logic and Design

The basis of the CASET system is the list of indicators of sustainable development described in the previous section. In simple terms CASET works by linking a series of questions, which the user must answer in relation to the given project or policy being tested, to one or more indicators. The logic of the tool was developed through a process called “knowledge elicitation” in which the key “drivers” affecting each indicator were identified through consultation with relevant experts.

By drawing out the issues and drivers affecting each indicator, a long list of influencing factors was established and these issues were framed in the form of questions, with each question linking to one or more indicators. The questions were then grouped into sectoral categories (eg economy, biodiversity, land and infrastructure and so on). These questions are used in CASET to characterise each scenario and were phrased such that a simple “yes” or “no” response could be provided by the user. Where the questions produce a “yes” response, the indicators to which the question is linked are effectively “triggered”; that is they are considered to be relevant to the scenario concerned and the CASET would be designed to ensure that the user addresses the effect of the proposal on that indicator.

The next stage was to refine the long list of questions produced (around 300) to a more manageable total (less than 100), and to derive an explanation for the linkage between each question and its relevant indicators. This process allowed for further refinement of the question and linkages and the process of “testing” real life scenarios allowed the study team to build up a list of requirements for the design and appearance of the software tool.

Based on the logic developed, CASET was programmed into a Microsoft compatible application. A prototype programme was developed and another round of intensive testing undertaken in conjunction with a range of Government Bureaux and Departments in order to ensure the appropriateness and user friendliness of the system.

A series of workshops was also held to test the tool, demonstrate it to a wide audience of Government officials and illustrate how CASET could be used to enhance decision making and consensus building by taking sustainability considerations into account in the decision making process. Based on this round of testing, the CASET programme was modified.

System Functioning

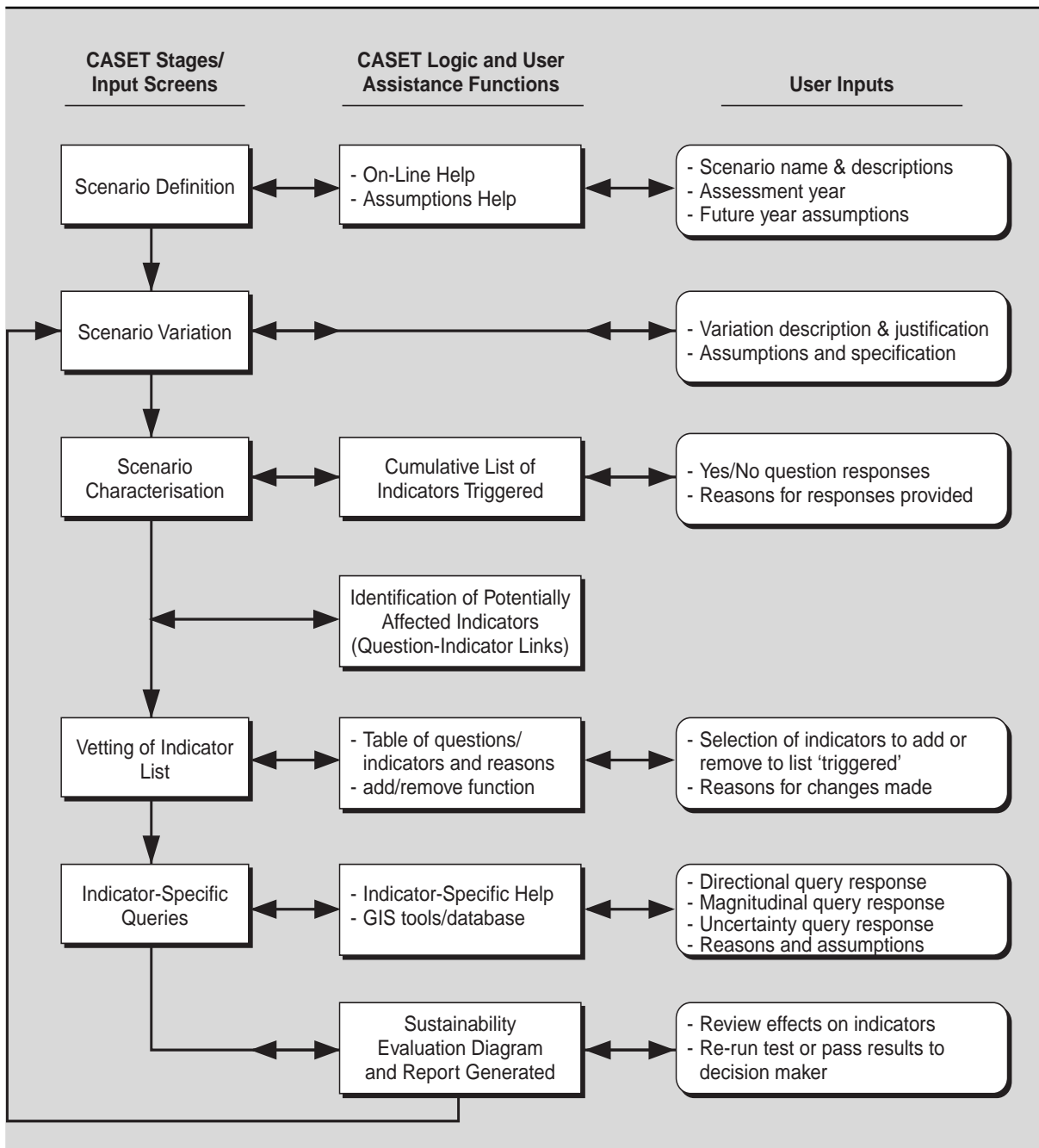
The process of using the tool is shown in Figure 5 overleaf and may be summarised as follows. Information about the proposal under consideration is entered into CASET through a series of input screens. By following these screens, the tool prompts the user to think widely about the implications of the proposal for social, economic and environmental issues. Following entry of initial details describing the proposal to be tested, the tool then prompts the user to consider the future conditions into which the proposal being “tested” will be applied, then to “characterise” the proposal by answering a series of around 70 yes/no questions relating to its implications across economic, social and environmental sectors.

These questions are used to “characterise” the proposal being tested, and the in-built logic of the system uses the responses to these questions to trigger a list of relevant sustainability indicators for which the user is required to input responses on predicted magnitude and direction of change of the indicator and the level of uncertainty which they attach to that decision. The user must specify an assessment year for the proposal and consider predicted change to the indicators with and without the proposal being tested.

The CASET can then be used to generate both diagrammatic (Sustainability Evaluation Diagram, SED) and text-based reports (Sustainability Evaluation Report, SER) summarising the indicator information input by the user.

CASET is accompanied by a powerful GIS/database containing the datasets relevant to the sustainability indicators. The GIS contains maps illustrating spatially referenced data relevant to Hong Kong's sustainability issues which have been compiled into a menu of GIS-based displays. Spatial (electronic) data can then be selected by users (from an on-screen menu) to build up required map layers. These maps will provide further assistance to users when considering input information for the indicators, in particular where the proposal may have geographically specific implications and the user wishes to interrogate map-based environmental information for the areas concerned.

Figure 5 CASET Methodology



CASET also includes a ranking module which allows for the comparison of scenarios which have a large number of different options, prior to formal testing of one (or a smaller number) of options using the full testing process.

Use of CASET

CASET is one of the principal outputs of the SUSDEV 21 study since it provides the means for Government to introduce a greater emphasis on sustainable development in future planning, policy and project decisions.

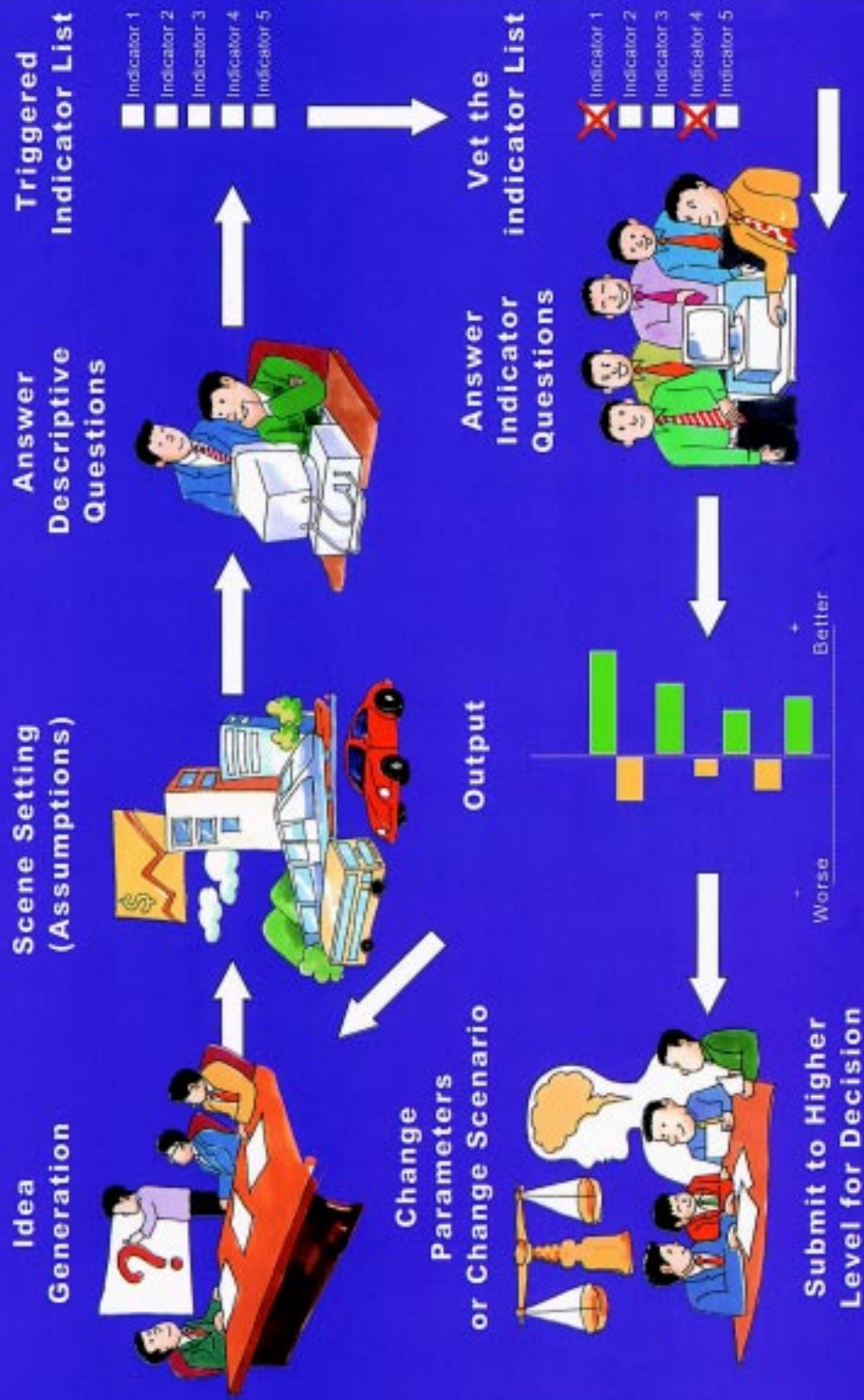
CASET is a computer-based decision support tool which has been designed to assist Government's evaluation of the sustainability implications of future strategic policies and projects. It has specifically been developed as a user-driven system, not a model, so that the eventual users of the system (individuals or groups within Government) will be required to provide information about the policy, project or plan they wish to assess. Since the use of the system triggers a group of relevant sustainable development indicators across a range of disciplines, users will need to obtain and utilise cross-departmental expertise in predicting the effects of proposals on the indicators triggered. It is therefore envisaged that the testing of policies and projects will require collaboration among Government officers from a range of Bureaux and Departments, and that the most effective way to achieve this collaboration will be through group discussions to resolve issues of concern.

The CASET system has a number of key functions within the decision making process:

- the tool offers a more comprehensive approach to policy and project appraisal than currently exists by ensuring that the wider sustainable development aspects of economy, environment and society are considered;
- a cross-sectoral approach to the appraisal process is fostered whereby different views are brought together at an early stage which can help to build consensus and dialogue across Government;
- CASET is an information manager: its consistent application will improve the quality of information being passed to decision makers, and will help to improve the transparency of the decision making process and the accountability of those Bureaux/Departments providing inputs;
- use of the tool at an early stage in the policy or project formulation process in a “scoping” capacity can help to identify potential problems or hurdles (early warning) and save time and resources by addressing them promptly in the development cycle.
- the tool and the associated institutional arrangements will help to translate vision into real action so that all parts of Government are working towards a shared single goal.

CASET can only truly help to bring about improvements in the institutional decision making process if it is provided with the necessary institutional support.

CASET - Process Sequence



The Role of Sustainability Indicators

The specific purpose of the SUSDEV 21 indicators for the CASET tool explains why they are not necessarily the same as other lists of sustainability indicators contained within strategies developed around the world. Most other countries have adopted a “tracking” approach to indicator development whereby strategies are developed and targets set, and the progress against these targets for each indicator is reviewed periodically for a foregoing period of time. This approach allows for a greater number of indicators to be used (since in CASET the flexibility of the system in part depends upon using a limited, focused set of indicators) but does not provide the benefits of proactivity associated with prior appraisal of the implications of policies and projects.

During the course of the public consultation for the study, it became apparent that there is a great diversity of issues for sustainable development in Hong Kong which cannot all be represented in CASET. A separate list of “tracking” typed indicators was therefore presented to Government for further discussion and consultation. It should be noted however that a tracking system would identify the recorded outcomes of not just Government policies and projects, but of the activities of society as a whole.

Supporting Data: Baseline Information, Help Screens and Manuals

Although the emphasis of the tool is upon user inputs, the system has been developed with significant supporting data. For each of the sustainability indicators, detailed baseline data have been gathered and included in the system's database. Help screens are provided throughout the system to assist users in procedural and indicator-specific matters as well as providing information to contribute to interdepartmental discussion of the issues raised. Although these help screens provide sufficient information to allow a non-specialist to understand the indicators, they are not proposed to replace the role of the technical officers within Government Departments in contributing their specialist expertise to the discussions relating to indicators triggered during CASET testing. Further technical and operational guidance on the use of CASET has been provided through a suite of system manuals users and maintainers of the system.

Benefits of the System

As the key output of the study, the Sustainable Development System (SDS) is intended to assist Government by ensuring that sustainable development issues are taken account of more fully in

decision making, to provide a comprehensive and consistent approach to the examination of sustainability in policy, project and strategy formulation and to foster cross-sectoral discussion and understanding within Government.

Within the context of the SDS, the aim of the CASET is to assist decision makers to judge the compatibility of scenarios with sustainable development objectives in a consistent, clear and traceable manner. A number of benefits to the decision making process from the use of CASET can be identified:

- *comprehensive examination of policy* provides a better level of information about a policy's effects on which to base decisions;
- a *proactive approach* is fostered by evaluating proposals in a predictive manner allowing the identification of potential problems at an early stage;
- *consistency of approach* such that all major proposals will be subject to the same level of scrutiny, providing greater confidence in the decision making system and organising the process of marshalling information about strategic proposals;
- *cross sectoral involvement* allows for the wider implications of the proposal to be considered, drawing upon the relevant departmental expertise for inputs to the appraisal process;
- increases *transparency* through “fingerprinting” of individual CASET tests so that the information providers in each case and the assumptions made in testing can be attributed and audited, thus clarifying the decisions made at each stage of policy formulation; and
- a *reference point for information* about the effects of projects and policies will be built up as the system becomes established.

Other administrative benefits of using the system include:

- creation of a common vision for all those concerned with land use, major project development, policy formulation and economic development;
- compelling Bureaux to start thinking about developing their own long term strategies (eg energy policy, conservation strategy);

- enabling better messages for providing a framework for communicating Government decisions on the above;
- reduction of delays and inefficiencies within Government because of greater integration of the approach; and
- flagging up of key concerns at an early stage so they do not get oversight.

CASET is not intended to provide a verdict as to whether a proposal is sustainable, nor will it mandate how conflicts or trade-offs should be resolved. These challenges remain with decision-makers. The next section addresses how the SDS might be implemented.

6 *Implementation Recommendations*

Institutional Changes

A key element of the study has been the examination of current decision making procedures in Government to identify the extent to which sustainable development is already accounted for, and to make recommendations on the ways in which the required culture change and the tools provided by the study can most effectively be incorporated into the decision making process.

An institutional review was compiled which identified possible options for institutional arrangements which could facilitate the integration of sustainability into the administration. The options, and main findings of the review were :

- successful implementation of sustainable development will require the strengthening of existing institutional arrangements to clarify accountability, promote more integrated decision making and to ensure effective long-term commitment to the goal;
- the most worth-pursuing of the three administrative options would be to create a Sustainable Development Unit (SDU) reporting to the Chief Secretary. The SDU would have the influence needed to ensure that (cross-sectoral) policy development is soundly based and makes effective use of the SDS framework, as well as supporting the use of CASET across the Administration;
- the creation of a Bureau for Sustainable Development is relatively less worth-pursuing, not least because of the difficulties of defining its responsibilities in such a way that they are clear and distinct from other Bureaux and not so large that they become unmanageable.
- another option would be the establishment of either an Advisory Group or a Council which could be seen as demonstrating the Government's commitment to sustainable development and could provide a means for ensuring that a wide range of views are taken into account in the policy development process, thereby embracing the important elements of community participation. In addition it might provide a mechanism by which progress towards sustainable development is monitored.

Recommendations

These evaluation findings, following consultation with Government, feedback from key opinion formers and the public consultation process, resulted in the following recommendations :

- establish and resource a Sustainable Development Unit (SDU). The Unit (a team of 8 to 10 professional staff) would act as an independent body and report on a regular basis to the Chief Secretary for Administration.
- establish a Council for Sustainable Development. The Council would be a strategic body to be located outside of Government providing a link between the Government's work and the aspirations of the community;
- integrate the use of CASET into current government processes (eg through the Resource Allocation Exercise) ensuring that the sustainability implications of all major policies and projects are evaluated at an early stage. The SDU would play a major role in facilitating this integration and providing strategic advice and review of its operation.
- involve the Legislative Council in policy decisions through various options including their representation on selected advisory policy groups relevant to sustainable development and inclusion of members in the Council on Sustainable Development. This is seen as important to ensure a positive and constructive relationship between those devising policies within the administration and those with the mandate to approve them within the legislature.
- continue to consult and involve the community in the process of sustainable development in Hong Kong, including the development of a Sustainable Development Strategy. Continued awareness raising across the community through education will be instrumental in ensuring that the principles of sustainability take root in Hong Kong.

7 Awareness Raising and Public Consultation

Introduction

Raising the public's understanding and awareness of the meaning and importance of sustainable development is both a challenge and an essential step towards the implementation of the principles of sustainable development in Hong Kong. This challenge was recognised in the objectives of the SUSDEV 21 study in which a clear emphasis was placed on consultation and awareness raising.



A key aspect of the study was therefore to *encourage the widest possible public participation and consultation* through



two major programmes of public consultation. The consultations were planned to fulfil the dual requirements of obtaining public feedback on the findings of the study as well as contributing to an ongoing Government commitment to raising general awareness about sustainable development in Hong Kong.

The SUSDEV 21 Public Consultation Process

The first stage consultation programme was held in early Summer 1998 and provided an opportunity at an early stage in the study to obtain a wide cross section of public views and feedback on the key issues for sustainable development in Hong Kong, and for consultees to comment on the preliminary findings of the study. The second programme of public consultation, held from October 1999 to January 2000 was also aimed at furthering awareness about sustainability and, building on previous feedback and study developments, presented preliminary study recommendations for public comment and discussion.



Both formal programmes of consultation involved an extensive range of fora to engage stakeholders and obtain feedback on the study. These included:

- a series of roving exhibitions in public places such as shopping centres, Government buildings and universities in which display panels were used to depict the key messages relating to sustainability;
- production of consultation digests for both programmes which highlighted the key issues for sustainable development, sought public inputs and outlined the major points and findings of the SUSDEV 21 study;
- design and production of two short consultation videos, one for each programme, in Chinese and English, which were aimed specifically at a general and non-specialist audience to convey the often difficult concepts of sustainability to as wide a range of people as possible; and
- an extensive series of meetings with Government Bureaux and Departments, official committees, NGOs, business and commercial groups and professional institutions. In addition, a number of public fora were held to allow input from a wide range of private and public sector organisations.

In response to feedback obtained from the first stage public consultation, the second public consultation programme involved greater interaction with young people, by means of competitions and events for primary and secondary school students as well as briefings for school teachers. In addition, in recognition of the growing use of electronic media in Hong Kong, an official SUSDEV 21 webpage was launched on Planning Department's website to allow public access to study materials and provide a forum for further comment.

In addition to the two formal programmes, there were engagements with interested parties throughout the study process.

Key Findings of the Process

As a result of the first stage public consultation programme a wide range of useful feedback was obtained from stakeholder groups and the public. Most respondents were in favour of sustainable development and although some people considered that it was already being applied to decision making, there was a general recognition that Hong Kong has a number of unique challenges which require new approaches. A number of useful comments were made on how the debate on sustainability

should be further shaped:

- the concept of limits to growth and how a sustainable society addresses this challenge;
- population issues including population growth and demographic change and its effects on sustainability in Hong Kong;
- the need to develop a sustainability strategy for Hong Kong;
- the need for Hong Kong to be in line with other nations and develop a formal Agenda 21;
- the need to focus on the realisation of human resources and capital, and to address social issues thoroughly;
- although the economic sector should not be stifled, environmental and social aspects should be clearly taken into account;
- Hong Kong's approach to sustainable development must take account of the particular conditions and characteristics of Hong Kong (and the wider region) and consideration could be given to enshrining sustainability principles into law;
- a fundamental aspect is education, motivation and engagement of the people and Government in the concept of sustainable development.

Input was also provided on the way in which the study tools should be developed, and a key requirement was observed to be the need for better communication among Government Bureaux and Departments. Feedback was also received regarding the key issues and priorities for sectors such as economy, health, social infrastructure, environment and mobility in Hong Kong. This input was subsequently drawn upon by the study team in developing the guiding principles and indicators (see *Section 5*).

The second stage consultation programme produced a diversity of views on the study, as well as on overall themes such as awareness raising and sustainable development priorities for Hong Kong generally. Indeed, since the SUSDEV 21 consultation process has in many respects formed the principal forum for discussion on sustainable development in the last two years, many of the points raised focused on issues beyond the immediate scope of the study but which are nevertheless very important for sustainable development in Hong Kong. Key issues may be summarised as follows:

- the *Study Concept and Definition* was generally supported although many consultees thought it should include the development of a strategy for sustainability;
- the *Guiding Principles and Indicators* received significant comment, with a range of suggestions for additional indicators and amendments to existing ones;
- consultees pointed out that the *CASET Decision Support Tool* should be regularly updated and should have wide application across Government. In addition the Public showed interest in gaining access to the tool itself as well as the results it generates;
- proposals for *Institutional Change* were widely regarded as being crucial to the implementation of sustainable development, and many suggestions on the remit and functions of the proposed SDU and Council on Sustainable Development were received;
- *Education and awareness raising* was recognised as an important process and one which should specifically target younger people and should in future involve local communities to a greater extent.

The key suggestion was that a sustainable development strategy needs to be developed in Hong Kong in order that a consensus can be achieved on the objectives and targets relating to the sustainability indicators.

Response to Feedback

Whilst the findings of the first stage of public consultation were useful in terms of defining the vision and scope of the study and in shaping the indicators subsequently developed and agreed with Government, the feedback obtained from the second stage consultations was focused more specifically on the recommendations and outputs of the study. In the light of feedback obtained from this programme of consultation, a number of amendments to the study definition, guiding principles and indicators were made (as reported in *Section 5*).

Details of the public consultation programmes, the public comments received and Government's responses are contained in the Public Consultation Reports, which can be downloaded from the Planning Department website (<http://www.info.gov.hk/planning>).

8 *Conclusion and Way Forward*

A number of concluding points for the way forward for sustainable development in Hong Kong can be distilled from the lessons learned and extensive work undertaken during the course of the SUSDEV 21 study. These points relate not only to the outputs and tools which have been specifically derived from the study, but also to sustainability in its wider context for Hong Kong in the future. The issues presented reflect not only the views of the study consultants with regard to the implementation of study outputs but also the feedback obtained from wider stakeholder consultations as the sustainable development debate has matured and increased in public prominence over the last 3 years.



Key Messages

The key messages from the SUSDEV 21 study on the way forward can be summarised as follows:

- SUSDEV21 has paved the foundation to identifying, understanding and predicting the range of complex social, economic and environmental issues which influence sustainability in Hong Kong. However, much remains to be done and progress to date should be viewed as a promising start to tackling the challenges of sustainable development.
- There is still a great deal of misunderstanding and scepticism about what sustainability involves amongst the wider community. Future awareness raising needs to, among other things, reinforce that sustainability is an ongoing process which seeks to strike a balance between the need for economic prosperity and at the same time address social and environmental issues.

- CASET should not be viewed as an “end product” for Government. If implemented and managed in the manner intended CASET should provide real benefits to sustainable decision making, but it is not a model or calculator, and there is no simple “yes” or “no” regarding the sustainability of proposals.
- In addition to the announcements of the 1999 Policy Address, the study has made a number of recommendations for institutional change and implementing them will present a significant challenge for the Government. There is a need for palpable action by Government, or the issues risk going cold, and Government stands to lose both credibility and the goodwill of involved stakeholders.
- The establishment of the Sustainable Development Unit (SDU) is particularly important and the flexible remit proposed for the SDU's officers is not diluted by administrative procedures or other duties which deflect from the task in hand. Whilst the Unit will have a supporting function in terms of advising on the use of CASET, this should not overshadow its most effective role which will be to encourage and facilitate the active integration of sustainable development into decision making right across Government.
- The Council for Sustainable Development will provide an important conduit for public and stakeholder communication and the exchange of ideas and information between the public and the Administration as well as facilitating transparency through its monitoring of Government progress towards sustainable development.
- Sustainable development cannot be achieved by institutional changes alone. Creating new organisations and modifying existing processes is not sufficient. What is also needed is a clear, long-term commitment to a sustainable development strategy at all levels, not only in Government and the Administration but also across Hong Kong society more generally. This implies the need for effective education and advocacy so that sustainability becomes an on-going process demanding continuing effort from all parts of society.
- It is also realistic to acknowledge that there may be barriers to encouraging decision makers, politicians and voters to pay today to protect the future. Whilst the rhetoric of moral fairness or equity between generations is voiced by many, including advocates of a more sustainable future, it usually falters when confronted by self-interest. It requires institutional and policy adjustments to begin affecting change in how decisions are made by Governments, the business community

and individuals as well as continued awareness raising. Ultimately delivering on sustainability represents an important political objective and requires a willingness to change.

Overall, it is critically important that the extensive work undertaken by Government and the inputting stakeholders is carried forward and progressed. This means implementation of the tools and recommendations of the SUSDEV 21 study so that the trust of stakeholders is maintained and strengthened. It also will involve continued debate, dialogue and importantly, commitment to ongoing action both by Government and the wider community to progress the sustainable development initiatives.

Conclusions

A number of conclusions may be drawn from the study regarding key issues for the continued progression of the sustainable development agenda in Hong Kong. The conclusions which have come to light are:

- Culture change and evolution are key messages, particularly in terms of effecting change within Government and the business community, since other stakeholders look to them for leadership by example.
- Community expectations for involvement in the process of implementing sustainability are rising and should be addressed. A clear message from study consultation is the need for local mechanisms to deal with local problems. Local Agenda 21 could form a response to these issues, but responsive local government and planning is also required.
- Significantly, at a Hong Kong-wide level, there is a recurrent and urgent call for a sustainable development strategy for Hong Kong. Throughout the study, the approach of SUSDEV 21 has had to be defended as the expectation was for a strategy, but the approach by Government on indicators, tools and decision making, has been an innovative one. There is a legitimate argument that even with CASET in place, there is still a need for a strategy which sets out Hong Kong's aspirations, objectives and goals for sustainability which can then be appreciated by all sectors, not just decision makers. Without these, even the outputs of CASET may be difficult to judge (especially for the public), and calls for public access to CASET will continue in the absence of a strategy in which real public participation can be achieved.

- Many consultees have suggested that a sustainable development strategy should also address Hong Kong's regional role in the Pearl River Delta.



- At the same time, the review of current baseline environmental and socio-economic conditions in Hong Kong identified that Government sectoral strategies in areas such as energy, transport and habitat conservation need to be strengthened and made explicit. For Hong Kong to follow a more sustainable path, significant emphasis will need to be placed on policies and measures which encourage *inter alia*, demand management, use of economic instruments, resource and energy efficiency, pollution prevention, waste minimisation, efficient land use and urban regeneration. The development of an over-arching sustainable development strategy presents an opportunity for the dove-tailing of such sectoral strategies with the overall strategic view.
- All sectors must participate if sustainable development is to be realised. This means that mechanisms must be implemented to involve key sectors such as commerce and industry at an early stage in the process of defining objectives and targets for sustainable development.
- Sustainable development is a global as well as local concept. Whilst the focus of SUSDEV 21 has been very much on attempting to introduce Hong Kong people to the concept, strategy and policy development in future must also address Hong Kong's impacts upon, and contribution to the regional (and global) environment, economy and social fabric.

Overall, sustainable development in Hong Kong will need to involve sectors across society for it to be successful. This means involving groups such as the public, business, industry, transport operators, legislators and local government some of which may have been unreceptive to previous “environmental” messages or changes. There is therefore a need for action so that such groups are actively engaged in a constructive discussion to appreciate the environmental, social and economic interrelationships which are vital to sustainable development. With their involvement, input and “buy-in”, the challenges which sustainable development presents in Hong Kong can be met.