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About the author

Andrew Cornish is an independent ecologist based in Hong Kong. He previously taught at The University of Hong Kong's Department of Ecology and Biodiversity, before spending seven years as the Conservation Director for WWF-Hong Kong. Andrew is an invited member to the Marine Biodiversity Working Group (one of three working groups formulating Hong Kong's first Biodiversity Strategy and Action Plan), and recently co-authored another research paper designed to inform the Biodiversity Strategy and Action Plan, *A Review of Hong Kong's Wild Animal and Plant Protection Laws* with the Faculty of Law at The University of Hong Kong.

Preface and acknowledgements

In principle, there are a number of important advantages in making use of Strategic Environmental Assessments (SEAs). It is a tool for achieving sustainable development, it can assess for and prevent cumulative environmental impacts, it enables early consideration of alternatives, and can facilitate discussions among stakeholders at early planning stages. Despite having been in use in Hong Kong since the late 1980s, SEAs have only been applied boardly to sustainable development since the 1990s. Developments on SEAs have been slow compared with project-based EIAs, which has matured over the years on clarity of adminstrative requirements and detail of guidance.

Hong Kong is in the midst of a participatory process of developing the city's first-ever Biodiversity Strategy and Action Plan and will need to implement the plan by 2015. Mainstreaming biodiversity considerations across relevant government departments are essential for the plan to be effectively implemented, and SEAs have been suggested in international guidances as a vital and preferred tool.

Civic Exchange embarked on a research earlier this year to examine how effectively SEAs have been employed in Hong Kong, and the potential for a more constructive role for SEAs in central decision making. This report presents the research findings and relevant recommendations.

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Yan-yan Yip
Chief Executive Officer
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Executive summary

Hong Kong joined the Convention on Biological Diversity (CBD) in May 2011 through an extension of China's membership, and is required to formulate, and start implementing, Hong Kong's first Biodiversity Strategy and Action Plan (BSAP) by 2015. In noting from the experiences of other countries who have joined the CBD that (i) countries often fail to adequately mainstream considerations of biodiversity into central decision making and (ii) that Strategic Environmental Assessments (SEAs) offer an excellent tool for mainstreaming, this study aims to:

- analyse how SEAs are currently employed in Hong Kong, examine whether the approaches are consistent with the CBD, and where not, make practical recommendations consistent with local circumstances and the CBD; and
- examine the potential for using SEA as a tool to incorporate appropriate consideration of Hong Kong's biodiversity objectives, and BSAP itself, into major planning exercises.

Hong Kong utilises three kinds of impact assessments (that have impacts to the environment as a key focus): Environmental Impact Assessment (EIA), Sustainability Assessment (SA) and SEA. SEAs first started to be used in Hong Kong in the late 1980s. Initially these were focused on issues relating to EIAs and development, but since the early 1990s have also been increasingly used to address broader issues related to sustainable development. There are essentially two triggers for projects to require SEAs, firstly that they are classified as Major Designated Projects under the Environmental Impact Assessment Ordinance (EIAO), or that they constitute 'major proposals' under administrative requirements (i.e. they are covered by government policy).

Examination of both of these frameworks for conducting SEAs, and an examination of SEAs carried over the past decade, reveal that Hong Kong has excellent potential to use SEAs to mainstream the BSAP, and is in an enviable position. The territory has two decades of experience in employing a good diversity of SEAs. It has an authority responsible for overseeing the process and the quality of findings, requirements to involve the public, and a high-level external committee that acts as a watchdog.

However, recent SEAs show mixed adherence to best practice as laid down by the CBD. In addition, there is considerable confusion of the roles and value of EIAs conducted under Schedule 3 of the EIAO, SEAs of policies and programmes, and SAs, as all contain elements of SEAs. Of even greater concern is that the lack of clarity around SEAs conducted under administrative requirements, including the trigger for initiating such an assessment, has resulted in the administration being rather selective in which policies and programmes are required to undergo SEAs.

The overarching recommendation of this report is firstly – following in the footsteps of EIAs in the mid-90s – that the procedures for conducting SEAs need to be formalised (and made distinct from EIAs in the case of Schedule 3 projects). SEAs should also be updated in some areas to ensure consistency with the CBD.

Just as importantly, SEAs should assess impacts to biodiversity with reference to the BSAP, and a fundamental principle for new projects, policies and programmes should be that they do not undermine Hong Kong's objectives for the conservation and sustainable use of biodiversity.

Changing existing, or introducing new, legislation generally takes years, and in the meantime, a powerful and practical measure would be for government to:

- provide a list of the types of projects, plans and policies that constitute 'major proposals' requiring SEAs, in order to provide greater clarity on the existing administrative requirements;
- lay out a clear and transparent process for triggering SEAs for upcoming 'major proposals' under administrative requirements;
- in the case of multiple projects that cumulatively meet the definition of a 'major proposal', and which may have different proponents, provide guidance on which authority is responsible for triggering and conducting SEA, and
- provide detailed guidance on conducting SEAs (under administrative requirements), including requiring that four key CBD principles (no net loss, precautionary principle, use of local, indigenous and traditional knowledge, and participation) should be adopted by all SEAs.

At the time of writing of this report, there is considerable debate in Hong Kong about the need to find land for housing and other infrastructure, versus the need to conserve our natural resources, exemplified by the discussion on whether or not to permit housing developments in country parks. In such an environment, it is particularly critical that best-practice participatory SEAs be widely employed to find the best planning options at a territory-wide level, and to reduce reliance on EIAs and their examination of limited within-site alternatives.

The participatory process currently being used to formulate the BSAP has government, academics and NGOs sharing expertise and collaborating to a degree that has rarely been seen before. The approach is very welcome, and increases the likelihood of producing a comprehensive and ambitious BSAP. However, the potentially major contribution of the BSAP to the sustainable development of Hong Kong will be substantially reduced if biodiversity is not mainstreamed into decision making. The risk of this happening is very real, as the global experience has been that national BSAPs do not sufficiently influence major development outcomes, because they fail to pay sufficient attention to how to mainstream biodiversity into decision making beyond the remit of the ministry directly responsible for biodiversity.

Hong Kong would do well to learn from the mistakes of others, and ensure that mainstreaming is made a high-priority objective for the BSAP. SEAs alone cannot achieve effective mainstreaming, but the recommendations of this report would go a long way to enhancing the role that SEAs can play as a key tool for incorporating the biodiversity aspirations of the BSAP into decision making on major programmes, plans and policies.

1

Introduction

Hong Kong has joined the Convention on Biological Diversity (CBD), a treaty under the UN Environment Programme

In May 2011, Hong Kong joined the Convention on Biological Diversity (CBD), through an extension of China's membership. The CBD is an internationally legally binding treaty, with a Secretariat that operates under the United Nations Environment Programme. The Convention was opened for signature in June 1992 at the United Nations Conference on Environment and Development (the Rio Earth Summit), and entered into force in December 1993.¹

The CBD's three overarching goals are:

- the conservation of biological diversity (or biodiversity);
- sustainable use of its components; and
- fair and equitable sharing of benefits arising from genetic resources.

Countries that have signed the CBD (Parties) are required to implement policies to protect biodiversity at different levels as follows.²

1. Ecosystems containing rich biodiversity, large numbers of threatened or endemic species, with social, economic, cultural or scientific significance, or relevant for key processes such as evolutionary processes, and ecosystems of relevance to migrating species.
2. Species and communities of species that are threatened in their existence, or related to domesticated or cultivated species, and species with medicinal, agricultural, or other economic, social, cultural or scientific significance, and indicator species.
3. Genotypes with social, scientific or economic significance.

Hong Kong needs to formulate a city-level Biodiversity Strategic and Action Plan (BSAP) as the principal instrument for upholding their commitment to this treaty

National Biodiversity Strategic and Action Plans (NBSAPs) are the principal instruments for implementing the Convention at the national level (Article 6). The Convention requires Parties to prepare a national biodiversity strategy (or equivalent) and to ensure that this strategy is mainstreamed into the planning and activities of all those sectors whose activities can have an impact (positive and negative) on biodiversity. A total of 178 Parties (92 per cent) have developed NBSAPs in line with Article 6.³

In October 2010, the Conference of the Parties adopted the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, and requested that parties review, update and revise their NBSAPs by 2014.⁴ Hong Kong will formulate a city-level BSAP to meet this requirement.

Impact assessments are an important tool for ensuring that development goals and biodiversity conservation are integrated

The CBD recognises impact assessment as an important tool for helping to ensure that development is planned and implemented with appropriate consideration of biodiversity. Impact assessment additionally provides a practical process for mainstreaming the conservation of biodiversity into decision making on projects and policies, as a key component of sustainable development. The CBD requests Parties to apply impact assessment to projects, programmes, plans and policies (PPPs) that may have a potential negative impact on biodiversity. Article 14 contains provisions on the assessment of impacts on biodiversity at both the project level, and the programme/policy level, through Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA), respectively. SEAs are identified as having a useful role in improving the integration of national BSAPs and national development strategies.⁵

This paper analyses the role of Strategic Environmental Assessments (SEAs) in Hong Kong thus far and presents recommendations for the formulation of Hong Kong's BSAP

In localities like Hong Kong, with its rich biodiversity but small size and high population density, and where the pressure to develop is so great, a rigorous system of impact assessment is crucial for the maintenance of biodiversity. EIAs have been required in Hong Kong since 1986 for an increasing range of projects,⁶ and were formalised through the introduction of the EIA Ordinance (EIAO) in 1997. EIAs, as a tool to facilitate development while conserving biodiversity, are widely used and have been the subject of much debate and scrutiny in recent years⁷ and will not be analysed further here. SEAs, however, also have a very important role to play as a planning tool, but have received far less critical attention, despite being employed locally since the late 1980s. Finally, Hong Kong also has a system for undertaking Sustainability Assessments (SAs), which will also be touched on.

1.1 Objectives

The objectives of this report are to:

- analyse how SEAs are currently employed in Hong Kong, examine whether the approaches are consistent with the CBD, and where not, make practical recommendations consistent with local circumstances and the CBD; and
- examine the potential for using SEA as a tool to incorporate appropriate consideration of Hong Kong's biodiversity objectives and the Biodiversity Strategy and Action Plan (BSAP) itself into major planning exercises.

The findings of this report are intended to feed into the process of formulating Hong Kong's first BSAP under the CBD, which is taking place from 2013-14, and which should start being implemented in 2015.

Impact Assessment, Environmental Impact Assessment and Strategic Environmental Assessment

2.1 Impact assessment

Impact assessment, at its most basic, is defined as the process of identifying the future consequences of a current or proposed action.⁸ More specifically, impact assessment can be described as a process that prepares evidence for decision makers on the advantages and disadvantages of possible policy options by assessing their potential economic, social and environmental impacts.⁹

2.2 Environmental Impact Assessments and Strategic Environmental Assessment

EIA is a widely applied process for evaluating the (negative and positive) impacts of projects and developments on the environment (including socio-economic, cultural and human health impacts).¹⁰ It is normally conducted towards the end of the planning process, and involves a detailed examination of a limited number of options.¹¹

The basic SEA process is similar to that of EIA for projects, but SEA is generally more broad brush, less detailed and quantitative, and more focused on broad directions of change.¹²

SEA has been described as the formalised, systematic and comprehensive process of identifying and evaluating the environmental consequences of proposed policies, plans or programmes to ensure that they are fully included and appropriately addressed at the earliest possible stage of decision making on a par with economic and social considerations.¹³ While there is considerable debate on what exactly constitutes a SEA, it is increasingly recognised as a continuum of approaches (i.e. a family of tools), rather than a single, fixed procedure.¹⁴

SEA is employed earlier in the planning process than EIA, considers a broad range of alternative options, and is more variable in terms of the process employed (see Table 1). EIA is generally thought of as being primarily reactive, while SEA is more proactive and “sustainability driven”.¹⁵

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Table 1. Key differences between EIA and SEA¹⁶

Aspects of the assessment	SEA	EIA
Stage in the process	Takes place at earlier stages of the decision-making process	Takes place at the end of the decision-making cycle
Proactive or reactive	Proactive approach to help development of proposals	Reactive approach to development of proposals
Consideration of alternatives	Considers broad range of potential alternatives	Considers limited number of feasible alternatives
Cumulative impacts	Early warning of cumulative effects	Limited review of cumulative effects
Area of emphasis	Emphasis on meeting objectives and maintaining systems	Emphasis on mitigating* and minimising impacts
Breadth of perspective	Broader perspective and lower level of detail to provide a vision and overall framework	Narrower perspective and higher level of detail
Process	Multi-stage process, continuing and iterative, with overlapping components	Well-defined process, clear beginning and end
Area of focus	Focuses on sustainability agenda and sources of environmental deterioration	Focuses on standard agenda and symptoms of environmental deterioration

*Note that this definition of mitigation does not include avoidance or compensation.

SEAs and EIAs have unique pros and cons

It has previously been argued that project-level EIAs have been less effective for ecological and biodiversity considerations than for any other impact category.¹⁷ A fundamental problem is that the geographical scope of the EIA rarely matches distributions and patterns of biodiversity, and it can be very difficult to truly assess the significance of ecological impacts from a small development project when biodiversity processes are occurring at much larger scales. The short time frames of EIAs also present challenges in trying to understand impacts on long time scales.

SEAs can overcome many limitations of project-level EIAs by allowing consideration of biodiversity at higher tiers of decision making and planning.¹⁸ In particular, they can facilitate the avoidance of threats to biodiversity, and opportunities for enhancements, by examining a wide range of alternatives early in the decision-making process. Furthermore, the strong emphasis on early stakeholder engagement allows those that utilise biodiversity to have a voice and influence planning decisions.

SEAs normally occur over a longer time period and at a larger scale than EIAs, and are typically applied to an entire geographical area or sector.¹⁹

The Application of Strategic Environmental Assessments in Hong Kong

3.1 Sustainability Assessments and Strategic Environmental Assessments

Hong Kong has also employed SAs since 2002

In addition to EIAs and SEAs, since 2002 Hong Kong has also employed SAs. All bureaux and departments are required to carry out SAs of any new strategic initiatives or major programmes that may have noticeable or persistent impacts on the economic, environmental or social conditions of Hong Kong. The Sustainable Development Unit, which oversees the process, notes that “The sustainability assessment should be conducted at the early planning stage of a proposal. It should help scope out cross-sectoral issues and sensitive areas that require special attention or joint departmental examination at an early stage. It should also facilitate the relevant Bureaux or Departments to resolve the issues through a concerted effort.”²⁰

SAs have unique features, including a wide scope of consideration, the Computer-Aided Sustainability Evaluation Tool, and the exclusion of the public

While, as we shall see, the language is quite similar to that used to describe SEAs in Hong Kong, SAs are quite different in that i) they include social and economic considerations, ii) they are carried out against a set of predetermined indicators using computer software (the Computer-Aided Sustainability Evaluation Tool (CASET)), and iii) the SA process does not involve the public, nor are the results (other than very short summary statements) released to the public.

There are four CASET indicators relating to biodiversity.

- Area of managed marine habitat for conservation;
- area of managed terrestrial habitat for conservation;
- area of Hong Kong of high marine ecological value; and
- area of Hong Kong of high terrestrial ecological value.

These indicators are rudimentary, and other concerns about SAs have been noted.²¹ SAs are not analysed in any depth in this study, but it is important for the reader to know they are routinely employed, and how they differ from SEAs.

3.2 Triggers for conducting Strategic Environmental Assessments in Hong Kong

SEAs are undertaken for projects which fit one of these two categories

SEAs are undertaken in Hong Kong for two reasons (i.e. there are two kinds of trigger).

- Large development projects that fall under the definition of “Major Designated Projects” under Schedule 3 of the EIAO; and
- major projects, programmes or policies that meet certain administrative requirements (of which there is no single definition).

3.3 Major designated projects under the Environmental Impact Assessment Ordinance

The EIAO Major Designated Projects – mostly large-scale urban development projects – require an EIA to be approved

The EIAO, which became operational in 1998, requires a list of Designated Projects, including major urban development and redevelopment projects, to produce mandatory documentation and conduct public consultation. The major development and redevelopment projects are listed under Schedule 3 of the EIAO as Major Designated Projects, and are “regarded as SEA in many developed countries” according to the Environmental Protection Department (EPD).²²

Schedule 3 of the EIAO defines Major Designated Projects as either of the following.

- Engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100,000.
- Engineering feasibility study of redevelopment projects with a study area covering more than 100,000 existing or new population.

A Schedule 3 Designated Project requires an EIA report to be approved under sections 6 to 8 of the EIAO. Once approved, the EIA report will be placed on the Register established under the Ordinance, and can be referred to in subsequent applications.

3.4 Projects, programmes or policies that meet administrative requirements

Any major governmental programmes or policies are required to examine their potential environmental impacts, though there are no specific guidelines on when a SEA is required

Since 1988 the Hong Kong Government has made a series of commitments, from the issuance of more technical guidelines to high level declarations by the Chief Executive on policies, that relate to the need to conduct environmental and SAs for major development and policy proposals.

The EPD's SEA Knowledge Centre helpfully lists the announcements and policies that collectively form the administrative requirements.

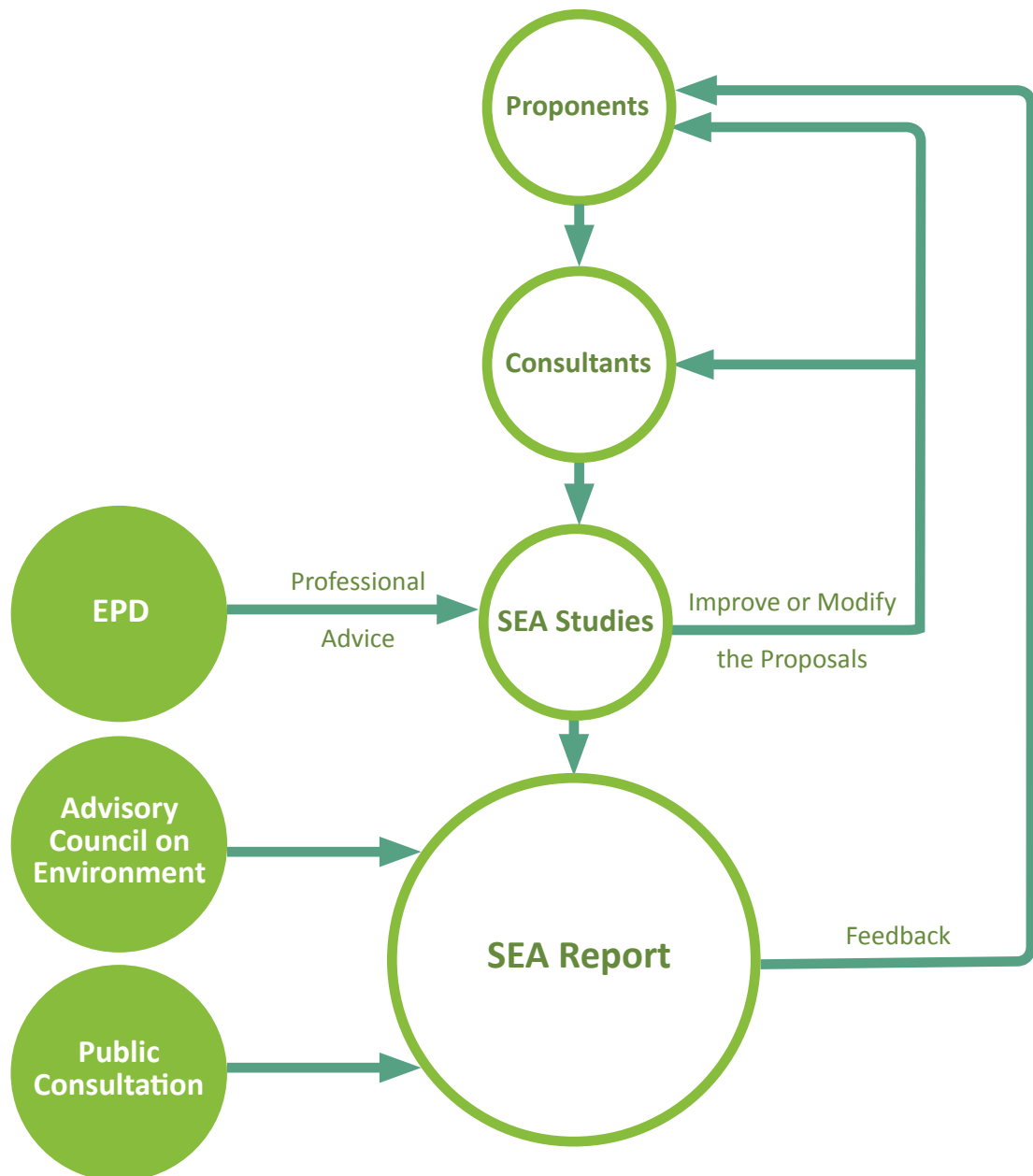
- In 1988, the government revised and issued a circular on environmental assessments for large-scale development projects including new town developments;
- since 1992, environmental implications arising from the proposals should be stated clearly in all submissions to the Executive Council;
- the 1999 Policy Address noted that all policy bureaux are required to carry out sustainability impact assessments for major policy proposals;
- since 2002, all major proposals have required "SA" and "Sustainability Implications"; and
- the 2005 Policy Address states that in future all new major government policies will be subject to environmental protection scrutiny.

While these announcements and policies are not explicit about the type of impact assessment required for different planning initiatives, the cumulative result of these administrative requirements is that any 'major' governmental policy or planning proposals will be required to examine their potential environmental impacts (whether through a SA and/or SEA). The Director of EPD is required to approve environmental statements that go to the Executive Council, Legislative Council etc., which is where EPD gets its mandate to get involved, regardless of who the proponent of the project or policy is. EPD, as the guardian of environmental issues, may require the project proponents to conduct a full SEA. EPD will also actively input on the design of the SEA to ensure it is of sufficient quality and 'fit for purpose'.

Importantly, Hong Kong has no formal SEA legislation²³ and there are no detailed guidelines for how to conduct SEAs in Hong Kong, i.e. there is no equivalent of the Technical Memorandum for EIAs. Those SEAs undertaken under Schedule 3 of the EIAO follow guidance in the Technical Memorandum for EIAs. There is a Hong Kong SEA Manual,²⁴ but the guidance is rather general and non-technical. The exact reason for this is unclear, but it is understood that this may have been the end result of political negotiations around the time when government was seeking support for the introduction of the EIAO.

In summary therefore, the integral involvement of EPD is the common element in all SEAs undertaken in Hong Kong, whether under the EIAO, or because of administrative requirements. Figure 1 below shows the general process, regardless of the trigger for conducting SEAs (reproduced from the Hong Kong SEA Manual).

Figure 1. The basic procedure for conducting SEAs in Hong Kong



3.5 Types of Strategic Environmental Assessments carried out in Hong Kong

SEAs are systematic processes with multi-stakeholder involvement for analysing future environmental implications. Three broad kinds are undertaken in Hong Kong

The following information was mostly compiled from the Environmental Protection Department’s online SEA Knowledge Centre.²⁵

SEAs first started to be used in Hong Kong in the late 1980s. Initially these were focused on issues relating to EIAs and development, but since the early 1990s have also been increasingly used to address broader issues related to sustainable development.²⁶

SEAs are defined by the Hong Kong Government as a “systematic process, with multi-stakeholder involvement, for analysing and evaluating environmental implications of proposed PPPs, for assisting in strategic or planning decision-making; and for following up strategic or planning decisions.”²⁷

Three broad kinds of SEAs are undertaken in Hong Kong.

- Comprehensive, quantified SEAs to fully inform decision makers, stakeholders and the public on the environmental implications of various PPPs, what follow-up actions are required, and how environmental considerations are to be integrated to achieve a sustainable solution. This form of SEA is usually applied in large-scale and long-term land use planning processes (e.g. *Hong Kong 2030: Planning Vision and Strategy*).²⁸
- Consideration of strategic environmental issues as part of an overall study to facilitate integration of environmental considerations when PPPs are formulated at an early stage of the study process. This form of SEA is used largely in transport and broad infrastructure planning to assess alternatives (e.g. *The Second Railway Development Strategy*,²⁹ *Land Use Planning for the Closed Area*).³⁰
- A relatively simplified SEA designed for quick PPP decision making. Such SEAs are carried out in a way similar to environmental appraisals in which environmental considerations are included as part of an internal governmental appraisal process to facilitate decision making. This form of SEA is mainly applied to PPPs with decisions that have to be made within a short time frame. The findings of these assessments are typically not released to the public, but it is understood that they may highlight the need to do a full SEA.

A study found that SEAs in Hong Kong tend to be "EIA-Inspired"

It is also worth mentioning that an SEA conducted in Hong Kong³¹ examined ten local SEAs conducted between 1989 and 2002, and concluded with reference to an important European review of SEAs,³² that SEAs in Hong Kong generally follow the “EIA-Inspired” model, defined as follows:

“Originating from ecological and/or resource management disciplines, and includes a baseline assessment of the preferred option or alternative locations. There is more emphasis on technical methodologies and a necessity to undergo a systematic assessment procedure. This form of SEA is generally used at the programme level and is often an incremental development from EIA.”³³

3.6 The importance of Strategic Environmental Assessments in Hong Kong

SEAs are key for optimising policy options with respect to both biodiversity and urban development

The following information was taken from the SEA Knowledge Centre:³⁴

“SEAs:

- serve as a vital step to achieve sustainable developments by incorporating the principles of sustainable developments into PPP and ensuring they are developed in a sustainable manner;
- can test out alternatives at a policy level before proceeding with site specific projects;
- can take up a pro-active role to steer developments toward environmentally “robust” areas or away from environmentally sensitive areas; and
- can oversee the cumulative impacts of relevant projects simultaneously at a higher level.

SEA is essential for informed decision-making. The aims of SEA are:

- To facilitate the search for sustainable development options or alternatives.
- To provide environmental information (including both adverse impacts and benefits) at the earliest stage of PPP formulation processes within a decision-making framework.
- To inform decision makers and the public about the environmental and sustainability implications of PPPs so as to improve decision-making processes.
- To address cumulative environmental impacts that cannot be fully addressed by individual project Environmental Impact Assessment (EIA).

These aims assist in achieving the following objectives:

- Promoting full consideration and integration of environmental implications at the early planning stage of major strategic PPPs;
- seizing opportunities to enhance environmental sustainability and quality; and
- avoiding environmental problems and identifying environmentally-friendly options.”

Strategic Environmental Assessments and the Convention on Biological Diversity

The CBD established guidelines for strategic environmental assessment in 2006

At its sixth meeting of the Conference of the Parties in Curitiba, Brazil in March 2006, voluntary guidelines for incorporating biodiversity-related issues into EIA legislation and/or processes and into SEA were adopted.³⁵ They provide detailed guidance on whether, when, and how to consider biodiversity in both project- and strategic-level impact assessments. The guidelines are an elaboration and refinement of guidelines previously adopted by the CBD (Decision VI/7-A), the Ramsar Convention on Wetlands (Resolution VIII.9) and the Convention on Migratory Species (Resolution 7.2).

4.1 Impact assessment³⁶

Impact assessments are driven by four principles: no net loss to biodiversity, a precautionary attitude, indigenous knowledge and multi-stakeholder participation

Impact assessment is a key tool for ensuring that development gives appropriate consideration to biodiversity, and is recognised as such by CBD, the Ramsar Convention and the Convention on the Conservation of Migratory Species of Wild Animals. The CBD asks that Parties apply impact assessment to those projects, programmes, plans and policies that may negatively impact biodiversity.

Biodiversity should be addressed at all levels of impact assessments, from EIA carried out for individual projects (EIA) to the SEA of PPP.

Four principles should be applied during impact assessments.

- **No net loss.** Integral to the CBD is that further loss of biodiversity must be prevented. As such, irreplaceable biodiversity loss must not be allowed to occur, while the loss of other biodiversity should be compensated in terms of quantity and quality.
- **The precautionary principle** calls for a “risk-averse and cautious approach in cases where impacts cannot be predicted with confidence, and/or where there is uncertainty about the effectiveness of mitigation measures. If the impacts on important biodiversity resources cannot be established with sufficient certainty, the activity is either halted until enough information is available, or a “worst-case” scenario is adopted with regard to biodiversity impact, and the proposal, its implementation and management are designed to minimise risks to acceptable levels.”³⁷

- **Local, traditional and indigenous knowledge** should be utilised during impact assessments to capture a complete range of views on biodiversity issues.
- **Participation.** Stakeholders, whether groups or individuals, may have interests in the maintenance or use of biodiversity, and should be included in the impact assessment process.

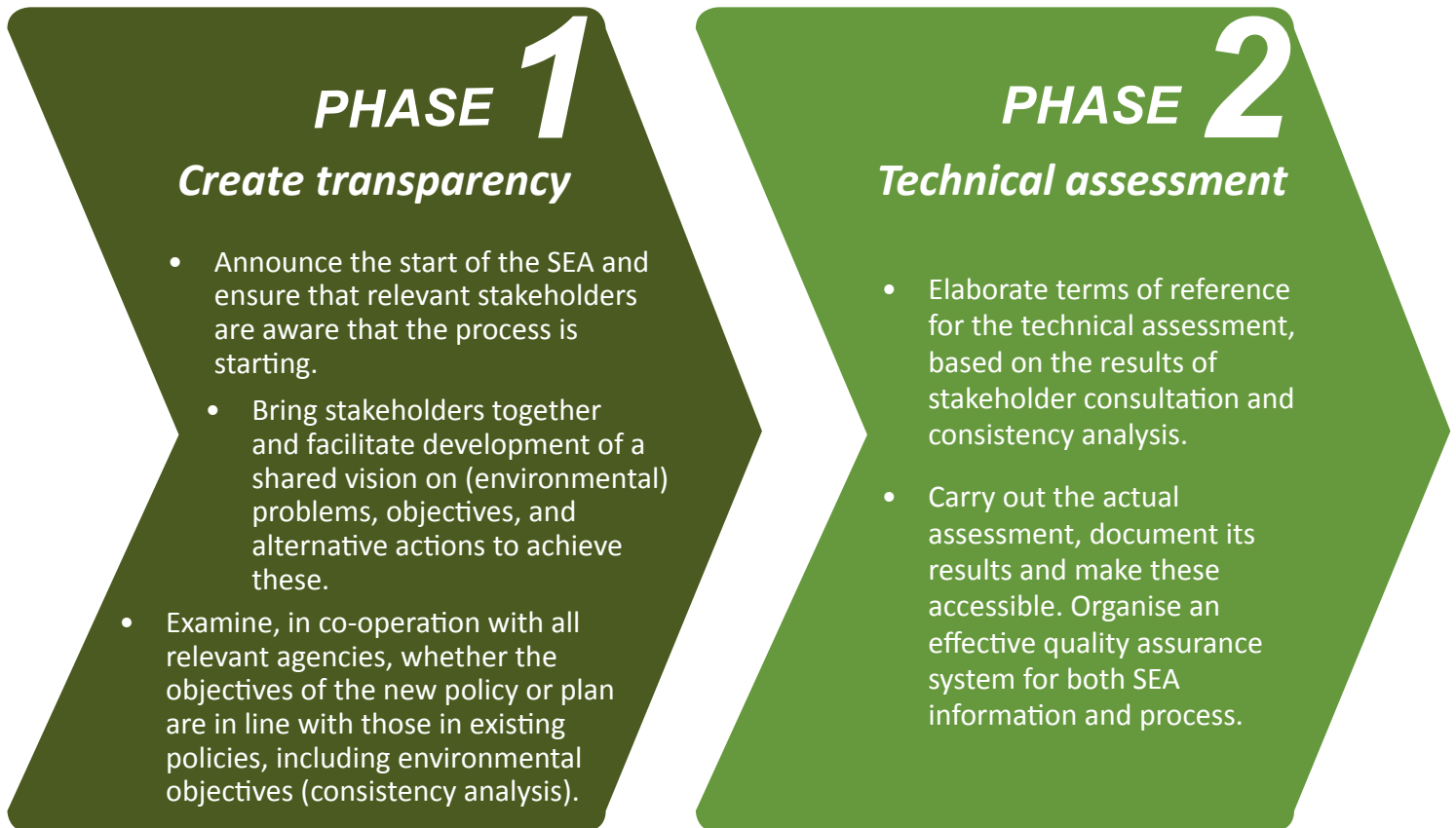
This guidance was specifically intended to assist in better incorporated biodiversity into SEAs at a time when SEAs are increasingly being incorporated into national procedures for environmental assessments. It is quite generic in nature, and does not recommend a particular procedure to be followed for SEAs, nor does it provide guidance on technical aspects. Instead, it notes that best-practice SEAs should be conducted as part of a planning/policy development process, and that such processes will differ between countries and by the scope of the particular SEA. The guidance is fully consistent with the Ecosystem Approach though (CBD decision V/6 and VII/11). It focuses on people-nature interactions and the role of stakeholders in identifying and valuing potential impacts on biodiversity.

The guidance does provide some specific guidance on process and principles, and notes that “SEA is not a mere expansion of an EIA and it does not usually follow the same stages as an EIA”.³⁸

SEA, by its nature, covers a wider range of activities or a wider area and often over a longer time span than the EIA of projects. SEA might be applied to an entire sector (such as a national policy on energy, for example) or to a geographical area (for example, in the context of a regional development scheme). SEA does not replace or reduce the need for project-level EIA (although in some cases it can), but it can help to streamline and focus the incorporation of environmental concerns (including biodiversity) into the decision-making process, often making project-level EIA a more effective process.

4.2 Phases for conducting Strategic Environmental Assessments

The CBD guidance usefully notes that good-practice SEAs can be characterised by the following phases.



SEAs have four main phases: creating transparency, conducting the assessment, applying the information to decision-making, and monitoring follow-up action

The four principles for impact assessment (see section 4.1) provide useful benchmarks for evaluating SEAs performed in Hong Kong. Of those, the principle of “participation” can best be evaluated against the specific advice for the SEA process (i.e. the four-phase approach described here which covers stakeholder participation), rather than the generic guidance for all impact assessments.

These definitions help to clarify SEAs' focus on biodiversity

4.3 Interpreting biodiversity in Strategic Environmental Assessments

The way in which biodiversity is interpreted under the CBD can be summarised as below:

- In SEA, biodiversity can best be characterised in terms of ecosystem services. These services represent ecological or scientific, social (including cultural) and economic values for society and can be linked to stakeholders. Stakeholders can represent biodiversity interests and can consequently be involved in an SEA process.
- Direct drivers of change are human interventions (activities) resulting in biophysical and social effects with known impacts on biodiversity and associated ecosystem services

PHASE 3

Use information in decision making

- Bring stakeholders together to discuss results and make recommendations to decision makers.
- Make sure any final decision is motivated in writing in light of the assessment results.

PHASE 4

Post-decision monitoring and evaluation

- Monitor the implementation of the adopted policy or plan, and discuss the need for follow-up action.

(e.g. land conversion, habitat fragmentation, extraction of living organisms, emission of pollutants).

- Indirect drivers of change are societal changes, which may under certain conditions influence direct drivers of change, ultimately leading to impacts on ecosystem services (e.g. human demographic shifts, global and national economic changes, technological shifts).
- To determine potential impacts on ecosystem services, one needs to assess whether the ecosystems providing these services are significantly impacted by the policies, plans or programmes under study. Impacts can best be assessed in terms of changes in composition (what is there), changes in structure (how is it organised in time and space), or changes in key processes (what physical, biological or human processes govern the creation and/or maintenance of ecosystems).

Three levels of biodiversity are distinguished under the CBD: genetic, species, and ecosystem diversity. "In general, the ecosystem level is the most suitable level to address biodiversity in SEA, but situations with a need to address lower levels will occur."³⁹

4.4 Biodiversity triggers for conducting Strategic Environmental Assessment

SEAs are conducted with a special attention to biodiversity if direct effects to ecosystem services or planned activities which could indirectly affect the ecosystem are anticipated to be significant

To be able to make a judgement on whether a policy, plan or programme has potential biodiversity impacts, two elements are of overriding importance: (i) affected area and ecosystem services linked to this area, and (ii) types of planned activities that can act as drivers of change in ecosystem services.

When any one or a combination of the conditions below apply to a policy, plan or programme, special attention to biodiversity is required in the SEA of this policy, plan or programme.

- **Important ecosystem services.** When an area affected by a policy, plan or programme is known to provide one or more important ecosystem services, these services and their stakeholders should be taken into account in an SEA. Geographical delineation of an area provides the most important biodiversity information as it is possible to identify the ecosystems and land-use practices in the area, and identify ecosystem services provided by these ecosystems or land use types. For each ecosystem service, stakeholder(s) can be identified who preferably are invited to participate in the SEA process. Area-related policies and legislation can be taken into account;
- **Interventions acting as direct drivers of change.** If a proposed intervention is known to produce or contribute to one or more drivers of change with known impacts on ecosystem services, special attention needs to be given to biodiversity. If the intervention area of the policy, plan or programme has not yet been geographically defined (e.g. in the case of a sector policy), the SEA can only define biodiversity impacts in conditional terms: impacts are expected to occur in case the policy, plan or programme will affect certain types of ecosystems providing important ecosystem services. If the intervention area is known it is possible to link drivers of change to the ecosystem service and its stakeholders;
- **Interventions acting as indirect drivers of change.** When a policy, plan or programme leads to activities acting as indirect drivers of change (e.g. a trade policy, a poverty reduction strategy, or a tax measure), it becomes more difficult to identify potential impacts on ecosystem services. In broad terms, biodiversity attention is needed in SEA when the policy, plan or programme is expected to significantly affect the way in which a society:
 - consumes products derived from living organisms, or products that depend on ecosystem services for their production;
 - occupies areas of land and water; or
 - exploits its natural resources and ecosystem services.

4.5 The Aichi Biodiversity Targets and Strategic Environmental Assessment

SEAs support the Aichi Targets for integrating biodiversity values into policy-making and attaining sustainable consumption and production

SEAs have been identified as an important tool to support the delivery of two of the CBD Strategic Plan for Biodiversity 2011-2020 Aichi Biodiversity Targets:⁴⁰ Targets 2 and 4.

“Aichi Target 2. Biodiversity values integrated

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

Aichi Target 4. Sustainable Consumption and Production

By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.”

4.6 Strategic Environmental Assessment and the Convention of Biological Diversity – the experience of other countries

Impact assessments are becoming globally recognised and have been implemented in most CBD member countries

Impact assessment processes are in place and applied in many countries, yet biodiversity is often inadequately addressed. There is a growing recognition of the need to better reflect biodiversity considerations in EIAs and in SEAs. Important barriers to the incorporation of biodiversity in impact assessment include low priority for biodiversity and limitations in one or more of the following areas: capacity to carry out the assessments; awareness of biodiversity values; adequate data; and post-project monitoring. SEAs have high potential for addressing biodiversity in planning and decision making, but there are challenges to their application.⁴¹

The third national reports prepared under the CBD confirm that nearly all responding Parties have impact assessment legislation and procedures at project level (EIA) in place. More than half of responding Parties have also developed impact assessment legislation and procedures for programmes and policies (SEA), while many others are in the process of developing SEA legislation and procedures. Only one and three Parties, respectively, reported not having an EIA or SEA policy.⁴²

However, the same global review of national BSAPs found that SEAs were not applied nearly as often as EIAs and, “in spite of Article 14 and the obvious potential of SEA for mainstreaming biodiversity across sectors, the concept appears in only a very few national BSAPs.” SEAs are more commonly employed in developed countries, e.g. the European Union which has comprehensive SEA legislation.

4.7. Methodology

In order to examine whether the use of SEAs in Hong Kong conforms to the CBD's guidelines on impact assessment, and provides appropriate support for mainstreaming the BSAP, this study employed (i) a desktop study, and (ii) interviews with academic experts, environmental advocates and environmental consultants to analyse how SEAs are currently conducted and when, and to formulate recommendations.

In particular, the desktop study examined both statutory and administrative requirement SEAs, against:

- general principles of SEAs (as discussed in Section 2, and summarised in Table 1); and
- the CBD's four principles for impact assessments (e.g. no net loss, precautionary principle, etc.), including the four phases detailed for achievement of the participation principle in a SEA (see Section 4.2).

Only those SEAs conducted in the past ten years and highlighted by the SEA Knowledge Centre were analysed (Tables 2 and 3), as SEAs have evolved since they were first conducted in Hong Kong in the late 1980s, so these should represent current best practice.

Table 2. SEA reports completed in the past ten years, and triggered by administrative requirements

Date	Project
2003	Extension of Existing Landfills, and Identification of Potential New Waste Disposal Sites ⁴³
2005	Territory-wide Implementation Study of Water-cooled Air Conditioning Systems in Hong Kong ⁴⁴
2007	Hong Kong 2030: Planning Vision and Strategy ⁴⁵
2010	Land Use Planning for the Closed Area – Feasibility Study ⁴⁶

Table 3. SEA reports completed in the past ten years, and triggered by Schedule 3 of the EIAO as major designated projects

Date of Approval	Project
2005	Further Development of Tseung Kwan O Feasibility Study ⁴⁷
2008	Proposed Comprehensive Development at Wo Shang Wai, Yuen Long ⁴⁸
2008	Wan Chai Development Phase II, and Central – Wan Chai Bypass ⁴⁹
2009	Kai Tak Development ⁵⁰

5.1 General observations

The following is a synthesis of discussions with experts, and the author's own findings.

5.1.1 Hong Kong has more than two decades of experience in carrying out SEAs, and a wide range of SEAs have been carried out

Hong Kong has extensive experience with SEAs

SEAs undertaken in the past decade alone range from planning studies covering the long-term development of the entire territory, large transport and infrastructure projects and significant new policies (see Appendix 1). There is considerable expertise within the EPD, which is the common link and guardian for all SEAs carried out in Hong Kong. The EPD has established a SEA Knowledge Centre on-line which includes a *Hong Kong Strategic Environmental Assessment Manual*, examples of SEAs carried out in Hong Kong, and information on SEAs from Mainland China and overseas.

5.1.2 There should be appropriate oversight for SEAs

The Advisory Committee for the Environment can review all SEAs

According to the SEA Knowledge Centre, the public should have the opportunity to comment on all draft SEA reports during a public consultation period (at the least and may have multiple occasions to input), and the independent watchdog, the Advisory Council on the Environment (ACE), which is the highest-level advisory body to the government on environmental issues, will have the opportunity to review all SEAs. ACE is kept updated on all ongoing SEAs but typically chooses not to review all of them.

5.1.3 The process for triggering and undertaking SEAs under the EIAO is clear

The first criteria for undertaking SEAs is clear

Schedule 3 clearly delineates the types of projects that are classified as Major Designated Projects, and the EIAO and its Technical Memorandum (and associated Guidelines) provide considerable structure and guidance on how the SEA (as a form of EIA) should be undertaken.

5.1.4 The process for triggering and undertaking SEAs under administrative requirements is far from clear

However, the second criteria lacks a legally prescribed process

There are no clear guidelines for triggering a SEA under administrative requirements. Under the header "When should SEA be conducted", the SEA Knowledge Centre simply states "To achieve sustainable environmental outcomes rather than being just an academic exercise, SEA should be carried out at the earliest possible stage and should tie in with the critical decision-making stages of PPPs being considered."

The lack of a legally prescribed process and triggers for conducting non-statutory SEAs on policies and programmes under administrative requirements results in a somewhat opaque situation as to how and when they get undertaken.

5.1.5 Observations on SEAs conducted under Schedule 3 of the EIAO

SEAs have been conducted according to a variety of approaches thus far

While EPD notes that impact assessments conducted for Schedule 3 projects are “regarded as SEA in many developed countries”⁵¹ they are conducted according to the Technical Memorandum for EIAs. In addition, the CBD guidance on SEAs states that “SEA is not a mere expansion of an EIA and it does not usually follow the same stages as an EIA”⁵² (see section 4.1). This raises the question of whether in practice the Schedule 3 project studies are more EIA, or SEA in nature?

Analysis of the four impact assessments which were undertaken under Schedule 3 of the EIAO, and which EPD notes “are regarded as SEA in many developed countries” reveals a variety of approaches, depending on the nature and scale of the project. However, all the reports that the SEA Knowledge Centre links to consist primarily of a full EIA.

The situation is further complicated because some of the studies were commissioned at the end of the planning process, but had prior phases that showed SEA-like attributes, such as gaining public input when formulating some of the fundamental principles for the project. Overall though, against modern definitions of impact assessments and CBD guidance, these studies appear far more similar to EIAs than SEAs.

5.1.6 SEAs are not being undertaken for some projects with major policy implications to the environment

Some SEAs for major policies have been lacking

In considering whether SEAs are being undertaken under administrative requirements for all Major Projects, two large infrastructure projects stand out, the Hong Kong-Zhuhai-Macao Bridge, currently under construction, and the potential third runway at Hong Kong International Airport. Both represent significant changes in transportation policy, which by their nature will have wide-ranging environmental impacts to Hong Kong far beyond the immediate vicinity of where they are sited (e.g. increased traffic on Hong Kong’s roads with associated increases in noise and air pollution). However, neither triggered a SEA under administrative requirements (nor were either considered in detail in the *Hong Kong 2030 SEA* - which assumed that no new reclamation would take place), despite transportation policies having previously been the subject of SEAs (e.g. *The Third Comprehensive Transport Study*,⁵³ and *The Second Railway Development Strategy*⁵⁴). Instead, EIAs for these two large projects have been undertaken whose impacts are limited to the immediate area likely to be impacted (and adjacent projects).

The lack of a policy SEA for the potential third runway did not go unnoticed. Several environmental NGOs and the Legislative Council demanded in 2012 that the Hong Kong Airport Authority conduct a Social Return on Investment (SROI) study,⁵⁵ to better understand the broad environmental (and social) impacts to Hong Kong.⁵⁶

The lack of clear guidelines or statutory requirements for conducting SEAs under administrative requirements (see section 5.1.4) seems to have contributed to a situation where the administration is rather selective in choosing when a SEA is triggered.

5.2 Observations on the application of Strategic Environmental Assessments in Hong Kong with regard to Convention of Biological Diversity guidance, and actual SEAs under taken in the past ten years

Appendix 1 provides details of the analysis of SEAs undertaken in the past ten years.

5.2.1 Application of the four CBD principles for conducting impact assessments (see section 4.1)

Application of the precautionary principle

The Technical Memorandum of the EIAO notes (only) the following about the precautionary principle:

The likelihood of impacts should be measured; if adverse environmental impacts are uncertain, the principle should be applied

“4. Environmental Impact Assessment (EIA) Report

4.4.3 Evaluation of the Residual Environmental Impacts:

The residual environmental impacts refer to the net environmental impacts after mitigation, taking into account the background environmental conditions and the impacts from existing, committed and planned projects. When evaluating the residual environmental impacts (the net impacts with the mitigation measures in place), the following factors shall be considered:

(a) the importance of the residual environmental impacts in terms of the following factors:

(x) both the likelihood and degree of uncertainty of adverse environmental impacts: If the adverse environmental impacts are uncertain, they shall be treated more cautiously than impacts for which the effects are certain and the precautionary principle shall apply.”

As can be seen, under the Technical Memorandum the precautionary principle only applies to a specific area of the impact assessment, and therefore has a narrower interpretation than under the CBD

guidelines. Separately, some interviewees for this study noted that EPD (as the guardian of the EIAO, and with the support of its technical partner, the AFCD) tends not to acknowledge areas where the likelihood and degree of uncertainty of adverse environmental impacts is unclear. None of the Schedule 3 impact assessments undertaken under the EIAO mention the precautionary principle.

This principle was not mentioned in the Hong Kong SEAs analysed

The term “precautionary principle” was not mentioned in the four recent non-statutory SEAs analysed either, nor was other evidence found that the principle had been applied. This may be partially because as Hong Kong is so small but well studied, for the high level assessment of a SEA it may be felt that impacts to the environment can generally be predicted.

Irreplaceable biodiversity loss should not occur

No net loss

The CBD defines the no net loss principle as follows - “Irreplaceable biodiversity loss must not be allowed to occur, while the loss of other biodiversity should be compensated in terms of quantity and quality”.⁵⁷ However, the EIAO permits the permanent loss of biodiversity (such as through reclamation) that is considered to be of low ecological value, or low value to extractive uses such as fisheries, or where the loss is deemed not significant, without mitigation or compensation. Mitigation and/or compensation is required for biodiversity of high value that cannot be avoided.

While some aspects of this comparison are quite subjective (e.g. what precisely is the definition of “irreplaceable biodiversity”), and could provoke long academic debate, it is clear that the EIAO allows the loss of biodiversity judged to be of lower ecological value without compensation, which is contrary to the CBD guidance.

This principle has been applied consistently in Deep Bay only

The only area where the no net loss principle has been consistently applied is developments in the Deep Bay area, in which the principle of “no net loss in wetland” (in terms of area, function, or both) has been applied under the Town Planning Board (TPB) Guidelines for Application for Developments Within Deep Bay Area.⁵⁸ Both statutory and non-statutory SEAs (Proposed Comprehensive Development at Wo Shang Wai, Yuen Long,⁵⁹ and Land Use Planning for the Closed Area⁶⁰ studies, respectively) applied this principle.

Apart from the TPB Guidelines; which are mandatory, no mention of “no net loss” was made in any of the statutory or non-statutory SEAs examined, and the impression is that the non-statutory SEAs are following the practice of EIAs whereby the loss of lower-value biodiversity without compensation is acceptable.

Only some SEAs to date have sought traditional knowledge

Local, traditional and indigenous knowledge

There is no guidance in the EIAO Technical Memorandum on incorporating local, traditional or indigenous knowledge.

In practice, some SEAs in rural areas (notably the statutory *Proposed Comprehensive Development at Wo Shang Wai, Yuen Long*,⁶¹ and non-statutory *Land Use Planning for the Closed Area*⁶²

studies) sought input from fishpond farmers/owners, and nearby rural communities, respectively. SEAs conducted in urban areas (e.g. the *Territory-wide Implementation Study of Water-cooled Air Conditioning Systems (WACS) in Hong Kong*,⁶³ and non-statutory *Kai Tak Development Engineering Study*)⁶⁴ did not seek traditional knowledge (perhaps understandably given that traditional knowledge is less likely to be relevant in highly developed areas). It was also observed that potentially relevant knowledge was not sought from fishing communities on an area of sea suggested for reclamation in a semi-urban environment (*Further Development of Tseung Kwan O Feasibility Study*).⁶⁵

Participation has been a strong feature of impact assessments conducted in Hong Kong

Participation

All EIAs and SEAs conducted in Hong Kong are required to include participation by stakeholders, and indeed this is a statutory requirement for all impact assessments conducted under the EIAO. This is a particularly strong feature of the Hong Kong legislation for conducting impact assessments. While there may be room for improvement, e.g. NGOs and academics frequently note that i) project proponents have often already decided on a limited range of outcomes prior to consultation and ii) how the project proponent does/does not incorporate input from public consultations is often not transparent, there is good compliance with the CBD guidelines for stakeholder participation in impact assessments.

SEAs do not follow the CBD guidelines for transparency though. Different SEA objectives have had different levels of success in creating transparency

Regarding the four phases laid out by the CBD for conducting SEAs (see section 4.2), the picture is more complicated. Analysis of the four statutory SEAs reveals different processes for engaging stakeholders, but generally these SEAs follow Phase 2 (technical assessment) and Phase 3 (use information in decision making). However, current practice, whereby project proponents devise their own specific objectives for the project before involving stakeholders, is contrary to the CBD guidelines for Phase 1 (transparency) to “Bring stakeholders together and facilitate development of a shared vision on (environmental) problems, objectives, and alternative actions to achieve these”.

The Schedule 3 SEA which appears closest to following the CBD recommended Phase 1 approach is the Wan Chai Development Plan,⁶⁶ which had an initial “Envisioning Stage” where the public provided their visions, wishes and concepts, as well as sustainability principles and indicators, as a basis for the development of the Concept Plan. However, even for this SEA, it appears that the project proponent integrated or discarded stakeholder input in a largely non-transparent fashion, which is contrary to the intent of the Phase 1 guidance. Conversely, the *Proposed Comprehensive Development at Wo Shang Wai, Yuen Long*,⁶⁷ a private development on 21 ha, demonstrated a better process of continuous public involvement, as the main stakeholder input was focused on several design options for a residential development (and wetland restoration).

Analysis of the non-statutory SEAs reveals that the *Kai Tak Development*⁶⁸ project started with a three-phase public consultation which allowed the public to contribute to establishing the basic planning principles for a large (328 ha) mixed-use site (i.e. following quite closely the CBD guidance). However, the *Extension of Existing Landfills*, and *Identification of Potential New Waste Disposal Sites*⁶⁹ SEA, remarkably, did not facilitate stakeholder input at all in the early stages, and as far as can be ascertained did not undergo public consultation.

One interviewee noted that for the *Kai Tak Development*⁷⁰ plan, once the SEA was approved and the land use plan provided to the (different) relevant government departments, that any unresolved stakeholder issues (including useful suggestions) disappeared, suggesting a key loss in continuity once the department responsible for conducting the SEA handed it on.

Phase 4 (post-decision monitoring and evaluation) is relatively easy to track for statutory SEAs as any subsequent project's associated Environmental Permits and Environmental Monitoring and Audit can be found on the EPD website. Some information could also be found to indicate what had happened to projects once their non-statutory SEAs had been completed - at least for development projects (on the websites of their proponents) - but this was much more difficult for policy-related SEAs.

5.2.2 Analysis of impacts at an ecosystem level

SEAs have addressed biodiversity at the species and habitat level instead of the ecosystem level

As was previously noted, the CBD guidance is that "in general, the ecosystem level is the most suitable level to address biodiversity in SEA" (see section 4.3). The EIAO focuses on impacts on species and habitats (as is appropriate for EIAs), and in fact all SEAs examined primarily focused on species and habitats. Some SEAs considered ecosystems in a somewhat cursory manner, and only those that impinged on the Deep Bay area (a Ramsar site with a distinct ecosystem) treated impacts to the ecosystem in any depth.

It is worth noting that some of the Schedule 3 SEAs were quite small in size (Schedule 3 includes any sites greater than 20 ha) and as was noted before (section 2.9), it may be difficult to properly assess the significance of impacts to biodiversity from small development projects when biodiversity processes are occurring at much larger scales.

Hong Kong has excellent potential to use SEAs to mainstream the BSAP, though the process of conducting SEAs needs to be updated to be consistent with the CBD

One of the main purposes of conducting this study was to examine the potential for using SEA as a tool to incorporate appropriate consideration of Hong Kong's biodiversity objectives and the BSAP itself into major planning exercises. In answer to that question, Hong Kong has excellent potential to use SEAs to mainstream the BSAP, and is in an enviable position. The territory has two decades of experience in formulating a good diversity of SEAs. It has an authority responsible for overseeing the process and quality of findings, a minimum requirement for involving the public, and a high-level external committee that acts as a watchdog. Hong Kong currently has no overall vision or objectives for conserving biodiversity, but these will be formulated for the BSAP (see Kilburn and Kendrick 2011⁷¹ for examples).

However, the analysis suggests the way that SEAs are conducted needs to be updated in order to be consistent with the CBD. This is one of the most predictable findings of this study, as the fundamentals for conducting SEAs in Hong Kong were established decades ago (and probably without much consideration of the CBD), whereas the CBD practices and guidance continue to be updated.

Furthermore, the overarching recommendation of this report is firstly that - following in the footsteps of EIAs in the mid-90s - the procedures for conducting SEAs need to be formalised (and made distinct from EIAs in the case of Schedule 3 projects).

Just as important is that SEAs should assess impacts to biodiversity with reference to the BSAP, and that a fundamental principle for new projects, policies and programmes should be that they do not undermine Hong Kong's objectives for the conservation and sustainable use of biodiversity.

The following recommendations detail how this can occur.

6.1 Strategic Environmental Assessments conducted under administrative requirements need to be formalised

It is necessary to introduce legislation specific to SEAs to ensure that they are retained as a vital planning tool

SEAs currently undertaken on major projects and policies because of administrative requirements include some of the most wide-ranging and important SEAs in Hong Kong. They are critically important to the sustainable development of Hong Kong, and to the successful implementation of the BSAP's (yet to be defined) biodiversity objectives. However, their continued existence is vulnerable to policy changes. Furthermore, while a SEA under administrative requirements is triggered by a "major" governmental policy or planning proposal, this term has not been defined in any detail.

It is worth contrasting this with the EIA system, and in particular the environmental permit system. Developments cannot go ahead without such a permit, and to obtain the permit, project proponents have to fulfill the specifications in the EIAO Technical Memorandum, meet with EPD during the study process, and to consult ACE and the public. To grant such a permit, EPD also has to adhere to the requirements of the Technical Memorandum, as failure to do so may result in the permit being overturned in the court through judicial review. Thus, even though the process for conducting EIA is legislated and highly prescribed, it is actually the issuing of the environmental permit that keeps the system honest. There is currently nothing close to an equivalent for non-statutory SEAs.

In the longer term, introducing legislation specifically for SEAs is undoubtedly necessary to ensure that SEAs are retained as a vital planning tool, and they are consistently employed to evaluate large projects, plans and policies that are likely to significantly impact biodiversity. It is beyond the scope of this report to suggest the most appropriate legislative route to make this happen, but one suggestion would be to create new schedules and Technical Memorandum under the EIAO that are specific to SEAs.

Until the legislation is complete, it would be practical for the government to start laying out guidelines for SEAs

Changing existing, or introducing new, legislation generally takes years, and in the meantime, a powerful and practical measure would be for government to:

- provide a list of the types of projects, plans and policies that constitute “major proposals” requiring SEAs, in order to provide greater clarity on the existing administrative requirements;
- lay out a clear and transparent process for triggering SEAs for upcoming “major proposals” under administrative requirements;
- in the case of multiple projects that cumulatively meet the definition of a “major proposal” and which may have different proponents, provide guidance on which authority is responsible for triggering and conducting SEA; and
- provide detailed guidance on conducting SEAs (under administrative requirements), including requiring that the four principles laid out by the CBD should be used by SEAs (see Section 6.3 below for a more detailed discussion).

The CBD does offer guidance on how to assess whether there is a need to undertake an SEA, which could be adapted and used for Hong Kong. The following is modified from the *Voluntary Guidelines on Biodiversity-Inclusive Environmental Impact Assessment*.⁷²

To be able to make a judgement if a policy, plan or programme has potential biodiversity impacts, two elements are of overriding importance: (i) affected area and ecosystem services linked to this area, and (ii) types of planned activities that can act as drivers of change in ecosystem services.

CBD guidance on triggering SEAs could be adopted

When any one or a combination of the conditions below apply to a policy, plan or programme, an SEA should be conducted of this policy, plan or programme, and with specific reference to the impact of the PPP on biodiversity.

- **Important ecosystem services.** When an area affected by a policy, plan or programme is known to provide one or more important ecosystem services, these services and their stakeholders should be taken into account in an SEA.
- **Interventions acting as direct drivers of change.** If a proposed intervention is known to produce or contribute to one or more drivers of change with known impact on ecosystem services, special attention needs to be given to biodiversity through a SEA.
- **Interventions acting as indirect drivers of change.** When a policy, plan or programme leads to activities acting as indirect driver of change (e.g. a trade policy, a poverty reduction strategy, or a tax measure), it becomes more difficult to identify potential impacts on ecosystem services, and a SEA should be considered.

6.2 Impact assessments conducted under Schedule 3 of the Environmental Impact Assessment Ordinance should not be referred to as Strategic Environmental Assessments

The term SEA is applied to a broad array of impact assessments with some commonalities. As such, and has already been noted, the CBD guidance for conducting SEA is generic in nature, and does not recommend a particular procedure to be followed, nor does it provide guidance on technical aspects. It would be understandable, therefore, if the term SEA is confusing, at least to non-practitioners.

EIAs should be distinguished from SEAs in nomenclature

Given the potential for confusion, and the analysis of impact assessments conducted under Schedule 3 of the EIAO (see section 5.1.5 above), it is recommended that government stops referring to such studies in the SEA Knowledge Centre as similar to SEAs. In the first instance the CBD guidance states explicitly that “SEA is not a mere expansion of an EIA and it does not usually follow the same stages as an EIA”.⁷³ Furthermore, SEAs should be undertaken at the beginning (not the end) of the planning process, they should involve stakeholders to jointly define planning parameters, and would normally consider a wide range of alternatives, which generally does not occur for the Schedule 3 impact assessments.

In recognition of the intent to create more wide-ranging impact assessments that can result in avoidance of impacts to valuable biodiversity for Schedule 3 projects, it is recommended that:

- a Guidance Note specific to conducting EIAs under Schedule 3 be formulated, that highlights any differences in the desired approach from Schedule 2 EIAs; and

- consideration be given to creating a new term for Schedule 3 EIAs e.g. “Extended EIAs”.

6.3 Incorporating Convention of Biological Diversity principles

The BSAP should specify guidelines for SEAs to be conducted in line with the four CBD principles

In adapting the four CBD principles for SEAs performed in Hong Kong, it would be useful for the BSAP and/or government to provide some specific guidance as follows:

No net loss

A more practical definition of no net loss should be formulated, that makes reference to the importance (or not) of implementing no net loss in relation to achieving the (yet-to-be-defined) BSAP vision, mission and objectives. This will allow for consistent application of the principle.

Precautionary principle

This principle, as defined by the CBD, should be applied wherever relevant in SEAs (i.e. not limited to the use currently stated in the Technical Memorandum).

Participation

Any guidance on participation in SEAs should include a requirement to use the CBD’s recommended four-phase process:

Phase 1: Create transparency

Phase 2: Technical assessment

Phase 3: Use information in decision making

Phase 4: Post-decision monitoring and evaluation

Local, traditional and indigenous knowledge

Despite Hong Kong’s increasingly artificial landscapes, traditional knowledge in less-developed areas can still provide useful information that could not be gained simply by conducting field surveys, or through desktop research. However, seeking such knowledge can be problematic in Hong Kong in the current political environment, where there may be monetary incentives to undervalue, or overvalue, the biodiversity of a given area. For example, *ex gratia* payments for loss of fishing grounds are based on the commercial value of catches in a given area. This data is collected through the Port Survey interviews of fishers, so there may be an incentive to overreport catches in an area that may be reclaimed.

In summary, careful consideration needs to be given to how best to collect and incorporate local and indigenous knowledge so that it is informative and accurate. This may include trying to collect such information in a way that is not specific to the project or policy being examined.

In particular, careful consideration should be given to how traditional knowledge is collected and incorporated

6.4 Guidance on assessing impacts on ecosystems and climate change

There should also be more guidance for assessing impacts on ecosystems

As noted previously, the CBD recommends that SEAs should examine impacts on biodiversity at the level of ecosystems. However, applying this for relatively small projects, and in urban and semi-urban environments, may not be straightforward. As such it would be useful to provide practical guidance on the assessment of impacts on ecosystems in Hong Kong, and identify the most important ecosystem services for the territory.

Additionally, guidance on assessing the impacts to climate change may well be necessary. While EIAs in Hong Kong are not currently required to assess the impacts of greenhouse gases and other factors that may impact climate change, the Hong Kong Government is currently formulating policies and strategies to mitigate climate change,⁷⁴ and it seems logical (at least to this author) that SEAs (and for that matter EIAs) should address climate change impacts. One of the SEAs analysed, the *Extension of Existing Landfills, and Identification of Potential New Waste Disposal Sites*,⁷⁵ did examine greenhouse gas emissions at a strategic level.

Furthermore, a review of the application and effectiveness of the EU Directive on SEAs⁷⁶ noted that many member states mentioned that the lack of a well-established methodology to determine climate change impacts was a particular problem, and recommended that there should be further development of specific guidelines. Hong Kong can learn from this.

6.5 Tracking decisions made following the completion of a Strategic Environmental Assessment

(i.e. CBD Phase 4, post-decision monitoring and evaluation)

The guidelines for conducting phase 4 in the EU Directive on SEAs can be applied to Hong Kong

There is no prescribed mechanism for tracking whether the recommendations of non-statutory SEAs are adopted, nor any way in which the public can be involved in post-SEA report production.

When a project, programme or policy is adopted, relevant information should be made public. This could follow the same process as for the EU Directive on SEAs,⁷⁷ adapted as follows:

Provision of information on the decision

When the plan or programme is adopted, the public shall be informed and the following made available to those so informed:

- the plan or programme as adopted;
- a statement summarising how environmental considerations have been integrated into the plan or programme, and how the SEA and opinions during any public consultation and stakeholder engagement have been taken into account, and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and
- the measures decided concerning monitoring.

6.6 Integration of the Biodiversity Strategy and Action Plan into Strategic Environmental Assessments (and Sustainability Assessments)

BSAP's stated vision, mission and objectives should be incorporated into SEAs to achieve the goal of mainstreaming biodiversity

Mainstreaming biodiversity means to integrate or incorporate actions related to conservation and sustainable use of biodiversity into policies, plans and programmes.⁷⁸ SEAs will only serve to mainstream the BSAP if they explicitly make reference to it. Just as one of the main roles that SEAs play is to avoid direct impacts to biodiversity by considering alternatives, so SEAs should also seek to avoid policies, plans and programmes undermining the BSAP's stated vision, mission and objectives.

Previously in Hong Kong, SEAs have generally not made reference to any overarching objectives for biodiversity, as there have not been such government policy objectives (at least in recent years). Interestingly though, the *Extension of Existing Landfills and Identification of Potential New Waste Disposal Sites*⁷⁹ made reference to SUSDEV21 principles. SUSDEV21⁸⁰ was a study commissioned by the Planning Department in 1997 to guide the sustainable development of Hong Kong, and the SEA incorporated the following principles into its evaluation framework.

- The SUSDEV21 guiding principle for biodiversity: “To maintain the biodiversity of Hong Kong and to minimise any threat which consumption in Hong Kong may have on biodiversity elsewhere.”
- The SUSDEV21 guiding principle for natural resources: “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 or recycling waste and recovering energy from wastes.”
- The SUSDEV21 guiding principle for environmental quality: “Hong Kong should be pro-active in avoiding environmental problems for present and future generations, seek opportunities to enhance environmental quality, and minimise unwanted side effects, locally, nationally and internationally, of development and inefficiencies such as air, noise and water pollution or land contamination.”

In a similar manner, therefore, all future SEAs should incorporate consideration of the BSAP (particularly its vision, mission and objectives). On a practical note, the more specific the BSAP is in terms of its aims for biodiversity, the more real value there will be in incorporating the BSAP into the SEA evaluation framework.

Finally, SAs were poorly regarded by the majority of experts who commented on them during this study. While the practical implementation of SAs in Hong Kong was beyond the scope of this research, the simplistic nature of the indicators alone suggests a CASET assessment is likely to add little insight to impacts on

biodiversity. Adding an indicator on the BSAP objectives - in line with the recommendations for SEAs - may be a simple way of getting greater value from the widely employed SAs.

6.7 Highlighting the importance of Strategic Environmental Assessment in the Biodiversity Strategy and Action Plan

Conversely, the SEA should be highlighted in the policy design of the BSAP, as exemplified by Malaysia's recent biodiversity policy

Given the importance of, and inherent difficulties in, mainstreaming BSAPs, Hong Kong should consider following the example of Malaysia's Common Vision for Biodiversity,⁸¹ which aimed to support Malaysia's economic development plan for 2006-10. It consisted of a three-pronged approach intended to allow the Ministry of Natural Resources and its agencies to rally support within government and civil society for a shared perception of biodiversity issues, priorities and the required inter-agency actions. One of the approaches elevated SEA for increased application as a key tool for mainstreaming. Identification in the Hong Kong BSAP of the importance of SEAs as a mainstreaming tool would provide the impetus to reinvigorate and reposition SEAs through implementation of the recommendations of this report.

6.8 Strategic Environmental Assessment as a tool for the Biodiversity Strategy and Action Plan to work through tricky issues

SEAs can complement the BSAP in areas where the BSAP is unable to detail solutions

Given the wide range of biodiversity considerations covered by the CBD, it is inevitable that Hong Kong's first BSAP will not be able to detail solutions for all the existing areas where improvements may be needed to form a holistic framework for the conservation and sustainable use of biodiversity. For some multifaceted issues on a territory-wide scale with significance to multiple stakeholders, conducting an SEA may be the best tool for examining the options and devising a strategy that supports the sustainable development of Hong Kong in line with the BSAP. Devising comprehensive zoning inclusive of conservation and development zones for marine areas might be one such example.

There is currently considerable debate in Hong Kong over development goals and biodiversity conservation

At the time of writing of this report, there is considerable debate in Hong Kong about the need to find land for housing and other infrastructure, versus the need to conserve our natural resources, exemplified by the discussion on whether or not to permit housing developments in country parks. This, and a new wave of potential reclamations after many years of antireclamation sentiment, demonstrate the intense pressure that the territory is experiencing, and will continue to experience, on its biodiversity. In such an environment, it is particularly critical that best-practice participatory SEAs be widely employed to find the best planning options at a territory-wide level (including avoiding biodiversity impacts in the first place), and reduce reliance on EIAs and their examination of limited within-site alternatives.

Hong Kong has considerable experience and capacity to undertake a wide range of SEAs, but those undertaken in the past decade show mixed adherence to best practice as laid down by the CBD. In addition, there is considerable confusion of the roles and value of the so-called SEAs conducted under Schedule 3 of the EIAO, SEAs of policies and programmes, and SAs. Of even greater concern is that the lack of clarity around SEAs conducted under administrative requirements, including the trigger for initiating such an assessment, has resulted in the administration being rather selective in which policies and programmes require SEAs.

The inclusive participatory process for formulating the BSAP is admirable, but participants must focus on mainstreaming biodiversity into decision-making

The participatory process currently being used to formulate the BSAP has government, academics and NGOs sharing expertise and collaborating to a degree that has rarely been seen before. The approach is very welcome, and increases the likelihood of producing a comprehensive and ambitious BSAP. However, the potentially major contribution of the BSAP to the sustainable development of Hong Kong will be substantially reduced if biodiversity is not mainstreamed into decision making. The risk of this happening is very real.

Other CBD members' difficulties shed light on the importance of incorporating SEAs into Hong Kong's BSAP

A 2010 global assessment of NBSAPs⁸² concluded with regard to mainstreaming that “the inability of NBSAPs to influence mainstream development outcomes can be largely attributed to weaknesses in the process of their development. Many processes were often more technical than political, and did not manage to sufficiently influence policy beyond the remit of the national agency directly responsible for biodiversity. The need for mainstreaming across sectors is generally recognised in NBSAPs, but often in general and aspirational terms, with little direction on how this mainstreaming is actually going to take place.”

Hong Kong would do well to learn from the failings of other signatories to the CBD. SEAs alone cannot achieve effective mainstreaming, but the recommendations of this report would go a long way to enhancing the role that SEAs can play as a key tool for incorporating the biodiversity aspirations of the BSAP into decision making on major programmes, plans and policies.

Appendix

Table 4. Examples of statutory SEAs (i.e. for major designated projects under Schedule 3 of the EIAO)

Project name / Date / Project proponent	Purpose of study	Main findings and outcome	Application of CBD principles and examination of impacts to ecosystems	Study process
<p>Further Development of Tseung Kwan O Feasibility Study (Environmental Impact Assessment)</p> <p>2005</p> <p>Civil Engineering and Development Department</p>	<ul style="list-style-type: none"> To examine options to further develop Tseung Kwan O (TKO) new town. 	<ul style="list-style-type: none"> A Preferred Development Option was identified. Construction for implementing the supporting infrastructure is under way. 	<p>While many areas of environmental impact were examined, commercial fisheries was arguably the main ecosystem service affected due to the need for reclamation, but were not examined in that context.</p> <p>No Net Loss – No Net Loss was not applied. The SEA notes that 16.3 ha of fishing ground will be lost, but “Since no unacceptable adverse impacts on fisheries are predicted, there would be no need for fisheries-specific mitigation measures.”</p> <p>Precautionary Principle – Not mentioned.</p> <p>Local, Traditional and Indigenous Knowledge – Many different kinds of local groups were consulted. It is not clear whether the fishing community was consulted on the four different options (which included different reclamation options).</p> <p>Ecosystem – Impacts to ecosystems not examined.</p>	<ul style="list-style-type: none"> Options for key infrastructure examined. Public views on further development of TKO sought. Four alternative development themes produced. Themes evaluated against a range of performance criteria and subjected to comparative assessments from environmental, planning and technical perspectives. Second round one-month public consultation. A preferred development theme, incorporating the public feedback, was determined and a concept plan developed. The concept plan was put out to the third round of public consultation.

Project name / Date / Project proponent	Purpose of study	Main findings and outcome	Application of CBD principles and examination of impacts to ecosystems	Study process
<p>Proposed Comprehensive Development at Wo Shang Wai, Yuen Long (Environmental Impact Assessment) 2008 Profit Point Enterprises Limited</p>	<ul style="list-style-type: none"> To examine the environmental impacts of a proposed wetland restoration / residential development project adjacent to the Deep Bay Conservation Area and Wetland Buffer Area. 	<ul style="list-style-type: none"> Ecological impacts arising from the development are envisaged to be fully mitigated by the proposed mitigation measures. No significant, long-term ecological impacts should arise from the proposed development in the Project Area. Project went ahead. 	<p>No Net Loss - As the site falls within the Deep Bay Wetland Buffer Area, the “No net loss in wetland” principle set out in Town Planning Board Guideline 12B applies.</p> <p>“In accordance with this planning intention, the loss of wetland habitats within the Project Area will be fully compensated by creation of an equal area of wetland habitats within the WRA, thus there will be no permanent net loss of wetland area resulting from the project.” Other impacts to species and habitats generally judged to be of No, or Low Significant Impact and generally not mitigated for, or of higher significance and mitigated.</p> <p>Local Knowledge – Fishpond farmers and owners were interviewed to gain information on fishpond culture operations in the affected area (some of which would have been operated in a traditional manner).</p> <p>Ecosystem – Impacts to the Deep Bay wetland ecosystem were examined.</p>	<p>The project employed a Continuous Public Involvement (CPI) process in which members of the public and interested bodies have been consulted at various stages of the project development.</p> <p>There is no evidence of facilitated development of a shared vision on (environmental) problems, objectives, and alternative actions. Some alternatives were considered before deciding on a preferred option.</p>
<p>Wan Chai Development Phase II and Central-Wan Chai Bypass (Environmental Impact Assessment) 2008 Civil Engineering and Development Department</p>	<ul style="list-style-type: none"> To provide information on the nature and extent of environmental impacts arising from the construction and operation of the proposed developments under the project and related works that take place concurrently. 	<ul style="list-style-type: none"> Overall, the EIA for Wan Chai Development II and Central-Wan Chai Bypass has predicted that the project will generally comply with environmental standards and legislation after the proposed construction and operation stage mitigation measures are implemented. This EIA has also demonstrated the general acceptability of the residual impacts from the project and the protection of the population and environmentally sensitive resources. Construction of the project is currently under way. 	<p>No Net Loss – 12.7 ha of soft-bottom benthic and subtidal habitats were permanently lost to reclamation. As the affected habitats were assessed to be of very low ecological value, and as direct impacts on some small and isolated coral colonies attached to movable boulders would be avoided by translocation, no adverse direct ecological impact is expected. As a result, no compensation was provided.</p> <p>Precautionary Principle – Not mentioned.</p> <p>Local, Traditional and Indigenous Knowledge – Apparently not sought (as the area to be developed is already highly disturbed and the shoreline artificial, so incorporating local, traditional and indigenous knowledge may not be very relevant to assessing environmental impacts).</p> <p>Ecosystem – Impacts assessed were to species and habitats.</p>	<p>Prior to the EIA itself, in order to achieve a better understanding of the opportunities for waterfront enhancement and to ensure a high degree of community support, a three-stage public engagement strategy was employed to enable a more structured approach to be adopted to the public engagement activities:</p> <ol style="list-style-type: none"> Envisioning Stage Members of the public provided their visions, wishes and concepts, as well as contributing to sustainability principles and indicators as a basis for the development of the concept plan. Realisation Stage The public evaluated the concept plan to arrive at a consensus. Detailed Planning Stage Authorities ensure draft OZPs and draft RODP reflect the consensus. <p>At the initial Envisioning Stage the public were asked to provide their visions, wishes and concepts, as well as to compile sustainability principles and indicators as a basis for the development of the concept plan. A list of sustainability principles and indicators was prepared and agreed through the public consultation process; these agreed sustainability principles and indicators have been used to evaluate the concept plan that was developed in the Realisation Stage.</p>

Project name / Date / Project component	Purpose of study	Main findings and outcome	Application of CBD principles and examination of impacts to ecosystems	Study process
<p>Kai Tak Development Engineering Study cum Design and Construction of Advance Works – Investigation, Design and Construction (Environmental Impact Assessment) 2009 Civil Engineering and Development Department</p>	<p>The EIA study shall address the overall acceptability of any adverse environmental consequences, conditions and requirements for mitigation against those consequences, and acceptability of residual impacts, together with any other key issues identified during the course of the EIA study and the cumulative environmental impacts of the project, through interaction or in combination with other existing, committed, and planned and known potential developments in the vicinity of the project.</p>	<ul style="list-style-type: none"> • “With the recommended mitigation measures applied, the Project would be environmentally acceptable.” • The project is currently being constructed. 	<p>No Net Loss and Precautionary Principles; Local, Traditional and Indigenous Knowledge; Ecosystem Approach Considering these principles for this project, where the site is almost entirely man-made or highly disturbed/polluted in the case of the adjacent harbour waters, was not considered by this author to be a meaningful exercise.</p>	<p>A three-stage public participation exercise produced three outline concept plans, which were then reduced to a preferred development option prior to this EIA being carried out.</p>

Table 5. Examples of non-Statutory SEAs

Project name / Date / Project proponent	Purpose of study	Main findings and outcome	Application of CBD principles and examination of impacts to ecosystems	Study process
<p>Extension of Existing Landfills, and Identification of Potential New Waste Disposal Sites 2003 Environmental Protection Department</p>	<ul style="list-style-type: none"> Determine the future need for additional landfilling capacity and new waste disposal facilities, having regard to the generation of municipal solid waste (MSW), construction & demolition material/waste, and other waste requiring disposal. Identify measures to maximise the use of the available void space and to extend the life of the existing strategic landfills. Identify those strategic landfills that are suitable for extension; develop possible extension schemes and determine the principal requirements. Identify potential sites within Hong Kong that are suitable for the development of various types of new waste disposal facilities to meet Hong Kong's waste disposal needs for the 30 years after exhaustion of the existing/extended landfills. Formulate an implementation plan. 	<ul style="list-style-type: none"> "The site selection process identified a number of environmentally sensitive receivers, where it was considered that development of a new landfill or landfill extension would not be acceptable under any circumstances, ("Areas of Absolute Exclusion"). Locations that were considered likely to be acceptable for development were also identified." EIAs were not carried out. 	<p>No Net Loss and Precautionary Principles – Not mentioned.</p> <p>Local, Traditional and Indigenous Knowledge – As stakeholders and the public were apparently not involved, it seems local knowledge was not sought.</p> <p>Ecosystem – The SEA specifically examined impacts to habitats and species, although there was some consideration of ecosystem impacts for some of the sites considered.</p>	<p>The study process is unclear, but it appears there was no stakeholder engagement (and possibly no public consultation).</p>
<p>Territory-wide Implementation Study of Water-cooled Air Conditioning Systems (WACS) in Hong Kong 2005 Electrical & Mechanical Services Department</p>	<ul style="list-style-type: none"> To reap full benefits of WACS, and to realise the strategic implementation of various WACS schemes in prospective geographic areas of Hong Kong. To examine the comparative environmental benefits and impacts of various WACS schemes, to recommend practicable technologies, infrastructure, and measures for resolving constraints and for preventing or mitigating impacts, and to evaluate prospective geographic areas for implementation of the schemes. 	<ul style="list-style-type: none"> A variety of environmental and health issues including water quality, air quality, noise and disease were identified, analysed, and mitigation measures proposed. Benefits outweigh costs overall but WACS not suitable for all areas of HK. The first district cooling system is being installed at Kai Tak. 	<p>No Net Loss and Precautionary Principles; Local, Traditional and Indigenous Knowledge; Ecosystem Approach</p> <p>The principles were not mentioned, but as the WACS would primarily be sited in urban areas, and the majority of impacts were not to biodiversity, incorporating these principles into the SEA may not have been a meaningful exercise.</p>	<p>The study process is unclear, but it appears there was no stakeholder engagement (and possibly no public consultation).</p>

Project name / Date / Project proponent	Purpose of study	Main findings and outcome	Application of CBD principles and examination of impacts to ecosystems	Study process
<p>Hong Kong 2030: Planning Vision and Strategy. Strategic Environmental Assessment 2007 Planning Department</p>	<ul style="list-style-type: none"> To identify how much, what type, and where land for development should be provided by 2030, while balancing the demand and supply of environmental resources. The stated objectives of the SEA include the establishment of environmental “objectives” in order to achieve a good quality environment to support Hong Kong’s position as Asia’s world city. Furthermore, future developments need to be considered in terms of the environmental and infrastructural carrying capacity currently in place and planned for the future. The SEA is also charged with assisting in the development and refinement of the options to derive a preferred development option using strategic evaluation techniques. Ultimately the SEA is charged with identifying environmental mitigation measures and follow-up investigations that may be required including policy and institutional arrangements. The ultimate goal of the SEA is to ensure that the development strategies formulated under the study can be realised in a sustainable manner. 	<ul style="list-style-type: none"> Solutions/mechanisms were suggested to provide a quality living environment in the face of development. On the strategic level, it is considered that the preferred development option will not lead to any apparent deterioration in the environmental conditions of Hong Kong. In fact, it will result in an improvement in most aspects of the environment, but may have various cumulative environmental issues such as water and air quality, noise, sewerage infrastructure, ecology, visual impact, hazard, landscape and cultural heritage effects subject to the findings of further detailed studies in future. Major proposals of the preferred development option could help bring about positive effects on quality of life for people in Hong Kong. While it is known that some of the recommendations were acted on, and continue to inform strategic planning, details are not readily available. 	<p>No Net Loss – Only the principle of “No net loss in wetland” (in terms of area, function or both) under the Town Planning Board (TPB) Guidelines (TPB PG-NO. 12B) for Application for Developments within Deep Bay Area is covered.</p> <p>Precautionary Principle – Not mentioned in the main study document.</p> <p>Local, Traditional and Indigenous Knowledge – It does not appear that such knowledge was specifically sought.</p> <p>Ecosystems – Considered at a high level only.</p>	<p>An Environmental Study Management Group (including green groups, academics, and professionals) formed a panel of external specialist advisers for the SEA Study.</p> <p>In order to foster community consensus on the key issues and promote ownership of the outcome, the public as well as all stakeholder groups were closely consulted throughout the entire study process. In particular, they were consulted at each of the following four key stages of the HK2030 Study:</p> <p>Stage 1 : Agenda Setting, Baseline Review and Identification of Key Issues;</p> <p>Stage 2 : Examination of Key Issues;</p> <p>Stage 3 : Formulation and Evaluation of Scenarios and Options; and</p> <p>Stage 4 : Formulation of Development Strategies and Response Plans.</p> <p>Two development options were put forward for public consultation.</p>
<p>Land Use Planning for the Closed Area 2010 Planning Department</p>	<ul style="list-style-type: none"> To evaluate at strategic level the potential land use environmental impacts, the cumulative environmental impacts and environmental sustainability implications of the planning framework of the recommended development plan (RDP) formulated under the main study. 	<ul style="list-style-type: none"> Potential ecological impacts and possible mitigation measures were evaluated and discussed. Further assessments required in the future. There remains further scope for reducing ecological impacts, particularly with regard to the impact of agricultural modification on natural streams, currently wet agricultural areas and certain areas of lowland grassland, and the direct and indirect impacts of village expansion on certain habitats, especially natural streams. Five draft Development Permission Area (DPA) Plans were published in 2010. 	<p>No Net Loss – No mention as EIA principles are used.</p> <p>Precautionary Principle – Not mentioned.</p> <p>Local, Traditional and Indigenous Knowledge – It seems likely that meetings with the rural committees and villages affected would have allowed for the collection of indigenous knowledge.</p> <p>Ecosystems – Impacts to ecosystems were considered, in addition to habitats, and species.</p>	<p>Multiple meetings with the public, key stakeholders, and two stages of community engagement exercises.</p>

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