

Policy Analysis Exercise (PAE)

Final Report

Striking the balance between heritage
conservation and urban renewal in
Singapore:

Advocating for a mandatory Heritage
Impact Assessment (HIA) regime

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List of Abbreviations and Short Names

General

EC - European Commission

EIA - Environmental Impact Assessment

HIA - Heritage Impact Assessment

ICOMOS - International Council on Monuments and Sites

NEPA - National Environmental Policy Act 1969 (USA)

PAE - Policy Analysis Exercise

UNEP - United Nations Environment Programme

UNESCO - United Nations Educational, Scientific and Cultural Organisation

With reference to Hong Kong

A&M Ordinance - Antiquities and Monument Ordinance (Cap. 53)

AAB - Antiquities Advisory Board

ACP - Architectural Conservation Programme

AMO - Antiquities and Monuments Office

CHIA - Cultural Heritage Impact Assessment

CUHK - Chinese University of Hong Kong

DB - Development Bureau

EIAO - Environmental Impact Assessment Ordinance (Cap. 499)

EPD - Environmental Protection Department

HKU - Hong Kong University

Technical Circular - Issued by Development Bureau to guide HIAs for Capital Works

Technical Memorandum - Issued pursuant to section 16 of the EIAO

With reference to Singapore

ISEAS - Institute for South-East Asian Studies

NHB - National Heritage Board

NUS - National University of Singapore

PMA - Preservation of Monuments Act (Chapter 239), Singapore

SHS - Singapore Heritage Society (the client)

SMU - Singapore Management University

SUTD - Singapore University of Technology and Design

URA - Urban Redevelopment Authority

Overview

Executive Summary

The rapid redevelopment of the urban landscape in Singapore since independence has had a major impact on many sites of cultural and heritage value in Singapore. There is currently no regulatory or legal requirement for the government, private developers or individuals to conduct Heritage Impact Assessments (HIAs) on such sites before attempting to redevelop it or modify its land use. Consequently to date, many historical sites, buildings and monuments rich in culture and history have been razed in the name of modernisation and development without a proper assessment of the resulting loss of culture and heritage.

A mandatory HIA regime in Singapore would require an assessment of the impact on both tangible and intangible heritage whenever a site of heritage value is considered for redevelopment or change in land use. While this practice would lead to a greater awareness of objects of national heritage and enable better-informed decisions to be made regarding redevelopment, the corollary of a mandatory HIA regime would also mean higher public accountability and compromises, leading to potential delays, a drop in optimum economic efficiency, and potentially even sacrificing whole redevelopment projects in the protection of national heritage.

How can an autochthonous HIA regime be tailored for the Singapore context, such as to balance the need for heritage protection with Singapore's insatiable obsession with urban renewal and redevelopment; a balancing act which has almost always been heavily tilted by national ideologies of pragmatism and economic rationalism? Surveying the standards and best practices of HIA as it is practiced around the world before focusing on the Hong Kong HIA model as one which Singapore can emulate, this PAE advocates the implementation of a mandatory HIA regime in Singapore, detailing recommendations for a comprehensive HIA regime based on international best practices, contextualised for Singapore's socio-political environment and economic imperatives.

Client

The client of this PAE is the Singapore Heritage Society (SHS). SHS is a non-profit, non-government organisation and registered charity founded in 1986, dedicated to the preservation, transmission and promotion of Singapore's history, heritage and identity.¹ The key contact persons for the PAE are Dr. Chua Ai Lin (President of SHS), Dr. Terence Chong (Vice-President & Senior Fellow at ISEAS), Dr. Yeo Kang Shua (Honorary Secretary & Assistant Professor of Architecture at SUTD) and Dr. Jack Lee (Assistant Professor of Law at SMU).

¹ Information about the Singapore Heritage Society is taken from its webpage "about us". See: http://www.singaporeheritage.org/?page_id=1363

The Society aims to promote active interest in the cultural life and history of Singapore through its three mission aims of research, education and advocacy. On the research front, SHS' activities include research, evaluation, documentation, publication, collection, display, and preservation and restoration of skills and items of historical interest. On the education front, SHS publishes books, organises talks and forums, as well as conducts heritage tours for both members and the general public, to raise awareness of Singapore's history and cultural heritage.

Lastly, the Society also plays an advocacy role in advancing civil society viewpoints in numerous previous incidents regarding the conservation of historical sites which had divided society. These included the remaking of Chinatown, the demolition of the old National Library building, and more recently, the historical significance and future use of the former KTM Rail Corridor and Bukit Brown Cemetery.

Problem Definition: Background and Context

Singapore's physical built environment is constantly in a state of development and renewal. Infrastructural projects for new highways² and train tunnels³ have been planned for until 2030. Older public housing estates and public schools are upgraded in turn under the SERS⁴ and PRIME⁵ schemes respectively. The urban core (the Central Business District) and its periphery are constantly being rejuvenated and renewed. These on-going building activities reveal the underlying philosophy in Singapore's built environment development as being heavily influenced by land use optimisation and economic pragmatism.

In the course of all these urban renewal and development projects, numerous sites and monuments of heritage value have been affected. Some like the old National Library and the National Theatre have been razed and no longer exist; unfamiliar modern structures now stand in their place. Others such as CHIJMES, the Old Supreme Court Building and the City Hall enjoy a new lease of life, being gentrified for alternative purposes as a high-end watering hole and the new National Gallery respectively. Others such as the Butterfly House have suffered awkward makeovers with partial conservation – a halfway house compromise between developers and conservationists, which have left

² The North-South Highway will be Singapore's 11th highway, expected to be completed by 2020. See: <http://www.lta.gov.sg/content/ltaweb/en/roads-and-motoring/projects/north-south-expressway-nse.html>

³ Tan, "More new MRT lines to be built by 2030", *The Straits Times*, 17 Jan 2013, article available at: <http://www.straitstimes.com/breaking-news/singapore/story/more-new-mrt-lines-be-built-2030-20130117>

⁴ "Selective En bloc Redevelopment Scheme (SERS). See: <http://www.hdb.gov.sg/fi10/fi10329p.nsf/w/eSERSOverview?OpenDocument>

⁵ Programme for Rebuilding and IMproving Existing schools (PRIME). See: <http://www.moe.gov.sg/initiatives/prime/>

neither completely satisfied.⁶ Finally, there are also sites such as the Tanjong Pagar Railway Station that have been relieved of its original use, vacated and awaiting its fate.

Essentially, the conundrum in Singapore's built environment development lies in keeping the fine balance between historical, cultural and architectural preservation, and modernisation. As a small and densely populated island, optimising land use is crucial in ensuring a high standard of living for its inhabitants. Yet at the same time, heritage conservation is equally important to preserve Singapore's rich history as an early global port for entrepôt trade.

In Singapore, sites of heritage value are formally recognised as "national monuments" or "conservation areas." Sites gazetted by the Minister for Culture, Community and Youth (MCCY) as "national monuments", pursuant to Section 11 of the Preservation of Monuments Act (PMA), are required to be preserved in its setting, and its owner and occupier is under a legal duty to "ensure that the national monument is properly maintained at all times."⁷ Owing to the onerous duty levelled on the owner of the national monument to preserve and maintain the property forever, the threshold for recognition as a national monument is extremely high; reserved only for sites of exceptional heritage value. As of 2015, there are only 70 national monuments so gazetted.⁸

Sites which are not deemed to be of "such historic, cultural, traditional, archaeological, architectural, artistic or symbolic significance and national importance as to be worthy of preservation under [the PMA]",⁹ but of some "special architectural, historic, traditional or aesthetic interest",¹⁰ the Minister (for National Development) may designate the [area] as a conservation area. Such conservation areas may comprise a whole area, a group of buildings, or even a single building.¹¹ Buildings in conservation areas are subject to conservation guidelines "for the protection of their setting".¹² As of 2015, there are some 7,000 buildings in 100 conservation areas which have been accorded conservation status.¹³

Apart from these two formal heritage statuses, there are other sites of heritage value which are not formally recognised. These include a good number of colonial era

⁶ Ida Bachtiar, "The Fragile Balance: Conservation or Commerce?", reflection article published on URA website, available at: <https://www.ura.gov.sg/skyline/skyline07/skyline07-05/text/06.htm>

⁷ Section 13, Preservation of Monuments Act, (Cap. 239), 2011, Rev. Ed.

⁸ The list of Singapore National Monuments is available on NHB's website at: <http://www.nhb.gov.sg/places/sites-and-monuments/national-monuments>

⁹ Section 4(a), Preservation of Monuments Act, (Cap. 239), 2011, Rev. Ed.

¹⁰ Section 9(1), Planning Act, (Cap. 232), 1998, Rev. Ed.

¹¹ Section 9(2), Planning Act, (Cap. 232), 1998, Rev. Ed.

¹² Section 11(1), Planning Act, (Cap. 232), 1998, Rev. Ed.

¹³ Urban Redevelopment Authority, "A Brief History of Conservation", available at <https://www.ura.gov.sg/uol/conservation/vision-and-principles/brief-history.aspx>

bungalows which have not been given conservation status under the Planning Act,¹⁴ structures built in an architectural design representative of a certain era,¹⁵ and structures which may not fall under any particular historical school of design, but endear to Singaporeans as objects of familiarity.¹⁶ These sites which have not been gazetted as either “national monuments” or “conservation areas” do not attract any statutory form of protection from redevelopment.

Despite national monuments and conservation areas being subject to varying measures of legal protection under the PMA and the Planning Act respectively, they are not completely immune to redevelopment. While the PMA specifies that national monuments should not be modified unless permission is granted by the Board,¹⁷ past practice has shown that the Board sometimes grants permission for building modification without fully understanding the consequent loss of heritage.

Likewise, conservation areas designated under the Planning Act can only be redeveloped subject to URA’s Conservation Guidelines,¹⁸ which are updated regularly to address new threats to conservation areas. These conservation areas cover four categories: historical districts,¹⁹ residential historical districts,²⁰ secondary settlements,²¹ and Good Class Bungalows areas and fringe and the Mountbatten Road Conservation Area. Currently, there is only a requirement to obtain conservation permission²² to perform any alteration or redevelopment works on a conservation building, and to perform it in accordance to the URA Conservation Guidelines applicable to the relevant conservation area. There is no extra requirement to explore any potential heritage loss arising from the proposed redevelopment.

While the URA Conservation Guidelines are rather comprehensive in providing how buildings in various designated conservation areas may be physically altered, they do not, in several instances, go further than merely protecting the façade of the buildings in some conservation areas. For example in “secondary settlements”, there is only a requirement to retain the streetscape, permitting new rear extensions up to the

¹⁴ For a rather comprehensive list, see: <http://remembersingapore.org/2012/02/08/grand-mansions-bungalows-villas-of-the-past/>

¹⁵ Such as the Pearl Bank Apartments at the Outram area.

¹⁶ These include unique designed playgrounds that all Singaporeans grew up with. See: <http://remembersingapore.org/2012/01/06/our-favourite-playgrounds-of-yesteryears/>

¹⁷ Section 15(1), Preservation of Monuments Act, (Cap. 239), 2011, Rev. Ed.

¹⁸ URA Conservation Guidelines, latest version published in Dec 2011, available at: <http://www.ura.gov.sg/uol/~media/User%20Defined/URA%20Online/Guidelines/Conservation/Cons-Guidelines.ashx>

¹⁹ Boat Quay, Chinatown, Kampong Glam and Little India

²⁰ Blair Plain, Cairnhill and Emerald Hill

²¹ Balestier, Beach Road, Geylang, Jalan Besar, Jalan Jurong Kechil, Joo Chiat, Mount Sophia, River Valley, Tanjong Katong, Upper Circular Road and Tiong Bahru

²² Section 12(2), Planning Act, (Cap. 232), 1998, Rev. Ed.

maximum height allowed for the area to be built.²³ This has had the effect of producing some rather haphazard-looking buildings in these conservation areas.

It is suggested that the failure to *holistically* assess the historical and cultural significance of heritage sites before their redevelopment or alteration, may result in irreversible loss of intangible heritage and history – such which is not immediately discernable or reflected in the architecture of a building. In short, while the conservation of the exterior façade of a heritage building may be an acceptable compromise between conservation and redevelopment in many instances, this may not always be an appropriate solution where the heritage significance of a certain building within a conservation area is so compelling that it should not be redeveloped or its land used modified at all.

There are several reasons that account for the loss of built and intangible heritage from redevelopment. One core problem tends to be a lack of holistic awareness and good understanding of a heritage property. This problem is readily resolved by the use of a Heritage Impact Assessment (HIA) process. The mandatory requirement to conduct a HIA before undertaking any redevelopment on national monuments or conservation areas would reveal the history and heritage value of the heritage site, and give the relevant stakeholders involved better information about the consequential loss of heritage if the building were to be redeveloped according to proposed plans. A comprehensive HIA would also make expert recommendations for mitigation should the proposed redevelopment still be insisted upon, such that the heritage value of the property can be preserved even with redevelopment. At best, this can be achieved through integrating the heritage property within the new redevelopments in an architecturally pleasing design. At worst, the value of the heritage property could be preserved by record.

It is suggested that if stakeholders had a good awareness of the heritage value of a property and its potential irreversible loss, there would be greater consideration before redevelopments are undertaken. As such, a mandatory requirement to conduct a HIA before any redevelopment works can be carried out on heritage sites would go a long way in facilitating better processes in preserving Singapore's heritage.

The implementation of a mandatory HIA regime for sites of heritage value may not be in the government's interest considering its general priority for urban redevelopment. A mandatory HIA regime will invariably lead to the need for more public accountability in any decision to redevelop old heritage buildings, or sell them to private developers. Further considering that the Singapore government is used to having its way, justifying urban redevelopment through generally unchallenged economic pragmatism, a mandatory HIA regime might potentially lead to certain planned-for redevelopment projects being frustrated if the results of a HIA strongly recommends for conservation

²³ URA Conservation Guidelines (Dec, 2011), para. 2.3.1.4

instead; a pro-conservation HIA report being a tool that conservationists and heritage-buffs would wield when lobbying the government.

A mandatory HIA regime may also not be well received by industry developers who are looking to buy and develop such sites, or private persons who own such sites. For developers, commissioning HIAs would lead to additional costs and delays for a development project. For private persons, a pro-conservation HIA report may depress the commercial value of their properties as developers may not be interested in buying a “heritage property” whose potential commercial value may not be easily exploited due to restrictions on redevelopment.

Essentially, for a HIA regime to be acceptable in Singapore to all the relevant stakeholders, it has to be, as far as possible, a non-intrusive and non-obstructive *bona fide* process that merely seeks to help parties achieve a better understanding of a property’s heritage value so that they can make better informed decisions regarding the plans for the property. It should be clear to stakeholders that the HIA is not an ultimate trump card which can stymie redevelopment – that decision lies solely with the property owner alone. However, it is hoped that a HIA’s findings and mitigation recommendations can allow stakeholders to better balance the polarised objectives of heritage conservation and urban redevelopment.

Research Question

Given the context of balancing heritage conservation and urban redevelopment in Singapore, and how a mandatory HIA regime can serve to aid the balancing act, as well as taking into account the concerns of key stakeholders, the research question for this PAE was framed as such:

How can a mandatory HIA regime be implemented in Singapore so as to provide a more holistic perspective in balancing heritage protection with urban renewal and redevelopment?

- What should be some appropriate contextual features of this Singapore HIA regime?
- How would this uniquely Singapore HIA regime be consistent with international best practices?
- How would this HIA regime serve to improve the current processes and practice of heritage preservation in Singapore?
- How can challenges to the implementation of a HIA regime in Singapore be adequately addressed?

Research Method

First, a broad based research into the HIA process was taken. This included examining the Environmental Impact Assessment (EIA) process, which is another commonly used impact assessment process for heritage management, and how the HIA complements and reinforces the EIA in the overall heritage management framework. Brief mention

was also made to the features of various EIA and HIA models as they are practiced in different countries and how they are effective in managing heritage conservation efforts. Based on the literature review of applicable standards and best practices of HIA worldwide, an objective HIA evaluation framework was developed. This HIA evaluation framework was applied to analyse the comprehensiveness and effectiveness of the Hong Kong HIA regime, and thereafter applied to conceptualise a Singapore HIA regime.

An in-depth and detailed research into Hong Kong's experience with its HIA regime was conducted so as to provide a direct basis of comparison for Singapore. Hong Kong, being an ex-British colony and a small city with a high population density, shares similar characteristics and challenges as Singapore with regard to the fine balance between heritage conservation and urban development. Hong Kong has put in place a HIA regime since 1998, and has progressively strengthened the comprehensiveness of this law in 2007 and in 2009. Having more than a decade of experience with a HIA regime, Hong Kong is a prime example that Singapore can take reference from in trying to implement a HIA regime.

A field trip to Hong Kong was taken for a first hand experience of Hong Kong's heritage conservation efforts. During the visit, interviews were conducted with the Chief Heritage Officer and several senior heritage officers of the Hong Kong's Antiquities and Monuments Office (AMO);²⁴ Dr. Lee Ho Yin, Head of Division of the Architectural Conservation Programmes (ACP) at the Hong Kong University (HKU) and a past member of the Antiquities Advisory Board (AAB) from 2009 – 2012; and Dr. Ho Puay Peng, Director of the Architectural Conservation and Design Programme at the Chinese University of Hong Kong (CUHK) and a presently serving member of the AAB; to better understand the Hong Kong HIA regime and challenges of balancing the competing objectives of conservation and redevelopment from the various stakeholders' perspectives. Outside the time scheduled for interviews, visits were made to various heritage sites, ranging from declared monuments to graded buildings, to physically appreciate the conservation efforts in Hong Kong and its interaction with the modern built environment.

Drawing from the lessons learnt from the comparative literature review and the case study of Hong Kong's HIA regime, a HIA regime for Singapore's context was conceptualised. Experts in heritage conservation in Singapore were consulted in the process of designing the details of the Singapore HIA regime; they include Dr. Chua Ai Lin, President of the Singapore Heritage Society (SHS) and previously a history lecturer at NUS; Dr. Yeo Kang Shua, Professor of Architecture at SUTD; Dr. Jack Lee Tsen-Ta, Professor of Law at SMU; and Ms. Mabel K.S. Lee, a freelancing architect currently based in Singapore, with previous direct experience with the Hong Kong HIA regime. Bearing in mind local contextual constraints as well as stakeholders' acceptability, a

²⁴ From the Hong Kong AMO: Kenneth S.W. Tam (Chief Heritage Management); W.K. Lau (Senior Heritage Officer); Leo C.K. Lee (Senior Heritage Officer); Emily C.L. Leung (Heritage Officer).

comprehensive Singapore HIA regime is proposed, using the HIA evaluation framework developed earlier as a point of reference.

Literature Review

In seeking to develop a comprehensive HIA regime for the Singapore context, it is useful to first review the spectrum of HIA models practiced within the international community to identify consistent threads and best practices which may then form the starting point for conceptualising a HIA model for Singapore. In this section, a broad based and comparative literature review into the different models of EIA and HIA practiced around the world is attempted, after which these two impact assessment forms are compared for their effectiveness in assessing impact from potential redevelopment on cultural and heritage objects.

Impact Assessment (EIA & HIA)

Where culture, heritage and the built environment are concerned, impact assessment commonly takes the form of Environmental Impact Assessment (EIA) and Cultural Heritage Impact Assessment (CHIA or HIA for short). As their respective names suggest, CHIA focuses solely on cultural and heritage protection while EIA deals more generally and holistically on environmental protection, where culture and heritage may be considered as one of the numerous factors assessed within an EIA. Importantly for this PAE, the different focuses of EIAs and HIAs is significant as it tends to result in differing levels of protection for cultural and heritage objects depending on which impact assessment form is employed. This shall be elaborated in further detail at a later part.

Many countries already have some form of EIA, adopted as part of the land use planning system, as an analytic approach for evaluating the impacts of development.²⁵ Morgan notes that all countries in the world have some form of legal or administrative requirement for EIA,²⁶ while Donnelly accounts that “EIA is now practiced in more than one hundred countries”.²⁷ Some of these EIAs include culture and heritage as a factor to be evaluated within the larger assessment of potential impact to the environment, although this is not always the case.

On the other hand, there are countries which have separated the assessment of culture and heritage from being under an EIA framework, and have adopted some form of “stand-alone” HIA strictly for the purposes of assessing culture and heritage. Most, if not all of these countries with separate HIA requirements would also have some form of EIA requirement, which makes the HIA a complementary impact assessment framework to the EIA. The separation of the assessment of cultural and heritage objects from a larger EIA permits the issues of culture and heritage to be placed in the assessment spotlight to be examined more thoroughly, rather than assessing it in line with numerous other

²⁵ See Morris & Therivel, (Eds) (2008), *Methods of Environmental Impact Assessment*, Spon Press, London; Glasson, Therivel & Chadwick, (2005), *Introduction to Environmental Impact Assessment*, Routledge, Oxon.

²⁶ Morgan (2012), “Environmental impact assessment: the state of the art”, *Impact Assessment and Project Appraisal*, 30(1), p. 5-14.

²⁷ Donnelly, Dalal-Clayton & Hughes, (1998), *A Directory of Impact Assessment Guidelines*, 2nd ed., London: International Institute for Environment and Development.

environmental assessment factors where they may not receive the needed attention and scrutiny.

Environmental Impact Assessment (EIA)

Environmental impact assessment (EIA) can be defined as “the evaluation of the effects likely to arise from a major project (or other action) significantly affecting the natural and man-made environment.”²⁸ It is a systematic and integrative process, which traces its origins to the United States’ National Environmental Policy Act 1969 (NEPA), for “considering possible impacts prior to a decision being taken on whether or not a proposal should be given approval to proceed”, and to “supply decision-makers with an indication of the likely environmental consequences of their actions.” It is suggested that if “properly used”, “EIA should lead to informed decisions about potentially significant actions, and to positive benefits to both proponents and to the population at large.”²⁹

The use of EIA has spread worldwide since its 1969 inception. While EIA may be common parlance and of common usage in environmental protection today, EIA standards, obligations and practices still differ greatly from country to country, resulting in considerable comparative literature published on the differing practice of EIA worldwide. In examining an EIA framework, it is important to note when an EIA would be required (e.g. the types and scale of projects that would require an EIA), the extent to which an EIA may be imposed on private persons and projects, the types of impact assessed within the EIA (especially whether cultural and heritage elements are included), and the comprehensiveness and effectiveness of the impact assessment process.

In many countries, an EIA is required when an “environmentally significant” project is in the pipeline. The definition of “environmentally significant” varies from country to country. In the USA, examples of “environmentally significant” activities which would be subject to an EIA under the NEPA include “mining, oil and gas development, highway and airport construction, port development and navigational projects, and timber harvesting.”³⁰ The list of “environmentally significant” projects that would be subject to an EIA would usually be contained within the relevant EIA legislation for that country.

Likewise, there is no consensus between countries whether private persons and projects (as opposed to government state projects) are required to perform EIAs. For example, the USA NEPA only “applies to federal actions and not to state actions or to most private projects except where they require a federal permit.”³¹ On the other hand,

²⁸ Wood, (2003), *Environmental Impact Assessment: A comparative review*, 2nd ed., p. 1

²⁹ Wood, *op. cit.*, p. 1

³⁰ Wood, *op. cit.*, p. 111

³¹ *Ibid.*

South Africa's, the United Kingdom's and the Netherlands' EIA systems "apply to most public and private environmentally significant projects."³²

Lastly, the factors that are typically considered in an EIA include a range of direct, indirect and cumulative effects.³³ Wood suggests that it is "important that all impacts on the physical environment are encompassed by the EIA system" – including "impacts on the various environmental media (*e.g.*, the air), on living receptors (*e.g.*, people, plants) and on the built environment (*e.g.*, buildings)."³⁴ The European Environmental Assessment Directive (which is applicable to all member states of the European Commission (EC)) requires the consideration of aspects of the physical environment, including "population, fauna, flora, soil, water, air, climatic factors, material assets, *including the architectural and archaeological heritage*, landscape, and the inter-relationship between [these] factors."³⁵ (*emphasis mine*)

The EC's EIA Directive is notable for including "architectural and archeological heritage" as one of the impact assessment factors. It is not known how many EIAs in the world include culture and heritage as assessment factors. However a cursory examination of Wood's treatise on comparative review of EIAs reveals that most of the developed world countries tend to include culture and heritage elements as EIA assessment factors. In addition to the EC's EIA directive reference mentioned above, the USA's NEPA makes reference to "effect on historical and cultural quality;"³⁶ Canada's Environmental Assessment Act 1982 refers to "physical and cultural heritage" and "traditional aboriginal land;"³⁷ Australia's Environment Protection and Biodiversity Conservation Act 1999 refers to "World heritage properties;"³⁸ and New Zealand's Resource Management Act 1991 refers to "natural and physical resources having [...] historical, or cultural, or other special value for present or future generations."³⁹

Cultural Heritage Impact Assessment (HIA)

While the impact on cultural and heritage objects from an "environmentally significant" project may be assessed under an EIA framework as described above, some more heritage-conscious countries have gone further in separating cultural and heritage elements to be assessed under a separate cultural heritage impact assessment (HIA). HIA can be defined as "the process of identifying, predicting, evaluating and communicating the probable effects of a current or proposed development policy or action on the cultural life, institutions and resources of communities, then integrating

³² Wood, *op. cit.*, p. 113, 114, 122

³³ Bass, Herson & Bogdan (2001), *The NEPA Book: A Step-by-step Guide on how to Comply with the National Environmental Policy Act*, 2nd ed., Point Arena, CA: Solano Press, p. 102

³⁴ Wood, *op. cit.*, p. 110

³⁵ European Environmental Assessment Directive, Planning Regulations, Schedule 4, Part I, para. 3

³⁶ Wood, *op. cit.*, p. 112

³⁷ Wood, *op. cit.*, p. 115

³⁸ Wood, *op. cit.*, p. 117

³⁹ Wood, *op. cit.*, p. 121

the findings and conclusions into the planning and decision making process, with a view to mitigating adverse impacts and enhancing positive outcomes.”⁴⁰

There are two ways to understand how a HIA framework squares with an EIA framework within the overall impact assessment framework of a country which has implemented both frameworks. In the first way, a HIA may be required under an EIA legal framework, meaning that that the HIA is commissioned as part of a larger requirement to perform an EIA. However, instead of being assessed within a larger general EIA report, cultural and heritage elements would be assessed and reported in a separate HIA report which can be wholly devoted to the pertinent issues. Alternatively in the second way, some countries may enact separate legislation or legal requirements for cultural and heritage impact assessment under a separate HIA legal framework, creating a parallel impact assessment system catering for the specific protection of culture and heritage.

Whether the impact assessment of cultural and heritage objects takes place under an EIA or HIA framework, should not be an undue cause for concern. Comparing the definitions of EIA and HIA, it is observed that the impact assessment process is essentially somewhat similar albeit differing focuses. While the difference in focus may reflect different levels of commitment to cultural and heritage issues, which may potentially have a direct bearing on their actual consideration, it is nonetheless still more important to examine the comprehensiveness and actual practice of each assessment form as it is conceivable that a well-designed EIA framework providing for the proper consideration of cultural and heritage objects may even result in better heritage management processes than an incomplete HIA framework.

Similar to examining an EIA framework as described above, it is important to examine HIA frameworks to note when a HIA would be required (the types and scale of project, and the types of heritage properties, that would require a HIA), the extent to which a HIA may be imposed on private projects, and the comprehensiveness and effectiveness of the HIA process.

The Difference Between EIA and HIA

Where two similar impact assessment forms exist for the assessment of culture and heritage, a pertinent enquiry goes towards the effectiveness and efficiency of each impact assessment form in meeting the objectives of culture and heritage protection. While both EIA and HIA may adopt a similar approach towards heritage impact assessment in that they are both pre-emptive assessment processes with the objectives of “identifying, predicting, evaluating and communicating” the likely effects of a major development on existing environmental and cultural objects and proposing

⁴⁰ Ayesha Pamela Rogers, “Cultural Heritage Impact Assessment: Making the Most of the Methodology”, p. 1, conference paper available at: http://www.heritage.gov.hk/conference2011/en/pdf/paper/dr_ayesha_pamela_rogers.pdf

recommendations for prevention and mitigation; there remain some marked differences.⁴¹

In terms of procedural similarities, it is observed that both EIA and HIA adopt a similar 4-step approach in their impact assessment process. First, the overall scope of the study is defined. Second, a baseline study is carried out to provide a reference point against which impacts can be measured. Third, the significance of the property under assessment is to be established. Fourth, the impact of the proposal is assessed, as positive or negative, direct or indirect.⁴²

The key difference between the two lies in the trigger for an impact assessment. An EIA is usually only triggered by development projects of a large-enough scale, typically listed in the relevant EIA legislation, which may affect sites of cultural heritage – a “project-focused” approach. These tend to be major development projects such as roads, industrial plants and airports; or works such as land reclamation, dredging and tunneling. As the requirement to conduct an impact assessment is only triggered by these listed types of projects, there is a residual possibility that heritage sites may be adversely affected by smaller development projects which do not trigger the need for impact assessment under the relevant EIA legislation.

On the other hand, HIA “focuses specifically on proposals for change to a particular asset or area of cultural significance and the analysis is confined to the impacts on cultural significance” – a “heritage property focused” approach. As such, the HIA form tends to result in surer protection for heritage sites as a HIA would be triggered the moment such a site becomes likely to be affected by a development project, notwithstanding the type and scale of the project.

Also under EIAs, cultural heritage is, but one of many factors to be evaluated, and might not be given enough attention and weight when it is evaluated alongside other socio-physical and biophysical factors in a single assessment report. This conclusion is similarly reached in separate studies⁴³ where it was consistently found that cultural heritage is generally the weakest component in EIA studies.⁴⁴ As such, while cultural

⁴¹ Pereira Roders & Oers, (2012), “Editorial: guidance on heritage impact assessments: learning from its application on World Heritage site management”. *Journal of Cultural Heritage Management and Sustainable Development*, 2(2):1, p. 105.

⁴² Pereira Roders & Hudson, (2011), “Change management and cultural heritage”, in Finch (Ed.), *Facilities Change Management*, John Wiley & Sons, Chichester, p. 175-190.

⁴³ Bond, et al., (2004), “Cultural heritage: dealing with the cultural heritage aspect of environmental impact assessment in Europe”, *Impact Assessment and Project Appraisal*, Vol. 22 No. 1, p. 37-45; and Fleming, (2008), “Standards of international cultural and financial institutions for cultural heritage protection and management”, *IAlA 2008 proceedings*.

⁴⁴ See also, Dupagne, Ruelle, & Teller (Eds) (2004), *Sustainable Development of Urban Historical Areas Through an Active Integration Within Towns*, Research Report no. 16, European Commission (EC), Brussels; Jones & Slinn (2008), “Cultural heritage in EIA – reflections on practice in North West Europe”, *Journal of Environmental Assessment Policy and Management*, Vol. 10 No. 3, p. 215-38.

and heritage impact assessment may be carried out under both the EIA and HIA forms, embedding culture and heritage as an evaluation factor within an EIA, as opposed to evaluating it exclusively under a HIA, results in the danger of a loss in focus and attention devoted to cultural and heritage concerns.

Hence between the use of an EIA framework or a HIA framework for assessing cultural and heritage objects, the HIA framework is generally preferred due to its narrow scope and mandate, which permits an in-depth and comprehensive examination of the pertinent issues without being distracted by other environmental concerns. However as caveated earlier, this conclusion should not be a foregone one as ultimately the paramount consideration would be the comprehensiveness and effectiveness of the impact assessment processes in furthering the better protection of cultural and heritage objects.

Analytical/Evaluation Framework

As shown from the literature review, there is no definitive standard for EIA or HIA; quite to the contrary, a plethora of divergent practices are observed in how different countries have designed, commissioned and executed EIAs and HIAs. With reference to the comparative practice of EIA, Wood notes that the method of adoption and employment across countries varies from “cabinet resolutions, advisory procedures, regulations and laws,” resulting in “a diverse vocabulary.”⁴⁵

Similarly where comparative HIA is concerned, Rogers notes that the “development of varied approaches and methods of CHIA for different agendas has enriched the practice but resulted in methodological chaos and mixed standards of implementation and reporting.”⁴⁶ In compiling a sample list of documents purporting to set standards for a HIA, she concludes that while “all state the importance of safeguarding heritage, or at least of tangible heritage, and urge the inclusion of cultural heritage into the formal EIA process, [...] only a few actually provide hands-on or step-by-step guidance to practitioners on how to design and implement an assessment.”⁴⁷

In this section, the question therefore is begged: in the absence of a definitive HIA model, what are some applicable standards and international best practices that should be taken into consideration when designing a HIA regime? It is suggested that for a heritage impact assessment to be useful as a process within the overall culture and heritage management framework of a country, the following HIA evaluation framework comprising three questions should be considered:

- (i) When HIA would be required (e.g. the types and scale of projects, and the types of heritage properties, that would require a HIA);
- (ii) The extent to which HIA may be imposed on private persons and projects; and
- (iii) The comprehensiveness and effectiveness of the impact assessment process in considering cultural and heritage matters.

Requirement for HIA

In considering when a HIA would be required, it is ideally suggested that all development and rectification works, type and scale notwithstanding, that affect or are in close proximity to a cultural or heritage site should be liable to conduct a HIA to consider any potential impact the proposed works would have on the affected heritage site. This liability to conduct a HIA can take the form of a waivable requirement; where a developer can show that his proposed works would have little or negligible impact on the affected heritage property, the government can waive the requirement to conduct a HIA.

⁴⁵ Wood, *op. cit.*, p. 4-5

⁴⁶ Ayesha Pamela Rogers, *op. cit.*, p. 2

⁴⁷ *Ibid.*

While this might be overly onerous on developers, requiring them to comply with additional bureaucracy and potentially the delay of many projects due to the need to conduct HIAs, the experience with this requirement in Hong Kong reveals that this is not necessarily the case. The HIA requirement in Hong Kong has, since 2008, triggered the liability to conduct a HIA in some 3,400 projects. However the government found that most of these triggered cases did not pose significant impact on the affected heritage buildings, and have only required some 40-odd projects to undergo a HIA since 2008. The details of this arrangement will be explained more fully in the next section on the case study of Hong Kong.

The extent to which a HIA may be required also depends very much on a country's definition of a "heritage site." Most countries have frameworks or schemes to recognise their top cultural and heritage icons as "heritage sites", which is often accompanied by legal protection against their alteration or destruction. In Singapore and Hong Kong, this is the "national monuments" and "declared monuments" framework respectively. As these "heritage sites" are nationally recognised for their important heritage value, requiring a HIA each time any works are being proposed on these "sites" would be a rather acceptable proposition for most governments and communities.

The difficulty arises in cases concerning other properties that have some cultural or heritage value, but are otherwise not of sufficient heritage worth such as to warrant gazetting them as monuments. While some countries have a separate framework to recognise such properties, these frameworks generally do not attract as much legal protection from redevelopment and destruction as in the case with "monuments". This secondary framework exists in Singapore and Hong Kong as "conserved properties" and "graded buildings" respectively. Because secondary frameworks can sometimes account for a large number of "secondary" heritage properties (more than 7,000 in the case of Singapore; and 1,444 in the case of Hong Kong), there can be great reluctance on the part of governments to legally impose a HIA requirement on these properties when they are proposed for redevelopment; foremost, noting that a HIA generally results in project delays and additional costs, and would be highly disruptive to efficient urban renewal if they are potentially required on such a large number of properties.

Lastly, there are also properties with heritage value that sometimes fall through even secondary frameworks for the management of heritage properties in a country due to a lack of awareness and detection. Often the loss of such heritage is not realised until the wrecking ball is on its way. A prime example of such properties would be the Butterfly House at Amber Road in Singapore, whose heritage value was not realised until it was slated for demolition by a private developer. Requiring HIAs for this category of properties is difficult due to the lack of commercial certainty for owners, would-be buyers and developers on when the government might require a HIA to be conducted; once again noting that HIAs generally result in project delays and additional costs, which must be factored into commercial transactions such as ownership transfer and redevelopment contracts.

Yet to achieve effectiveness in heritage conservation, it is still suggested that an ideal HIA regime should be one where a HIA would be required whenever a heritage site is potentially directly or indirectly affected by developmental works, type and scale notwithstanding; – such “heritage sites” including government-recognised heritage sites, “secondary” sites of some cultural or heritage value, and even potential sites of cultural or heritage value.

HIA for Private Owners and Projects

Within the various categories of cultural and heritage sites listed above are government and state-owned properties, as well as private properties. One major roadblock in heritage conservation lies in dealing with opposition from private owners of heritage properties and sites, who may not agree with the government’s or the general public’s wishes to see their private heritage property conserved. In most instances where the private owner is profit-motivated and unpersuaded by heritage conservation causes, there is often very little any third-party can do to intervene. In almost all first world countries, the rule of law is strong and property rights are well defined in favour of the landowner, whose land is his castle.

While imposing a requirement on owners of private heritage properties to perform a HIA before undertaking any redevelopment works would not directly undermine their land ownership, it might potentially be construed as an indirect interference with a landowner’s use and enjoyment of his land. Ultimately, much will depend on the extent to which a community prioritises heritage conservation over private property rights. In the case of Australia, both private and public heritage properties alike are subject to a HIA before redevelopment works can be performed. Private owners of heritage properties in Australia have not protested at this requirement, and this can be attributed to the expectations of the general Australian community that heritage conservation is paramount and should not be easily trumped by the private property rights of few individuals. The same cannot be said in more capitalist communities like Hong Kong and Singapore where a similar requirement imposed on private owners of heritage properties is likely to be met with strong resistance.

Eventually a proper balance must be struck between heritage conservation of private properties and the property rights of their private owners as these two diametrically competing objectives are legitimate goals in their own right. A state may offer economic incentives such as availing funds for future maintenance and cash grants, or land-related incentives such as land swaps and plot ratio revisions, as Hong Kong has done; but it is still ultimately for the owner of the heritage property to decide whether to conserve the property or not.

While property law protects the landowner in having the final say, this should not deter a HIA regime being mandatorily imposed on private heritage properties. A HIA report cannot force a hardened landowner bent on demolishing his heritage property from changing his mind. However it is hoped that the HIA process, which is essentially an

exploratory and mitigative tool within the larger heritage management and conservation framework, can serve as a medium through which all relevant stakeholders can be brought to the same understanding on the heritage value of the property through a baseline study, then to negotiate and work out a feasible win-win course of action acceptable to all parties in so far as possible. In being an objective study, it is hoped that the HIA can serve as a non-intrusive neutral medium and a practical process that can mediate the different objectives of the relevant stakeholders, with “the decision reached at the end [...] be one made by a conscious ‘choice’ and not ‘by chance’.”⁴⁸

Comprehensiveness and Effectiveness of HIA Regime

Once a HIA is required of a development project and is commissioned, the last concern would be the comprehensiveness and effectiveness of the HIA in furthering the objectives of cultural and heritage conservation. Here, difficulties are encountered as there is no universal standard for HIA and consequently no globally accepted benchmark for the effectiveness of HIAs. Fortunately, the increasing interest in heritage impact assessment as a field of study has led to comparative reviews assessing the effectiveness of the various models of EIAs and HIAs. International organisations have also published handbooks and circulars that provide guidelines in carrying out impact assessment; the United Nations Environment Programme (UNEP) has recommended procedures and established goals and principles for EIA⁴⁹ while the United Nations Educational, Scientific and Cultural Organisation (UNESCO) has issued guidelines on HIA – (the ICOMOS guidelines).⁵⁰ These attempts at consolidation are promising for a more objective standard and practice of EIA and HIA in the future. They are also a useful point of reference for countries who may be adopting or reviewing their impact assessment legislations.

With a direct reference to the practice of HIA, the ICOMOS’ HIA guide⁵¹ published in 2011 was viewed by academics and practitioners in this field as “crucial” in filling the gap and contributing to an effective impact assessment.⁵² While ICOMOS is particularly concerned with the preservation of “cultural world heritage properties” and the 10 criteria suggested to measure the effectiveness of HIAs are recommended within the context of cultural world heritage properties which have outstanding universal value, it is suggested that this criteria can form the basis for a general assessment of the

⁴⁸ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), File Ref: DEVB(CR)(W) 1-55/68/01, para. 19

⁴⁹ UNEP, (1988) *Environmental Impact Assessment: Basic Procedures for Developing Countries*, UNEP, Nairobi.

⁵⁰ ICOMOS, “Guidance on Heritage Impact Assessments for Cultural World Heritage Properties”, *ICOMOS Publication*, Jan 2011

⁵¹ *Ibid.*

⁵² Roders, Bond, Teller, “Determining effectiveness in heritage impact assessment”, *33th Annual Meeting of the International Association for Impact Assessment*, (13-16 May 2103), Calgary, Alberta, Canada, p. 2

comprehensiveness and effectiveness of a HIA regime. The 10 criteria can be summarised as:

1. "The (breadth of the) HIA team
2. The (early consultation with) relevant parties
3. The (training of the) involved parties
4. The (appropriateness of the) commissioning of the HIA process
5. The (full and effective) use of HIA output
6. The (transparency of) HIA reports
7. The (feed back into) the design process
8. The (adequacy of) the HIA tools
9. The (good) understanding of the WH property, its significance and OUV, its attributes and its context
10. The baseline data about the WH property and its condition."⁵³

Criteria 1, 3 and 8 assess the capacity of the HIA Commission and the sophistication of methods and technologies used in conducting the HIA. Criteria 2, 4, 5, 6 and 7 assess the effectiveness of the HIA in yielding better processes and decision-making with regard to heritage conservation and potential redevelopment. They include assessing the extent of engagement with the general public and relevant stakeholders, the transparency of the HIA reports, and the application of the HIA report recommendations. Criterion 4 on the appropriateness of commissioning the HIA process has already been addressed through the first two enquires of the evaluation framework (when a HIA should be required and the extent it can be imposed on private heritage properties), and will not be re-examined again. Lastly, criteria 9 and 10 assess the quality of heritage information gained from commissioning the HIA.

In evaluating the comprehensiveness and effectiveness of a HIA regime, it is suggested that the 9 criteria (excluding criterion 4) to guide the HIA evaluation for comprehensiveness and effectiveness can be reorganised into the three broad categories as described below for ease of evaluation and analysis:

HIA Team Capacity and Technology

1. The (breadth of the) HIA team
3. The (training of the) involved parties
8. The (adequacy of) the HIA tools

Quality of Baseline Heritage Information

9. The (good) understanding of the heritage property, its significance, attributes and its context
10. The baseline data about the heritage property and its condition.

Quality of Process and Decision-Making

⁵³ Pereira Roders & Oers, (2012), *op. cit.*, p. 104-114

2. The (early consultation with) relevant parties
7. The (feed back into) the design process
5. The (full and effective) use of HIA output
6. The (transparency of) HIA reports

In concluding this section, it is suggested that the evaluation framework comprising the three questions as shown below should be used in assessing the overall effectiveness of a HIA regime in furthering the objectives of cultural and heritage conservation within a country:

- (i) When HIA would be required (e.g. the types and scale of projects, and the types of heritage properties, that would require a HIA);
- (ii) The extent to which HIA may be imposed on private persons and projects; and
- (iii) The comprehensiveness and effectiveness of the impact assessment process in considering cultural and heritage matters. (using the reorganised 9-factors criteria).

In the next section, this evaluation framework will be used to assess the effectiveness of Hong Kong's HIA regime. With the practical lessons learnt from Hong Kong, this evaluation framework will then be used to guide the designing of a Singapore HIA regime, followed by an ex-ante evaluation of how this HIA regime is likely to fare in leading to better processes in cultural and heritage conservation in Singapore.

Case Study: The Hong Kong HIA Experience

In this section, an in-depth review of Hong Kong's experience with heritage conservation, as well as its EIA and HIA regimes for culture and heritage impact assessment will be conducted. The choice of Hong Kong as an in-depth case study is particularly instructive for Singapore due to their similarities in context and history. Singapore and Hong Kong were both previously under British colonial rule, experienced rapid economic development through the last 3 decades of the 20th century, and both face the same policy problem trying to balance heritage conservation with urban redevelopment due to land and space constraints. Some information cited in this section is not public information on record, but was obtained from interviews conducted in Hong Kong during the field trip.

Development of the Hong Kong HIA Regime

Hong Kong was a British Overseas Territory until 1997 when it was formally returned to China. While the territory of Hong Kong consists of several islands totalling 1,110 square kilometres,⁵⁴ more than 75% of this land area comprises mountainous no-built-up areas.⁵⁵ Consequently, the Hong Kong government has treated land as a precious resource to be used efficiently and expediently. The built heritage in Hong Kong is widely diverse, “ranging from traditional Chinese ancestral halls and Western residences to functional structures such as waterworks facilities,” in a reflection of her rich history and diverse social beliefs, traditions, ideas and cultures.⁵⁶

Heritage Conservation before EIAO-CHIA – before 1997

A good starting point for examining the practice of historical and cultural preservation in Hong Kong dates back to 1971, with the enactment of the Antiquities and Monuments Ordinance (A&M Ordinance) – legislation providing “for the preservation of objects of historical, archaeological and palaeontological interest and for matters ancillary thereto or connected therewith.”⁵⁷ While historical preservation may have been practiced before 1971, any such preservation was done purely at the good will of the owner of the affected property. The enactment of the A&M Ordinance provided a legal imperative for the mandatory preservation of historically significant monuments.

Under the A&M Ordinance, buildings, which are considered by the Authority “to be of public interest by reason of its historical, archaeological or palaeontological significance,” are declared as monuments.⁵⁸ These declarations have the effect of preserving the buildings to the extent that there shall be no demolition, removal,

⁵⁴ Statistics from the Website of the Planning Department of the Government of the Hong Kong SAR, available at: http://www.pland.gov.hk/pland_en/info_serv/statistic/landu.html

⁵⁵ Yeh, “High-Density Living In Hong Kong” *LSE Cities*, Nov 2011, article available at: <https://lsecities.net/media/objects/articles/high-density-living-in-hong-kong/en-gb/>

⁵⁶ “Built Heritage in Hong Kong”, *Antiquities and Monuments Office*, website available at: <http://www.amo.gov.hk/en/built.php>

⁵⁷ See Preamble to the Antiquities and Monuments Ordinance (Cap. 53), 1997, Rev. Ed.

⁵⁸ Section 3, Antiquities and Monuments Ordinance (Cap. 53), 1997, Rev. Ed.

obstruction, defacing or interference with a proposed monument or monument, except as so permitted by the Authority.⁵⁹ In considering the onerous duties imposed on the owners of such declared properties to maintain their properties, the A&M Ordinance has not been used widely in conserving heritage properties. As of October 2014, only 108 buildings have been declared as monuments.⁶⁰

The Beginnings of HIA: the CHIA-EIAO years – [1997 – 2007]

In 1997, an EIA law – the Environmental Impact Assessment Ordinance (EIAO) was passed in Hong Kong “to provide for assessing the impact on the environment of certain projects and proposals, for protecting the environment and for incidental matters.”⁶¹ Consistent with the literature review that EIAs generally fail to give adequate attention and coverage to cultural and heritage protection, the EIAO appears to be primarily concerned with environmental protection; with heritage and cultural protection relegated under “incidental matters.” This is further evidenced by the relative lack of reference to heritage and cultural issues within the wording of the Ordinance, as well as during the Parliamentary debate over the passing of the Bill; indeed the terms “heritage” and “culture” did not even feature in the Report of the Bill Committee⁶² convened to study the EIA Bill, nor during the Second Reading of the EIAO in Parliament, suggesting that cultural and heritage protection was not foremost on the minds of the legislators when they enacted the EIAO.

Under the EIAO, “designated projects” as listed in Schedule 2 and 3 are subject to an EIA. These “designated projects” are environmentally significant projects such as reclamation works,⁶³ dredging operations,⁶⁴ drainage channel or river training and diversion works⁶⁵ and building projects.⁶⁶ Where cultural and heritage sites are concerned, there is a need to conduct a CHIA, as part of an EIA, when such “site of cultural heritage” would be affected by, or is in close proximity (distance varying according to the type of project) to the scheduled “designated projects.” These “site[s] of cultural heritage” are interpreted in Schedule 1 of the EIAO to mean “an antiquity or monument, whether being a place, building, site or structure or a relic, as defined in the A&M Ordinance and any place, building, site, or structure or a relic identified by the AMO to be of archaeological, historical or palaeontological significance.”⁶⁷ Since these interpretive words are *in pari materia* with the wording in section 3(1) of the AMO,

⁵⁹ Section 6, Antiquities and Monuments Ordinance (Cap. 53), 1997, Rev. Ed.

⁶⁰ “Declared Monuments in Hong Kong (as at 24 October 2014)”, list available at: http://www.amo.gov.hk/form/DM_Mon_List_e.pdf

⁶¹ See Preamble to the Environmental Impact Assessment Ordinance (Cap. 499), 1998.

⁶² Paper for the House Committee meeting on 10 January 1997 Report of the Bill Committee on Environmental Impact Assessment Bill, LegCo Paper No. CB(1)/96-97, Ref : CB1/BC/20/95

⁶³ C2, Schedule 2, Environmental Impact Assessment Ordinance (Cap. 499), 1998.

⁶⁴ C12, Schedule 2, Environmental Impact Assessment Ordinance (Cap. 499), 1998.

⁶⁵ I1, Schedule 2, Environmental Impact Assessment Ordinance (Cap. 499), 1998.

⁶⁶ Q1, Schedule 2, Environmental Impact Assessment Ordinance (Cap. 499), 1998.

⁶⁷ Definition of “site of cultural heritage”, Schedule 1, Environmental Impact Assessment Ordinance (Cap. 499), 1998.

which provides for the declaration of monuments, it was likely the case that the Hong Kong Legislature only intended “declared monuments” under the A&M Ordinance to be considered “sites of cultural heritage” for the purposes of conducting a CHIA under the EIAO.

Even then, there remains ambiguity whether the 1,444 graded buildings⁶⁸ recorded by the AMO after an island-wide survey of heritage buildings in the 1980s would also fall within the EIAO definition of “site of cultural heritage” as being “any place, building, site, or structure or a relic identified by the AMO to be of archaeological, historical or palaeontological significance.”⁶⁹ The lack of clarification over this definition had resulted in several CHIAs conducted under the EIAO to consider the impact on graded buildings as well, possibly *ex abundanti cautela*.

However the 2007 Legislative Council Brief on Heritage Conservation Policy clarified the matter that “only declared monuments under the A&M Ordinance are classified as ‘sites of cultural heritage’ subject to environmental permits under the EIAO,” and the Council did not recommend that graded buildings be covered by the EIAO.”⁷⁰ In an interview conducted with several senior heritage officers from the Hong Kong AMO, it was further revealed that while there was no legal basis for CHIAs conducted under the EIAO to consider impacts on graded buildings, the AMO had nonetheless encouraged developers to do so in an attempt to further the applicable scope and raise standards for the practice for CHIA. AMO provided a figure of 109 EIAs commissioned since 2008, 90 of which contained a CHIA.

The CHIA under the EIAO appears to have strengthened the legal mechanisms in the overall heritage management framework in Hong Kong. However upon closer examination, the lack of additional effective protection to cultural and heritage objects expected of the new EIAO legislation becomes apparent. The application of the EIAO with regard to heritage sites only extended to the relatively small number of declared monuments, which are already generally protected from modification under the A&M Ordinance. Any “designated projects” contemplated by the EIAO, which would have the tendency to “demolish, remove, obstruct, deface or interfere”⁷¹ with a “site of cultural heritage” would already necessarily require permission from the Authority under section 6 of the A&M Ordinance; with such permission unlikely to be granted if it would adversely affect the declared monument. Perhaps the only additional protection afforded by the EIAO to these declared monuments would be the consideration of indirect impact from “designated projects” in close proximity which might adversely

⁶⁸ More information on the assessment of the 1,444 historic buildings in Hong Kong can be found at: <http://www.aab.gov.hk/en/built3.php>

⁶⁹ Definition of “site of cultural heritage”, Schedule 1, Environmental Impact Assessment Ordinance (Cap. 499), 1998.

⁷⁰ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), *op.cit.*, para. 12.

⁷¹ Section 6, Antiquities and Monuments Act (Cap. 53), 1997, Rev. Ed.

affect these monuments; which might previously have gone unconsidered under section 6 of the A&O Ordinance, which only contemplates on-site direct impact.

It seems, therefore, that the only effective contribution of the EIAO towards cultural and heritage protection would be the process and procedure set out in Annexes 10 and 19 of the Technical Memorandum, which is issued pursuant to section 16 of the EIAO, detailing specifications for a CHIA for “designated projects” affecting “sites of cultural heritage.”⁷² These two documents, together with additional general guidelines available on the Environment Protection Department (EPD) website,⁷³ are still relevant and applicable even under the new HIA framework promulgated in 2008, and shall be discussed in light of the 2008 HIA developments.

Reinforcements to the HIA Regime under the EIAO: the HIA years – [2008 – current]

The importance of heritage conservation is often not realised until it's too late. In numerous countries, it is often the proposed redevelopment of a beloved or familiar national icon, which galvanises the citizenry into action. In Hong Kong, the demolition or redevelopment of several heritage-significant properties such as Lee Tung Street, Queen's Pier, Wan Chai Market and the Central Police Station had provoked protests and even sit-ins and hunger strikes from zealous local civic society groups;⁷⁴ and it is widely believed that the demolition of the Star Ferry Pier in December 2006 was the proverbial last straw that broke the camel's back in setting in motion the process of deep soul-searching in Hong Kong's practice of heritage conservation, which eventually culminated in additional reinforcements made to the practice of CHIA under the EIAO.

A stand-alone HIA in Hong Kong was first introduced in the 2007/2008 Policy Address of the Chief Executive, where “all public works projects involving historic and built heritage [are required] to undergo heritage impact assessment so that the conservation of historic sites and buildings will be given due consideration in the project planning stage.”⁷⁵ The Chief Executive attributed the introduction of this HIA requirement to the Hong Kong people, who “in recent years [...] have expressed our passion for our culture and lifestyle.”⁷⁶

A year later in 2009, the Development Bureau Government Secretariat issued “Development Bureau Technical Circular (Works) No. 6/2009 – Heritage Impact

⁷² Technical Memorandum on Environmental Impact Assessment (EIA) Process (Environmental Impact Assessment Ordinance (Cap. 499), Section 16), Annexes 10 and 19

⁷³ Environmental Protection Department, “Guidance Notes, Assessment of Impact on Sites of Cultural Heritage in Environmental Impact Assessment Studies”, available at:

<http://www.epd.gov.hk/eia/english/guid/cultural/intro.html>

⁷⁴ Hilary Tsui, “Demolition of Star Ferry Pier”, *Dérive Zeitschrift für Stadtforschung*, article available at: http://www.derive.at/index.php?p_case=2&id_cont=659&issue_No=29; and Ng Tze-wei, (10 Nov 2006) “Not even HK's storied Star Ferry can face down developers”, *The New York Times*, article available at: http://www.nytimes.com/2006/11/10/world/asia/10iht-ferry.3482674.html?_r=0

⁷⁵ 2007/2008 Policy Address of the Chief Executive of the Hong Kong Special Administrative Region, (10 October 2007), para. 50.

⁷⁶ 2007/2008 Policy Address of the CE of the HK SAR, *op. cit.*, para. 49.

Assessment Mechanism for Capital Works Projects” (Technical Circular), setting out the “procedures and requirements for assessing heritage impact arising from the implementation of capital works projects.”⁷⁷ The Circular affirmed that the introduction of the HIA requirement for capital works projects is “in response to the rising aspirations from the public on heritage conservation.”⁷⁸

The Policy Address and the Technical Circular collectively heralded a new era in cultural and heritage conservation in Hong Kong in two important ways – i) the HIA strengthened the requirements of the CHIA as demanded under the EIAO, and; ii) extended the mandatory application of the HIA to all declared and proposed monuments; all sites and buildings graded by the AAB; all recorded sites of archaeological interest; and Government historic sites identified by AMO.⁷⁹ These changes are detailed in the next section.

Evaluation of the Hong Kong HIA Model

In this section, the pertinent features and details of the Hong Kong HIA will be elaborated upon, together with an evaluation of how the HIA regime has been effective in contributing to better processes in heritage conservation in Hong Kong. The evaluation will be guided by the evaluation framework developed in the previous section:

- (i) When HIA would be required (e.g. the types and scale of projects, and the types of heritage properties, that would require a HIA);
- (ii) The extent to which HIA may be imposed on private persons and projects; and
- (iii) The comprehensiveness and effectiveness of the impact assessment process in considering cultural and heritage matters. (using the reorganised 9-factors criteria).

Requirement for HIA

Under the CHIA-EIAO regime, the requirement to conduct a CHIA is dependent on an environmentally significant “designated project”. As earlier mentioned, the weakness of this “project-focused” approach (as opposed to the “heritage property focused” approach of a HIA), is that it runs the risk of smaller-scaled projects that could still result in significant detriment to heritage properties escaping the need to conduct a CHIA if it does not meet the threshold of a “designated project” under the EIAO. This weakness is coupled with the CHIA-EIAO being legally applicable to only declared monuments – 108 as of date. In short, the CHIA-EIAO was deficient in two aspects – its “project-focused” approach, as well as its limited applicability to heritage properties.

⁷⁷ Development Bureau Technical Circular (Works) No. 6/2009 – Heritage Impact Assessment Mechanism for Capital Works Projects, Scope.

⁷⁸ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 4

⁷⁹ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 6

These deficiencies were rectified by the 2008 HIA which was an attempt to strengthen the HIA regime for works that may not come under the radar of the EIAO, especially for government's capital works.⁸⁰ Pursuant to the 2009 Technical Circular which details the operation of the HIA regime, capital works projects which affects declared monuments, proposed monuments, sites and buildings graded by the AAB, recorded sites of archaeological interest, and Government historic sites identified by AMO,⁸¹ are required to assess heritage impact. The requirement to conduct a HIA arises when there is/are "heritage site(s)" within the project boundary or within 50 meters vicinity from the nearest point of the project boundary, inclusive of works area in both situations,⁸² and where AMO is of the opinion that the project would affect the heritage value of the "heritage site."⁸³

The effect of the 2008 HIA is significant in changing the approach in heritage impact assessment in Hong Kong from a "project-focused" approach to a "heritage property focused" approach; extending the coverage of the HIA requirement well beyond "designated projects" which affects only the limited group of declared monuments under the EIAO, to covering four more categories of heritage properties (see Table 1 below). The HIA essentially complements the CHIA-EIAO without creating any overlaps – Paragraph 17 of the Technical Circular states that if a project is a "designated project" under the EIAO and an "assessment of impact on sites of cultural heritage" (CHIA) is already conducted under the EIA, then a separate HIA on the same "heritage site" is not required. But even if an EIA is required for a "designated project", but a CHIA is not required in that EIA for the affected "heritage site", then a separate HIA as required under the Technical Circular may still be necessary. Generally, routine maintenance and minor repair works, Category D works (minor works projects), and emergency repair works are exempted from the HIA mechanism.⁸⁴

HIA for Private Owners and Projects

While the reformed HIA regime appears to be comprehensive in being applicable to all types of recognised heritage properties in Hong Kong, it is important to note the limitations with regard to private projects and privately owned heritage properties. Most notably, the HIA requirements only apply to capital works projects, which means private projects (not using government monies) that might have an impact on sites of cultural heritage are still exempt from having to conduct a HIA. Private projects performed on privately owned heritage properties are also similarly exempt. The only time when private projects would be required to perform heritage impact assessment would be when it is an environmentally significant "designated project" under the EIAO

⁸⁰ Yeo Kang Shua & Chua Ai Lin (2014), "Heritage Impact Assessment: is Singapore ready?", in *State Policy and the Cultural Politics of Heritage-Making in East and Southeast Asia*

⁸¹ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 6

⁸² Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 9

⁸³ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 12

⁸⁴ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 27

that would potentially impact declared monuments directly or indirectly – in which then a CHIA would be required as part of an EIA.

The following table sets out the extent of coverage for each legislative form.

	Declared Monuments		Proposed Monuments		Graded Buildings		Recorded Sites of Archeological Interest		Government Historical Sites	
	Pub	Pri	Pub	Pri	Pub	Pri	Pub	Pri	Pub	Pri
A&M Ordinance	X	X								
CHIA-EIAO	X	X								
HIA	X		X		X		X		X	

Table 1: Applicability of Heritage Impact Assessment

In Hong Kong as at March 2014, there are 105 declared monuments; of which 59 are government-owned (**56.2%**) and 46 non-government-owned (**43.8%**). There are also 1,274 graded buildings which have had their grading status confirmed by the AAB; of which 231 are government-owned (**18.1%**) and 1,043 non-government-owned (**81.9%**).⁸⁵ Non-government-owned properties include those owned by religious groups, educational institutions, clans or other organisations.⁸⁶ Considering that close to half of the declared monuments and an overwhelming majority of graded buildings are privately owned, the extent to which the HIA regime is applicable appears to be severely curtailed.

The Legislative Council in 2007 had mulled over the idea of drawing up a priority list from amongst the 1,444 graded buildings to be classified as “sites of cultural heritage” such that they may be subjected to a CHIA. However they eventually scrapped the idea citing complexity with the identification process for such a list, the subjectivity in the identification criteria, and potentially aggrieved private owners who may object to their heritage properties being listed.⁸⁷ Private owners of heritage properties in Hong Kong have generally been very reluctant to let the government and the public-at-large dictate what they should do to conserve their properties. The fear of backlash and future non-support from these private owners, many of whom are the powerful elite in Hong Kong, eventually led the Legislative Council to a compromise – for the new HIA regime to be applicable to capital works projects only.⁸⁸

Ho Tung Gardens, a privately owned Grade I building, illustrates the case of private owner reluctance in point. The private owner of Ho Tung Gardens had intended to

⁸⁵ Antiquities Advisory Board, (2014) “Respecting our Heritage while Looking Ahead (Policy on Conservation of Built Heritage)”, Consultation Paper, p. 5

⁸⁶ *Ibid.*

⁸⁷ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), *op.cit.*, para. 12.

⁸⁸ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), *op.cit.*, paras. 15-19.

demolish the Grade I building on the site. The AMO upon learning of the impending demolition, attempted to stall the demolition works by proposing Ho Tung Garden to be declared as a monument under section 2A of the A&M Ordinance, with the effect of imposing a 12 months moratorium on any redevelopment onsite. However, the owner invoked his right under section 2C to object to the “proposed monument” status, and the property consequently could not be declared as a monument. Free of any legal encumbrances to redevelopment and a breakdown in negotiations between the owner and the government, the owner proceeded to demolish Ho Tung Gardens in 2013. No HIA was conducted in this case as the redevelopment works was a private project. A CHIA was also not conducted as the demolition was not an environmentally significant “designated project” under the EIAO.

Two other privately owned graded buildings experienced happier outcomes, but not without costly economic incentives thrown in by the government to persuade their owners to conduct a HIA and to conserve. Anticipating that there would be many difficult private heritage property owners who are profit-motivated such as in the Ho Tung Gardens case, the Legislative Council in 2007, had recommended for economic incentives to prevent these owners from demolishing their heritage properties and to compensate them for their loss of development rights.⁸⁹ These economic incentives include land exchange, which was only done once in the case of King Yin Lei; and transference of plot ratio which was done in the case of Haw Paw Villa. In the case of Haw Paw Villa, a HIA was subsequently carried out in 2014 as part of the Hong Kong Revitalisation Scheme to assess the suitability of the reuse of Haw Paw Villa as a music academy.

In concluding the evaluation of when a HIA would be required, as well as the extent to which HIA may be imposed on private projects in Hong Kong, it is noted that Hong Kong has taken positive steps in gradually increasing the applicability of HIAs to cover more heritage properties. But the government has stopped short of making HIAs mandatory for privately owned heritage properties and private projects fearing the unacceptability of this policy option by private owners of heritage properties.

Comprehensiveness and Effectiveness of HIA Regime

In assessing the comprehensive and effectiveness of the Hong Kong HIA regime, the reorganised 9-factors criteria based on the original 10-factors ICOMOS framework as explained in the earlier evaluation framework section will be employed:

HIA Team Capacity and Technology

1. The (broadness of the) HIA team
3. The (training of the) involved parties
8. The (adequacy of) the HIA tools

Quality of Baseline Heritage Information

⁸⁹ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), *op.cit.*, paras. 24-28.

9. The (good) understanding of the heritage property, its significance, attributes and its context
10. The baseline data about the heritage property and its condition.

Quality of Process and Decision-Making

2. The (early consultation with) relevant parties
7. The (feed back into) the design process
5. The (full and effective) use of HIA output
6. The (transparency of) HIA reports

HIA Team Capacity and Technology

Ideally, HIA must be conducted by a multidisciplinary team (criterion 1) of appropriately-trained professionals (criterion 3) employing suitable assessment techniques and technologies (criterion 8) in order to be holistic.⁹⁰ Yeo and Chua argue that “a full eco-system of trained professionals will ensure that the HIA will be appropriate and the outputs will be effective, providing a detailed and holistic framework for decision-making and for the implementation of a coherent set of appropriate actions for the conservation of cultural heritage sites.” In Hong Kong, the growing desire for greater heritage conservation since the millennium has led to the development of relevant capacity and the availability of trained professionals, who are well-placed to undertake HIA projects in Hong Kong.

The architecture faculties of the two largest universities in Hong Kong, the Hong Kong University (HKU) and the Chinese University of Hong Kong (CUHK) have been supporting and training professionals that can take on various roles within the HIA process. The HKU in particular has the Architectural Conservation Programme (ACP), founded in 2000 and to date remains, the only postgraduate-level academic programme in heritage conservation in China as well as in Asia.⁹¹ Architecture academics and conservationist specialists at both universities have also been involved in many of the HIAs conducted. Of the two architecture academics whom were interviewed for this PAE, Professor Lee Ho Yin, head of the ACP at HKU, was involved in the first two HIA reports required under the 2008 HIA regime on the Yaumatei Theatre and the Red Brick Building (Oct, 2008) and the Upper Levels Police Station (Oct, 2008); while Professor Ho Puay-Peng of CUHK led the HIA studies on the Old Tai Po Police Station (Nov, 2011), Haw Paw Mansion (Dec, 2014) and Chai Wan Factory Estate (Apr, 2013).

A broad survey of the HIA reports from 2008 to date reveals consistency in the structure of the reports, the methodology used, and the standards and guidelines referred to. In addition to the various local HIA guidelines laid by AMO, the EPD and the

⁹⁰ Yeo Kang Shua & Chua Ai Lin, “Heritage Impact Assessment: is Singapore ready?”, *op. cit.*

⁹¹ Heritage Policies Review, (1 Mar 2008) “The Concurrent Development of Conservation Perception and Conservation Education in a City of Change”, *The Hong Kong Institute of Architects Journal*, Issue 49, p. 52.

DB, almost all the HIA reports used the Burra Charter, one of the earliest attempts to define basic principles and procedures for the conservation of heritage places, as the referable standard for the impact assessment. In drafting the HIA report, most reports also followed the structure recommended in “The Conservation Plan”, a document drawn up by Dr. James Semple Kerr for the Australian National Trust in 1996. Consequently, most HIA reports are of a high standard with detailed written and photographic accounts of the history of the property, its tangible and intangible heritage value, and proposing mitigative measures for its conservation against the affecting works.

Quality of Baseline Heritage Information

The quality of a HIA report is heavily dependent on the quality of the baseline information that can be gathered on the heritage property and its immediate surroundings (criterion 10). This baseline information should ideally include both tangible and intangible heritage value so that a decision on how best to conserve the heritage property can be taken in light of both its visible heritage attributes as well as its intangible heritage properties (criterion 9). In Hong Kong, the CHIA and the HIA guidelines both require a baseline study to be conducted in line with a standard methodology.⁹²

Annex 19 of the Technical Memorandum to the EIAO specifies the requirements for the baseline study and the methodology which is to be adopted. The baseline study aims to yield a “comprehensive inventory of places, buildings, sites and structures of architectural, archaeological and historical value within the proposed project area; and to identify possible threats of, and their physical extent, destruction in whole or in part of sites of cultural heritage arising from the proposed project.”⁹³ In conducting the baseline study, the Development Bureau recommends a methodology detailing the sources of information to be consulted, which includes “published papers, records, archival and historical documents as well as oral legends”⁹⁴ from “the AMO, public libraries and archives and tertiary institutions,”⁹⁵ such as to provide “detailed geographical, historical, archaeological, ethnographical and other cultural data”⁹⁶ about the proposed project area. Field surveys and site investigations should also be conducted if the data from the above sources prove inadequate.⁹⁷

Quality of Process and Decision-Making

⁹² Technical Memorandum on EIA Process *op. cit.*, Annex 19; and Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 15

⁹³ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para 2.2

⁹⁴ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para 2.4

⁹⁵ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para 2.3

⁹⁶ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para 2.3

⁹⁷ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para 2.5

Lastly, with regard to the quality of process and decision-making, the interest is in finding whether the HIA regime has improved the process of heritage conservation in Hong Kong such that the relevant stakeholders are timely engaged (criterion 2), the HIA findings and recommendations are taken into consideration (criteria 5 and 7), and whether the reports are available to the general public (criterion 6).

Mr. Kenneth Tam, Chief Heritage Manager of the Hong Kong AMO, who deals with HIAs on a daily basis describes the HIA as “a process, not just a 1-way report.” During each stage of redevelopment, from the drawing board to the ground performance of works, the HIA process ensures that the public and all relevant stakeholders are timely engaged, and that the preliminary findings and mitigation recommendations of the HIA Commission are duly considered and applied. The following paragraphs briefly describe how the HIA engages stakeholders and how HIA feedback is continually considered throughout the project timeline:

When a project requiring HIA has attained a Category B status under the Public Works Programme (when planning has commenced or may commence during the coming year), the works agent will then need to conduct and submit the HIA of the project to AMO for endorsement.⁹⁸ When the works agent is submitting its plans (the “PWSC paper”) to the PWSC⁹⁹ to obtain funding for construction works, it should include a “Heritage Implications” paragraph to inform the PWSC whether the project affects any “heritage sites”, and if so, *what mitigation measures would be taken and whether the public were in support of the proposed measure in the public engagement process.*¹⁰⁰ (*emphasis mine*)

With regard to the effective consideration of the HIA findings and recommendations, “[a] general presumption in favour of the protection and conservation of all sites of cultural heritage” is adopted “because they provide an essential, finite and irreplaceable link between the past and the future and are points of reference and identity for culture and tradition.”¹⁰¹ Accordingly, “adverse impacts on sites of cultural heritage shall be kept to the absolute minimum.”¹⁰²

Annex 19 contemplates the three possible outcomes where a heritage site would be directly affected by project works – i) preservation in totality; ii) preservation in part; and iii) total destruction; and states the *justifications that must be offered in the event that a heritage site cannot be preserved in totality*. The language of this section is stern in warning that preservation in part must be fully justified in showing the impracticability of total preservation, and that total destruction

⁹⁸ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 15

⁹⁹ The Public Works Subcommittee (PWSC) procedure is available at:

http://www.legco.gov.hk/general/english/procedur/pw_proce.htm

¹⁰⁰ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 18

¹⁰¹ Technical Memorandum on EIA Process *op. cit.*, Annex 10, para. 2

¹⁰² Technical Memorandum on EIA Process *op. cit.*, Annex 10

must be taken “as the very last resort in all cases.”¹⁰³ In the first two possible outcomes where a heritage site is to be preserved, whether in whole or in part, *mitigation measures are to be detailed to integrate the heritage site into the proposed project.*¹⁰⁴ For heritage sites that are to be preserved in part or slated for total destruction, a “*comprehensive and practical rescue plan*” must be worked out.¹⁰⁵ In any case, Annex 19 warns that mitigation measures are not to be taken as *de facto* means to avoid conservation and preservation, and must be taken only when they are to be “the only practical course of action.”¹⁰⁶ (*emphasis mine*)

Finally at the construction stage, the works agents are responsible for *checking that the works and the mitigation measures carried out for heritage conservation, if any, comply with the requirements stipulated in the HIA* as approved by AMO.¹⁰⁷ (*emphasis mine*)

With regard to the transparency of HIA reports, the CHIAs and HIAs conducted are available on the Internet for general public access. The list of EIAs conducted are publicly published on a dedicated EIAO website maintained by the Environmental Protection Department.¹⁰⁸ To date, there are 232 EIA reports published for public inspection.¹⁰⁹ The number of CHIAs conducted under EIAs is not readily available unless one manually opens each EIA report to examine if a CHIA was also conducted. However the AMO, during the interview, provided the following figures: 109 EIAs conducted since 2008, 90 of which contain CHIAs. There are also 31 HIA reports published pursuant to the 2008 HIA regime, which are publicly accessible from the AMO website.¹¹⁰

Globally assessing the Hong Kong HIA on the reorganised 9-factor criteria for comprehensiveness and effectiveness of the HIA regime, it appears that the Hong Kong HIA has performed credibly in contributing to better processes in heritage conservation and management in Hong Kong.

Conclusion: Hong Kong HIA and Heritage Conservation beyond 2015

For all the business sensibilities and capitalist mind-sets that characterise the Hong Kong people, the growing citizenry desire for greater heritage preservation signifies a coming of age. Mr. Kenneth Tam, Chief Heritage Manager of the Hong Kong AMO, remarked during the interview; “Preservation is not a commercial decision at all!” Instead he observed that it was the citizenry embracing a long-term view of recognising

¹⁰³ Technical Memorandum on EIA Process *op. cit.*, Annex 19, paras. 2.7 - 2.8

¹⁰⁴ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para. 2.11

¹⁰⁵ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para. 2.12.

¹⁰⁶ Technical Memorandum on EIA Process *op. cit.*, Annex 19, para. 2.10

¹⁰⁷ Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 21

¹⁰⁸ A website dedicated to EIAO affairs is maintained by the EPD at: <http://www.epd.gov.hk/eia/>

¹⁰⁹ A list of EIAs conducted is available at: <http://www.epd.gov.hk/eia/english/register/open/all.html>

¹¹⁰ A list of HIAs conducted is available at: http://www.amo.gov.hk/en/hia_02.php

their heritage and their desire to preserve it for successive generations – the objects and the built environment that makes Hong Kong, Hong Kong.

The HIA regime enacted in 2008 was just one of numerous schemes which the Hong Kong government came up with to meet the growing concerns of the citizenry for heritage conservation. Other schemes include the Revitalisation Scheme (adaptive re-use of government-owned historic buildings)¹¹¹ and the Financial Assistance for Maintenance Scheme (provision of funds to upkeep privately-owned graded historic buildings).¹¹²

Recognising that the HIA process may lead to higher costs and cause interference to the speedy delivery of projects, which may not be acceptable to private owners and developers, the government has sought to implement the HIA regime in a slow and incremental manner. HIA is currently only applicable for capital works projects, while the EIAO is restricted to large-scale environmentally significant “designated” projects that affect declared monuments; most private projects and privately owned heritage buildings currently remaining exempt from HIA requirements.

Even when a HIA is potentially required, the Hong Kong Development Bureau and AMO have endeavoured to ensure that only cases where the threat of heritage loss is grave, are required to follow through with the whole HIA process, in an attempt to strike a balance between efficiency in urban redevelopment and heritage conservation; the Hong Kong government is ultimately still one that is concerned about cost and expediency.

In conclusion, the remarks of the Legislative Council in its recommendations for a HIA regime for Hong Kong in 2007 well summarises the objective of the HIA in enabling better process for heritage conservation for the city – “on balance, even if there is some delay, it does not mean that the proposal is not worth pursuing. It reflects our community's choice. The same will apply to the issue of additional costs should a more costly option be selected to avoid impacting on a heritage site. All relevant information will be presented for deliberations. *The decision reached at the end will be one made by a conscious 'choice' and not 'by chance.'*”¹¹³ (*emphasis mine*)

¹¹¹ Information on the Revitalisation Scheme is available on the Development Bureau’s Heritage website at: <http://www.heritage.gov.hk/en/rhbtp/about.htm>

¹¹² Information on the Maintenance Scheme is available on the Development Bureau’s Heritage website at: <http://www.heritage.gov.hk/en/maintenance/about.htm>

¹¹³ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), *op.cit.*, para. 19

Contextual Applicability for Singapore

In this section, the policy challenge highlighted in the overview section will be reassessed in light of the findings from the literature review and the case study of Hong Kong. The purpose of this reassessment exercise is to contextualise the policy environment and challenges prevalent in Singapore against the HIA practices discussed in the literature review and how they have been applied with relative success in the case example of Hong Kong. The position of the relevant stakeholders, the public, the government, the private developers and the owners of private heritage properties, in Singapore will also be considered.

The overview section summarised the two categories of heritage properties in Singapore – “declared monuments” and “conservation areas”, and described the statutory protections each type of heritage property is accorded against redevelopment – none of which involving the use of heritage impact assessment as a tool for heritage conservation and management. In this regard, Singapore is several steps behind most parts of the developed world as the literature review revealed that many of these countries already cater for heritage impact assessment, whether under an EIA framework or a stand-alone HIA.

Hong Kong, a capitalist and laissez-faire city, very much like Singapore with a similar policy environment and challenges, has not been constrained by its profit-motive or priority for redevelopment, nor pressure from stakeholders, and has pushed ahead with a HIA regime that goes some way in protecting declared monuments and publicly owned graded buildings through a process requiring them to assess and mitigate impacts from redevelopment works before they can be undertaken.

Essentially, the introduction of the HIA regime in Hong Kong can be attributed to the overwhelming will of the Hong Kong people in desiring greater protection of their built heritage; the Hong Kong people had taken to the streets in protest and even resorted to extreme “tree-hugging” measures such as chaining themselves to heritage properties slated for demolition and staging hunger strikes as was observed in the Star Ferry Pier incident in 2006. The HIA regime promulgated in 2008 is one of several processes and schemes taken by the government in reaction to the people’s desires, towards better conservation and management of built heritage in Hong Kong.

Singapore Citizenry Desiring Greater Protection of Heritage

In Singapore, we are unlikely to see similar “tree-hugging” behaviour as was observed in Hong Kong due to a different political and civic society context. However, this does not mean that the Singapore citizenry are passive about issues of heritage conservation. Quite to the contrary, Singaporeans have become increasingly aware of the need for the preservation of our heritage – the level of awareness rising in tandem with rising appreciation for the arts and culture, an increasingly vocal younger generation, the rise of social media to facilitate the rapid exchange of ideas, and the passing of a passage of time when beloved heritage sites were lost to redevelopment. It is suggested that these

four factors aligned in 2011 to spark off the largest protest in Singapore over a heritage site: Bukit Brown cemetery.

In 2011, the government announced plans to exhume parts of the Bukit Brown cemetery to make way for a new highway that would reduce cross-country traveling time. The announcement attracted public outcry and ad-hoc movement groups such as “SOS Bukit Brown” and “All Things Bukit Brown” were formed overnight to consolidate the opposition to the government’s plan. This spirited outburst took the government and even long-time heritage buffs by surprise; after all, mass exhumation of graves had been done on many occasions previously with scarcely any objection from the public, and the government had anticipated no difference in the Bukit Brown case.

In an attempt to quell the public dissatisfaction, URA commissioned a historical documentation study of the affected area, led by Dr. Hui Yew Foong, an anthropologist at ISEAS, at a cost of \$250,000. This study, “entail[ing] not just the documentation of graves, but also the documentation of the social history, memories and rituals associated with the cemetery, as well as the exhumation process,”¹¹⁴ appears to be consistent with the expectations of a baseline study, a part of a standard HIA process. However unlike a proper HIA, this study was only commissioned after the decision was made to clear part of the cemetery to make way for a highway. Consequently, no mitigation measures were proposed as part of this study that might have suggested an alternative alignment of the highway so as to avoid the cemetery.

Hence this study, while useful as a comprehensive baseline study of the history of Bukit Brown Cemetery, is really cold comfort for those who fought for its preservation. Despite All Things Bukit Brown having successfully nominated Bukit Brown to be listed on the independent New York-based World Monument Watch (WMW) as a “threatened site” in late 2013,¹¹⁵ URA nonetheless awarded a tender for the construction of the highway and announced that 3,746 graves will be exhumed to make way for the new road.¹¹⁶

Controlling for the culturally and politically different manner in which the public demonstrate their opposition in Singapore and in Hong Kong, it is argued that the adverse reaction to the exhumation of Bukit Brown in Singapore in 2011 is of a similar scale to the adverse reaction to the demolition of Queen’s Pier in Hong Kong in 2007. And as the Hong Kong government put in place a HIA regime in reaction to its citizen’s desire for greater protection of their cultural objects, it is suggested that the Singapore government should strongly consider enacting a similar HIA regime for the people of

¹¹⁴ The Bukit Brown Cemetery Documentation Project, “About the Project”, <http://bukitbrown.info/about.php>

¹¹⁵ Grace Chua, (12 Oct 2013) “Bukit Brown put on World Watch List”, *The Straits Times*, article available at: <http://news.asiaone.com/news/singapore/bukit-brown-put-world-watch-list?nopaging=1>

¹¹⁶ URA, “Tender to Construct New Road across Bukit Brown Awarded”, press release available at: <https://www.ura.gov.sg/uol/media-room/news/2013/aug/pr13-48.aspx>

Singapore are ready for greater processes in conservation and management of our built heritage.

Government Demonstrating Greater Openness for HIA and Heritage Management

The Singapore government has shown that it is willing to create awareness and accord greater protection to heritage objects. Most significantly, Singapore signed the World Heritage Convention¹¹⁷ as its 190th member on 19 June 2012. The ratification of an international convention brings about international legal obligations. Article 5 of the Convention requires State Parties to “endeavor, in so far as possible, and as appropriate for each country,” among other things, to “take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage.” Paragraph 110 of the Operational Guidelines to the Convention additionally specifies that “impact assessments for proposed interventions are essential for all World Heritage properties.”

Shortly after its acceptance of the World Heritage Convention, Singapore submitted a bid to have the Singapore Botanic Gardens inscribed as a World Heritage Site in accordance with Article 1 and 2 of the Convention. This was announced in Parliament in 2013, and then Nominated Member of Parliament Janice Koh, alluding to the aspect of legal measures in heritage protection and conservation, posed a question to the Minister of Culture, Community and Youth Lawrence Wong: “how will signing the 1972 World Heritage Convention change the way Government is currently engaging with local NGOs and community interest groups in terms of identifying future potential sites and future submissions, especially in light of the fact that potential sites require legislative protection by governments before they can receive UNESCO World Heritage status?”¹¹⁸

Minister Lawrence Wong replied that “on the signing of the Convention and what it means for the future, I think it means a stronger commitment to heritage and it means that my Ministry and the National Heritage Board will do even more to engage different stakeholders on the importance of heritage, with regards to the different sites in Singapore and how we can make an even greater effort to preserve and recognise heritage value in the sites that are important to us.”¹¹⁹

The UNESCO bid was eventually successful and the Singapore Botanic Gardens became Singapore’s first World Heritage Site on 4 July 2015. At the announcement of the decision, the UNESCO World Heritage Committee even made specific mention of the nomination dossier that Singapore submitted, praising it as “well-prepared” and a

¹¹⁷ The Convention was adopted by the General Conference of UNESCO in 1972 and came into force on 17 December 1975. It currently has 191 signatories.

¹¹⁸ *Singapore Parliamentary Debates, Official Report* (8 Apr 2013) vol 90 (Ms. Janice Koh, Nominated Member)

¹¹⁹ *Singapore Parliamentary Debates, Official Report* (8 Apr 2013) vol 90 (Minister Lawrence Wong, Minister for Culture, Community and Youth, People’s Action Party)

“perfect example of how [a] nomination should be presented.”¹²⁰ Clearly, the relevant government authorities working on the Botanic Garden’s inscription bid had conscientiously referenced the ICOMOS Guide on Heritage Impact Assessment for Cultural World Heritage Properties to perform a HIA on Botanic Gardens. Chua and Yeo observed that the nomination dossier for the Botanic Gardens had “contain[ed] the description of the property, the state of conservation, documentation, i.e. all part of baseline survey; factors that affect the property, i.e. identification of risks; protection and management plans as well as monitoring, i.e. mitigation and protection,” and concluded that this was in all likelihood “the most detailed and complete heritage assessment report on a heritage site thus far.”¹²¹

The foregoing suggests that Singapore has the capacity and the will power to conduct HIAs if it is motivated and in its interest to do so. In the case of the Botanic Gardens quasi-HIA, the motivation came from the allure of potential tourism revenue from having our first UNESCO World Heritage Site. After the champagne popping and the celebrations all around, what’s next? Minister Lawrence Wong additionally revealed that the Civic District, the Bukit Timah Nature Reserve, Haw Par Villa, the former Ford Factory were all identified in a consultancy study as having UNESCO World Heritage potential.¹²² Whether or not the Singapore government intends to submit these heritage sites for inscription as UNESCO World Heritage site, surely there must now be some legitimate expectation that the government will do its best to preserve these four heritage sites against any potential redevelopment since they have been identified to have similar potential World Heritage value as the Botanic Gardens. This should extend to requiring HIAs to be conducted in an event these heritage sites are slated for redevelopment, for surely it would appear somewhat hypocritical for the Singapore government to be most obliging in commissioning a HIA on Botanic Gardens for the purposes of inscription as a World Heritage Site, but turn a cold shoulder to other historical sites of equal heritage value when they face potential demolition?

The former Ford Factory and several buildings such as the Saint Andrew’s Cathedral and the Raffles Hotel within the Civic District are gazetted national monuments while the entire Civic District is a Conservation Area. Their respective heritage statuses lend these sites some measure of protection against redevelopment, although it is noted that these protections measures are insufficiently robust to preserve the full heritage value of the property in an event of redevelopment, often due to a lack of awareness and appreciation of the full heritage worth of the property. Haw Par Villa, on the other hand, having no heritage status to lend it any protection, has suffered at the whims, fancies

¹²⁰ Siau Ming En, (4 July 2015) “UNESCO delegates laud S’pore’s nomination of Botanic Gardens as World Heritage Site”, *Today Newspaper*, article available at: <http://www.todayonline.com/singapore/unesco-delegates-laud-spores-nomination-botanic-gardens-world-heritage-site>

¹²¹ Yeo Kang Shua & Chua Ai Lin, “Heritage Impact Assessment: is Singapore ready?”, *op. cit.*

¹²² *Singapore Parliamentary Debates, Official Report* (8 Apr 2013) vol 90 (Minister Lawrence Wong, Minister for Culture, Community and Youth, People’s Action Party)

and experiments of the various park operators who came and went and were given almost complete carte blanche in modifying the park to attract tourism! While several culturally iconic statues have been removed into storage, many parts of the park remain intact, albeit in urgent need of maintenance and upkeep. The recent appointment of yet another operator to run the park has revived calls for Haw Par Villa to be gazetted as a monument, or at least be accorded Conservation status so as to pre-empt any attempts to demolish it – it is noted that Haw Par Villa occupies a large 8.45 hectare plot of prime land and is highly susceptible to potential redevelopment.¹²³ In this regard, Professor Yeo Kang Shua, executive council member of the Singapore Heritage Society, has called for a heritage impact assessment to first be conducted to identify the historically significant elements of the park.¹²⁴

The Singapore Heritage Society, the preeminent heritage-focused civic society group in Singapore, has consistently called on the government to make HIA a legal requirement.¹²⁵ More recently in the 2015 Budget debate, two Members of Parliament, Professor Tan Tai Yong (Nominated Member) and Chen Show Mao (Workers Party) openly petitioned the Minister for Culture, Community and Youth, Lawrence Wong, to “implement a heritage impact assessment framework,”¹²⁶ and “make HIA a legal requirement, if necessary.”¹²⁷

The government’s response to the implementation of a comprehensive HIA regime in Singapore has been somewhat ambiguous. While Minister Lawrence Wong, in reply to Professor Tan and Mr. Chen, made references to the “systematic process to consider environmental impact in the planning and implementation of new infrastructure projects” and analogised that “a similar approach can and should be applied to heritage,”¹²⁸ he appears to conceptualise HIA as a “nation-wide survey”, and not specific independent studies of particular heritage sites which are commissioned before any proposed redevelopment.

The setting up of the Impact Assessment and Mitigation unit under the National Heritage Board (NHB) in July 2013¹²⁹ also appears to portend the implementation of a

¹²³ Melody Zaccheus, (15 Oct 2015) “Why it is urgent to protect Haw Par Villa”, *The Straits Times*, article available at: <http://www.straitstimes.com/opinion/why-it-is-urgent-to-protect-haw-par-villa>

¹²⁴ *Ibid.*

¹²⁵ Today Newspaper, (16 Mar 2014) “Heritage, environmental assessments could help in preserving Pulau Ubin”, *Today Newspaper*, article available at: <http://www.todayonline.com/singapore/heritage-environmental-assessments-could-help-preserving-pulau-ubin?singlepage=true>

¹²⁶ *Singapore Parliamentary Debates, Official Report* (12 Mar 2015) vol 93 (Mr. Chen Show Mao, Member, Workers Party)

¹²⁷ *Singapore Parliamentary Debates, Official Report* (12 Mar 2015) vol 93 (Professor Tan Tai Yong, Nominated Member)

¹²⁸ *Singapore Parliamentary Debates, Official Report* (12 Mar 2015) vol 93 (Minister Lawrence Wong, Minister for Culture, Community and Youth, People’s Action Party)

¹²⁹ Melody Zaccheus, (26 Oct 2013) “New National Heritage Board unit plays mediator on heritage issues” *The Straits Times*, article available at: <http://www.straitstimes.com/breaking-news/singapore/story/new-national-heritage-board-unit-plays-mediator-heritage-issues-201310>

HIA regime in Singapore. However, two years later, nothing in this regard had materialised, prompting Mr. Chen to ask “what the Key Performance Indicators (KPIs) are for the Division”¹³⁰ and Professor Tan to ask “if HIA is in the works?”¹³¹ Noticeably, Minister Lawrence Wong made no mention about developing a comprehensive HIA regime, let alone making it a legal requirement.

In short, it appears that the government is taking positive, but cautious steps in developing a more rigorous heritage preservation framework in Singapore. There is mention of heritage impact assessment, albeit used in a rather loose sense and perhaps not in contemplation of a mandatory legal HIA regime as it is practiced in Hong Kong and in many other parts of the world.

¹³⁰ *Singapore Parliamentary Debates, Official Report* (12 Mar 2015) vol 93 (Mr. Chen Show Mao, Member, Workers Party)

¹³¹ *Singapore Parliamentary Debates, Official Report* (12 Mar 2015) vol 93 (Professor Tan Tai Yong, Nominated Member)

Policy Recommendation (The Singapore HIA)

In this section, a HIA regime will be proposed for Singapore. The recommendations proposed are the result of a cumulative consideration of various HIA models and practices around the world, the standards and the practices, as well as how Hong Kong, a similar city to Singapore, has dealt with the implementation of a HIA regime and its user experience.

HIA Regime as the Next Step in Better Heritage Management in Singapore

It is strongly recommended that a comprehensive HIA regime be introduced in Singapore. The Singapore citizenry in recent years has demonstrated a growing awareness of the need to conserve our built heritage, and it is suggested that introducing a HIA regime is the next appropriate step in achieving better processes for heritage management in Singapore.

A HIA is essentially a process to enable urban planners and decision-makers to better appreciate the heritage and cultural value of a heritage site and make better decisions with regard to potential redevelopment of such sites. A HIA conducted by a holistic team of independent experts would also be able to make expert mitigation recommendations to achieve positive outcomes on both the conservation and the redevelopment fronts. Whether the HIA leads to the conservation of the heritage property, or whether redevelopment prevails, the fact of the HIA having been conducted, would already have achieved the purpose in ensuring that the eventual decision taken is one that is taken by conscious choice, and not by chance or lack of awareness.

It is suggested that the HIA process, through its comprehensive baseline historical study, would reveal objective heritage value, both tangible and intangible, thus allowing all involved stakeholders to fully appreciate the true heritage value of a property. This finer appreciation of the heritage property can then serve as a common basis of understanding for all involved stakeholders for them to negotiate the plans for the property. Ultimately, a HIA regime in Singapore can only contribute to a better practice of heritage conservation and management in Singapore.

Features of Singapore HIA

In setting out the proposed features of the Singapore Model HIA, the criteria used in the evaluation framework will be used to guide a systematic description of the proposed Singapore HIA regime and its properties.

Requirement for HIA

To be comprehensive, the HIA regime should be applicable on any proposed works, type and scale notwithstanding, that might have an impact, whether direct or indirect, on declared monuments and conserved buildings. Similar to the requirements of the Hong Kong HIA, the liability to conduct a HIA should arise when there is/are heritage site(s) within the project boundary or within 50 meters vicinity from the nearest point of the project boundary, inclusive of works area in both situations, and where the National

Heritage Board (NHB) is of the opinion that the project would affect the heritage value of the heritage site.¹³²

The number of properties that would be affected by this HIA requirement would be the 70 national monuments, the 7,000 odd conservation properties, and all the buildings that are within 50 meters vicinity from the nearest point of the boundary of the heritage site. Instinctively, this “catch-all and more” requirement appears to be overly onerous. However the government should emphasise that this requirement is designed such as to account for all the heritage buildings in Singapore and their immediate surroundings, and that not all redevelopment projects caught by this requirement will eventually have to carry out a HIA. Development projects that directly impact or come within 50 meters of a heritage site would be merely be required to notify URA and NHB of this fact; thereafter URA and NHB would advise whether the project requires a HIA to be conducted or not.

Developers should not be unduly concerned that this requirement would lead to project delays and higher costs; after all the Singapore government is also interested in efficiency and expediency. To assure developers of this, URA and NHB should communicate the expectation that only projects that pose a real threat to loss of heritage would be required to conduct HIAs. In Hong Kong’s case, the HIA regime since 2008 had triggered some 3,400 cases where projects were liable to conduct HIAs; however the DB and the AMO only required some 40 projects to go ahead with the full HIA process – these projects being those where the development project affected the heritage site directly. When a project is liable to conduct a HIA, the developer would notify the DB and AMO by way of a checklist, after which AMO will revert within 30 days if the project would be required to follow through with the whole HIA process.¹³³ It is suggested that Singapore can adopt a similar approach which would minimise project delays, and where HIAs would only be conducted in cases where loss to heritage is a real threat.

HIA for Private Owners and Projects

It is recommended that private heritage buildings should not be exempt from the Singapore HIA regime. This is unlikely to go down well with owners of private heritage buildings, especially conserved buildings. Private owners of national monuments are already under strict regulations not to demolish or alter their properties without permission, and are unlikely to protest at this additional requirement. In any case, most private owners of national monuments are religious and clan organisations or educational institutions who cherish the heritage value of their buildings and are unlikely to undermine them in anyway. Private owners of conserved buildings on the other hand, who were previously only subject to conservation guidelines for

¹³² Adopting the wordings used in the Hong Kong Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 12

¹³³ Hong Kong Development Bureau Technical Circular (Works) No. 6/2009, *op. cit.*, para. 11

redevelopment are likely to voice the loudest oppositions as the new HIA regime may potentially be an encumbrance to the development plans for their heritage property.

In addressing the concerns of private owners of conserved buildings, the government should emphasise to private owners that the HIA will not be used as a trump card to block any redevelopment, but rather a conservation and mitigation management tool to aid the URA's "3Rs Principle" for conserved buildings – "maximum Retention, sensitive Restoration and careful Repair."¹³⁴ The URA Conservation Guidelines shall still be relevant in authorising the type and extent of modification permissible for each type of conservation building – where the HIA comes in useful would be in reviewing the redevelopment plans to encourage the new additions or modifications to be as harmonious as possible with the old, and to retain the heritage value of the property as best as possible.

A common type of heritage property that is privately owned is the shophouse – in fact many of the conserved buildings are traditional shophouses found within historic district conservation zones and secondary settlement conservation zones. Shophouses within historic districts such as Boat Quay, Chinatown, Kampong Glam and Little India must be preserved entirely; only changes to commercial or residential use is permitted.¹³⁵ A HIA on these shophouses in historic districts would focus more on the adaptive re-use of the shophouse "to retain the intrinsic character and historical value of the building."¹³⁶

On the other hand, shophouses found in secondary settlements such as Joo Chiat, Balestier, Geylang and Beach Road are only required to conserve the streetscape, while new rear extensions up to the maximum height allowable for the area may be built;¹³⁷ these maximum heights varying between 4-10 stories depending on the secondary settlement.¹³⁸ In these cases, a HIA would focus on the proposed rear extensions and recommend mitigation measures for the design of the rear extension to be more compatible and seamless with the original front façade. Additionally where specific shophouse units are renown for their historical use, e.g. the Red House Bakery in Joo Chiat, the HIA would also make recommendations for such intangible heritage value to be preserved.

Since requiring private owners of heritage properties to conduct HIAs might be imposing on their goodwill, the requirements of the HIA should be as minimal as possible; requiring just enough details as to assure the preservation of the heritage value of the property. Naturally, the more extensive the proposed works, the more would be expected of a HIA. For example in the case of a shophouse, if the modification

¹³⁴ URA Conservation Guidelines (Dec, 2011), Part 1 – (Overview), para. 2.1

¹³⁵ URA Conservation Guidelines (Dec, 2011), Part 1 – (Overview), para. 2.2.1

¹³⁶ URA Conservation Guidelines (Dec, 2011), Part 1 – (Overview), para. 3

¹³⁷ URA Conservation Guidelines (Dec, 2011), Part 1 – (Overview), para. 2.2.3

¹³⁸ URA Conservation Guidelines (Dec, 2011), Part 2 – (Planning Parameters and Restoration Guidelines), para. 2.3.1.6

were a simple matter of repainting, a HIA should only require the owner to inform URA and NHB on the new colour chosen for the shophouse and explain how the new colour would not spoil the heritage value of the property and how it is harmonious with the rest of the row of shophouses. On the other hand, if the modification involves building a new 7-story rear extension to a row of shophouses, this would require proposing designs for the new rear extension which would be architecturally least obtrusive to the overall look of the property. It is suggested that the proper use of the HIA mechanism in these scenarios would lead to the elimination of situations where new rear extensions are built in stark contrast to their original shophouse fronts,¹³⁹ or where garish colours adorn a sole shophouse in contrast to the rest of its pastel-coloured neighbours.¹⁴⁰

The largest concern for private owners of heritage properties to conduct HIAs would likely be the cost of doing so. While additional cost may be a burden to private owners who receive no economic incentive from conducting a HIA, the issue of cost may not be as grave a concern as it is assumed to be. Firstly, the requirements of a HIA are proportional to the scale of the redevelopment. If only minor works are proposed, URA and NHB may waive the requirement to conduct a HIA altogether, or only require the developer to propose mitigation measures to preserve certain heritage aspects of the building. This is not likely to cost much.

On the other hand if large-scale redevelopments are proposed, the cost of conducting a HIA would only be a small percentage of the total project cost. Most of such large-scale redevelopments usually involve a business owner redeveloping his property for business purposes – as such it would not be unreasonable to expect a business owner to pay the costs of a HIA, as the heritage value preserved often creates positive externalities (e.g. increased human traffic, tourism, etc.) which business housed in heritage properties usually enjoy.

However as a precaution, the government can consider setting up a fund that can fund HIAs in cases where the private owner is required to conduct a HIA, but he is unable to fund the cost of it. This fund should only be reserved for meritorious cases where the private owner is doing minor works or conducting maintenance on the property, and not redeveloping the entire property for business expansion purposes. The fund may also be administered to private owners whose heritage property is a private residence. Essentially the fund, which is obtained from taxpayers' monies, should only be administered in cases where positive externalities do not tangibly accrue to the private owners, but instead to the public at large (satisfaction gained from appreciating the heritage property); hence warranting the expenditure of public monies as such.

Comprehensiveness and Effectiveness of HIA Regime

HIA Team Capacity and Technology

¹³⁹ See the examples of the Indian Heritage Centre and Santa Grand Hotel East Coast.

¹⁴⁰ Melody Zaccheus, (1 Sep 2015) "Strange hues spoil views on Emerald Hill", *The Straits Times*, article available at: <http://news.asiaone.com/news/singapore/strange-hues-spoil-views-emerald-hill>

Singapore currently does not have a dedicated programme, such as Hong Kong University's ACP, to train architects or professionals in the skill of heritage conservation. Consequently, there will be difficulty in ensuring that there will be a sufficient pool of trained professionals capable of conducting HIA independently.¹⁴¹ In the short term, Chua and Yeo suggest that a shortcut method would be to bring in foreign trained HIA professionals, although these foreigners may not have an innate understanding of the local heritage contexts and conditions crucial for HIA.¹⁴²

Alternatively, heritage specialists from within the URA and NHB can form ad-hoc HIA teams to conduct HIAs on some of the more important heritage sites such as declared monuments, as and when such a need may arise. In the case of the Botanic Gardens HIA, NHB and NParks worked with Chris Blandford Associates, "a leading multi-disciplinary landscape architecture, environmental planning and heritage consultancy" based in the UK to conduct the HIA. However, the independence of such a HIA, where a government entity is so keenly involved, may be questioned. In the long term, a robust capacity building framework should be put in place, including setting up a similar graduate programme to the HKU ACP in one of our local architecture faculties, as part of the plan to implement a HIA regime in Singapore.

Quality of Baseline Heritage Information

The Singapore HIA regime can take reference from the research methodology used in Hong Kong in detailing the sources of information which heritage information is expected to be collected from. They can include published papers, records, archival and historical documents as well as oral legends from relevant government authorities, public libraries and archives and tertiary institutions, such as to provide detailed geographical, historical, archaeological, ethnographical and other cultural data about the proposed project area.¹⁴³ Field surveys and site investigations should also be conducted if the data from the above sources prove inadequate.

The availability of basic baseline heritage information is expected with the completion of the NHB island-wide baseline survey of heritage sites and landmarks. Proposed by the NHB in March 2015, the baseline survey is expected to take 2 years to complete at a cost of \$1 million.¹⁴⁴ According to NHB, the nation-wide heritage survey "aims to systematically and comprehensively map out Singapore's landscape of tangible (historic sites and structures) and intangible (traditions and cultures) heritage. Research and documentation projects will concurrently be carried out, and their findings added on to

¹⁴¹ Yeo Kang Shua & Chua Ai Lin, "Heritage Impact Assessment: is Singapore ready?", *op. cit.*

¹⁴² *Ibid.*

¹⁴³ Adapting the methodology used in the Hong Kong Technical Memorandum on EIA Process *op. cit.*, Annex 19

¹⁴⁴ Melody Zaccheus, (24 Apr 2015) "Heritage survey can pave way for greater public say", *The Straits Times*, article available at: <http://news.asiaone.com/news/asian-opinions/heritage-survey-can-pave-way-greater-public-say?nopaging=1>

information gleaned from the survey.”¹⁴⁵ Although the quality and extent of baseline information expected in a HIA would be greater than that contributed by NHB’s island-wide baseline survey, it is suggested that the results from the NHB survey can serve as a desktop research starting point from which further and additional research and fieldwork can be undertaken.

With funding secured and a multi-disciplinary Heritage Advisory Panel formed to offer different perspectives on heritage issues that arise in the course of the survey, the NHB baseline survey project is promising to be a comprehensive inventory of heritage sites in Singapore when completed, which would “contribute to our land planning and development processes to preserve heritage and mitigate the loss of heritage value”.¹⁴⁶

Quality of Process and Decision-Making

The opportunity for the public to give feedback should be available at every stage of a redevelopment project. When a project is liable to conduct a HIA (see above), it will have to submit a notification to URA and NHB specifying the details of the liability. Within the 30 days period that URA and NHB take to examine whether the project needs to follow through with the full HIA process, the public should be informed of this liability and be given an opportunity to voice any concerns that they may have. URA and NHB will then have to take into account any public feedback received during this period before notifying the project applicant of the decision. If a project is required to carry out a HIA, the public should be able to submit any relevant historic information which they may possess about the property so as to contribute to a comprehensive baseline study on the property. Similarly when mitigation measures are recommended, the public should be able to have a say as to whether they are suitable.

The extent of public consultation proposed may be disconcerting for both public and private owners of heritage properties alike, considering that public consultation in Singapore is relatively unpractised. Public feedback cannot be taken as a trump as it is ultimately for the owner of the property to have the final say as to the development of his property. However the strength of a HIA lies in its process; if public feedback received, whether as offering support or making objections, is duly recorded, then the aspect of public consultation would be fulfilled, notwithstanding whether the feedback results in positive action.

For public consultation to be truly effective, the entire HIA process must be transparent. Transparency is also necessary for the public to have confidence in the HIA system as a mechanism which betters the processes of heritage conservation. This will include

¹⁴⁵ National Heritage Board, (12 Mar 2015) “More funding for heritage assessment and commemoration”, media announcement, available at:

<http://www.nhb.gov.sg/media/announcements/cos-announcements-for-the-arts-and-heritage-sector>

¹⁴⁶ National Heritage Board, (6 May 2015), “NHB embarks on nation-wide survey on tangible heritage”, media release, available at:

<http://www.nhb.gov.sg/~media/nhb/files/media/releases/new%20releases/2015-9.pdf>

publishing the notifications sent by developers to URA and NHB informing them of their potential need to conduct a HIA. This will allow sufficient time for the public to submit their opinions, even as URA and NHB conduct their own internal discussions on whether the project will need to perform a full HIA. When a HIA is deemed necessary for a particular project, an Internet web link can be set-up for the project on a centralised HIA Internet portal, so that the public can be kept abreast of updates.

Findings from the baseline study, proposed designs for the redevelopment project, and mitigation recommendations should be published on the project web link described above, as and when each element of the HIA becomes available. This will allow the public to be able to give timely feedback as the project progresses. This also allows the developers to consider the public feedback and incorporate it into the design process. At the end of the project, the final HIA report should be archived and made available on the Internet for future public reference.

Lastly, the full and effective use of the HIA output depends very much on the willingness of the owner of the heritage property in accepting and implementing the findings and recommendations of the HIA. Apart from mandatory legislation providing for the non-alteration of specific groups of heritage properties such as national monuments, private property rights are otherwise largely well protected in Singapore. As such, while a HIA may recommend mitigation measures, nothing can be effected if the private owner of the heritage property is not convinced.

Nonetheless, the non-application of HIA outputs should not be seen as a defeat of the HIA regime, or the process perceived as a lame duck with no real bite. Essentially, the objective of the HIA is to refine and better the processes with regard to heritage conservation and redevelopment. While it is hoped that the eventual outcome would be one that fully considers the findings and recommendations of the HIA report, the proper execution and completion of the HIA process is in itself already a success. The Hong Kong Legislative Council rightly notes that the HIA process most importantly allows “relevant information [to] be presented for deliberations,” thus permitting “the decision reached at the end [to] be one made by a conscious 'choice' and not 'by chance.’”¹⁴⁷

¹⁴⁷ Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), *op.cit.*, para. 19

Conclusion

Singaporeans have come of age and are looking beyond pure economic and pragmatic approaches to Singapore's development and future. The furore over Bukit Brown and growing instances of public reaction over the potential developments to Haw Paw Villa¹⁴⁸ and the Tanjong Pagar railway station¹⁴⁹ indicate the growing desire of Singaporeans for greater accountability in the heritage management processes in Singapore.

The government has also announced that it is willing to “do even more to engage different stakeholders on the importance of heritage, with regards to the different sites in Singapore and how we can make an even greater effort to preserve and recognise heritage value in the sites that are important to us.”¹⁵⁰ In this regard, it is argued that the introduction of a mandatory HIA regime is an appropriate next step in achieving better processes for heritage management in Singapore.

A well-defined HIA structure, one that is transparent and well-supported by trained professionals, as well as a robust legal system will help all stakeholders have a common understanding and perception of heritage, and aid in finding meaningful solutions.¹⁵¹ Contrary to popular belief, the use of the HIA mechanism is not a thin veil for compulsory conservation. Instead, the practice of HIA is about its process – to refine and better the processes with regard to heritage conservation; to better awareness and understanding of heritage properties, to mitigate adverse impacts and to enhance positive outcomes. Essentially, the whole idea behind the HIA process is intentionality in heritage conservation; nothing should be left to chance, unawareness or ignorance.

Whether or not the use of the HIA process leads to conservation is a separate matter for there are limits to the use of a HIA to compel mandatory conservation, especially where private property rights are concerned; although it is hoped that greater awareness of heritage through the HIA process will result in more appropriate decisions being taken.

When the government is convinced that a HIA regime should be enacted, the relevant stakeholders should be engaged on the details and specifications of the HIA so as to come to a model which can strike a fair and objective balance between the needs of heritage conservation and urban redevelopment. The eventual HIA regime should ideally be one that can be feasibly implemented with the support of all stakeholders and

¹⁴⁸ The online poll at the end of the article shows an overwhelming majority (93%) of readers who think Haw Par Villa deserves conservation status. See Melody Zaccheus, (15 Oct 2015) “Why it is urgent to protect Haw Par Villa”, *The Straits Times*, article available at:

<http://www.straitstimes.com/opinion/why-it-is-urgent-to-protect-haw-par-villa>

¹⁴⁹ Melody Zaccheus, (30 Oct 2015) “Part of Tanjong Pagar rail terminus to make way for MRT station”, *The Straits Times*, article available at: <http://www.straitstimes.com/singapore/part-of-tg-pagar-rail-terminus-to-make-way-for-mrt-station>

¹⁵⁰ *Singapore Parliamentary Debates, Official Report* (8 Apr 2013) vol 90 (Minister Lawrence Wong, Minister for Culture, Community and Youth, People's Action Party)

¹⁵¹ Yeo Kang Shua & Chua Ai Lin, “Heritage Impact Assessment: is Singapore ready?”, *op. cit.*

industry players. Ultimately, it is submitted that a HIA regime in Singapore can only contribute to a better practice of heritage conservation and management in Singapore, especially for the protection of conservation buildings and intangible heritage.

Bibliography

Books

Bass, Herson & Bogdan (2001), *The NEPA Book: A Step-by-step Guide on how to Comply with the National Environmental Policy Act*, 2nd ed., Point Arena, CA: Solano Press

Donnelly, Dalal-Clayton & Hughes, (1998), *A Directory of Impact Assessment Guidelines*, 2nd ed., London: International Institute for Environment and Development.

Fleming, (2008), "Standards of international cultural and financial institutions for cultural heritage protection and management", *IAIA 2008 proceedings*

ICOMOS (2011), "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties", *ICOMOS Publication*

Morgan (2012), "Environmental impact assessment: the state of the art", *Impact Assessment and Project Appraisal*, 30(1), p. 5-14.

Morris & Therivel, (Eds) (2008), *Methods of Environmental Impact Assessment*, Spon Press, London; Glasson

Pereira Roders & Hudson, (2011), "Change management and cultural heritage", in Finch (Ed.), *Facilities Change Management*, John Wiley & Sons, Chichester

Roders, Bond, Teller (2013), "Determining effectiveness in heritage impact assessment", *33th Annual Meeting of the International Association for Impact Assessment*, Calgary, Alberta, Canada

Therivel & Chadwick, (2005), *Introduction to Environmental Impact Assessment*, Routledge, Oxon.

UNEP, (1988) *Environmental Impact Assessment: Basic Procedures for Developing Countries*, UNEP, Nairobi

Wood, (2003), *Environmental Impact Assessment: A comparative review*, 2nd ed.

Journals/Articles/Papers

Ayesha Pamela Rogers, "Cultural Heritage Impact Assessment: Making the Most of the Methodology", p. 1, conference paper available at:
http://www.heritage.gov.hk/conference2011/en/pdf/paper/dr_ayesha_pamela_rogers.pdf

Bond, et al., (2004), "Cultural heritage: dealing with the cultural heritage aspect of environmental impact assessment in Europe", *Impact Assessment and Project Appraisal*, Vol. 22 No. 1, p. 37-45

Dupagne, Ruelle, & Teller (Eds) (2004), *Sustainable Development of Urban Historical Areas Through an Active Integration Within Towns*, Research Report no. 16, European Commission (EC), Brussels

Hilary Tsui, "Demolition of Star Ferry Pier", *Dérive Zeitschrift für Stadtforschung*, article available at: http://www.derive.at/index.php?p_case=2&id_cont=659&issue_No=29

Heritage Policies Review, (1 Mar 2008) "The Concurrent Development of Conservation Perception and Conservation Education in a City of Change", *The Hong Kong Institute of Architects Journal*, Issue 49, p. 52. Ida Bachtiar, "The Fragile Balance: Conservation or Commerce?", reflection article published on URA website, available at: <https://www.ura.gov.sg/skyline/skyline07/skyline07-05/text/06.htm>

Jones & Slinn (2008), "Cultural heritage in EIA – reflections on practice in North West Europe", *Journal of Environmental Assessment Policy and Management*, Vol. 10 No. 3, p. 215-38.

Pereira Roders & Oers, (2012), "Editorial: guidance on heritage impact assessments: learning from its application on World Heritage site management". *Journal of Cultural Heritage Management and Sustainable Development*, 2(2):1, p. 105.

Yeh, "High-Density Living In Hong Kong" *LSE Cities*, Nov 2011, article available at: <https://lsecities.net/media/objects/articles/high-density-living-in-hong-kong/en-gb/>

Yeo Kang Shua & Chua Ai Lin (2014), "Heritage Impact Assessment: is Singapore ready?", in *State Policy and the Cultural Politics of Heritage-Making in East and Southeast Asia*

Newspaper Articles

Grace Chua, (12 Oct 2013) "Bukit Brown put on World Watch List", *The Straits Times*, article available at: <http://news.asiaone.com/news/singapore/bukit-brown-put-world-watch-list?nopaging=1>

Melody Zaccheus, (26 Oct 2013) "New National Heritage Board unit plays mediator on heritage issues" *The Straits Times*, article available at: <http://www.straitstimes.com/breaking-news/singapore/story/new-national-heritage-board-unit-plays-mediator-heritage-issues-201310>

Melody Zaccheus, (24 Apr 2015) "Heritage survey can pave way for greater public say", *The Straits Times*, article available at: <http://news.asiaone.com/news/asian-opinions/heritage-survey-can-pave-way-greater-public-say?nopaging=1>

Melody Zaccheus, (1 Sep 2015) “Strange hues spoil views on Emerald Hill”, *The Straits Times*, article available at: <http://news.asiaone.com/news/singapore/strange-hues-spoil-views-emerald-hill>

Melody Zaccheus, (15 Oct 2015) “Why it is urgent to protect Haw Par Villa”, *The Straits Times*, article available at: <http://www.straitstimes.com/opinion/why-it-is-urgent-to-protect-haw-par-villa>

Melody Zaccheus, (30 Oct 2015) “Part of Tanjong Pagar rail terminus to make way for MRT station”, *The Straits Times*, article available at: <http://www.straitstimes.com/singapore/part-of-tg-pagar-rail-terminus-to-make-way-for-mrt-station>

Ng Tze-wei, (10 Nov 2006) “Not even HK’s storied Star Ferry can face down developers”, *The New York Times*, article available at: <http://www.nytimes.com/2006/11/10/world/asia/10iht-ferry.3482674.html? r=0>

Siau Ming En, (4 July 2015) “UNESCO delegates laud S’pore’s nomination of Botanic Gardens as World Heritage Site”, *Today Newspaper*, article available at: <http://www.todayonline.com/singapore/unesco-delegates-laud-spores-nomination-botanic-gardens-world-heritage-site>

Tan, “More new MRT lines to be built by 2030”, *The Straits Times*, 17 Jan 2013, article available at: <http://www.straitstimes.com/breaking-news/singapore/story/more-new-mrt-lines-be-built-2030-20130117>

Today Newspaper, (16 Mar 2014) “Heritage, environmental assessments could help in preserving Pulau Ubin”, *Today Newspaper*, article available at: <http://www.todayonline.com/singapore/heritage-environmental-assessments-could-help-preserving-pulau-ubin?singlepage=true>

Singapore Legislation, Guidelines and other Government Sources

Preservation of Monuments Act, (Cap. 239), 2011, Rev. Ed.

Planning Act, (Cap. 232), 1998, Rev. Ed.

Singapore Parliamentary Debates, Official Report (8 Apr 2013) vol 90

Singapore Parliamentary Debates, Official Report (12 Mar 2015) vol 93

URA Conservation Guidelines (Dec, 2011)

Hong Kong Legislation, Guidelines and other Government Sources

2007/2008 Policy Address of the Chief Executive of the Hong Kong Special Administrative Region, (10 October 2007)

Antiquities Advisory Board, (2014) “Respecting our Heritage while Looking Ahead (Policy on Conservation of Built Heritage)”, Consultation Paper

Antiquities and Monuments Ordinance (Cap. 53), 1997, Rev. Ed.

Development Bureau Technical Circular (Works) No. 6/2009 – Heritage Impact Assessment Mechanism for Capital Works Projects

Environmental Impact Assessment Ordinance (Cap. 499), 1998.

Environmental Protection Department, “Guidance Notes, Assessment of Impact on Sites of Cultural Heritage in Environmental Impact Assessment Studies”

Legislative Council Brief on Heritage Conservation Policy, (25 Sep 2007), File Ref: DEVB(CR)(W) 1-55/68/01, para. 12

Paper for the House Committee meeting on 10 January 1997 Report of the Bill Committee on Environmental Impact Assessment Bill, LegCo Paper No. CB(1) /96-97, Ref : CB1/BC/20/95

Technical Memorandum on Environmental Impact Assessment (EIA) Process (Environmental Impact Assessment Ordinance (Cap. 499), Section 16), Annexes 10 and 19

Websites

Singapore

The Bukit Brown Cemetery Documentation Project: <http://bukitbrown.info/about.php>

Land Transport Authority, North South Expressway: <http://www.lta.gov.sg/content/ltaweb/en/roads-and-motoring/projects/north-south-expressway-nse.html>

National Heritage Board, (12 Mar 2015) “More funding for heritage assessment and commemoration”, media announcement: <http://www.nhb.gov.sg/media/announcements/cos-announcements-for-the-arts-and-heritage-sector>

National Heritage Board, (6 May 2015), “NHB embarks on nation-wide survey on tangible heritage”, media release: <http://www.nhb.gov.sg/~media/nhb/files/media/releases/new%20releases/2015-9.pdf>

Remember Singapore (Our Favourite Playgrounds of Yesteryears):

<http://remembersingapore.org/2012/01/06/our-favourite-playgrounds-of-yesteryears/>

Remember Singapore (Grand Mansions, Bungalows and Villas of the Past):

<http://remembersingapore.org/2012/02/08/grand-mansions-bungalows-villas-of-the-past/>

Singapore Heritage Society: http://www.singaporeheritage.org/?page_id=1363

Singapore National Monuments (National Heritage Board):

<http://www.nhb.gov.sg/places/sites-and-monuments/national-monuments>

Singapore “Programme for Rebuilding and IMproving Existing schools” (PRIME):

<http://www.moe.gov.sg/initiatives/prime/>

Singapore “Selective En bloc Redevelopment Scheme” (SERS):

<http://www.hdb.gov.sg/fi10/fi10329p.nsf/w/eSERSOverview?OpenDocument>

Urban Redevelopment Authority, “A Brief History of Conservation”:

<https://www.ura.gov.sg/uol/conservation/vision-and-principles/brief-history.aspx>

Urban Redevelopment Authority, “Tender to Construct New Road across Bukit Brown

Awarded”, press release: <https://www.ura.gov.sg/uol/media-room/news/2013/aug/pr13-48.aspx>

Hong Kong

Assessment of 1,444 historic buildings in Hong Kong (Antiquities and Monument Board): <http://www.aab.gov.hk/en/built3.php>

Environmental Impact Assessment Ordinance, Environmental Protection Department, Hong Kong: <http://www.epd.gov.hk/eia/>

Hong Kong Built Heritage (Antiquities and Monuments Office):

<http://www.amo.gov.hk/en/built.php>

Hong Kong Declared Monuments (as at 24 Oct 2014) (Antiquities and Monuments Office): http://www.amo.gov.hk/form/DM_Mon_List_e.pdf

Hong Kong Maintenance Scheme (Development Bureau):

<http://www.heritage.gov.hk/en/maintenance/about.htm>

Hong Kong Planning Department:

http://www.pland.gov.hk/pland_en/info_serv/statistic/landu.html

Hong Kong Public Works Subcommittee (PWSC) procedure:

http://www.legco.gov.hk/general/english/procedur/pw_proce.htm

Hong Kong Revitalisation Scheme (Development Bureau):

<http://www.heritage.gov.hk/en/rhbt/about.htm>

List of EIAs conducted: <http://www.epd.gov.hk/eia/english/register/open/all.html>

List of HIAs conducted: http://www.amo.gov.hk/en/hia_02.php

Others

European Environmental Assessment Directive, Planning Regulations