



# CHAPTER 1

## Introduction

## 1.1 Background

Hong Kong is a tiny city with a total land area of 1,104 km<sup>2</sup>, making it one of the most densely populated places in the world. It was also among the five densest urban areas in the world in 2014. Up to September 2014, the population of Hong Kong was 7,234,800, more than a double of that in 1961 (Census and Statistics Department, 2014).

The number of domestic buildings boomed with the rapid population growth and migration rate of Hong Kong between 1961 and 1990. A steady growth was observed in line with the constant demand of domestic buildings. In order to meet the accommodation needs, society was increasingly concerned about the quantity over quality of the buildings. As of 31 December 2014, there were 43,163 private buildings (excluding New Territories Exempted Houses) in Hong Kong among which 23,797 were non-domestic buildings and domestic buildings over 3 storeys in height. There were 15,581 private buildings, which aged 30 or above. The lack of regulation on governing maintenance work of aged private buildings also posed severe building dilapidation problems. There were a total of 143 accidents due to unsafe building structure, causing 101 deaths and 435 injuries during year 1990 and 2001 (CIRC, 2001).

According to the Buildings Department (2013a), the number of accidents related to dilapidated buildings drastically increased to 4,859, resulting in 63 deaths and 602 injuries between year 2002 and 2012. In year 2008 and 2010, the Development Bureau of the Hong Kong Government conducted an extensive condition survey on buildings aged 30 years or above, and revealed that more than 20% of those buildings were in dilapidated condition of various degrees (Development Bureau, 2011a). In order to maintain and safeguard better building safety, the Hong Kong government and citizen were increasingly aware of the necessity of establishing a systematic and mandatory building inspection and maintenance scheme to deal with the aggravated building dilapidation problems in Hong Kong.

## 1.2 Review of Government Policy on Building Dilapidation Problem

In the past 20 years, the Hong Kong Buildings Department (BD) is the unique authority for promoting proper repair and maintenance of aged buildings through enforcement of the Buildings Ordinance (BO). They have teams of building professionals such as Building Surveyors and Structural Engineers to deal with daily complaints from the public on the safety of existing buildings, for example, concrete spalling at the external wall. They also took the rigorous enforcement actions, for example, issuing the statutory repairs orders/notices to registered owners and requesting them to rectify the building defects within a period. To a certain degree, the existing enforcement policy is too passive

and does not address the root cause of building dilapidation problems—the lack of proper maintenance works to aged buildings. Starting from November 2000, a one-off policy called Co-ordinated Maintenance of Buildings Scheme (CMBS) was launched by the Buildings Department, in association with six other government departments, including the Home Affairs Department, the Fire Services Department, etc. to assist the registered owners in pursuing a comprehensive building management and maintenance programme. Various government departments joined together and conducted a survey of the target buildings and determined the scope and nature of improvement work required. A total of 150 target buildings had been selected annually for the CMBS scheme. However, the operation was ceased in 2010 whereas another operation called “Operation Building Bright” (OBB) was implemented. It was a one-off HK\$2.5 billion joint operation with the Hong Kong Housing Society (HKHS) and Hong Kong Urban Renewal Authority (URA). It provided subsidies and one-stop technical assistance to the registered owners of about 1,000 target buildings aged 30 years or above to carry out inspection and repair works. The grant was first used on repair work in common area relating to the improvement of building structural safety and sanitary facilities. However, the above policies were also too passive and not used to encourage the owners of the buildings to inspect their buildings regularly and maintain the safety condition of the buildings. To erase the building dilapidation problem in Hong Kong, owners has the undisputed responsibility to inspect and maintain their buildings in a proper condition.

### 1.3 The History of the Mandatory Building Inspection Scheme (MBIS)

The demand of “mandatory building inspection” could be traced back to 1985 when the Unauthorised Building Advisory Committee proposed a mandatory building inspection certification scheme. However, the scheme was dropped because of adverse public response due to the prevailing weak building care culture of owners. To deal with the long-standing building dilapidation problems, the Government had conducted two more rounds of public consultations in 2003 and 2005. The discussion includes (a) how the owners discharge their legal responsibility for inspecting and repairing the buildings, (b) any assistance available for the owners, (c) how easy the proposal scheme can be complied and (d) the role of government in the mandatory building inspection scheme. In 2007, the Government announced that it would legislate to implement the MBIS (Development Bureau, 2010a).

On 30 June 2011, the MBIS was introduced with the enactment of relevant amendments to the Buildings Ordinance through the Buildings (Amendment) Ordinance 2011 and the subsidiary legislation including the Building (Inspection and Repair) Regulation. On 30 December 2011, the Buildings Department commenced the registration for Registered

Inspectors (RIs) who are the person to carry out the inspection and supervise the repair works found necessary for the common parts, external wall and projection or signboard of the buildings. Finally, the MBIS was commenced on 30 June 2012.

## 1.4 The Mandatory Building Inspection Scheme

Under the policy of MBIS, owners of private buildings aged 30 years or above (except domestic buildings not exceeding 3 storeys) are required to carry out inspection (and, if necessary, repair works) of the common parts, external walls and projections or signboards of the buildings once every 10 years. The Buildings Department will select 2,000 target buildings per year for the implementation of the MBIS. Development Bureau (2010a, 2010b, 2010c) advised that the selection of target buildings would be based on a wide variety of factors, including (a) building age, (b) condition, (c) repair records and (d) locations. In addition, the registered owners need to employ an Registered Inspector (RI) to inspect the buildings and supervise related rectification works. An RI shall be a person who is registered on the Inspectors' Registry kept by the Building Authority (BA) and that he/she is to be appointed to carry out the prescribed building inspection and supervision of the prescribed building repair works. An RI could be an Authorised Person (AP), Registered Structural Engineer (RSE) or registered building professional possessing relevant work experience in the field of building construction, repair and maintenance and whose name is on the Inspectors' Registry (Buildings Department, 2012a, 2012b).

As of 22 February 2015, the total workforce of building professionals in relevant professional institutions—namely the Hong Kong Institute of Architects (HKIA), Hong Kong Institution of Engineers (HKIE) (disciplines of Building, Structural, Civil, Building Services and Materials) and Hong Kong Institute of Surveyors (HKIS) (divisions of Building Surveying and Quantity Surveying)—was 17,600. Among the 17,600 building professionals, 9,385 are registered as Registered Architects (RAs), Registered Professional Engineers (RPEs) (relevant disciplines) and Registered Professional Surveyors (RPSs) (relevant divisions). To qualify as an RI, the above building professionals need to pass a professional interview (except those nominated by their respective registration boards). The Government and the three professional institutions are considered to be overly optimistic that there should be enough building professionals for the registration of RIs in light of the size of the pool or number of corporate members in their respective institutions and the enthusiastic participation and responses of members during the course of discussion of the MBIS. As of 31 December 2014, there were 23,797 non-domestic buildings and domestic buildings over 3 storeys in height. Among them, there are 15,581 buildings aged 30 years or above failing under the MBIS. The problem of aged private buildings shall become increasingly serious in the coming decade. By year 2024, there will be 20,294 private buildings aged 30 years or above. Given the significant impacts on private building owners and professional workforce as a result of the implementation of

the MBIS, it is important to examine not only the number and trend of aged buildings in the city, but also the number of potential eligible RIs available in the workforce market and to assess the future demand of the RIs.

In this book, a full review on the existing private building stock in Hong Kong was conducted using the information provided by the Home Affairs Department and extracted from the *Names of Buildings* published by the Rating and Valuation Department. A consolidated database on the private buildings was set up to reveal the real picture of the aging trend of the private building stock in Hong Kong. The number and size (in terms of number of building units) of private buildings per year group in the territory of Hong Kong and across the 18 Districts were captured to reflect the number of buildings falling under the MBIS in the coming decade.

To formulate the professional workforce planning model for the MBIS, desktop study and questionnaire survey were used to collect the data from the industry and professional institutions. A desktop study including identification and elimination of multiple memberships across architects, engineers and surveyors was conducted to examine the number of “potential” RIs coming from the relevant disciplines and divisions of the professional institutions including the Hong Kong Institute of Architects, Hong Kong Institution of Engineers and Hong Kong Institute of Surveyors. Basing upon the data, the RI registration and failure rates could be analysed and the future supply of RIs could then be portrayed. With the support of the building professional institutions, a web-based questionnaire survey was also administered to their professional corporate members via email with the following steps:

Stage 1: To assess the potential number of building professionals who would register themselves as RIs under the MBIS. Questions on reasons of registering/not registering as RIs, and participating/not-participating RIs services etc. were included.

Stage 2: To collect the workforce data related to the implementation of the MBIS. Respondents were asked to estimate the time (in terms of hours) required to carry out the inspection and repair works as stipulated in the scheme. Combining the number of aged buildings and the collected man-day of RI per building, the workforce model on projecting the demand and supply of RIs was then formulated.

The above findings could serve as a probe for the policy makers and relevant training authorities to visualise the workforce demand under the MBIS and ensure having sufficient professional workforce for the implementation of the MBIS.

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