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THE UNIVERSITY OF HONG KONG

PRIVATE CERTIFICATION OF BUILDING WORKS:  
HONG KONG BUILDING CONTROL OFFICIALS' PERSPECTIVE

A DISSERTATION SUBMITTED TO  
THE FACULTY OF ARCHITECTURE  
IN CANDIDACY FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN SURVEYING

DEPARTMENT OF REAL ESTATE AND CONSTRUCTION

BY  
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HONG KONG  
APRIL 2004

## DECLARATION

I declare that this dissertation represents my own work, except where due acknowledgement is made, and that it has not been previously included in a dissertation, thesis or report submitted to the University of Hong Kong or to any other institutions for a degree, diploma or other qualification.

Signed : \_\_\_\_\_

Name : \_\_\_\_\_

Date : \_\_\_\_\_

## **TABLE OF CONTENTS**

|                                               | <b>Page</b> |
|-----------------------------------------------|-------------|
| <b>ACKNOWLEDGEMENTS</b>                       | <b>i</b>    |
| <b>LIST OF ILLUSTRATIONS</b>                  | <b>ii</b>   |
| <b>ABSTRACT</b>                               | <b>iv</b>   |
| <br>                                          |             |
| <b>CHAPTER 1 INTRODUCTION</b>                 | <b>1</b>    |
| 1.1 Background of Research                    | 1           |
| 1.2 Objectives of Research                    | 2           |
| 1.3 Significance of Research                  | 3           |
| 1.4 Outline of Research                       | 4           |
| <br>                                          |             |
| <b>CHAPTER 2 LITERATURE REVIEW</b>            | <b>5</b>    |
| 2.1 Building Control                          | 5           |
| 2.2 Building Control in Hong Kong             | 5           |
| 2.2.1 Evolution                               | 6           |
| 2.2.2 Framework of Existing System            | 8           |
| 2.2.3 Shortcomings of Existing System         | 11          |
| 2.3 Building Control in Foreign Countries     | 13          |
| 2.3.1 Public versus Private Systems           | 13          |
| 2.3.2 Development of Existing Systems         | 22          |
| 2.3.3 Private Certification of Building Works | 23          |
| 2.4 Chapter Summary                           | 45          |

|                              |                                                                           |           |
|------------------------------|---------------------------------------------------------------------------|-----------|
| <b>CHAPTER 3</b>             | <b>HYPOTHESIS &amp; METHODOLOGY</b>                                       | <b>47</b> |
| 3.1                          | Introduction                                                              | 47        |
| 3.2                          | Hypothesis                                                                | 47        |
| 3.3                          | Specification of Methodology                                              | 48        |
| 3.4                          | Chapter Summary                                                           | 52        |
| <br>                         |                                                                           |           |
| <b>CHAPTER 4</b>             | <b>FINDINGS &amp; DISCUSSION</b>                                          | <b>53</b> |
| 4.1                          | Introduction                                                              | 53        |
| 4.2                          | Private Certification of Building Works in Hong Kong                      | 53        |
| 4.2.1                        | Effectiveness in Addressing Shortcomings of Existing System               | 53        |
| 4.2.2                        | Operation                                                                 | 57        |
| 4.2.3                        | Problems Highlighted                                                      | 60        |
| 4.2.4                        | Recommendations on Implementation                                         | 62        |
| 4.3                          | Recommendations on Future Development of Building Control in<br>Hong Kong | 69        |
| 4.4                          | Chapter Summary                                                           | 70        |
| <br>                         |                                                                           |           |
| <b>CHAPTER 5</b>             | <b>CONCLUSION</b>                                                         | <b>71</b> |
| 5.1                          | Review of Research                                                        | 71        |
| 5.2                          | Implications of Research                                                  | 72        |
| 5.3                          | Limitations of Research                                                   | 73        |
| 5.4                          | Future Research Areas                                                     | 74        |
| <br>                         |                                                                           |           |
| <b>BIBLIOGRAPHY</b>          |                                                                           | <b>75</b> |
| <br>                         |                                                                           |           |
| <b>ELECTRONIC REFERENCES</b> |                                                                           | <b>80</b> |
| <br>                         |                                                                           |           |
| <b>APPENDICES</b>            |                                                                           | <b>83</b> |

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## **LIST OF ILLUSTRATIONS**

| <b>Figure</b> | <b>Title</b>                                                                                                                      | <b>Page</b> |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------|
| 2.1           | Responsibilities for the Execution of Building Control in Eight European Countries                                                | 21          |
| 2.2           | Structure of Building Codes of Australia                                                                                          | 26          |
| 2.3           | Year of Implementation and Relevant Acts & Regulations of Various Regimes of Private Certification of Building Works in Australia | 34          |
| 2.4           | Certification Bodies and Private Practitioners in Various Regimes of Private Certification of Building Works in Australia         | 35          |
| 2.5           | Accreditation/ Licensing and Qualification Required in Various Regimes of Private Certification of Building Works in Australia    | 36          |
| 2.6           | Responsibilities of Private Practitioners in Various Regimes of Private Certification of Building Works in Australia              | 37          |
| 2.7           | Certification Related to Building Services in Various Regimes of Private Certification of Building Works in Australia             | 38          |
| 2.8           | Inspection of Building Works in Various Regimes of Private Certification of Building Works in Australia                           | 39          |
| 4.1           | Number of Authorized Persons' Registers in Hong Kong                                                                              | 61          |
| 4.2           | Recommended Steps of Implementation of Private Certification of Building Works in Hong Kong                                       | 68          |

| <b>Appendix</b> | <b>Title</b>                                                                                                | <b>Page</b> |
|-----------------|-------------------------------------------------------------------------------------------------------------|-------------|
| I               | Ordinance, Regulations and Code of Practice Administered by the Buildings Department                        | 83          |
| II              | Flowchart of Plan Processing                                                                                | 86          |
| III             | Result of Questionnaire Survey of Research on Reform of Building Control in New Developments in Hong Kong   | 88          |
| IV              | Proposed System of Private Certification of Building Works                                                  | 90          |
| V               | Private Certification of Building Works: Survey of Hong Kong Building Control Officials' Views              | 93          |
| VI              | Private Certification of Building Works: Survey of Australia Building Control Officials' Views              | 97          |
| VII             | Results of Survey of Hong Kong Building Control Officials' Views on Private Certification of Building Works | 101         |
| VIII            | Results of Survey of Australia Building Control Officials' Views on Private Certification of Building Works | 106         |



## **ABSTRACT**

Private certification of building works, which allows private bodies to assume the responsibility for building approvals, has been adopted in many foreign countries to keep pace with the ever-changing needs and expectations of the building industry.

This research aims to examine the Hong Kong building control officials' perspective on the applicability of this new initiative in the territory. It outlines the evolution of building control in Hong Kong, which shows that government has been dominating in all key procedures. Recently, criticisms have been raised against this arrangement. It is reflected in surveys that time, cost and effort required in obtaining building approvals impose a great burden on clients. Efficiency of the Buildings Department is also doubted.

In view of this, systems of building control in a number of foreign countries are reviewed. It is found that private certification of building works have been demonstrated successful in various countries, with benefits like flexibility to clients, better certification services provided, reducing bureaucracy of the government etc.

The perspective of the Hong Kong building control officials on the applicability of this new arrangement is investigated by means of interviews. Findings from the interviews agree that private certification of building works is effective in addressing the major shortcomings of the existing building control. However, at the same time, potential drawbacks and controversies exist. Staunch opponent to the system cites the apparent conflict of interests of the private certifying bodies being engaged and paid by the clients to approve a project. Possible deterioration of quality of building works

is also highlighted.

In developing the private certification proposals, the Buildings Department should seek to maintain, and where possible, to improve the quality of building control. Therefore, it is suggested that the Department should be, in parallel, monitoring and assisting the private certifying bodies by means of stringent accreditation, audits, as well as various measures in ensuring their independency.

Given that this is a new initiative in Hong Kong, the building control officials are conscious of the fact that it must proceed on a gradual basis. In establishing a sound private certification system, legislative ingredients and public acceptance are fundamental and cornerstone elements in the package of private certification of building works. A step-by-step approach will allow synergies to develop the quality mark initiative, and enable the building control administrative process to settle down and adapt over a reasonable time frame. In this way, it is with certainty that private certification of building works is applicable in Hong Kong.

## CHAPTER 1 INTRODUCTION

### 1.1 Background of Research

Building control is a system or mechanism, by which certain standards of safety, health and environment are attained (Buildings Department 1999). The evolution of building control spans over the entire history of Hong Kong. Over a century, the government has been dominating in exercising building control. It extensively involves in all key procedures like processing the submitted building plans, approving applications to commence work, monitoring building sites and issuing occupation permits. It also assumes the role to take actions like prosecution and reviewing the legislation. In Hong Kong, such arrangement seems to have gained widespread acceptance as the public generally holds the view that the government is the most appropriate body to carry out building control.

Systems of building control in many foreign countries are, in contrary, different from that in Hong Kong, in terms of the level of participation of the government and the private sector. About a decade ago, there were reforms in some countries that the government delegated its authority to the private sector, which then took up the role to certify building works. Various systems of private certification of building works have been demonstrated successful in countries like Australia (CSIRO 1999, Mackenroth 1998) and they are gradually gaining popularity.

Recently, self-certification of minor works has been introduced in the Building (Amendment) Bill 2003, which allows registered minor works contractors to carry out certain minor works on their own or under the supervision of authorized persons and

registered structural engineers. It shows that the Buildings Department is gradually evolving from a regulator to a facilitator. In other words, whilst its mission to enforce safety, health and environmental standards remains unchanged, its approach moves to keep pace with the direction of the global practices. The trend is going for private building control, which means the government will entrust greater authority and responsibility to the private sector to accomplish its mission.

It is unfortunate that over the years, research has only focused on the views of building practitioners such as the developers, contractors and authorized persons on the development of building control in Hong Kong. The views of the building control officials have been neglected. Moreover, no feasibility study on private certification of building works has been carried out by the government. This research will thus devolve efforts on investigating views of officials in the Buildings Department on the applicability of private certification of building works in Hong Kong.

## **1.2 Objectives of Research**

Due to limited time and resource, this research attempts to examine the perspective of building control officials only, with respect to the applicability of private certification of building works in Hong Kong. The following three objectives have been set:

1. To review foreign experiences on private certification of building works
2. To investigate Hong Kong building control officials' perspective on the applicability of private certification of building works
3. To make recommendations on the implementation of private certification of building works and the future direction of building control in Hong Kong based

on the suggestions of the Hong Kong building control officials

### **1.3 Significance of Research**

In Hong Kong, views of building control officials on private certification of building works have been ignored by research. No feasibility study on private certification of building works has been carried out by the government as well. On the other hand, recent amendments of the Ordinance on self-certification of minor works indicate that the government has determination in changing its role from a regulator to a facilitator.

Officials in the Buildings Department are responsible for the day-to-day administration of building control in Hong Kong. Their views are important and should be taken into consideration if any changes to the existing system are initiated. Therefore, it is worth studying their perception on the applicability of private certification of building works in Hong Kong. Their views on the implementation of private certification of building works and future direction of building control in Hong Kong are also valuable.

Interviews are adopted in this research, in which building control officials can directly and freely express their views. It is believed that their perspective on private certification of building works can be identified in this research and thus provides a useful database for formulating new policies of building control in the future.

## **1.4 Outline of Research**

This dissertation consists of five chapters. The first chapter is the introduction. It presents the background of this research, its objectives and significance.

In the next chapter, which is Chapter 2, literature on the evolution of building control in Hong Kong is first discussed. It aims to identify the level of participation of different parties in building control, and drawbacks associated with the existing system. Secondly, different systems of building control in a number of foreign countries are explored. Private certification of building works as an alternative to government building control is also introduced. Various regimes in Australia are discussed in deep. Lastly, pros and cons of private certification of building works, and the critical issues to success are given. A summary is made at the end of this chapter.

In Chapter 3, research methodology involving collection of data and analysis of data collected is illustrated. Findings of this research together with the discussion are presented in Chapter 4, in which a brief summary is included at the end of it.

In the last chapter of this dissertation, a brief review of this research is given as the conclusion. Limitations of this research and future research areas are also incorporated at the end of the chapter.

## **CHAPTER 2      LITERATURE REVIEW**

### **2.1      Building Control**

The basic objective of building control is to ensure that certain standards of safety, health and environment are attained. These standards are determined by social values, economic viabilities and technological feasibility (Buildings Department 1999). A more specific description is given that building control is a system or mechanism, by which the safety and health of buildings are ensured. It is concerned with the fabric, design, method of construction, organization and facilities of buildings in so far as these aspects affect the structural stability, sanitation, workability and energy conservation (Lewkowicz 1983). A similar idea on the primary aim of a building control system is presented, which is to enforce health and safety in and around buildings (Chan, Mok & Scott 2001). In addition to that, the authors point out that a good building control system is not just providing a mechanism to achieve control. The system should take into account of fair allocation of rights and duties among all parties involved, resources, education, legal framework and the needs of the society.

### **2.2      Building Control in Hong Kong**

Building development has played an important role in coping with the rapid population and economic growth. It provides and improves the built environment required for our social and economic activities. High density development in Hong Kong makes building control very important. The following section describes the evolution of building control in Hong Kong in response to the changes of its objectives and the requirements from the public. Some descriptions from the

publications<sup>1</sup> of the Buildings Department are adopted for a more comprehensive and clearer illustration.

### **2.2.1 Evolution**

The evolution of building control spans over the entire history of Hong Kong. In 1841, when the island was officially given the name “Hong Kong”, no houses could be found on the island. With the increase in trade activities, more and more people came to settle and building control became a problem. Without any rules to follow, building activities were very haphazard that reasonable standard of health and hygiene could not be maintained. The Ordinance No. 5 of 1844 entitled “an Ordinance for the Preservation of Order and Cleanliness.....” provided the earliest provisions on buildings. However, they only dealt with dilapidated buildings and there was still no substantive control on building activities.

Public concern was aroused as a result of poor health and hygiene of the living environment. Rudimentary building control was first introduced in Hong Kong in 1856 that the Buildings and Nuisance Ordinance was enacted. However, construction and planning standard were crudely specified. People who wished to carry out building works were required to give four days’ notice of commencement. It was then replaced in 1889 by the Buildings Ordinance, in which building plans, building works and occupation of completed buildings were put under Government control.

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<sup>1</sup> The two major publications adopted are: “Buildings Department (1999), Building development & control in Hong Kong, Hong Kong: Printing Dept.” and “Buildings Ordinance Office, Building and Lands Department (1991), Building control in Hong Kong, Hong Kong: Government Printer.” The website of the Buildings Department is another source of reference. For detail, please see the electronic references.



The system appeared to work quite well until 1901 when a serious incident of building collapse occurred. In 1903, a new statutory agent called an “Authorized Architect” was introduced in the Public Health and Buildings Ordinance to supervise building works to ensure compliance with the Ordinance. The Authorized Architect was also endowed with the privilege to submit building plans to the Building Authority for approval and to report completion. The Buildings Department retained the power of enforcement and certification of new buildings.

As the provisions for the design and construction of buildings were mixed with those relating to house cleaning and prevention of diseases, the section about buildings was extracted from the 1903 ordinance and embodied in the new Buildings Ordinance in 1935. The Ordinance stipulated higher standards of lighting and ventilation, and provide provisions for more modern methods of construction.

After the Second World War, large-scale reconstruction as well as growth in trade and expansion in industry brought a very large number of people into the territory. Building activities soared and exposed weaknesses in the then existing building legislation. Following a comprehensive review, the Buildings Ordinance 1955 was enacted together with various detailed regulations covering most aspects of building operations. The designation of registered contractors was introduced to carry out building works and these contractors were accountable to the Buildings Department for any on-site irregularities. With this Ordinance, the basic structure of building control in Hong Kong was established, covering all important aspects of building operations.

The Buildings Ordinance enacted in 1955 still provides the basis of modern building

control in Hong Kong. However, many amendments have been made over the years. Two major changes in the Buildings Ordinance in this period have major significance. The first change marked the beginning of modern town planning's role in building control. Plot ratio and site coverage factors were introduced in 1962 to replace volume limitation used in the previous ordinance. This change enabled more effective control of building density both at the local and the district levels. The second change marked the beginning of multiple discipline of building profession. A new statutory agent, "registered structural engineer" was introduced in 1974 to assist in operating the building control system, in recognition of reinforced concrete high-rise buildings becoming the norm. The "Authorized Architect" was re-titled "Authorized Person" signifying his role as the coordinator.

As we can see, rapid economic and population growth are the primary determinants in the evolutionary of building control in Hong Kong. The following section focuses on the framework of the existing system of building control in Hong Kong.

### **2.2.2 Framework of Existing System**

Through the actions of the Buildings Department, building control in Hong Kong provides a system to organize building works to maximize the resources of society, to safeguard a balance between public and private interest (Chan, Mok & Scott 2001). The control system consists of the Buildings Ordinance and related regulations<sup>2</sup> as the legal framework and the Buildings Department as the enforcement agent. They are supplemented by Codes of Practice and Practice Notes<sup>3</sup> issued by the Buildings

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<sup>2</sup> Please see Appendix I

<sup>3</sup> Please see Appendix I

Department. Control is exercised over the erection of new buildings and the status of existing buildings. The coming sections mainly focus on the control of new buildings.

## **Legal Framework**

In the changing socio-economic and technology environment, a complete set of legal framework for control of private buildings and building works have been developed. This includes the Buildings Ordinance (Cap. 123) and its subsidiary legislation, which aims to provide for the planning, design and construction of buildings and associated works; to make provision for rendering safe of dangerous buildings and lands; and to make provision for matters connected therewith.

## **Enforcement Agents**

### ***Buildings Department***

Buildings Department is the enforcement agent for the control of new developments. It is vested with authority to process plans<sup>4</sup>, approve applications to commence works, monitor building sites during all stages of works and check upon completion, and issue occupation permits. In these ways, it can be ensured that proposals for new developments comply with the prevailing laws and standards, and building works are carried out in accordance with approved plans and constructed in safe manner on sites.

### ***Authorized Person and Registered Structural Engineer***

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<sup>4</sup> Please see Appendix II

The control system operates with multi-disciplined professionals. Authorized persons on the government's registered list must be appointed to act as coordinators for significant building projects. They submit building and drainage plans to the Buildings Department for approval. They have to ensure compliance of the design and building operations with the Buildings Ordinance. Registered structural engineers are required unless otherwise exempted for the preparation and submission of the structural design drawings. They are responsible for the supervision of structural works. Being members of the relevant professional bodies, authorized persons and registered structural engineers have to attain the requisite qualifications and pass the interviews carried out by the Registration Committee under the Buildings Ordinance. Only people, who are and continue to be registered building professionals under the relevant Registration Ordinance, are permitted to apply to be authorized persons or registered structural engineers.

### ***Registered Contractor***

Construction must be carried out by registered contractors, who are accountable to the Buildings Department for continuous supervision of site works. There are two registers of building contractors, namely the General Building Contractors' Register and the Specialist Contractors' Register. Only the latter will be permitted to carry out the specialized works specified in the categories in the sub-register, in which they are entered. There are four categories of specialized works viz. site formation, foundation, demolition and ventilation. For the registration with the respective register/ category, applicants have to demonstrate their ability in meeting the prescribed qualification, experience and competence.

Based on the review of the evolution of building control in Hong Kong and the existing system, the government has been regarded as the most appropriate body to exercise building control and this view has gained widespread acceptance. However, there are some shortcomings associated with the existing system of building control.

### **2.2.3 Shortcomings of Existing System**

In Hong Kong, criticisms have been raised against the existing system of building control. Two major shortcomings, which are mostly concerned by the public, are highlighted in a questionnaire survey (Lo 1999) conducted among various building practitioners<sup>5</sup>.

#### **Unreasonably Long Time Involved in the Procedural Requirements**

The existing system of building control in Hong Kong contains a series of procedures. All building owners, who are obligated to strictly follow those procedures under the law, incur time loss. Firstly, time for processing building plans<sup>6</sup> is generally considered as unreasonably long by the building practitioners compared to other foreign countries such as UK and Canada<sup>7</sup>. Secondly, most of the building practitioners do agree that the time limit for issuing consent to commence work<sup>8</sup> is too long<sup>9</sup>. This can affect the progress of a project to a certain extent. Actually, similar procedural requirement is not found in foreign countries such as Australia, UK and

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<sup>5</sup> Building practitioners participated in the survey include developers, contractors and authorized persons.

<sup>6</sup> Time limit for granting plan approval was 60 days when the survey was carried out, which is same as the present time limit.

<sup>7</sup> Those countries usually took about 4 to 5 weeks for the same process. Please see Appendix III.

<sup>8</sup> The time limit for issuing consent to commence work was 28 days when the survey was carried out, which is same as the present time limit.

<sup>9</sup> Please see Appendix III.

Canada, in which the building owners can proceed with the building works directly after obtaining approval or permit from the local authority.

On the other hand, the processing time for the application of occupation permit<sup>10</sup> is quite acceptable to the building practitioners<sup>11</sup>. This processing time is close to those in foreign countries<sup>12</sup>. In addition, most of the building practitioners are neutral towards the criticism of delay caused by the site inspections<sup>13</sup>.

As some procedures of the existing system of building control are considered as unreasonably long, it is believed that availability of profits to building owners will be delayed and extra costs will be incurred. Firstly, investments of developers highly rely on the loan from banks. If the project delays, the loan period will be extended, this will lead to greater interests. Delay of projects also means that construction plants, machines and labour have to be hired for a longer time. In the case of pre-sale of developing properties, developers are subject to legal liability to complete the works and obtain occupation permits before the date stated in the sale and purchase agreement. Failure to hand over before the date specified breaches the contract. In this case, developers have to make compensation to the purchasers. This loss can be great, especially for Hong Kong, in which property price may change a lot within a short period of time.

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<sup>10</sup> The time limit for issuing occupation permit was 14 days when the survey was carried out, which is same as the present time limit.

<sup>11</sup> Please see Appendix III.

<sup>12</sup> Those countries usually took about 10 days for the same process.

<sup>13</sup> Site inspections were carried out by the Buildings Department at all stages of construction, which is same as the current practice. According to the officials in the Buildings Department, site inspections are carried out within one week of the appointment made by the building owners.

## **Inefficiency of the Buildings Department**

As building control in Hong Kong is enforced by the Buildings Department, the efficiency of the Department has a significant effect on the performance of the system of building control in Hong Kong. In the context of building control, the officials tend to perform their tasks just up to standard because of lack of competition and also reward for good performance. They have no intention to perform better, but at the same time try to avoid mistakes and criticisms as they are accountable to the public for their acts (Lo 1999). For example, they would fully utilize the statutory time limit in processing plans, rather than try their best to complete the task as soon as possible.

Two major shortcomings of the system of building control in Hong Kong have been illustrated. They are also encountered by other countries, in which building control is executed by the governments or local governments. In the following section, systems of building control in countries will be discussed.

### **2.3 Building Control in Foreign Countries**

Control of building applications takes place in various countries in different ways (Meijer, Visscher and Sheridan 2002). The focus here lies on the technical control of buildings plans and site inspections. In the following section, the systems in eight European countries are ordered according to the division of responsibilities between the governments and the private sectors for building control.

### **2.3.1 Public versus Private Systems**

Based on the study of the eight European countries including Belgium, Denmark, England & Wales, France, Germany, Netherlands, Norway and Sweden, the following systems can be distinguished in terms of public responsibilities and private responsibilities<sup>14</sup>.

#### *Public Responsibility*

- A. Local building control authority executes control.
- B. Local building control authority partly or wholly contracts out control to private organizations, but stays responsible.

#### *Private Responsibility*

- C. Local authorities partly or wholly contract out inspections to recognized private control organizations, which are responsible for the tasks that are contracted out.
- D. Legal liability to bring in recognized private control organizations for certain checks based on building regulations such as certain building works or regulations.
- E. Legal liability based on private law for control by private organizations because builder has to fulfill obligations not linked to building regulations such as liability, insurances.
- F. Complete responsibility for the client to take care of the inspections such as through self-control or independent recognized control organizations.
- G. Recognized private organizations are qualified to submit building permit.

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<sup>14</sup> Please see Appendix IV



The systems of building control in those eight European countries are analyzed and described in the following sections according to the distinguished categories.

### **System A: Local Building Control Authority Executes Control**

This system forms the basis in all the analyzed countries. However, Denmark and the Netherlands are the only countries, in which local authority building control is the only existing form of building control. In the case of Netherlands, there are developments towards a more important role of private organizations by the check on the technical requirements. However, this is not in practice yet. Thus Netherlands are still categorized in 'group' A/B.

Compared with other possible systems with a more important role for private organizations, it is questionable whether this model leads to an optimal quality of inspection. In the first place local authority building control in Netherlands can hardly be made responsible for the quality of inspections. The execution of the control activities in terms of frequency and profundity varies between or within local authorities and is not always in proportion to what is actually needed. The size and quality of local authority building control differ widely in Netherlands. Small municipalities in particular have problems keeping the knowledge and skills up to date such as new building methods and changes in regulations. The administrative burden for the clients is relatively heavy. Beforehand they have to prove by means of substantial plan documentations that the regulations are fulfilled. This is quite different from a system, in which for instance self-control plays an important role, and where only a control plans has to be drawn up.

### **System B: Local Authority Building Control Contracts Out Control, But Stays Responsible**

In Netherlands, local authority building control sometimes contracts out some parts of the control such as the check on constructive calculations to private engineering firms. The local authority stays responsible and settles the scope of the control. In general this system is the same as that described in System A, especially for the client. However, as areas related to the inspections are contracted out, the quality of the inspection is better than that under System A. An agreement is made on the scope and thoroughness of the inspections. It is also agreed that inspections are carried out in a well-ordered manner. Besides that, it is likely that the inspection by a specialized engineering firm is of a higher quality and intensity than that done by the local authority. The costs of the contracted out inspection activities are deducted from the municipal fees.

### **System C: Local Building Control Authority Contracts Out Control, Partly or Wholly Responsible**

This is the case in Germany. Local building control contracts out many control activities to specialized and recognized engineering firms. These firms are responsible for their control. A disadvantage for the client is that he/she has to pay separately for this added control. On the other hand, the quality of the control is beyond dispute. The firms involved are specialized and recognized, and have to comply with heavy demands to qualify and are liable for the quality they deliver. When mistakes occur in building parts or functions of the building that are inspected and should have been detected, the firms are legally liable for damages. In terms of the administrative

burden, System C is similar to System A/B. The costs of the inspections could be higher than A because the efforts made to realize the control are higher. With the advantages of scale and efficient management of the specialized engineering firms, competitive prices could be offered. The total costs the applicant has to pay, depends on the way the municipal fees are calculated. On the other hand, the security that is offered in advance that the quality is good, may lead to financial benefits such as easier acceptance of guarantees, lower insurance premiums. The administrative burden for the local building control authorities therefore decreases with this system.

#### **System D/E: Legal Liability for Private Control Organizations to Inspect**

A distinction can be made between the sources that cause the liability in these two systems:

- a. In System D, the liability for private organizations to control is based on building regulations such as certain building works or regulations;
- b. In System E, inspection by private organizations is based on liability or insurance demands.

In France, the client of certain construction types such as constructions with a high ‘fire-risk’, especially big buildings, is legally obliged to hire a private engineering or control firm. In principle, this system is the same as System C. The main difference is that it is not the local authority but national law that decides in what cases this control firm has to be brought in. In France and Belgium, in some cases, extensive controls by private organizations commissioned by the contractor are necessary because of the strict liability system and the sometimes obligatory insurance system. The characteristics are more or less the same as systems C and D. The quality of the

control is generally high. The client has to pay extra for this control, but these extra costs could counterbalance a reduction of the premium costs of the possibly obligatory insurance. Compared with the Dutch situation (System A/B), this probably leads to a higher security that a certain quality level is reached. The effect on the total cost of the permit procedure is not known. The control costs that have to be made to ensure a lowering of the insurance premiums are relatively high. Efficient management, competition and advantages of scale should have depressing effects on the cost of the private control bodies. Because of the important role that private organizations play, the situation has grown in France, where local building control authorities can hardly execute any preventive checks and inspections anymore. This means that there is a category of construction works, where there is no control by private organizations that are not controlled at all. These construction works must apply for a building permit. The fees are independent of the level on which inspections are carried out.

### **System F: Complete Responsibility for the Applicant to Take Care of Control**

In this system, the client is responsible for arranging and organizing sufficient control such as through self-control or independently recognized control organizations. In Norway and Sweden, the client is always responsible for the execution of controls and inspections. In Germany, this is the case for certain construction works such as residential buildings with a maximum height of one storey and a maximum floor area of 200m<sup>2</sup>. Local building control authority checks the control plan, in which the client indicates how all the necessary inspections during design and on-site are provided for to ensure that the construction meets the demands of the building regulations. The local authority decides for the case that they are satisfied with a self-control system

from the building firms involved<sup>15</sup> and for what instances they insist on an independent inspection by a specialized inspection body. This system offers good guarantees for efficient, effective and high qualitative inspections. Local building control authorities oversee the completeness and quality of the inspections. It is feasible for applicant to choose building firms that have their own self-control system. This stimulates firms in the building industry to work out their quality-care system in such a way that they offer an explicit insight into the quality-inspections to meet the public building regulations. This offers a possibility to integrate controls and inspections in such a manner that they serve both public and private interests.

The administrative burden of the local authorities changes. The attention shifts from preventive checks of the design and on the site to supervision of the control plans. At the end, this will lower the administrative burden. Initially the client and building firms will experience a higher burden. By the further development and implementation of quality-care systems, this burden will disappear and advantage can be taken from a higher quality. All in all, the increase of costs can be restricted.

### **System G. Recognized Private Organizations Are Qualified to Submit Building Permits**

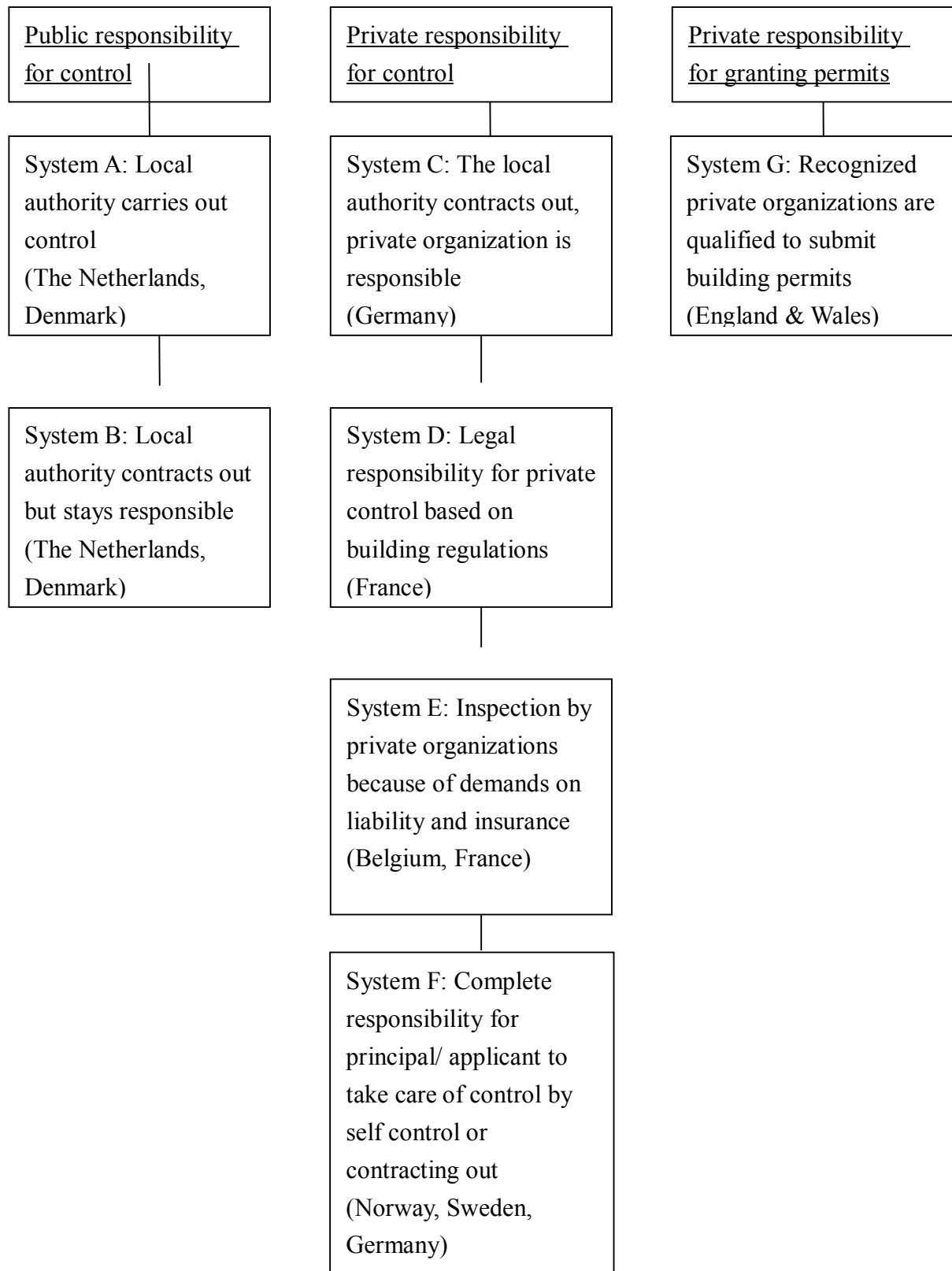
It is conceivable that a private organization preventively controls a design, inspects on-site and submits a building permit based on public building regulations. An example of such a system can be found in England & Wales. Private organizations can be recognized as an Approved Inspector, which checks if the design and execution meets the technical demands and is authorized to submit a building permit. The client

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<sup>15</sup> Building firms involved include designers, construction specialists and contractors.

may choose between local authority building control and an Approved Inspector. An Approved Inspector does not have the same competences as a local building control authority. When conflicts arise on whether the regulations are being met, the Approved Inspector has to call in whether local building control authority to take action.

The systems in the eight European countries are distinguished and summarized as a chart in the next page.



**Figure 2.1 Responsibilities for the Execution of Building Control in Eight European Countries (Source: Meijer, Visscher and Sheridan 2002 )**

## **Development of Existing Systems**

According to the above discussion, almost every European country used to have a ‘traditional’ control system, in which local authority building control played a key role. This system has undergone major changes and the role of private organizations within the permit procedure has grown considerably. Liability reasons have been the case in Belgium and France for a long time. In Germany, the responsibility of the Check Engineer to enlarge the security that buildings are built according to the rules also goes back to the early 1920s. In the other countries, however, the developments are from a more recent date. In England, Approved Inspectors have been able to take over the role of local authority building control since the mid 1980s. At the moment, the English are enlarging the role of private organizations further by introducing a form of self-certification for architects. This means that inspection and control could be integrated in the design and draft phase of building projects. The same idea is behind the recent propositions in the Netherlands to certify architects, building advisory organizations, construction companies, etc. to check whether the plan meets the technical requirements of the Building Regulation. In Norway and Sweden, the decision has been made to move away completely from the traditional role of local authority building control. The applicant is responsible for taking care of the necessary inspections. Local authority building control checks the control plan. In Denmark, local authority building control can contract out inspections to private organizations, but they stay responsible for the inspection.

Other than the eight European countries mentioned previously, similar systems of private certification of building works are also adopted in countries like Singapore, Japan and Australia, in which private plan certifying bodies are allowed to operate in



parallel with, and as an alternative to government approval system. In Australia, private certification of building works has been operating in various regimes in five states and two territories since 1993, which is more than ten years ago. It is therefore chosen as an example for the illustration of the private certification system.

### **2.3.2 Private Certification of Building Works**

The history of private certification is traced as a process, which allows building surveyors to assume primary responsibility for building approvals. Responsibility to varying degrees allows a building surveyor<sup>16</sup> to issue building permits, carry out building inspections and issue occupation permits (Lovegrove 1995). A more general definition of private certification is that it is a process, where an applicant can engage a private certifier instead of a local government or government to assess and approve their application for building work (G. R. Mitchell 2003).

Private certification of building works has not been adopted in Hong Kong. However, it has been operating in various regimes in Australia since 1993. Therefore, it is worth reviewing the different private certification systems, their benefits and drawbacks and the critical issues for the success in deep in order to provide some background knowledge for the study of the applicability of a similar system in Hong Kong.

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<sup>16</sup> In the five states and two territories in Australia adopting private certification of building works, all private certifiers are building surveyors. However, it may not apply to other countries, in which private certifiers may be other building practitioners such as architects, engineers etc.

### **2.3.2.1 Systems in Australia**

In the following sections, descriptions in websites of various government or local government departments and relevant organizations in Australia are quoted for illustration.

#### **Regulatory Framework**

Australia is made up of 6 States and 2 Territories. The States and Territories are then further divided into Local government or Council area. There are currently 717 local governments. Laws that govern buildings are developed at all three levels of government, which makes the regulatory environment extremely complex. However, there is a single document, the Building Code of Australia (BCA), adopted nationally and contains the technical standards. It is produced and maintained by the Australian Building Codes Board (ABCB).

#### ***Federal Government***

At the top tier of the legislative system is the Federal Government. Laws made at this level have national significance. However, they do not control specific items as the constitution of Australia passes that responsibility to the States. The Australian Building Codes Board sits at this level, which is a joint initiative of all levels of Australian government, in co-operation with the building industry. The Board was established by means of an inter-government agreement signed by the Commonwealth, State and Territory Ministers responsible for building regulatory matters. The ABCB is responsible for:

- a. Developing and managing a nationally uniform approach to technical building requirements, currently embodied in the Building Code of Australia
- b. Developing a simpler and more efficient building regulatory system
- c. Enabling the building industry to adopt new and innovative construction technology and practices

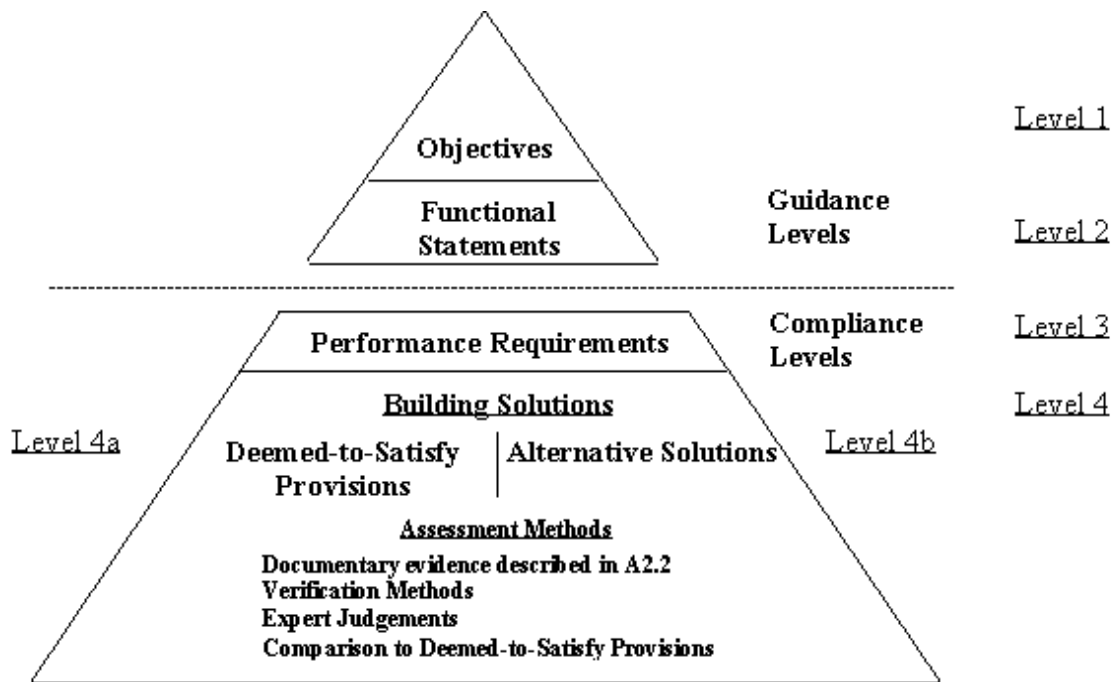
Building Codes Committee (BCC) is the peak technical committee that advises the ABCB on the content of the BCA. It is responsible for providing technical advice on reforming, maintaining and upgrading the technical content of the of Australia's building codes and standards. Whilst the ABCB develops and publishes the BCA, the ABCB has no legislative power. The BCA is given its regulatory power by legislation in each of the States and Territories.

### ***The Building Code of Australia***

The Building Code of Australia has its goal:

“to enable the achievement and maintenance of acceptable standards of structural sufficiency, safety, health and amenity for the benefit of the community”.

The BCA contains technical provisions for the design and construction of buildings and other structures, and covers matters like structure, fire resistance, access and egress, services and equipment, and certain aspects of health and amenity. The BCA is written as a performance document and has a specific structure, which is illustrated in the next page.



**Figure 2.2** Structure of Building Code of Australia (Source: ABCB)

The objectives and functional statements are considered Guidance level provisions. The objectives represent the reason for the community to have a matter regulated. They are primarily expressed in general terms and usually refer to the need to safeguard people and protect adjoining buildings or other property. The functional statements set out in general terms how a building could be expected to satisfy the objectives.

The performance requirements outline a suitable level of performance, which must be met by building materials, components, design factors, and construction methods to enable a building to meet the relevant functional statements and, in turn, the relevant objectives. The performance requirements are the core of the BCA and are the only parts of the code, with which compliance is mandatory.

Building solutions set out the means of achieving compliance with the performance requirements. The BCA provides two methods to be followed in order to develop a building solution. They are deemed-to-satisfy provisions<sup>17</sup> and alternative solutions<sup>18</sup>.

### ***State and Territory Governments***

As stated previously the states and territories have the primary responsibility for enacting legislation, which controls buildings. The Legislation is different in each state but follows primarily the same format. The primary legislative tool is a number of Acts, which in turn call up the Building code of Australia as the primary technical reference. It is through these acts and regulations that Private Certification is regulated. These acts also regulate enforcement actions and other items of interest to the states and territories.

### **Private Certification Regimes**

There are various forms of certification regimes in different states and territories in Australia. This is due to the various Acts and Regulations that control the building process. Of all the states and territories, Western Australia is the only state, which is still considering adopting a system of private certification. Each of the private certification systems has a commonality, which is a strict code of conduct, by which the private practitioners must act. One of the underlying principals of those codes of conduct is that practitioners must act in the public interest. Another major element is

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<sup>17</sup> They include examples of materials, components, design factors, and construction methods, which if used, will result in compliance with the performance requirements of BCA.

<sup>18</sup> The key to the performance-based BCA is that there is no obligation to adopt any particular material, component, design factor or construction method. An approval authority may still issue an approval if it differs in whole or in part from deemed-to-satisfy provisions described in the BCA if it can be demonstrated that the design complies with the relevant performance requirement.

that practitioners must not act outside their level of expertise. This places a regulatory and professional integrity obligation on all those operating in the private sphere. The various systems in the five states and two territories are summarized according to the order of implementation of private certification of building works are as follows:

### ***South Australia***

Private certification was introduced in South Australia in 1993. Practitioners are known as “Private Certifiers”. The accreditation and licensing of private certifiers is conducted by “Planning SA”, which is a government department. The required qualification is an accreditation at the level of building surveyor from the Australian Institute of Building Surveyors accreditation division.

The authority of a Private Certifier in South Australia is slightly different to the previous states in that the approval or “Provisional Building Rules Consent” does not authorize the commencement of building work. Clients require a development approval from the local government, which is issued after the local government receives the provisional building rules consent and further provisional development consent. The Private Certifier does have the authority to issue occupancy permits, however there is no requirement for inspections of work through construction. Even the local government does not have a mandatory role in the inspection process and is merely required to conduct random inspection of their choosing.

### ***Victoria***

Private certification was introduced in Victoria in 1994. Clients are allowed to obtain permits from either “Municipal Building Surveyor” or “Private Building Surveyor”. The title of the authority that actually issues the building permit is “Relevant Building

Surveyor”, which can relate to either of the titles. The accreditation and licensing of practitioners and all professions and trades involved in the building industry is done by the Building Commission of Victoria (BC), which is a government department. The BC is also responsible for the audit and disciplinary proceedings against practitioners. The qualifications of building surveyors are contained within the building regulations.

Building surveyors accept and approve building applications and assess them against the Building Act. However, there is an additional Residential Code as well as the Council Planning Scheme in Victoria. Certain developments must be approved by the local government. Plumbing works are self certified by registered plumbing practitioners. Inspections through construction are mandatory and are conducted by the Relevant Building Surveyor.

### ***Northern Territory***

A fully privatized system of building approval was introduced in the Northern Territory in 1995, where clients can only obtain building permits from private building surveyors. The system in the Northern Territory is different in that the private system is the only option, i.e. there is no government or local government building authority. Practitioners known as “Building Certifiers” are accredited by the Building Practitioners Board, which is under the Government Department of Lands Planning and Environment. The Building Practitioners Board is responsible for the auditing and discipline of the accredited certifiers. The qualifications are those prescribed the Australian Institute of Building Surveyors at either building surveyor or assistant building surveyor level.

Practitioners have the responsibility to issue building permits, inspect through construction and issue occupancy permits. The inspection of building works through construction is mandatory for the Building Certifier and the client is required to notify the Building Certifier when that stage of work is ready for inspection.

### ***Queensland***

Private Certification was introduced in Queensland in 1998. Practitioners known as “Building Certifiers” can work in either local government or in private practice. They are licensed by the Building Services Authority (BSA), which is a government department. The BSA also licenses all trade contactors involved in the building process. This body is also responsible for the audit and disciplinary action of Building Certifiers. As part of the criteria for licensing, a Building Certifier must hold a prescribed qualification and certain levels of experience. The prescribed qualifications are assessed by the Australian Institute of Building Surveyors via their Accreditation Services divisions. Building Certifiers are bound by a strict Code of Professional Conduct, which is currently developed by the BSA, which is about to be moved into the legislative requirements to reinforce its status. Private certifiers must carry professional indemnity insurance.

Building Certifiers receive and issue development approvals for building works and are responsible for the plan assessment, inspection through construction and the issue of certificates to allow occupation. Local government or Building Certifiers must ensure plans for proposed building are referred to relevant referral agencies for assessment of the building work for compliance with the requirements of the referral agency. These agencies include the fire services, Office of Workplace Health and Safety etc. However, a separate approval of plumbing and drainage must be obtained



from local governments by clients or Building Certifiers may do this on behalf of a client. Inspection of building works on residential dwellings is mandatory. Building Certifiers have prescribed period, within which they must submit copies of approved documents to the local government. Building Certifiers can assess and issue an approval if the building works comply with the Building Act, Building Regulation, BCA and the provisions of the local government town planning scheme. Any variations from the local government town planning scheme or items mentioned in the scheme that have to be assessed by the local government, must be approved by the local government before Building Certifiers can issue their approval.

### ***New South Wales***

Private Certification was introduced into New South Wales in 1998. The practitioners are known as “Accredited Certifiers” and “Principal Certifying Authorities”. These practitioners are accredited by authorized accrediting bodies. Unfortunately one of the authorized bodies, The Building Surveyors and Allied Professions Accreditation Board (BSAP) has their accreditation withdrawn by the government in 2002. This has resulted in the Department of Infrastructure Planning and Natural Resources (DIPNR) taking over the administration of the accreditation process of that body. The authorized body, or DIPNR in the case of the former BSAP accredited persons, is responsible to investigate complaints and discipline practitioners. Problems with the complaints handling ultimately lead to the demise of BSAP. DIPNR are responsible to audit all practitioners accredited under any of the authorized bodies. There is a difference from the Queensland system in that only private practitioners have to be accredited at this stage. Proposals are currently being investigated to have all practitioners accredited. This is proposed to be done through a Building Professionals Board, a proposed government entity.

As in Queensland, the Accredited Certifiers and the Principal certifying Authorities receive and issue development approvals for building works. If the works are in accordance with the “complying development” provisions of the local planning scheme the certifier can issue without reference to the local government. Unlike many of the other states, there is no statewide regulation, which controls specific items. Each of the Local governments in NSW prescribe their own requirements, which means in many cases building works must be referred to the local government prior to the issue of permit for building works.

#### ***Australian Capital Territory***

Private certification was introduced in the Australian Capital Territory (ACT) in January 1999. Similarly to the Northern Territory, the private certification system is the only available approval process, although the ACT government can take over or appoint a replacement certifier in the case of the default of the original private certifier. Practitioners are known as “Private Certifiers” and are licensed by the ACT Building, Electrical and Plumbing Control (BEPCON). The prescribed qualification is an accreditation by the Australian Institute of Building Surveyors.

Private Certifiers are responsible for the issue of building approval and occupancy permits and as in the other regimes the plumbing works are covered by separate authorities. Inspections of building work in the ACT are mandatory for both the clients and the Private Certifiers.

### *Tasmania*

Private certification was introduced into the Tasmanian Building Act at the end of 2000. However, the body to accredit practitioners was only authorized in August 2003. This accrediting body is the Tasmanian Compliance Corporation (TCC), which is a private organization and recognized by the government as an “Authorized Body”. The TCC is responsible for the accreditation of building designers and building surveyors. The TCC is also responsible for the audit and discipline of its accredited practitioners. The Tasmanian Department of Infrastructure, Energy and Resources (DIER), a government department is responsible to oversee and monitor the performance of the TCC. The qualification for Private Certifiers will be assessed by the TCC in conjunction with the Australian Institute of Building Surveyors.

The Private Certifier has the authority to issue building permits and notification of inspection stages is mandatory. Inspection is at building surveyors’ discretion.

Different certification regimes in Australia are summarized in the coming pages according to the following:

- a. Date of implementation
- b. Relevant Acts and Regulations
- c. Certification bodies
- d. Private practitioners
- e. Licensing/ accreditation
- f. Qualification of licensing/ accreditation
- g. Responsibilities of private practitioners
- h. Certification related to building services
- i. Inspections of building works

|                                     | <u>Year of Implementation</u> | <u>Relevant Acts and Regulations</u>                                                                                                                                  |
|-------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>South Australia</i>              | 1993                          | <ul style="list-style-type: none"> <li>• Development Act 1993</li> <li>• Development Regulation 1993</li> </ul>                                                       |
| <i>Victoria</i>                     | 1994                          | <ul style="list-style-type: none"> <li>• Building Act 1993</li> <li>• Building Regulation 1994</li> <li>• Building (single dwellings) Regulation 2001</li> </ul>      |
| <i>Northern Territories</i>         | 1995                          | <ul style="list-style-type: none"> <li>• Building Act 1996</li> <li>• Building Regulation 2000</li> </ul>                                                             |
| <i>Queensland</i>                   | 1998                          | <ul style="list-style-type: none"> <li>• Integrated Planning Act 1997</li> <li>• Building Act 1975</li> <li>• Standard Building Regulation 1993</li> </ul>            |
| <i>New South Wales</i>              | 1998                          | <ul style="list-style-type: none"> <li>• Environmental Planning and Assessment Act 1979</li> <li>• Environmental Planning and Assessment Regulation 2000</li> </ul>   |
| <i>Australian Capital Territory</i> | 1999                          | <ul style="list-style-type: none"> <li>• Building Act 1972</li> <li>• Building Regulation 1972</li> <li>• Construction Practitioners Registration Act 1998</li> </ul> |
| <i>Tasmania</i>                     | 2000                          | <ul style="list-style-type: none"> <li>• Building Act 2000</li> <li>• Building Regulation 1994</li> </ul>                                                             |

**Figure 2.3 Year of Implementation and Relevant Acts and Regulations of Various Regimes of Private Certification of Building Works in Australia**

(Source: websites of government or local government departments in Australia)

|                                     | <u>Certification Bodies</u>                                                                     | <u>Private Practitioners</u>                                    |
|-------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <i>South Australia</i>              | <ul style="list-style-type: none"> <li>• Local governments</li> <li>• Private bodies</li> </ul> | “Private Certifiers”                                            |
| <i>Victoria</i>                     | <ul style="list-style-type: none"> <li>• Local governments</li> <li>• Private bodies</li> </ul> | “Relevant Building Surveyor” or<br>“Private Building Surveyors” |
| <i>Northern Territories</i>         | Only private bodies                                                                             | “Building Certifiers”                                           |
| <i>Queensland</i>                   | <ul style="list-style-type: none"> <li>• Local governments</li> <li>• Private bodies</li> </ul> | “Building Certifiers”                                           |
| <i>New South Wales</i>              | <ul style="list-style-type: none"> <li>• Local government</li> <li>• Private bodies</li> </ul>  | “Accredited Certifiers”                                         |
| <i>Australian Capital Territory</i> | Only private bodies                                                                             | “Private Certifiers”                                            |
| <i>Tasmania</i>                     | <ul style="list-style-type: none"> <li>• Local governments</li> <li>• Private bodies</li> </ul> | “Private Certifiers”                                            |

**Figure 2.4 Certification Bodies and Private Practitioners in Various Regimes of Private Certification of Building Works in Australia**

*(Source: websites of government or local government departments in Australia)*

|                                             | <u>Licensing/ Accreditation</u>                                                                                                                  | <u>Qualification for Licensing/<br/>Accreditation</u>                                               |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <i>South<br/>Australia</i>                  | Private Certifiers are accredited by Planning SA, which is a government department                                                               | At the level of building surveyors of the AIBS accreditation division                               |
| <i>Victoria</i>                             | All practitioners are licensed by BC, which is a government department                                                                           | Contained within the building regulations                                                           |
| <i>Northern<br/>Territories</i>             | Private practitioners are accredited by Building Practitioners Board, which is under the Government Department of Lands Planning and Environment | At the level of building surveyors/ assistant building surveyors of the AIBS accreditation division |
| <i>Queensland</i>                           | All practitioners are licensed by BSA, which is a government department                                                                          | At the level of building surveyors of the AIBS accreditation division                               |
| <i>New South<br/>Wales</i>                  | Private practitioners are accredited by authorized accreditation bodies                                                                          | -                                                                                                   |
| <i>Australian<br/>Capital<br/>Territory</i> | Private practitioners are licensed by ACT Building, Electronic and Plumbing Control                                                              | At the level of building surveyors of the AIBS accreditation division                               |
| <i>Tasmania</i>                             | All practitioners are licensed by TCC, which is a private organization recognized by government as an “Authorized Body”                          | Assessed by TCC in conjunction with AIBS                                                            |

**Figure 2.5 Licensing/ Accreditation and Qualification Required in Various Regimes of Private Certification of Building Works in Australia**

(Source: websites of government or local government departments in Australia)

|                                     | <u>Responsibilities of Private Practitioners</u>                                                                                                                                                                                                                                                                                               |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>South Australia</i>              | <ul style="list-style-type: none"> <li>• Issue occupation permit</li> </ul>                                                                                                                                                                                                                                                                    |
| <i>Victoria</i>                     | <ul style="list-style-type: none"> <li>• Issue development approval, while certain developments must be approved by the local government</li> <li>• Inspection throughout construction</li> <li>• Plan assessment</li> <li>• Issue of certificate to allow occupation</li> </ul>                                                               |
| <i>Northern Territories</i>         | <ul style="list-style-type: none"> <li>• Issue building permits for development</li> <li>• Plan assessment</li> <li>• Inspection throughout construction</li> <li>• Issue occupation permit</li> </ul>                                                                                                                                         |
| <i>Queensland</i>                   | <ul style="list-style-type: none"> <li>• Issue development approval for building works, while any variations from the local government's town planning scheme must be approved by the local government</li> <li>• Plan assessment</li> <li>• Inspection throughout construction</li> <li>• Issue of certificate to allow occupation</li> </ul> |
| <i>New South Wales</i>              | <ul style="list-style-type: none"> <li>• Issue development approval for building works</li> <li>• Plan assessment</li> <li>• Inspection throughout construction</li> </ul>                                                                                                                                                                     |
| <i>Australian Capital Territory</i> | <ul style="list-style-type: none"> <li>• Issue building permits for development</li> <li>• Plan assessment</li> <li>• Inspection throughout construction</li> <li>• Issue occupation permit</li> </ul>                                                                                                                                         |
| <i>Tasmania</i>                     | <ul style="list-style-type: none"> <li>• Issue building permits for development</li> </ul>                                                                                                                                                                                                                                                     |

**Figure 2.6 Responsibilities of Private Practitioners in Various Regimes of Private Certification of Building Works in Australia**

(Source: websites of government or local government departments in Australia)

|                                     | <u>Certification Related to Building Services</u>                                                                                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>South Australia</i>              | No requirement                                                                                                                                                                                                 |
| <i>Victoria</i>                     | Plumbing works are self-certified by registered plumbing practitioners                                                                                                                                         |
| <i>Northern Territories</i>         | No requirement                                                                                                                                                                                                 |
| <i>Queensland</i>                   | Plans are referred to relevant referral agencies for assessment of building works<br><br>A separate approval of plumbing and drainage must be obtained from local government by clients or Building Certifiers |
| <i>New South Wales</i>              | Building works are referred to local government prior to the issue of permit                                                                                                                                   |
| <i>Australian Capital Territory</i> | Plumbing works are covered by separate authorities                                                                                                                                                             |
| <i>Tasmania</i>                     | No requirement                                                                                                                                                                                                 |

**Figure 2.7 Certification Related to Building Services in Various Regimes of Private Certification of Building Works in Australia**

*(Source: websites of government or local government departments in Australia)*



|                                     | <u>Inspections of Building Works</u>    |
|-------------------------------------|-----------------------------------------|
| <i>South Australia</i>              | No requirement                          |
| <i>Victoria</i>                     | Mandatory throughout construction       |
| <i>Northern Territories</i>         | Mandatory throughout construction       |
| <i>Queensland</i>                   | Mandatory for residential dwellings     |
| <i>New South Wales</i>              | No requirement                          |
| <i>Australian Capital Territory</i> | Mandatory throughout construction       |
| <i>Tasmania</i>                     | At the discretion of Private Certifiers |

**Figure 2.8** *Inspections of Building Works in Various Regimes of Private Certification of Building Works in Australia*

*(Source: websites of government or local government departments in Australia)*

After reviewing various forms of private certification regimes in Australia, a major difficulty associated with the systems is that not all individuals and organizations involved in the building approval process are required to achieve the same level of qualification or expertise. This major difference is being addressed by the implementation of a National Accreditation Framework (NAF).

### **The National Accreditation Framework**

NAF is an initiative of ABCB in conjunction with AIBS, which has its objective to “harmonize the requirements that building surveyors or certifiers must meet for registration and accreditation”. It is intended that NAF will apply to practitioners in both public and private practice. NAF outlines the core responsibilities of

practitioners to enable an assessment to be made on a national basis. The roles of building certifiers, though similar are different in each state or territory administration.

One of the key elements of NAF is the recognized set of education benchmarks and competencies, which are required by education institutions offering qualifications in building surveying. AIBS was responsible for the development of these education standards. Through the course accreditation program conducted by AIBS, it will ensure that the education standards are applied. One of the stated aims of the education assessment is that it is not the intent to produce identical graduates from all of the institutions. However, it is important that base core competencies of the individuals are consistent with the roles they play in the certification process. The benchmark standard produced have now been converted into a training package, which is now the nationally recognized criteria for all Colleges of Technical and Further Education offering diploma level qualification in building surveying. The education benchmarks are intended for use by the Universities as a recipe for the inclusion of those benchmarks into their various courses.

Private certification systems in Australia reviewed in the previous sections lead to several benefits. They are illustrated with figures and evidence in the coming section.

### **2.3.2.2 Benefits**

Benefits of private certification of building works are continuously found and highlighted in research and studies. In Australia, the whole building permit-issuing process has generally improved in efficiency, flexibility and outcomes. Only a few

clients show negative responses<sup>19</sup>, with only occasional increase in negative responses such as the increase in costs. The majority of clients<sup>20</sup> exclusively use private building certifiers, with the majority of these<sup>21</sup> using only one building certifiers. This indicates the development of a great deal of trust to the new system in a relatively short period of time (CSIRO 1999).

In summary, benefits arise from private certification of building works include the followings:

### **Time Saving to Clients**

The introduction of Private certification is driven primarily by the need to improve approval times and allow more flexibility in the approval processes (Mitchell 2003). It is reported that turn-around times in obtaining building approvals have dropped dramatically<sup>22</sup> in both Northern Territory and Victoria (Lovegrove 1995). Another study points out that permit-issuing time has decreased with permit clients mostly reporting a decrease of 3 weeks, while building surveyors report a smaller decrease of 2 weeks (CSIRO 1999).

### **Cost Saving to Clients**

Holding costs have dropped markedly and building approval fees have increased in housing but have remained stable in commercial and industrial (Lovegrove 1995).

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<sup>19</sup> Less than 10% (Source: CSIRO 1999)

<sup>20</sup> 66% (Source: CSIRO 1999)

<sup>21</sup> 62% (Source: CSIRO 1999)

<sup>22</sup> It dropped from an average of 21-28 days to 5-7 days (Source: CSIRO 1999).

Although cost of obtaining building permits has increased marginally according to some permit clients<sup>23</sup> and the majority of building surveyors<sup>24</sup>, most permit clients are satisfied with the level of fees charged by their private building certifiers, with only minority<sup>25</sup> claiming they are expensive (CSIRO 1999). In addition, effort to obtain a permit has decreased for majority<sup>26</sup> of permit applicants and increased for majority<sup>27</sup> of building surveyors as more work has to be done by them (CSIRO 1999).

### **Cost Saving to Government**

Most of the councils have reviewed their business operations and streamlined their building departments to ensure they remain competitive (Mackenroth 1998).

### **Create a Competitive System in Providing Better Certification Services**

Service across the country has improved due to the fact that superior service is conducive to fee-paying clients. The environment is highly competitive. Building approval standards is shown to have improved in the Northern Territory consensus (Lovegrove 1995). Besides, project architects are approached by private certifiers and council certification units are willing to tender for the building approval business. This competitiveness drives down project costs (Mackenroth 1998). Comments from clients suggest that under the municipal-based system there was little incentive for the

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<sup>23</sup> 52% indicated unchanged, 29% increased and 19% decreased. (Source: CSIRO 1999)

<sup>24</sup> 63% (Source: CSIRO 1999)

<sup>25</sup> 7% (Source: CSIRO 1999)

<sup>26</sup> 68% (Source: CSIRO 1999)

<sup>27</sup> 74% (Source: CSIRO 1999)

building surveyor<sup>28</sup> to work with the client or provide quality service. Majority<sup>29</sup> of permit applicants prefer using a private building surveyor with speed of service and the friendly, personal and cooperative nature of the service are cited as the main reasons for using them. Communication between the building surveyors and the clients has improved dramatically. Increase in the professionalism of the building surveying industry and a greater understanding of the builders concerns were noted (CSIRO 1999).

### **Enhance the Consulting Role of Building Surveyors**

Some clients<sup>30</sup> believe it is valuable to use building surveyors in the design process. This practice even increases<sup>31</sup> amongst developers. Almost all building surveyors believe that their involvement in the design process is beneficial (CSIRO 1999).

#### **2.3.2.3 Drawbacks**

As mentioned in the previous section, private certification of building works is not without problems. Staunch opponents to the system cite the apparent conflict of interests in a private person being engaged and paid by a developer to approve and control a project (Mitchell 2003). There have also been suggestions of other drawbacks such as increase in the chance of corruption and misuse of performance to cover up mistakes. A survey highlights that the majority of clients and private building certifiers<sup>32</sup> believe that the quality of building has remained the same. However,

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<sup>28</sup> In Australia, all private certifiers are building surveyors. (Source: CSIRO 1999)

<sup>29</sup> 60% (Source: CSIRO 1999)

<sup>30</sup> 50% (Source: CSIRO 1999)

<sup>31</sup> To 75% (Source: CSIRO 1999)

<sup>32</sup> 75% and 61% respectively (Source: CSIRO 1999)

twice the proportion of municipal building surveyors believe that the quality has decreased, particularly in housing (CSIRO 1999).

#### **2.3.2.4 Critical Issues for Success**

There have been reviews in some states and territories on the private certification systems. There are some reform concepts imported by ABCB and they make up the suite of legislative complements in their Model Building Act (Lovegrove 1995). The followings are some key notes in establishing a sound private certification system:

##### **Stringent Accreditation of Private Certifiers**

The mandatory qualification and experience criteria guarantee a minimum level of skill of private certifiers. A major review on the qualities of buildings in New South Wales indicates the need of a stronger process in the accreditation (Lovegrove 1995).

##### **Clear Liability for Private Certifiers**

There should be firstly, a 10-year liability limitation period, which starts when a building certifier issues a building occupation permit; secondly, proportionate liability, under which no defendant can be held liable for more than his or her portion of liability; and thirdly, registration of building practitioners, which may include engineers, building surveyors, inspectors, quantity surveyors etc. to the board. These ingredients are fundamental and cornerstone elements in the package of private certification of building works, which create a legislative environment for it (Lovegrove 1995).

### **Continuous Professional Development of Private Certifiers**

The mostly publicized review in Queensland by the Local Government Association suggests the need for all accredited private certifiers to have additional training (Lovegrove 1995).

### **Adequate Government Audit**

Jurisdictions in Victoria and Northern territory have a philosophy of deregulation with safeguards. Both jurisdictions also have sweeping audit powers over private certifiers' records. It is also highlighted by the major review on the qualities of buildings in New South Wales that there must be a stringent audit and disciplinary regimes on private certifiers (Lovegrove 1995).

Other critical issues for success include adequate published requirements and guidelines and a culture of self-discipline.

## **2.4 Chapter Summary**

The literature shows that the government certification system has gained widespread acceptance throughout the evolution of building control in Hong Kong. However, there are several shortcomings associated with that. According to previous research and studies, it has been shown that private certification of building works is able to address some major shortcomings arising from various regimes of private certification of building works in foreign countries like Australia. However, there are also

drawbacks associated with them. Therefore, it is worth examining the views of building control officials in Hong Kong on private certification of building works in order to obtain ideas regarding its applicability in Hong Kong. In the coming chapter, hypothesis is set up and the methodology in testing it is also discussed.



## CHAPTER 3 HYPOTHESIS & METHODOLOGY

### 3.1 Introduction

In this chapter, hypothesis and methodology of this research are discussed. Hypothesis of the research is first presented, followed by discussion on the data collection and method of analysis within the specification of the interviews.

### 3.2 Hypothesis

Private certification of building works has been implemented in many foreign countries like Singapore, UK, Japan and Australia. With the growing interests of this new system of building control, a number of research, studies and surveys have been carried out in order to gain a better understanding of it.

Research and studies from Australia (VLGA 1997, CSIRO 1999) show that a surprising number of applicants are willing to obtain certification of building works from private certifiers. The new system enables them to achieve savings in time, effort and money. Market surveys (Lovegrove 1995) show that turn-around time and holding costs have dropped markedly and superior services are provided by private certifiers. All these show that private certification of building works is favorable to the clients, private building surveyors and municipal building surveyors in Australia. In addition to that, a survey shows that building practitioners in Hong Kong do believe that private certification of building works will perform better than the existing system as far as time, cost and effort are concerned (Lo 1999). Building control officials are professionals, who work hand-in-hand with other building practitioners in

ensuring certain standards of safety, health and the built environment. It is therefore reasonable to believe that their views will be strongly compatible. Based on this deduction, a similar system<sup>33</sup> incorporating all essential elements should be applicable in Hong Kong. Therefore, the following hypothesis is proposed in this research:

“Private certification of building works is applicable in Hong Kong, from the Hong Kong building control officials’ perspective.”

In the following section, method in testing the hypothesis is described in details.

### **3.3 Specification of Methodology**

Different stages of the interviews in this research, from data collection to the application of interview results are discussed in details in the following sections.

#### **3.3.1 Data Collection by Interviews**

Interviews will be employed for data collection in this research. It involves asking and obtaining answers to questions. In addition, interviewees will be asked to rank a set number of responses as determined by the author in some closed questions<sup>34</sup>. By employing both, the analysis of the data obtained from interviews can be more comprehensive and reliable.

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<sup>33</sup> Please see Appendix IV for the proposed system of private certification of building works.

<sup>34</sup> Please see Appendix V & VI.

## **Interviewees**

Two sets of questions will be prepared. One is for building control officials in Australia, while another one is for building control officials in Hong Kong, who are officials in the Buildings Department. Face-to-face interviews will be carried out with officials in the Buildings Department. Similar questions will also be sent to building control agents in all states and territories in Australia through email for responses.

## **Structure of Interviews**

Semi-structured interviews will be carried out face-to-face with the building control officials in Hong Kong. It involves asking questions and recording the responses, with some scopes for probing those responses by asking supplementary questions to obtain more details and to pursue new aspects. There are several benefits in using interviews. Firstly, direct responses can be obtained from the interviewees. Follow-up questions can also be raised and replied can be obtained immediately. Secondly, with the permission of respondents, interviews will be tape-recorded, which will be very helpful at the stage of analysis by ensuring accuracy and objectivity of responses recorded.

In the interviews, interviewees will be asked to answer four closed questions, which have a set number of responses as determined by the author. Closed questions are chosen as responses can be easily and quickly given and thus the results of the survey can be analyzed more easily. However, such rigidity of available responses may constrain the responses artificially, hence a response opportunity of “other, please specify” is provided whenever possible. In addition to that, ordinal scale from 1-4 will

be employed for interviewees to rank their responses in particular questions in a hierarchical ordering with “1” represents the most important; “2” represents important; “3” represents fairly important; and “4” represents the least important. It is then possible to compare and determine the views of the two groups of interviewees, which will be the building control officials in Hong Kong and Australia, on the same issue by acquiring their responses to a common set of questions. In particular, for some of the questions, there will be a choice of “none”. It represents that respondents have a different view towards the questions with determined responses.

### **Contents of Interviews**

The interview contents include the following areas:

1. Views and rankings on major shortcomings of government certification system
2. Views and rankings on problems with existing authorized persons
3. Views and rankings on benefits and drawbacks of private certification of building works
4. Views and rankings on critical issues for the success of private certification of building works
5. Comments on the effectiveness of private certification of building works in addressing the major shortcomings of government certification system
6. Suggestions on the operation and control of a private certification system
7. Recommendations on the implementation of private certification of building works in Hong Kong
8. Recommendations on the future development of building control in Hong Kong

### **3.3.2 Data Analysis**

The data collected from the interviews will be used to indicate the general views of the building control officials in Hong Kong on private certification of building works. Qualitative analysis will be adopted for this study. It consists of three con-current flows of activity: data reduction, data display, and conclusion drawing or verification (Miles and Huberman 1994).

#### **Data Reduction**

Data reduction refers to the processes of selecting, focusing, simplifying, abstracting and transforming the data that appear in transcriptions. It is a form of analysis that sharpens, sorts, focuses, discards and organizes data in such a way that final conclusion can be drawn and verified (Miles and Huberman 1994). From the tapes recorded and the notes jotted during the interviews, summary transcripts will be produced from the raw data obtained by summarizing, selecting and paraphrasing the replies of interviewees; and arranging them in a logical sequence for later analysis.

#### **Data Display**

Data display is an organized, compressed assembly of information that permits conclusion drawing and action (Mile and Huberman 1994). The display may include many types of matrices, graphs, charts and networks. They are designed to assemble organized information into an immediately accessible, compact form so that the analyst can see what is happening and either draw justified conclusion or move on to the next step of analysis (Mile and Huberman, 1994). From the summary transcripts,

the processed qualitative data will be displayed in appropriate formats that are understandable to readers.

## **Conclusion**

Conclusion will be drawn from the views of interviewees on the applicability of private certification of building works in Hong Kong. However, the results obtained from the interviews should not be conclusive. Other sources of information such as numerical figures and reports obtained should also be used for the analysis.

### **3.3.3 Applying the Results of Interviews**

Findings from interviews will first be summarized. They will be quoted for discussion or illustration in the coming chapter of qualitative analysis. A copy of the closed questions requiring rankings from interviewees and the results will be compiled in the appendices of this dissertation for reference.

## **3.4 Chapter Summary**

This research hypothesizes that private certification of building works is applicable in Hong Kong from the Hong Kong building control officials' perspective. Semi-structured interviews will be adopted in this research in order to obtain the views of the officials in the Buildings Department on this new initiative, its benefits and drawbacks, and the critical issues for success etc. Qualitative analysis involving data reduction, data display and conclusion drawing, will be adopted. In the coming chapter, results from interviews are summarized, analyzed and quoted for discussion.

## CHAPTER 4 FINDINGS & DISCUSSION

### 4.1 Introduction

Ten face-to-face interviews were conducted to collect views of officials in the Buildings Department on private certification of building works. Because of limited time, resources and difficulties in contacting the staff in the Department, in total, 9 professional staff and 1 technical staff participated in the interviews. On the other hand, similar questions were sent to the five states and two territories in Australia through email. There were responses from the representatives of building control agents in two states and one territory. They include the Northern Territory, Queensland and South Australia. The respondents were all professional staff. In this chapter, findings from the interviews are summarized, analyzed and quoted for discussion in different aspects. Results of rankings in particular questions are incorporated in the appendices<sup>35</sup> for reference.

### 4.2 Private Certification of Building Works in Hong Kong

#### 4.2.1 Effectiveness of Addressing Shortcomings of Existing Building Control

This section discusses the effectiveness of private certification of building works in addressing the major shortcomings of government certification system, which have been illustrated in the literature review.

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<sup>35</sup> Please see Appendix VII & VIII.

## **Time Saving to Clients**

There is criticism that the procedural requirements of government certification system are time-consuming. Under private certification of building works, time can be saved due to the flexibility and availability of private certifiers to fit with the time specified by the clients. Using private certifiers instead of awaiting government officers for building inspections is another area to achieve time-saving by clients. On the other hand, saving of time is possible through the incorporation of private certifiers as a part of the design team<sup>36</sup>, which enables regulatory problems to be identified early and rectified before completion. Although it is believed that saving of time will not be as dramatic as that on plan approval or issue of consent to commence work, it is nonetheless important. It is obvious that private certification of building works provides greater certainty to clients in plan approval, as well as consent or permit-issuing time. It enables construction projects to be scheduled with greater confidence and certainty.

However, some interviewees doubt the possibility of time-saving under private certification of building works. Without a statutory time period for processing plan, as well as issuing consent and permit, there will be a risk that certification of building works are delayed if private certifiers have a number of projects on hand.

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<sup>36</sup> In Australia, private certifiers who are building surveyors are usually incorporated in the design team.



## **Cost Saving to Clients**

Under existing system of building control, clients incur direct costs as well as indirect costs, which are hidden. Direct costs are likely to be saved under private certification of building works, which is attributable to faster certification process. Besides, clients can have cost-saving through a reduction of staff required to perform certification-related work. As they do not have to go to the Buildings Department at specified times, the amount of traveling and waiting time required for certification-related work will be dramatically reduced. This consequently leads to a reduction of staff required. On the other hand, earlier completion of the building works will be translated into direct saving of holding costs. It allows the property to be sold earlier, thus releasing funds to clients. Clients will then be more capable to start new building projects as there is more cash flow to them.

It should be highlighted that all building control officials in Australia do agree that costs to clients are saved under private certification of building works<sup>37</sup>. However, none of the building control officials in Hong Kong have this view<sup>38</sup>. The possible explanation for this discrepancy is that costs to clients greatly depend on the fees charged by private certifiers in performing certification works. Such amount is unknown at present as private certification of building works has not been adopted in Hong Kong. Also, it is hard for the building control officials to realize the possibility of indirect cost-saving.

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<sup>37</sup> Please see Appendix VIII.

<sup>38</sup> Please see Appendix VII.

### **Effort Saving to Clients**

The existing system of building control is inflexible, which demands much effort from clients. Under private certification of building works, there will be a huge saving of effort in obtaining plan approvals, consents and permits. In other words, administrative burden of clients will be reduced. Therefore, more time and effort can be spent on other issues of projects such as the design works. Besides, clients will regard private certifiers as their regulatory experts and less effort can be spent by the clients in updating their own knowledge of building regulations. The proactive nature of private certifiers as well as flexibility in the certification process will be translated into significant effort-saving to clients.

However, building control officials in Australia pointed out that architects and engineers now rely too heavily on private certifiers to ensure their designs meet the regulations. In other words, private certifiers have to bear a heavy workload.

### **Better Certification Services Provided to Clients**

Private certification of building works creates a competitive system to private certifiers, which will probably lead to better services provided to clients than the existing building control officials. It is because private certifiers will be more proactive in understanding concerns of clients. In addition, with competition in place, it will become paramount that private certifiers will try to further improve their professionalism and perform at a high level in order to stay in the industry.

## **Cost Saving to Government**

At present, there is a great burden on the government in enforcing building control<sup>39</sup>. Building surveyors, technical officers, etc. are hired for various certification services. However, burden on the government will be greatly reduced under private certification of building works. It is believe that the money saved can be used in other areas instead of building control, which may result in greater benefit to the public.

### **4.2.2 Operation**

#### **Employment of Private Certifiers**

As mentioned in the previous section, private certification of building works will probably be performed by existing authorized persons and registered structural engineers. Similar to the existing system of building control, authorized persons on the government's registered list must be appointed to act as coordinators for building projects and to submit building and drainage plans to the Buildings Department for approval. They have to ensure the design and construction of the building comply with the Buildings Ordinance. Registered structural engineers are required for the supervision of structural works and for the preparation and submission of the structural design drawings unless otherwise exempted.

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<sup>39</sup> Approximately one-third of the staff in the Buildings Department is deployed on processing building plans, approving applications to commence works, monitoring building sites and issuing occupation permits. Source: (Buildings Department 1999)

### **Approval of Plans by Private Certifiers**

At present, centralized processing of building plans is adopted. This system allows authorized persons and registered structural engineers to make all building-related submissions to the Buildings Department, which then makes referral to other relevant government departments on their behalf and to formulate a coordinated reply to the clients. However, such system will be discontinued after adopting private certification of building works.

It is suggested that private certifiers should take up the role for the certification of all building-related applications such as planning and various building services<sup>40</sup>. Under such arrangement, private certifiers should have higher qualification and knowledge in building-related aspects in order to ensure their competency for the certification of building works. The legislation should be changed as appropriate to suit such purpose. Another way suggested is that, different private certifiers will be responsible for the certification of different building-related applications. In this way, a smooth certification process can be ensured as referral of plans to relevant government departments is not necessary.

### **Onsite Inspections by Private Certifiers**

Under the private certification of building works, private certifiers should carry out site inspections compulsorily at all stages of construction. They have to ensure compliance of the building works to the approved design and the Buildings Ordinance.

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<sup>40</sup> For example, plumbing works are self-certified by plumbing practitioners in Victoria. (Source: Mitchell 2003)

Clients should notify the private certifiers when the construction has reached a certain stage. In other way round, private certifiers should also report to them upon any contravention. Disciplinary actions to parties with serious malpractice should be initiated as appropriate by private certifiers upon discovery of any.

### **Issue of Occupation Permit by Private Certifiers**

When all building works are finished, the certificates of completion and the occupation permit should be issued by private certifiers to ensure that all building works comply with the Buildings Ordinance.

### **Deposit of Plans and Relevant Documents with Government**

A set of record plans and relevant documents including evidence of approvals granted, consent and certificates obtained should be forwarded to the Buildings Department and deposited in proper system after the occupation permit is issued by private certifiers. It is important as it provides a record for public access. They provide information of the design of buildings, which will be especially important when accident happens or structure defects appear on the building. It also acts as an intangible control to private certifiers by providing a source for auditing purpose and an evidence for the government to take legal actions such as prosecution as appropriate. It also enables the government to check against any unauthorized use of buildings, unauthorized building works etc.

On the other hand, alteration and addition works within buildings are common in Hong Kong. It is therefore necessary to deposit the plans of the original design of

buildings with the government so that they can still be accessed even such information cannot be obtained from past owners.

### **4.2.3 Problems Highlighted**

In this section, obstacles of the implementation of private certification of building works in Hong Kong are summarized as follows:

#### **Competency and Number of Existing Authorized Persons**

Some officials in the Buildings Department are not confident in the competency of existing authorized persons in certifying building works. They believe that some existing authorized persons are careless, have poor professional ethics and lack comprehensive knowledge on building control<sup>41</sup>.

On the other hand, at present, approval of some building works is at the discretion of the Buildings Department. Under private certification of building works, it is difficult to standardize discretions granted by different private certifiers. This may lead to arguments between the clients and the private certifiers.

Apart from the competency of authorized persons, the number of practising authorized persons<sup>42</sup> should be taken into consideration as well. If the supply of authorized persons is inadequate, certification services will not be able to meet the

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<sup>41</sup> Please see Appendix VII.

<sup>42</sup> According to the statistics on Authorized Persons' Registers provided by the Buildings Department, there are 1261 practising Authorized Persons in Hong Kong. Source: website of the Buildings Department

market demand, especially when the property market blooms. In the following, different types of authorized persons' register and their numbers are shown:

| <b>Authorized Persons' Register</b> | <b>Number</b> |
|-------------------------------------|---------------|
| List of Architects                  | 979           |
| List of Engineers                   | 149           |
| List of Surveyors                   | 133           |

**Figure 4.1** *Number of Authorized Persons' Registers in Hong Kong*

*(Source: website of the Buildings Department)*

### **Conflict of Interests**

Under the existing system of building control, the public have confidence towards the certification services provided by the government, which probably has no business dealings with the participants of building projects. However, conflict of interests will likely appear under private certification of building works. It can exist in several types such as A certifies building works carried out by B and next time vice versa; A certifies building works carried out by B and B offers jobs to A afterwards; A involves in the design or construction works of the building project owned by B and A is then responsible for certifying that building project etc. In addition, the existence of subsidiaries of developers is common in Hong Kong. This makes conflict of interests more serious as relationship between private certifiers and their clients are not clearly shown.

Independence of the private certifiers is also doubted as they are paid to work for their clients. Besides, concerns are raised regarding the possible pressure on private

certifiers, particularly from developers, who produce sub-standard works to retain their profits.

It is argued that conflict of interests of private certifiers cannot be avoided by just imposing indemnity insurance on them. Thus auditing is very important as it can discover malpractice of private certifiers.

### **Poorer Quality of Building Works**

Under private certification of building works, the quality of building works can be ensured up to a certain standard by introducing measures to maintain the competency and conduct of private certifiers. However, it also depends on the resources of the certifying companies or their expertise. For small companies and individual certifiers, there are greater risks associated with the building works they certify as there is probably less resources and expertise available.

In addition to that, severe competition of private certifiers under such a competitive private certification system may worsen the quality of building works as fees charged by them may be suppressed.

#### **4.2.4 Recommendations on Implementation**

Implementation of private certification of building works in Hong Kong is associated with several uncertainties. Thus it is important to understand the critical issues for success and the appropriate pace of implementation of this new initiative.



#### **4.2.4.1 Critical Issues for Success**

##### **Stringent Accreditation of Private Certifiers**

Private certifiers' ability to replace the government in executing building control is the key element for gaining public confidence. Therefore, it is important for the government to have stringent accreditation of private certifiers by private or public accreditation bodies. It is commented that a stringent accreditation system can generally ensure the competency of private certifiers. However, more requirements should be imposed on private certifiers such as having more than 10 years of experience in the building industry, familiarity to the building control system, and active participation in building projects with similar nature. In this way, private certifiers are competent enough to replace the government for the certification of building works.

##### **Clear Legal Liability and Insurance Taken Up by Private Certifiers**

Clear liability for private certifiers is another vital factor for success. Certain years of professional liability period with a cap of, say 10 years, should be imposed on private certifiers as liability over the entire life of buildings is impossible. Mandatory indemnity insurance should be borne by private certifiers for certain period of time, say 10 to 15 years, to building owners. Although conflict of interests cannot be completely avoided, liability, indemnity insurance together with other control measures imposed on private certifiers, are able to ensure an appropriate quality of building works.

It is pointed out that legal liability should not be borne solely by private certifiers. Designers should bear the same legal liabilities as private certifiers. They should subject to penalties or prosecutions upon malpractice. It is because defects caused at design stage can be serious, which may affect the structure of buildings and hence their safety.

### **Independency of Private Certifiers**

Independency of private certifiers is important to avoid conflict of interests in certifying building works. Undertaking of private certifiers should be submitted to the government as a mean of intangible control on them as penalties are not imposed. However, it is ineffective in preventing malpractice of private certifiers. On the other hand, private certifiers without any interest in a building project may have interests in other projects within the same portfolio. Therefore, it is believed that conflict of interests can hardly be avoided. It is suggested by some interviewees that counterchecking can be carried out by a third party, who can be a private certifier within the same certifying body or another certifying body. It is desirable as areas missed out by a private certifier can be checked against by others.

### **Adequate Government Audits**

Private certification can also gain public confidence by means of adequate audits carried out by an independent government body or a private body.

However, some concerns are raised with respect to this arrangement. Firstly, building projects usually last for a long time, from design to the completion of construction.

Thus some areas will be missed out if audits are only carried out once a few years. Besides, if the audit checkers are not experienced enough, critical items of building works may be missed out and may not be carefully checked. These can lead to defects on buildings. In addition, if malpractice of private certifiers is found during audits, unnecessary panic of the public will arise. Therefore, it is important that building works are carefully checked before occupation permit is issued by the private certifiers.

### **Continuous Professional Development of Private Certifiers**

As mentioned previously, acceptance of public towards private certification of building works greatly depends on the competency of private certifiers in executing building control. It is believed that continuous professional development will help enhancing the competency of private certifiers. It is also suggested that periodic reassessments should be carried out to ensure that knowledge of private certifiers is up-to-date.

### **Social Culture of Self-discipline**

A number of interviewees point out the importance of social culture to building control. Self-discipline of building practitioners in the industry is of ultimate importance in ensuring quality of building works.

#### **4.2.4.2 Suggestions on Pace of Implementation**

Based on the suggestions made by the building control officials, who are experienced in the day-to-day administration of building control, pace of implementation of private certification of building works in Hong Kong is presented.

Success of private certification of building works in Hong Kong relies heavily on the enthusiasm of the building industry. Confidence of the building practitioners and the public is of vital importance. Therefore, first of all, there should be consultation with the building practitioners. Views of stakeholders should be taken into consideration as well. Private certification systems adopted worldwide should be reviewed.

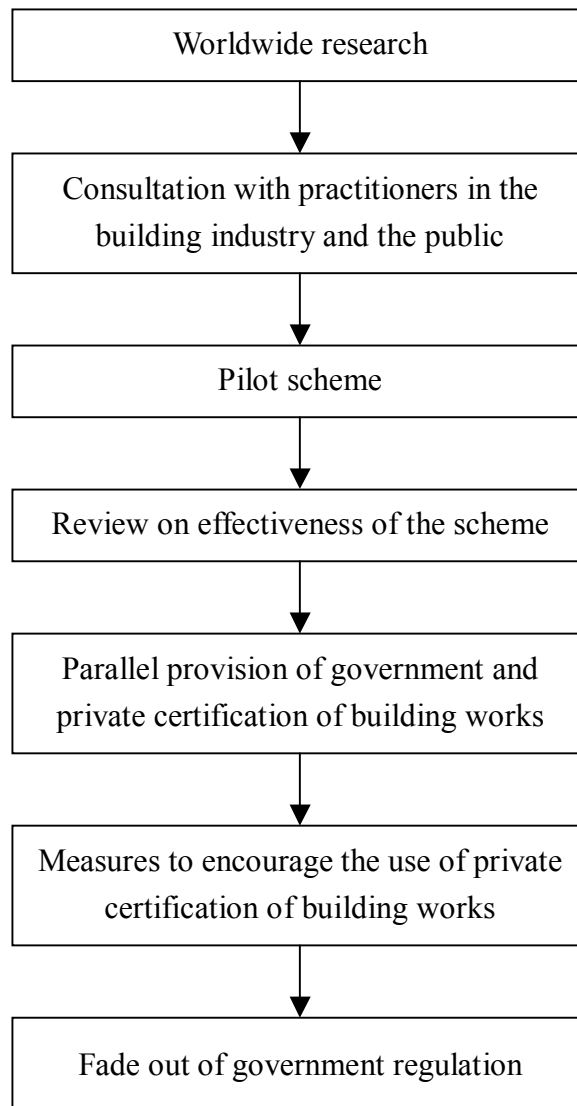
Given that private certification of building works is a new initiative, it should proceed on a gradual basis. The government should initially carry out a pilot scheme for, say 3 years, and approve a number of accreditation bodies with very stringent procedures in assessing the technical competence of private certifiers. These approved accreditation bodies will then authorize private certifiers to certify building works. The effectiveness of the pilot system will be reviewed. This will be the first stage of the private certification initiative. Regulations will then be made to create the legal framework. This "step-by-step" approach will allow synergies to develop the quality mark initiative, and enable the new system to settle down and adapt over a reasonable time frame. The results of the initial trawl will also assist the government in determining how to frame the regulations afterwards.

If the majority of responses from consultation and the pilot scheme are favorable, the government can invite professional bodies or any other interested parties with the

necessary expertise, to submit the expression of interest. A number of the best bodies will be selected for the accreditation of competent private certifiers.

Private certification of building works should be provided in parallel with government certification system. It is also suggested that private certifiers should be given the chance to certify minor building works before they can certify complicated building works. Measures should be set up by the government in encouraging the use of private certifiers. Measures such as the reduction of land tax are able to compensate the insurance paid by the building owners for their buildings. Fade out of government regulation can be considered after private certification of building works has gained adequate popularity in Hong Kong.

The discussion in the previous pages can be illustrated by the following flowchart:



***Figure 4.2 Recommended Steps of Implementation of Private Certification of Building Works in Hong Kong***

*(Source: interviews with building control officials in Hong Kong)*

### **4.3 Recommendations on Future Development of Building Control in Hong Kong**

Interviewees in this research also suggest on the development of building control in Hong Kong for the years to come.

Although private certification of building works has been proved to be successful in many foreign countries, yet it has not been adopted in Hong Kong. There are many underlying reasons for this. First of all, building control in Hong Kong is different from those in foreign countries, in which buildings are usually owned by single owners. Legal liability concerning the safety of buildings can be traced easily upon occurrence of accidents or defects on buildings. However, it is different in Hong Kong, in which multi-ownership exists. Moreover, time loss due to the certification of building works is relatively insignificant, in comparing to the time needed for the construction of the buildings. In addition, there is no intense request from the public to have reform on the existing system due to the widespread acceptance of government building control.

Despite the existence of obstacles and uncertainties, self-regulation in the building industry is the trend in the years to come due to several reasons. The major one is fiscal constraint faced by many countries, in which governments should allocate more money and resources to other areas in need. In other words, it is a global trend that the governments delegate their authority of building control to the private sector. Hong Kong, as a developed city, should keep pace with worldwide practices and seriously consider the implementation of private certification of building works.

## **4.4 Chapter Summary**

In this chapter, findings from the interviews are summarized and quoted for discussions. Based on the interview findings, it can be justified that private certification of building works is able to address some major shortcomings of the government certification system. In this research, benefits of private certification of building works are illustrated. They include the reduction in the bureaucracy of the Buildings Department and the improvement in its efficiency. In other words, more resources can be allocated to other areas, which results to greater benefit to the public. Operation of the proposed system is also outlined. The major problems associated with the proposed system are then highlighted and discussed in deep. Among all, substandard construction raises most concerns as it may lead to serious consequence to the public. Recommendations on the implementation of private certification of building works and the future direction of building control in Hong Kong are finally made. It is with certainty that private certification of building works is applicable in Hong Kong as it has been demonstrated with success in many foreign countries. However, the maturity of the building industry and the pace of implementation should be considered carefully. The maturity of the building industry is important as the system can only be implemented smoothly when legislative complements are adequate and the building industry is ready for it. In addition, its benefits must outweigh its drawbacks in gaining public confidence. Therefore, government commitment is very important in enhancing the popularity of this new initiative. Measures should be introduced in encouraging the use of the new system, preventing conflict of interests and ensuring independency of private certifiers. To conclude, private certification of building works is applicable in Hong Kong. It allows Hong Kong to keep pace with worldwide practices.



## **CHAPTER 5            CONCLUSION**

This chapter reviews the research by reiterating its objectives, summarizing its findings and discussions, and stating the limitations of this research. Future research areas are also recommended.

### **5.1    Review of Research**

The objectives of this research are firstly, to review foreign experience on private certification of building works; secondly, to examine Hong Kong building control officials' perspective on the applicability of private certification of building works; and finally, to make recommendations with respect to the implementation of private certification of building works and the future direction of building control in Hong Kong.

This research firstly reviewed the evolution of building control in Hong Kong. It aimed to identify the level of participation of different parties and the drawbacks associated with the existing system. Building control systems in eight European countries were then examined. Private certification systems in Australia were studied in depth, which aimed to provide some background knowledge for the study of applicability of a similar system in Hong Kong. Pros and cons of private certification of building works and the critical issues for its success were also presented in the literature review.

Interviews were employed in this research to examine Hong Kong building control officials' perspective on the applicability of private certification of building works. On

one hand, it provided an indication of the applicability of the new system, which fulfilled the major aim of this research. On the other hand, it was able to cater the constraints on time and resources of this research.

Several benefits of private certification of building works including time, cost and effort-saving to clients etc. were identified. Suggested operation of the new system was outlined. Potential drawbacks such as conflict of interests and substandard building works were also highlighted. With those potential drawbacks being analyzed, recommendations on the implementation of private certification of building works and future direction of building control in Hong Kong were given at the end of this research.

## **5.2 Implications of Research**

The initiative of private certification of building works is to achieve time-saving and flexibility to clients. It is shown to be favorable to the building industry of many foreign countries. It is therefore believed that a similar system incorporating all essential elements should be applicable in Hong Kong and will benefit Hong Kong in similar aspects as in other countries. From the results of the interview survey, several implications have to be addressed:

1. Private certification of building works is able to address some of the major shortcomings of government certification system such as high costs and effort to clients, and heavy administrative burden to the government.

2. Critical issues to the success of a private certification of building works including a stringent accreditation, independence and clear liability of private certifiers, social culture of self-regulation, etc. are important to avoid the occurrence of the problems highlighted such as conflict of interests and substandard building works.
  
3. Building control officials in Hong Kong recognize that self-regulation is the trend in the years to come. Nevertheless, it is acknowledged that Hong Kong has not yet attained the required sophistication level for an effective and full self-regulation system, particularly for the building industry. In order to achieve a balance between self-regulation and the traditional enforcement system, careful consideration has to be given on a strategic level to ensure its success. This include a step-by-step approach for the implementation of private certification of building works.

### **5.3 Limitations of Research**

Firstly, there is low response rate of building control officials in Australia. Among five states and two territories in Australia, only responses from two states and one territory can be obtained. Therefore, a general picture on the perceptions of government officials in various states and territories in Australia, in which private certification systems have been adopted, cannot be generated.

In addition, there are only ten interviewees in Hong Kong, which come from the same division of the Buildings Department. Therefore, their responses are prone to be biased. Among the ten interviewees from the Buildings Department, only one of them

is technical staff. Therefore, the results obtained from the limited number of government officials may not be representative enough. Also, any discrepancy in views between professional staff and technical staff cannot be noted and analyzed.

Thirdly, some information is kept confidential and thus data given by the building control officials in Australia is mostly in piece-form and scattered, which may not represent the true picture of the private certification system.

#### **5.4 Future Research Areas**

In the course of examining the applicability of private certification of building works in Hong Kong, the author only demonstrates the analysis with the private certification system in Australia. In fact, private certification of building works is not the only way towards self-regulation. There are different regimes of building control in other countries such as Germany, in which the government contracts out the responsibility of enforcing building control to private organizations. Comparisons of different regimes can be made to widen the scope of analysis and thus the most suitable and effective regime for Hong Kong can be justified.

Moreover, this dissertation mainly focuses on the building control in Hong Kong. However, besides building control, planning procedures deserve immediate attention. Many of the interviewees believe that a semi-privatized planning system may be feasible. This area would be a fertile ground for further studies.

## BIBLIOGRAPHY

Au, W. H. (1999), *A study of the feasibility of hiving off the services provided by the Buildings Department in Hong Kong*, Unpublished B.Sc.(Surveying) Dissertation, Department of Real Estate and Construction, The University of Hong Kong.

Bergvall, L. (1987), *International harmonization of approval and control rules for buildings and building products/* report prepared for the Working Party on Building of the ECE Committee on Housing, Building and Planning by L. Bergvall and G. Essunger (Sweden), in co-operation with the secretariat, New York: United Nations.

Billington, M. J. (1999), *Manual to the building regulations*, London: Stationery Office.

Billington, M. J. and Smith, V. P. (1995), *The building regulations explained and illustrated*, Oxford: Blackwell Science.

Black, W. A. and Cunningham, J. J. (1980), Building Control in France, *Architect and Surveyor*, Feb./Mar. 1980, 4-5.

Buildings Department (1999), *Building development & control in Hong Kong*, Hong Kong: Printing Dept.

Buildings Ordinance Office, Buildings and Lands Department (1991), *Building control in Hong Kong*, Hong Kong: Government Printer.

*Buildings Ordinance*, Chapter 123, Laws of Hong Kong.

Chan, E. H. W., Mok, P. K. W. and Scott, D. (2001), *Statutory requirements for construction professionals: a practice guidebook incorporating the relevant ordinances, regulations, technical memoranda and codes of practices that affect the private sector construction industry in Hong Kong*, Hong Kong: Pace Pub.

Cheung, A. B. L. and Lee, J. C. Y. (2001), *Public sector reform in Hong Kong: into the 21st century*, Hong Kong: Chinese University of Hong Kong.

Cobin, J. M. (1997), *Building regulation, market alternatives and allodial policy*, England: Avebury.

CSIRO (1999), *Privatization and performance-based building regulations: are they cost effective*, Victoria: Building Control Commission.

Downward, A. (1992), *Building control: a guide to the law*, Berks.: College of Estate Management.

Farazmand, A. (2001), *Privatization or public enterprise reform: international case studies with implications for public management*, Westport, Conn.: Greenwood Press.

Franklin, P. (1986), Building Control in Scotland, Present and Future, *Building Technology and Management*, Feb. 1986, 20-23.

Jackson, P. M. and Price, C. (1994), *Privatization and regulation: a review of the issues*, London: Longman.

Lai, L. W. C. and Ho, D. C. W. (2000), *Planning buildings for a highrise environment in Hong Kong: a review of building appeal decisions*, Hong Kong: Hong Kong University Press.

Lane, J. E. (1997), *Public sector reform: rationale, trends and problems*, London: Sage Publications.

Lewkowicz, J. (1983), *Building regulations and control*, Whiteknights, Reading: Centre for Advanced Land Use Studies, College of Estate Management.

Lo, K. S. (1999), *Reform of building control in new developments in Hong Kong*, Unpublished B.Sc.(Surveying) Dissertation, Department of Real Estate and Construction, The University of Hong Kong.

Lovegrove, K. (1995), Private Certification analyzed and explained, *The Building Economist*, Sept. 1995, 12-13.

Loveridge, R. (1998), Legal Liability if New Australian Building Code, *Build*, Mar./Apr. 1998, 57.

Mackenroth, T MP (1998), *The Integrated Planning Act: Implementation under the Labour Government*, in address to the Property Council of Australia Breakfast, July 1998, 6.

Meijer, F. M., Visscher, H. J. and Sheridan, L. (2002), *Building regulations in Europe*, Delft: DUP Science, 2002.

Miles, M. B. and Huberman, A. M. (1994), *Qualitative data analysis: an expanded sourcebook*, Calif.: Sage.

Mitchell, G. R. (2003), *Private certification: an Australian Perspective*, Proceedings of Conference on Building Development and Practice in the 21<sup>st</sup> Century, jointly organized by HKIA, HKIE and HKIS.

Nolan, B. C. (2001), *Public sector reform: an international perspective*, Basingstoke: Palgrave.

OECD (2001), *Regulatory reform in the Czech Republic*, Paris: OECD.

Ogus, A. I. (2001), *Regulation, economics and the law*, Cheltenham, U.K.; Northampton, Mass.: Edward Elgar Pub.

Scott, I and Thynne, I (1994), *Public sector reform: critical issues and perspectives*, Hong Kong : AJPA.

Sjoholt, O. (1994), *Quality management in building and construction: proceedings of Eureka Conference Hamar*, Oslo, Norway: Norwegian Building Research Institute.



Stephenson, J. (2001), *Building regulations explained: 2000 revision*, London, New York: Spon Press.

Stone, A. (1982), *Regulation and its alternatives*, Washington, D. C.: Congressional Quarterly Press.

Strick, J. C. (1994), *The economics of government regulation: theory and Canadian practice*, Toronto: Thompson Educational Publishing.

Xue, C. (1997), Building Control: A Comparison between China and Hong Kong, *Asian Architect and Contractor*, Mar. 1997, 16-20.

## ELECTRONIC REFERENCES

ACT Building, Electrical and Plumbing Control, *Private Certification in the ACT*,

Available: <http://www.actpla.act.gov.au/bepcon/certify/bldchng.pdf>

(Accessed: Sept. 6, 2003)

ACT Building, Electrical and Plumbing Control, *Information Sheet-Building Certifier and You*, Available: <http://www.actpla.act.gov.au/bepcon/certify/infosheet1nov00.pdf>

(Accessed: Sept.6, 2003)

ACT Building, Electrical and Plumbing Control, *Choosing a Private Certifier*,

Available: <http://www.actpla.act.gov.au/bepcon/certify/bldcert2.htm>

(Accessed: Sept.6, 2003)

Australian Building Codes Board, *About the ABCB*, Available:

<http://www.abcb.gov.au/index.cfm?fuseaction=DocumentView&DocumentID=85>

(Accessed: Mar.1, 2004)

Australian Building Codes Board, *About the Building Code*, Available:

<http://www.abcb.gov.au/index.cfm?fuseaction=DocumentView&DocumentID=86>

(Accessed: Mar.1, 2004)

Australian Institute of Building Surveyors, *AIBS (NSW) Briefing Paper to Regulation Review Taskforce*, Available:

[http://www.aibs.com.au/briefing%20paper%20regulation%20review%20taskforce%201\(1\).pdf](http://www.aibs.com.au/briefing%20paper%20regulation%20review%20taskforce%201(1).pdf) (Accessed: Sept.6, 2003)

Department of Infrastructure, Planning and Environment, *About Us: Building Act*,

Available: <http://www.lpe.nt.gov.au/about/functions/building.htm>

(Accessed: Sept.6, 2003)

Department of Infrastructure, Planning and Environment, *Some Frequently Asked*

*Questions*, Available: <http://www.lpe.nt.gov.au/PlanBuild/pdf/FAQ.pdf>

(Accessed: Sept.6, 2003)

Office of the Deputy Prime Minister, *Taking forward self-certification under the Building Regulations: consultation*, Available:

[http://www.odpm.gov.uk/stellent/groups/odpm\\_buildreg/documents/page/odpm\\_breg\\_600123.hcsp](http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/page/odpm_breg_600123.hcsp) (Accessed: Mar.1, 2004)

Planning SA, *Private Certification*, Available:

[http://www.planning.sa.gov.au/building\\_policy/index.html](http://www.planning.sa.gov.au/building_policy/index.html) (Accessed: Sept.6, 2003)

Planning SA, *What is Private Building Certification?*, Available:

<http://www.planning.sa.gov.au/pub-pdf/591p.pdf> (Accessed: Sept.6, 2003)

Planning SA, *Code of Practice for Private Certifiers*, Available:

[http://www.planning.sa.gov.au/building\\_policy/publications/practice.pdf](http://www.planning.sa.gov.au/building_policy/publications/practice.pdf)

(Accessed: Sept.6, 2003)

Department of Local Government and Planning, *Key Elements of IPA*, Available:

<http://www.ipa.qld.gov.au/docs/IPABrochure.pdf> (Accessed: Sept.6, 2003)

Tasmania Government, *Tasmania Legislation*, Available:

<http://www.thelaw.tas.gov.au> (Accessed: Sept.6, 2003)

Building Commission, *Building Permits*, Available:

<http://www.buildingcommission.com.au/asset/1/upload/Buildpermits.pdf>

(Accessed: Sept.6, 2003)

Building Commission, *Victoria's Building Legislation System*, Available:

[http://www.buildingcommission.com.au/asset/1/upload/Build\\_Legisl.pdf](http://www.buildingcommission.com.au/asset/1/upload/Build_Legisl.pdf)

(Accessed: Sept.6, 2003)

**Appendix I**

**Ordinance, Regulations and Code of Practice  
Administered by the Buildings Department**

**Buildings Ordinance (Cap 123)**

Building (Administration) Regulations

Building (Construction) Regulations

Building (Demolition Works) Regulations

Building (Planning) Regulations

Building (Private Streets and Access Roads) Regulations

Building (Refuse Storage Chambers and Chutes) Regulations

Building (Standards of Sanitary Fittings, Plumbing, Drainage Works and  
Latrines) Regulations

Building (Ventilating Systems) Regulations

Building (Oil Storage Installations) Regulations

Building (Energy Efficiency) Regulations

Building (Appeal) Regulations

**Buildings Ordinance (Application to the New Territories) Ordinance (Cap 121)**

**Demolished Buildings (Re-development of Sites) Ordinance (Cap 337)**

**Fire Safety (Commercial Premises) Ordinance (Cap 502)**

**Technical Memorandum for Supervision Plans**

**Codes of Practice for**

The Design and Construction of Buildings and Building Works for the Installation and Safe Use of Lifts and Escalators

Fire Resisting Construction

Oil Storage Installations

Overall Thermal Transfer Value in Buildings

The Provision of Means of Access for Firefighting and Rescue Purposes

The Provision of Means of Escape in Case of Fire

The Structural Use of Concrete

The Structural Use of Steel

Wind Effects Hong Kong

Demolition of Buildings (Draft)

Site Safety Supervision

Technical Memorandum for Supervision Plans

Code of Practice for Precast Concrete Construction

**Practice Notes for**

Authorized Persons and Registered Structural Engineers

Registered Contractors

**Design Manuals**

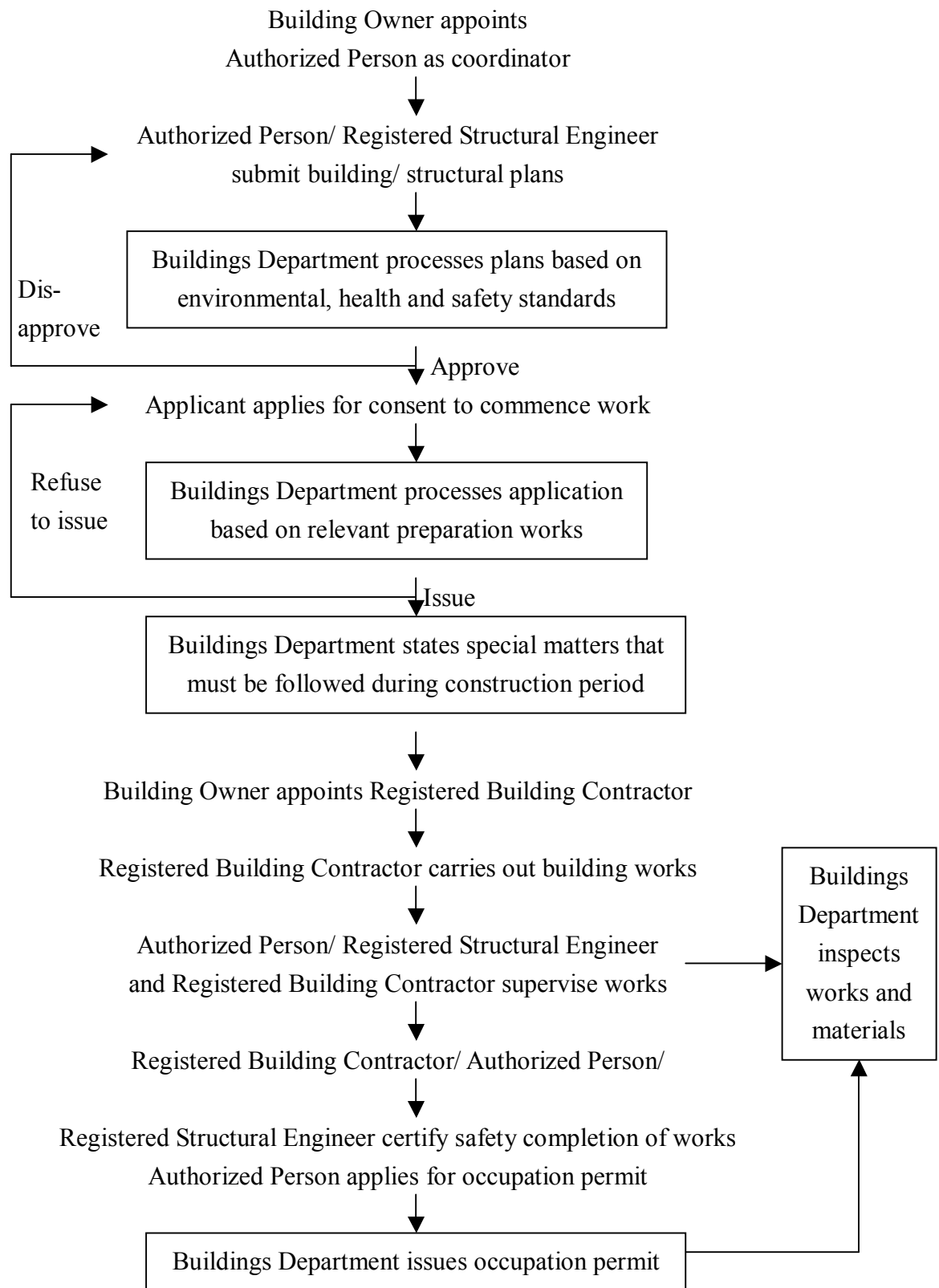
Design Manual – Barrier Free Access

Guide to Fire Safety Design for Caverns

**Appendix II**

**Flowchart for Plans Processing by the Buildings Department**





**Appendix III**

**Result of Questionnaire Survey of Research on  
Reform of Building Control in New Developments in Hong Kong**

|                                                                                                                                                                          | <u>Strongly Agree</u> | <u>Agree</u> | <u>Neutral</u> | <u>Disagree</u> | <u>Strongly Disagree</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|----------------|-----------------|--------------------------|
| <p><b>Approval of Plan</b></p> <p>The statutory time period for granting plan approvals is unreasonably long</p>                                                         | 12%                   | 36%          | 26%            | 11%             | 15%                      |
| <p>The officers of the Buildings Department often reject plans unreasonably</p>                                                                                          | 0%                    | 11%          | 37%            | 20%             | 32%                      |
| <p><b>Consent to Commence Work</b></p> <p>The statutory time period for granting consent to commence work is unreasonably long</p>                                       | 8%                    | 33%          | 27%            | 14%             | 18%                      |
| <p><b>Occupation Permit</b></p> <p>The statutory time period for the issue of occupation permit is unreasonably long</p>                                                 | 0%                    | 11%          | 28%            | 39%             | 22%                      |
| <p><b>Site Inspection</b></p> <p>The site inspection and site tests carried out by the officers of the Buildings Department cause serious delay to the work progress</p> | 4%                    | 19%          | 51%            | 11%             | 15%                      |
| <p>The officers of the Buildings Department often disapprove the building works unreasonably during site inspection</p>                                                  | 11%                   | 26%          | 5%             | 16%             | 42%                      |

**Appendix IV**

**Proposed System of Private Certification of Building Works**

### **Procedure**

- Employment of private certifiers
- Granting approval of plans by private certifiers
- Issue of consent to commencement of building works by private certifiers
- Onsite inspections and initiation of disciplinary actions as appropriate by private certifiers
- Issue of occupation permit by private certifiers
- Copies of all plans and documents including evidence of approvals, consents and certificates obtained must be forwarded to and deposited in the government

### **Fees**

- Private certifiers charge their own fees; existing prescribed fee to the government is replaced by a building levy to cover the cost of audits, maintenance of legislations, codes and standards, storage of plans and other building records

### **Control of competency of private certifiers**

- Private certifiers must be authorized persons/ registered structural engineers with required qualifications and experience, and licensed by an accreditation authority
- Private certifiers must possess update knowledge and skills through continuous professional development

### **Control of conduct of private certifiers**

- If private certifiers fail to comply with a provision of the code of conduct of the accreditation authority, disciplinary actions are taken by the authority such as reprimanding them, suspending their license or expelling them from the authority
- Private certifiers are subject to criminal sanctions upon serious misconduct

caused by them

- Private certifiers must be without any interest in the work; appropriate penalties are imposed by the government upon breaches
- Auditors conducted by the government such as inspecting documents related to the activities of private certifiers

**Liability and insurance to private certifiers**

- Certain years of professional liability period is imposed on private certifiers
- Mandatory indemnity insurance is applied to private certifiers

**Appendix V**

**Private Certification of Building Works**

**Survey of Hong Kong Building Control Officials' Views**

**Private Certification of Building Works**  
**Survey of Hong Kong Building Control Officials' Views**

I am a final year BSc (Surveying) student of The University of Hong Kong. I am currently studying the views of government officials on private certification of building works. The aim of this survey is to find out:

- (1) Whether the proposed system is able to address the shortcomings of existing system of building control; and**
- (2) The major benefits of private certification of building works; and**
- (3) The critical issues for the success of a private certification system**

Your opinions are vital to the research. All data gathered will be used solely for this academic exercise and will be treated as strictly confidential.

Please refer to the sheet attached at the back for the **PROPOSED SYSTEM**.

For **all questions**, please indicate your views by ranking the **FOUR** most important options using:

**1 = most important, 2 = important, 3 = fairly important, 4 = least important.**



1. Which of the following do you think is/are the major shortcoming(s) of the government certification system?

Time-consuming

High costs to clients

High costs to government

Restrictive to design

Impede innovation

Others (please specify): [ ]

If “None”, skip to Question 2.

2. Which of the following do you think is/are the major possible problem(s) with existing authorized persons?

Outdated knowledge and skills

Carelessness

Lack of comprehensive knowledge on building control

Poor communication with government

Others (please specify): [ ]

If “None”, skip to Question 3.

3. Which of the following do you think is/ are the most important benefit(s) of private certification of building works?

- Time-saving
- Cost-saving to clients
- Cost-saving to government
- Create a competitive system in providing better certification services
- Enhance the consulting role of authorized persons in providing expert advice during the design stage
- Others (please specify): [ ]

If “None”, skip to Question 4.

4. Which of the following do you think is/are the most critical issue(s) for the success of a private certification system?

- Stringent accreditation of private certifiers
- Continuous professional development of private certifiers
- Clear legal liability for private certifiers
- Adequate published requirements/guidelines
- Adequate government audit
- Social culture
- Others (please specify): [ ]

**Appendix VI**

**Private Certification of Building Works**

**Survey of Australia Building Control Officials' Views**

**Private Certification of Building Works**  
**Survey of Australia Building Control Officials' Views**

I am a final year BSc (Surveying) student of The University of Hong Kong. I am currently studying the views of government officials in Australia on private certification of building works. The aim of this survey is to find out:

- (1) Whether private certification of building works is able to address the major shortcomings of government certification system; and**
- (2) The major benefits and drawbacks of private certification of building works**
- (3) The critical issues for the success of a private certification system**

Your opinions are vital to the research. All data gathered will be used solely for this academic exercise and will be treated as strictly confidential.

For **all questions**, please indicate your views by ranking the **FOUR** most important options using:

**1 = most important, 2 = important, 3 = fairly important, 4 = least important.**

1. Which of the following do you think is/are the major shortcoming(s) of government certification system?

Time-consuming

High costs to clients

High costs to government

Restrictive to design

Impede innovation

Others (please specify): [ ]

If “None”, skip to Question 2.

2. Which of the following do you think is/ are the major benefit(s) of private certification of building works?

Time-savings

Cost-saving to clients

Cost-saving to government

Create a competitive system in providing better certification services

Enhance the consulting role of authorized persons in providing expert advice during the design stage

Others (please specify): [ ]

If “None”, skip to Question 3.

3. Which of the following do you think is/are the major drawback(s) of private certification of building works?

- Conflict of interests
- Increase the chance of corruption
- Misuse of performance to cover up mistakes
- Poorer quality of building works
- Others (please specify): [ ]

If “None”, skip to Question 4.

4. Which of the following do you think is/are the most critical issue(s) for the success of a private certification system?

- Stringent accreditation of private certifiers
- Continuous professional development of private certifiers
- Clear legal liability for private certifiers
- Adequate published requirements/guidelines
- Adequate government audit
- Social culture
- Others (please specify): [ ]

## **Appendix VII**

### **Results of Survey of Hong Kong Building Control Officials' Views on Private Certification of Building Works**

1. Which of the following do you think is/are the major shortcoming(s) of the government certification system?

| Interviewee | Time consuming | High costs to clients | High costs to government | Restrictive to design | Impede innovation |
|-------------|----------------|-----------------------|--------------------------|-----------------------|-------------------|
| A           | 2              |                       | 1                        |                       |                   |
| B           | 1              |                       |                          |                       |                   |
| C           | 2              | 3                     | 4                        | 1                     |                   |
| D           | 1              |                       | 2                        |                       |                   |
| E           | 1              |                       |                          |                       |                   |
| F           | 1              | 2                     | 2                        |                       |                   |
| G           | 3              | 2                     | 1                        |                       | 4                 |
| H           |                |                       | 3                        | 2                     | 1                 |
| I           |                |                       |                          | 1                     | 2                 |
| J           | 1              |                       | 2                        |                       |                   |

Ranking from 1 to 4, where 1 = most important, 2 = important, 3 = fairly important, 4 = least important



2. Which of the following do you think is/are the major possible problem(s) with existing authorized persons?

| Interviewee | <u>Outdated knowledge and skills</u> | <u>Carelessness</u> | <u>Lack of comprehensive knowledge on building control</u> | <u>Poor communication with government</u> | <u>Others (Poor professional ethics)</u> |
|-------------|--------------------------------------|---------------------|------------------------------------------------------------|-------------------------------------------|------------------------------------------|
| A           |                                      | 1                   |                                                            |                                           |                                          |
| B           |                                      |                     | 2                                                          |                                           | 1                                        |
| C           |                                      | 1                   | 3                                                          | 2                                         | 4                                        |
| D           |                                      | 3                   | 1                                                          | 2                                         |                                          |
| E           |                                      |                     | 1                                                          |                                           | 2                                        |
| F           |                                      | 1                   |                                                            |                                           |                                          |
| G           |                                      |                     | 1                                                          | 2                                         | 3                                        |
| H           |                                      |                     |                                                            |                                           | 1                                        |
| I           | 1                                    | 3                   | 2                                                          |                                           |                                          |
| J           |                                      | 1                   |                                                            |                                           | 2                                        |

Ranking from 1 to 4, where 1 = most important, 2 = important, 3 = fairly important, 4 = least important

3. Which of the following do you think is/are the major benefits(s) of private certification of building works?

| Interviewee | <u>Time-saving</u> | <u>Cost-saving to clients</u> | <u>Cost-saving to government</u> | <u>Create a competitive system in providing private services</u> | <u>Enhance the consulting role of authorized persons in providing expert advice during the design stage</u> |
|-------------|--------------------|-------------------------------|----------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| A           | 2                  |                               | 1                                |                                                                  |                                                                                                             |
| B           | 1                  |                               | 2                                |                                                                  |                                                                                                             |
| C           | 3                  |                               | 4                                | 1                                                                | 2                                                                                                           |
| D           | 1                  |                               | 4                                | 2                                                                | 3                                                                                                           |
| E           |                    |                               | 1                                |                                                                  |                                                                                                             |
| F           |                    |                               |                                  | 1                                                                | 2                                                                                                           |
| G           | 3                  |                               | 4                                | 2                                                                | 1                                                                                                           |
| H           | 1                  |                               | 2                                |                                                                  |                                                                                                             |
| I           |                    |                               | 1                                |                                                                  | 2                                                                                                           |
| J           | 1                  |                               | 2                                |                                                                  |                                                                                                             |

Ranking from 1 to 4, where 1 = most important, 2 = important, 3 = fairly important, 4 = least important

4. Which of the following do you think is/are the most critical issue(s) for the success of a private certification system?

| Interviewee | <u>Stringent accreditation of private certifiers</u> | <u>Continuous professional development of private certifiers</u> | <u>Clear legal liability for private certifiers</u> | <u>Adequate published requirements/ guidelines</u> | <u>Adequate government audit</u> | <u>Social culture</u> | <u>Others (Allow more flexibility in the certification process)</u> |
|-------------|------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------|-----------------------|---------------------------------------------------------------------|
| A           | 2                                                    |                                                                  | 1                                                   | 3                                                  |                                  |                       |                                                                     |
| B           | 3                                                    |                                                                  | 4                                                   |                                                    | 2                                | 1                     |                                                                     |
| C           | 1                                                    |                                                                  | 2                                                   |                                                    | 3                                | 4                     |                                                                     |
| D           | 1                                                    |                                                                  |                                                     | 3                                                  | 2                                | 4                     |                                                                     |
| E           | 2                                                    |                                                                  |                                                     |                                                    | 3                                |                       | 1                                                                   |
| F           | 2                                                    |                                                                  | 3                                                   |                                                    | 1                                | 1                     |                                                                     |
| G           | 2                                                    |                                                                  | 1                                                   | 4                                                  | 3                                |                       |                                                                     |
| H           |                                                      |                                                                  | 1                                                   | 2                                                  |                                  |                       |                                                                     |
| I           | 3                                                    | 4                                                                | 2                                                   |                                                    |                                  | 1                     |                                                                     |
| J           | 2                                                    |                                                                  | 1                                                   |                                                    | 3                                |                       |                                                                     |

Ranking from 1 to 4, where 1 = most important, 2 = important, 3 = fairly important, 4 = least important

## **Appendix VIII**

### **Results of Survey of Australia Building Control Officials' Views on Private Certification of Building Works**

1. Which of the following do you think is/are the major shortcoming(s) of the government certification system?

| Interviewee | <u>Time-consuming</u> | <u>High costs to clients</u> | <u>High costs to government</u> | <u>Restrictive to design</u> | <u>Impede innovation</u> | <u>Others (poor customer service)</u> |
|-------------|-----------------------|------------------------------|---------------------------------|------------------------------|--------------------------|---------------------------------------|
| A           | 1                     | 4                            | 3                               |                              |                          | 2                                     |
| B           | 2                     | 1                            |                                 | 4                            | 3                        |                                       |
| C           | 2                     | 1                            |                                 | 3                            | 4                        |                                       |

2. Which of the following do you think is/are the major benefits(s) of private certification of building works?

| Interviewee | <u>Time-saving</u> | <u>Cost-saving to clients</u> | <u>Cost-saving to government</u> | <u>Create a competitive system in providing private services</u> | <u>Enhance the consulting role of authorized persons in providing expert advice during the design stage</u> |
|-------------|--------------------|-------------------------------|----------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| A           | 1                  | 4                             | 3                                | 2                                                                |                                                                                                             |
| B           | 1                  | 2                             | 3                                |                                                                  |                                                                                                             |
| C           | 2                  | 1                             |                                  |                                                                  |                                                                                                             |

Ranking from 1 to 4, where 1 = most important, 2 = important, 3 = fairly important, 4 = least important

3. Which of the following do you think is/are the major drawback(s) of private certification of building works?

| Interviewee | <u>Conflict of interests</u> | <u>Increase the chance of corruption</u> | <u>Misuse of performance to cover up mistakes</u> | <u>Poorer quality of building works</u> |
|-------------|------------------------------|------------------------------------------|---------------------------------------------------|-----------------------------------------|
| A           | 1                            |                                          |                                                   |                                         |
| B           | 1                            |                                          | 3                                                 | 2                                       |
| C           | 1                            | 3                                        | 2                                                 |                                         |

4. Which of the following do you think is/are the most critical issue(s) for the success of a private certification system?

| Interviewee | <u>Stringent accreditation of private certifiers</u> | <u>Continuous professional development of private certifiers</u> | <u>Clear legal liability for private certifiers</u> | <u>Adequate published requirements/ guidelines</u> | <u>Adequate government audit</u> | <u>Social culture</u> |
|-------------|------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------|-----------------------|
| A           | 2                                                    |                                                                  | 3                                                   | 4                                                  | 1                                |                       |
| B           | 1                                                    |                                                                  | 4                                                   | 2                                                  | 3                                |                       |
| C           |                                                      | 3                                                                |                                                     | 2                                                  | 1                                |                       |

Ranking from 1 to 4, where 1 = most important, 2 = important, 3 = fairly important, 4 = least important