

QUALITY DEVELOPMENT IN HONG KONG PUBLIC HOUSING

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ABSTRACT

Quality of public housing in Hong Kong has been under cynical criticisms. Insufficient design of space allocation, poor workmanship, faulty piling, and substandard steel structure, concrete work, and finish work have been the subjects of attack by politicians and general public. In response to these criticisms, the Hong Kong Housing Authority (HA), together with its executive arm - the Housing Department (HD), have implemented a number of improvement initiatives to enhance its quality performance in the past ten years. The main purpose of this paper is to conduct a comprehensive review of quality development in Hong Kong public housing, with particular attention to the improvement initiatives implemented by the HA and HD. It is hoped that this paper can provide the reader with a clear picture of the transformation process of quality development in Hong Kong public housing.

KEYWORDS

Public Housing, Quality, Hong Kong

1. INTRODUCTION

The Hong Kong Government, being the largest construction client in Hong Kong, operates one of the most extensive public housing programmes in the world. Today, about half of the Hong Kong's population lives in public housing, either in rental or sale units. The Hong Kong Housing Authority (HA) now manages 153 rental estates and 189 sold estates built under the Home Ownership Scheme (HOS), the Private Sector Participation Scheme (PSPS), Buy or Rent Option Scheme (BRO) and Tenant Purchase Scheme (TPS) (HKHA, 2000).

The emphasis of HA in the past was to produce enough housing for people in need. The quality of public housing is sometimes overlooked. With the changing aspirations of the community and the realization of expensive compensation for poor quality products, the HA has put more emphasis on quality aspects by initiating the concept of quality assurance into public housing development at the beginning of the last decade. The initiatives include the Performance Assessment Scoring System (PASS) and ISO 9000 quality assurance system.

The quality assurance systems have been implemented by the HA for over 10 years, however, quality problems of public housing still exist and was subject to strong criticism from the public. Obviously, the original goals of initiating the systems have not been achieved completely.

2. DEVELOPMENT OF PUBLIC HOUSING IN HONG KONG

2.1 Quantity Prevailing Quality

The disastrous fire at Shek Kip Mei squatter area, which left 53,000 people homeless on the Christmas Eve of 1953, marked the beginning of the Government's extensive housing policy (Fung, 1996). To relocate the fire's victims, early in 1954, the Resettlement Department (RD) was established. By the end of 1954, eight permanent resettlement two-storey blocks were constructed and housed 20,000 persons per block. Over the next ten years, 240 resettlement blocks were built accommodating 500,000 people (Wong, 1978).

Quantity prevailing quality, it is understandable that the housing was of low standard as the massive re-housing programme served the purpose of providing emergency shelter for families displaced by squatter clearances and natural disasters (Wu, 1996). The tenants were provided with a room lacking of services and finishes. Bathrooms and kitchens were communally shared. Although the resettlement housing did not provide a good living environment to the residents, comparing with the previous squatter shacks, these housing provided residents with a fire-proof, typhoon-proof and relatively hygienic shelter (Wong, 1978).

Simultaneously, the question of providing adequate housing for accommodating the blooming population of new immigrants was the Government's top level of concern. In 1954, the Hong Kong Housing Authority (HA) was established, aiming to provide self-contained housing for low to middle-income households. The HA built better standard housing than the RD did. However, still, the great demand for public housing forced the HA to build to achieve pre-set production targets. Much of the public housing built at that time, though in large quantities, had been at the expenses of quality (Kam and Tang, 1997).

2.2 Striking the Balance between Quantity and Quality

The early 1970s marked the prominent development and transformation of the form and area of government intervention in Hong Kong housing – from fragmented, ad hoc intervention to planned intervention (Hui, 1999). In 1972, a Ten Year Housing Development Programme was announced. To give the programme support and thrust, in 1973, a new Housing Authority was formed by amalgamation of the former Resettlement Department and the old Housing Authority. It targeted to house 1.8 million people over the following ten years in “permanent, self-contained homes with good amenities and a decent environment: at a standard of 3.3 square metres per person”.

Building to achieve of quantity and speed of construction rather than quality during the 1960s and 1970s resulted in poor quality housings and concomitant high maintenance and remedial costs incurred in the last decade (Chan and Tam, 2000). The maintenance problems associated with thousands of post-war public housings include sub-standard concrete work, sub-standard finishing work, poor workmanship, use of low quality building materials, poor plumbing and drainage installation and poor design / layout (Fan, 1994). The HA realized that “early public housing estates have deteriorated beyond the point at which repair is economically worthwhile” (HKHA, 1987) and it is very wasteful to repair or rework a completed building (Bates, 1993). In 1986, the decision was made to redevelop 26 public housing blocks, which had only been built for twenty years.

To cater for the rapid growing population, to reduce long queues for public rental housing, and to meet the rising aspiration of the community, the Housing Authority formulated a Long Term Housing Strategy in 1987. The Government expected to house a further 1,085,000 people by 2001.

With the impressive economic performance in Hong Kong in the past 30 years, there was a steady increase in the real income of the average family. The urgent need for minimum standard public housing had been diminishing whereas greater expectation in regard to the standards and facilities in the housing became a norm (Cheng, 1999). Tenants were no longer satisfied with the basics. They wanted a better living environment. To cope with the public housing demand in both quality and quantity aspect for the community, the Harmony series of standard block designs were introduced towards the end of 1980s. The Harmony series make extensive use of standardization and factory-produced building components, which resulted in more efficient construction, reduced costs and a high quality product (Doyle, 1996).

The HA has realized that production targets are not as important as they once were and that the quality of public housing is as important as quantity. As for the adoption of the new public housing design, the HA decided to implement a quality system so as to ensure the housing quality in the long run.

3. IMPLEMENTATION OF QUALITY SYSTEM IN THE HONG KONG CONSTRUCTION INDUSTRY

A major change is taking place in the construction industry as a result of the influence of the evolving international business environment. Competition has greatly intensified worldwide (Sohal and Davis, 1994). With geographical barriers falling apart, organizations are looking beyond the firm next door to far-flung competitors in an ever-widening market (Sohal, 1998). This globalization suggests a new approach to management. This approach asks every employee to continuously improve everything that he or she does in the interest of the customers (Gunasekaran et al., 1998).

In the face of the growing demand for high quality products in the international market in the 1990s, Hong Kong manufacturers had to upgrade the quality of their products to satisfy buyers' expectations (Kam and Tang, 1997). In March 1990, the Hong Kong Government launched the quality awareness campaign, stressing the importance of quality. Claiming to be a pioneer in this respect, the Hong Kong Housing Authority adopted the slogan of "quality starts with housing" (Tam et al, 2000). The cost in remedial work was enormous and the HA fully recognized the Quality Assurance concept of "getting it right first time" (Kam and Tam, 1997). In 1990, the HA identified the need for a formal set of design and construction procedures for their professionals. In line with the quality improvement, the HA established its own list of building contractors in April 1990 with a requirement that the latter should obtain ISO 9000 certification by 31 March 1993. Furthermore, the HA adopted the Performance Assessment Scoring System (PASS) and the Maintenance Assessment Scoring System (MASS) to assess the contractors' performance on new works and maintenance works respectively. The HA also hoped to overcome its poor quality image through the introduction of the PASS, MASS and ISO 9000 certification. Table 1 documents the government's initiatives to improve quality management in the last decade.

Table 1: Government's Initiatives to Improve Quality Management

Key Dates	Key Events
Apr 1990	The HA established its own lists of approved building contractors for new works and maintenance works.
Jan 1991	The HA introduced the PASS scheme aiming to provide better tendering opportunities to those contractors with higher PASS scores.
Early 1991	The HA Introduced the MASS scheme for maintenance work.
Aug 1992	The HA required concrete suppliers to be certified to ISO 9000.
Mar 1993	The HA required all building contractors to be certified to ISO 9000.
Aug 1993	The Housing Department's Construction Branch was committed to be certified to ISO 9000.
Oct 1994	The HA required electrical contractors and lift escalator contractors to be certified to ISO 9000.
Oct 1995	The HA required fire services and water pumps contractors to be certified to ISO 9000.
1996	Works Bureau required all engineering, architectural and associated consultants to be certified to ISO 9000.
1996	Works Bureau required all List I & List II, Group C contractors to be certified to ISO 9000.
1998	Works Bureau required all specialist contractors for land piling – Group II to obtain ISO 9000 certification.
1999	The New Preferential Tender Award System was introduced by the HA for building contracts tendered-out.
2000	Enhancing public housing quality through implementing the plan of "Quality Housing: Partnering for Change"

3.1 Third-party Assessment

The second-party assessment is a common practice in construction where the clerk of works act on behalf of the clients or the architects to carry out quality control for construction work to ensure compliance with specification and drawings (Fan, 1994).

The HA's initiative is to encourage construction companies to seek "third-party assessment". The assessment of an organization is undertaken by an independent body. Instead of assessing the products of the organization, the subject under inspection is the organization itself, especially its systems and procedures. In Hong Kong, the Hong Kong Quality Assurance Agency (HKQAA) has been established to play such role and undertake independent third-party assessments of quality management systems for Hong Kong companies to check compliance with the ISO 9000 series of quality system standards. The result of a successful assessment leads to the award of certification.

3.2 ISO 9000

ISO 9000 series of quality management and quality assurance standards were first published in 1987 by the International Organization for Standardization (ISO) based in Geneva. The standards were based on the earlier British Standard BS 5750 with input from other countries such as USA (Hiyassat, 2000).

ISO 9000 is a quality assurance system, which proves that the company is able to carry out a task, service or product. Quality assurance emphasizes the aim of doing things right the first time, with procedures that allow tracing to find where and by whom mistakes were made and to ensure employees have the appropriate skills to complete their tasks.

It is obvious that the adoption of ISO 9000 is the HA's objective to lead the quality of public housing work to attain international standards. All contractors and concrete suppliers who wish to work in future for HA's projects have to pay additional attention to quality management and shape up to the new requirements as stated in the ISO 9000 series.

3.3 PASS

The aim of PASS system is to provide a fair means of comparing the performance of individual contractors, as an aid in deciding whether or not to promote or downgrade a company and also in awarding preferential tendering opportunities. PASS provided preferential tendering opportunities for those contractors who perform better on their previous projects, and to remove contractors who consistently "under-performing" with reason (Kumaraswamy, 1996).

PASS is a means to facilities the ultimate target of "continuous quality improvement" in managing the list of building contractors (Tam et al, 2000). At a particular sampling location, the construction that is to be assessed is judged in terms of its compliance with pre-defined standards (Tam et al, 2000). PASS is divided into three types of measurement: output, input and maintenance measurement. The input assessment deals mainly with management capability, organization and communication issues. The output assessment is to assess the quality of the final output of building works. The maintenance assessment is carried out during the maintenance period, which is aimed at checking how the building functions after occupation. The combined input and output assessments, which give a composite assessment, are used as a supplementary tool for decisions to penalize contractors.

4. PROBLEMS AFFECTING QUALITY DEVELOPMENT

The HA and the Works Bureau have implemented the improvement initiatives to enhance its quality performance of public housing for a decade. However, it seems that actual achievements as a result of implementing these quality management systems, such as PASS, ISO 9000 quality assurance system, quality awareness campaign, etc., are below original expectations (Kam and Tang, 1998). The cases of faulty piling in 1999 have again raised the public concern on the quality of public housing (HKHA, 2000). Public confidence in the quality of home ownership flats has been rocked by the piling scandals and many residents have decided to suspend their purchase of public housing.

The construction industry is characterized by activities that are discontinuous, dispersed, diverse and distinct (Tay, 1994). One of the most critical issues facing construction organizations is their inability to become quality focused. Most people in the construction industry consider that "quality versus time versus cost" is a zero sum game and, hence, whenever there is a choice among the three, usually quality is the first to be sacrificed (Tam et al, 2000). Since the HA has mandated contractors to be ISO 9000 certified, most contractors considered the certification exercise to be a gateway for inclusion on the tender lists (Tam et al., 2000). Not all the mandated contractors recognized the benefits from the system.

Besides, the cost of implementation of quality assurance system is expensive and the balance between the costs of enforcement against the degree of compliance is hard to manage. The setting up costs of the certification scheme were HK\$1-3 million and the average running cost amounted to around 0.2% of the contract value (Tam, 2000). Many small construction companies are not capable of affording the initial investment in a quality system.

Additionally, since the implementation of the quality assurance system, tones of paper have been spent on the documentation system (Tam et al., 2000). The amount of documentation and verification required by the standard is especially a challenge to the construction staff who is not used to keep written records.

Because of the practice of the construction industry (such as the separation of design and construction, the competitive tendering procurement system that encourages contractors to bid on price only), the application of quality management is found to be more difficult than that of other industries (Tam et al., 2000). In order to win a contract at the lowest price, contractors and consultants have little incentive to do more than what is required (Tang, 2001). The Hong Kong Institute of Architects (1999) criticized the tendering system for public housing. It said that "Well-designed buildings with quality construction can only come about by good team work between the HA, consultants who are qualified and properly staffed, and contractors who are selected on the basis of their ability with contract terms that are equitable."

Although the HA takes past performance into account in the award of a tender, contracts still tended to be awarded to the lowest bidders. Under the new Preferential Tender Award System which was introduced in 1999, the Preferential Tender Score is calculated on the basis of a Price Score with weighting of 80% and PASS Score with weighting of 20%, (HKHA, 2000). The tender with the highest score will be recommended as the successful tender.

As the construction industry is a labour-intensive industry, the quality of labour will directly affect the quality of products. Lack of skilled construction workers in Hong Kong is one of the critical issues, which adversely affecting the quality development. However, training individuals with delegated responsibilities takes time and the costs are high. These costs will eventually be reflected in the tender prices.

5. CONCLUSION

Public housing in Hong Kong has come a long way from the initial concept of providing basic shelter, to the provision of quality housing. The quality of the housing units is recognized as equally important to the quantity. The HA has implemented a series of quality improvement systems including ISO 9000 and PASS. The quality improvement systems have been initiated to the construction industry for a decade. However, quality appears far better on paper than it does on site (Tam et al, 2000). The cases of faulty piling and substandard steel structure found in public housing construction in recent years indicated that the purposes of quality management systems have not been achieved completely. This also suggests that quality management in the construction setting is far more difficult to achieve than it is in other industries.

Numerous studies have been carried out which have quantified the problems affecting the quality development of Hong Kong public housing. These problems include contractors' short-term profit-making motive, ignorance on quality assurance and lack of training and certification of skilled workers. Besides, the complexity and variability of construction processes and the tendering system which tends to award contracts to the lowest bidders are also the issues adversely affecting the quality development.

In order to enhance the quality performance in the public housing, critical success factors affecting the quality should be determined. The present review is a first step towards establishing methods for finding out the factors and improving the quality of public housing in Hong Kong.

6. ACKNOWLEDGEMENTS

The authors are grateful to the Hong Kong Polytechnic University for providing a grant, which made this research study possible.

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