Engaging homeowners in building care in Hong Kong: Drivers and barriers

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ABSTRACT The painful lessons of the outbreak of the Severe Acute Respiratory Syndrome and fatal building-related accidents have alerted the community in Hong Kong of the catastrophic consequences of building neglect. To tackle the problem of building dereliction, proper building management is indispensable. However, Hong Kong's community has been slow to embrace building care culture. This article analyzes key drivers and barriers to engaging Hong Kong homeowners with voluntary building care initiatives. Generally speaking, the surveyed homeowners were sensitive to the economic costs and benefits of their participation in building care. Besides, homeowners' approach towards building management and maintenance is predominantly reactive, and legislation remains the key drive for engaging them with the building problems. Operational difficulties in building management and lack of confidence in repair and maintenance personnel contribute significantly to the comparatively poor development of building care culture in Hong Kong. As long as most homeowners regard voluntary building management and maintenance as time- and money-consuming 'extras', fundamental improvements in the urban built environment, particularly the existing buildings, will be difficult to achieve.

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INTRODUCTION

Buildings or built environment can be regarded as artificial interventions in the natural environment for human beings' better adaptation to the environment. Nevertheless, the relationship between built environment and human beings is rather dynamic. On one hand, built environment is created by human beings. On the other hand, the well-being of people, including the occupants, visitors and general public, depends very much on the quality of the built environment they stay in. This bidirectional connection between humans and the built environment is vividly reflected by the often-cited statement by Winston Churchill in a speech in 1943 to the House of Commons:

We give shape to our buildings; thereafter they shape us. (cited in Howden-Chapman, 2004, p. 162)

As a matter of fact, there has long been a strong belief in the existence of a direct relationship between the quality of the living built environment and quality of life (for example, Dunn, 2000), and this linkage has been extensively proven by previous empirical studies like Raw and Hamilton (1995) and Newcombe *et al* (2005). Yet, determinants of the quality of the living built environment are not only confined to the aspects of site planning and building design, but also extended to maintenance and management matters. One should bear in mind that it is not the design or construction stage, but the occupation stage, predominating a building's life cycle. Beyond any reasonable doubt, a building that is newly constructed can be healthy, safe and fit for occupation but the wholesomeness of the built environment can depreciate in the absence of proper management and maintenance in the occupation stage. Therefore, a well-serviced residential built environment entails better life quality of the residents. Nonetheless, building care has never been an easy task because effective management and maintenance of a building requires active participation of the homeowners. Difficulties are often encountered in engaging the homeowners in building care, particularly in multi-family housing in which a high degree of cooperation among the homeowners is a prerequisite for the success in building care. As far as sustainable development is concerned, how to keep the building stock in a city healthy and safe is a vital task. To promote the social, economic and environmental quality of human settlement development is one of the objectives set out in Agenda 21 of the United Nations (1992). Besides, scholars like Kohler and Hassler (2002) and Kohler and Yang (2007) called for more research on the sustainable management of the building stock.

In Hong Kong, a considerable amount of private buildings are vulnerable to dilapidation and dereliction. Given the high population density in the city, improper management and maintenance of buildings can result in catastrophic consequences, affecting not only the occupants but also the general public. Despite the important nature of the building care issue, much of the local research on building environment has focussed on the extent of problem (for example, Wong *et al*, 2006) or external determinants of the problem (for example, Yau *et al*, 2008). However, as participation in building management and maintenance is somehow voluntary in nature, it is precious to know what motivates homeowners to engage in building care and what discourages them to do so. Against this background, this article draws a research project exploring drivers and barriers for homeowners' engagement in building management and maintenance. The author hopes that the insights of this study will help identify effective and realistic incentives to encourage the community of Hong Kong to start moving beyond simple regulatory compliance with building legislation.

THE PROBLEMS OF BUILDING MISMANAGEMENT AND DISREPAIR IN HONG KONG

As at May 2009, around 39 000 private buildings rose straight up in Hong Kong (Home Affairs Department, 2009). As estimated by the Housing, Planning and Lands Bureau (2005), about one-third of these buildings were over 30 years old, and the number would increase to 22 000 in 10 years' time. While the high ages of the buildings may be a signal of building crisis, what is more alerting is the lack of proper management of the building stock. About 10 500 private buildings (26.9 per cent) do not have any form of building management, according to the Home Affairs Department's (2009) database. As aforementioned, no matter how stable or wholesome there were originally built years ago, the buildings are vulnerable to dereliction and decay if they are unmanaged. Mismanagement of buildings results in a large number of complaints about the dangers

from buildings and accidents involving building structures in the past decade (Yau, 2008). For example, from 1997 to 2008, the total number of reports about building dangers received by the Buildings Department increased at an average rate of 8.5 per cent per annum, as shown in Table 1. Figures 1–4 illustrate some of the examples of building dilapidation problems in Hong Kong. The Task Force on Building Safety and Preventive Maintenance (2001) also reported that 101 deaths and 435 injuries were resulted from building-related incidents during the period between 1990 and 2001. In the recent 5 years, the fatal incidents of falling building fabrics such as aluminium windows and concrete pieces were not rare (Bowring, 2005; Information Services Department, 2005; Lo, 2005; Buildings Department, 2007).

The statistics above exemplify the consequences of building disrepair which is most probably the result of building mismanagement. As highlighted in the literature

Table 1: Reports received by the Buildings Department about dangers from buildings

<i>Year</i>	<i>Dangerous advertising signs</i>	<i>Dangerous buildings</i>	<i>Dangerous hillsides</i>	<i>Unauthorized building works</i>	<i>Total number of reports</i>
1997	350	3658	130	12 427	16 915
1998	250	3851	53	12 577	16 731
1999	614	4730	130	16 999	22 473
2000	260	4280	71	13 911	18 522
2001	178	6671	41	12 764	19 654
2002	135	5956	52	21 844	27 987
2003	181	8665	48	24 870	33 764
2004	303	10 407	146	21 123	32 069
2005	331	13 999	208	25 683	40 221
2006	564	6758	183	24 861	32 366
2007	322	4566	128	24 633	29 649
2008	563	4412	313	24 942	31 230

Source: Buildings Department (2001, 2005, 2009).

Figure 1: Concrete spalling on the ceiling of an apartment building.

Figure 2: Authorized appendages constructed on a building's façade.

(for example, Lai and Chan, 2004; Yau *et al*, 2008), the predominating co-ownership arrangement of many multi-storey buildings in Hong Kong encumbers building management. Under a co-ownership system, the owners of individual dwelling units possess undivided shares of the whole building (including the land on which the building was built), and thus they do not actually 'own' their units. In other words, the co-owners hold the building with each other as if they are tenants-in-common (Nield, 1990; Hastings *et al*, 2006). While they are conferred in the title deeds the exclusive rights to occupy and use their units (including repair, maintenance and alteration of their units), the management and maintenance of the common (or more precisely, communal) parts of the building such as entrance lobby, corridors, staircases, lifts and drainage stacks require the consents and cooperation of all the co-owners.

Figure 3: Loose and unprotected wiring in the common area of a building.

Figure 4: Rusty waste pipe and vegetation in the hopper.

As pinpointed by Bailey and Robertson (1997), this multiple-ownership nature of building results in social and financial interdependence among co-owners with regard to building management. In case of single-family housing, building management is simply the issue of the property owner himself or herself. Conversely, co-owners of a building

held in multiple ownership are responsible jointly or collectively for the management of the communal areas and facilities in the building. Management and maintenance of those communal elements, therefore, require huge efforts for coordination and cooperation among co-owners and, more importantly, their engagement in building care initiatives. However, unless there are laws requiring the mandatory participation of all property owners in building care, owners' engagement still remains voluntary in nature. Therefore, in order to promote better management and maintenance of the building stock in Hong Kong, there is a need to know what motivates homeowners to participate in building care, and what discourages them from doing so.

ENGAGEMENT IN BUILDING CARE: WHY OR WHY NOT?

Generally speaking, one of the most momentous impetuses for homeowners to engagement in building care is their pursuit for better living built environment. A large body of literature (for example, Bonnefoy *et al*, 2007) evidenced the close association between residents' health and housing quality. In this regard, homeowners, particularly those owner-occupiers, may participate in building care with a view to better living environment, and thus healthier lives. Economically speaking, proper management and maintenance of building helps to preserve property value for the homeowners. As evidenced by both local research (for example, Chau *et al*, 2003) and overseas studies (for example, Kain and Quigley, 1970; Bourassa and Peng, 1999), properties with better conditions command higher value, keeping other things constant. Other than the two drivers above, homeowners could be passively forced to participate in building care. For example, the law may require homeowners to keep their properties, including common parts of buildings, in good conditions. Anyone who fails to comply with this requirement will be subject to sanctions (for example, monetary fines or imprisonment). Fear of punishments can coerce property owners to keep an eye on their properties.

Although proper building management and maintenance can offer homeowners a broad range of tangible and intangible benefits, homeowners are often slow to respond to the challenge of changes in the physical and management performance of their buildings. Time, finances and a lack of skills and knowledge are commonly identified as constraints to building care actions (Kangwa and Olubodun, 2003). Besides, property owners may ignore building care rationally. As per the rational choice theory, an individual is rational to ignore an issue if the cost of educating himself or herself about the issue sufficiently to make an informed decision exceeds the expected benefits he or she could obtain from that decision. To put it another way, given that the property owners perceive that the benefits derived from their participation cannot cover the associated costs, it would be irrational for them to waste time participating in building care.

Another similar cost-benefit calculus based upon the concept of transactions cost can also explain the non-participation of homeowners in building care. As aforementioned, common parts of most multi-storey buildings in Hong Kong are co-owned by individual homeowners and collectively managed. Given that individual owners usually hold different attitudes to and have different interests in the exercise of building management and maintenance (for example, deciding the scope of maintenance works and selection of contractors), negotiations among the owners are indispensable. In the implementation stage, the owners should be well coordinated (for example, collection of money from each household and prioritization of the works). All these negotiation and coordination exercises are timely consuming and costly (Chen and Webster, 2005). More importantly, since the results of building care (for example, improved living environment and better property image) are common goods in nature (that is, non-rival and non-excludable),

free-riding becomes an inherent problem. Homeowners are discouraged from participating in building care or motivated to free-ride efforts of the others in the light that the transaction costs incurred in the sanctioning the free-riders are prohibitively high.

RESEARCH METHODOLOGY

Nonetheless, the literature seldom discusses why people voluntarily participate in building management and maintenance and why not. This gap in the body of knowledge is unfavourable to the policymaking process with regard to promoting more sustainable built environment in a city. Against this background, this study aims to explore the incentives and barriers for homeowners to engage in voluntary building care initiatives. To address the research aim, a questionnaire survey among Hong Kong's homeowners in the private housing sector was conducted in the present study. Homeowners were selected from buildings in the Western District for two reasons. First, it has been one of the oldest residential districts in Hong Kong since the British colonial reign in 1842. Second, there exist a wide variety of buildings, ranging from old low-rise tenement blocks to high-rise apartment towers resting on a commercial podium. This provides a high degree of variation in the age, setting and management regime of the buildings, which is essential for obtaining a diversified sample for analysis. In view of the fact that the majority of problematic buildings in Hong Kong are those held in multiple ownership, this type of buildings will be the target for investigation in this study.

A questionnaire was devised to identify the key drivers and barriers for homeowners' participation in building care. Apart from providing general socio-demographic information, respondents had to choose the most important drivers or barriers that had led them to participate or not participate in building care. Furthermore, they were asked to identify the events or incidents that had changed their impetuses to engage in building care. Face-to-face interviews and self-administered written questionnaires were applied to gain the highest possible number of participants in the survey.

THE SURVEY FINDINGS ON HOMEOWNERS' ENGAGEMENT IN BUILDING MANAGEMENT AND MAINTENANCE IN HONG KONG

Respondents' profile

The survey was conducted in the period between May and August 2009. A total of 346 homeowners, accommodated in 53 private multi-storey residential buildings in the Western District, were interviewed. The socio-demographic characteristics of the respondents are summarized in Table 2.

Generally speaking, the majority of the respondents come from the low- or medium-income group. The average age of the 53 buildings was 34 years and there were on average 63 dwelling units in each building. The heights of the buildings ranged from 4 to 33 storeys. Owners' corporations, which are owners' associations with statutory status in Hong Kong, were found in 44 buildings (83.0 per cent). Among those nine buildings without any statutory owners' associations, two had mutual aid committees organized by the owners and/or tenants.

Drivers for engaging in building care

The respondents in the survey were asked to choose the main drivers for their participation in building care using a five-point Likert scale (5 for 'strongly agree', 4 for 'agree', 3 for 'neutral', 2 for 'disagree' and 1 for 'strongly disagree'). As shown in Table 3, an overwhelming 66.5 per cent of the respondents stated that they would engage

Table 2: Socio-demographic characteristics of the respondents

<i>Characteristic</i>	<i>Count (N=346)</i>	<i>Percentage^a</i>
Sex		
Male	201	58.1
Female	145	41.9
Age		
18–24 years	21	6.1
25–34 years	47	13.6
35–44 years	96	27.7
45–54 years	108	31.2
55 years or above	74	21.4
Education attainment		
Primary school or below	41	11.8
Secondary school	118	34.1
Sub-degree education	78	22.5
Bachelor degree or above	109	31.5
Household income		
HK\$9999 or below	43	12.4
HK\$10 000–14 999	82	23.7
HK\$15 000–19 999	99	28.6
HK\$20 000–24 999	73	21.1
HK\$25 000–29 999	25	7.2
HK\$30 000 or above	24	7.0

^aThe percentage for each characteristic may not sum up to unity because of rounding-off.

Table 3: Survey results on the drivers for homeowners' engagement

<i>Drivers for homeowners to engage in building management and maintenance</i>	<i>Count (N=346)</i>	<i>Percentage</i>
Healthy and safe living environment as a result of proper building care	197	56.9
Strong sense of belonging to the building	152	43.9
Worry about the enforcement actions taken by the government	225	65.0
Property value preservation or even enhancement as a result of proper building care	228	65.9
Financial assistances or subsidies offered by the government or other organizations	230	66.5
Other residents in the building being participative in management and maintenance of the building	160	46.2
Witnessing other successful real-life cases	117	33.8

in building care if there were financial assistances or subsidies offered by the government or other organizations. 65.0 per cent of the respondents agreed that quest for preservation or enhancement of property value gave them impetuses to participate in building care. Besides, 65.0 per cent of the respondents stated that they would participate in building management and maintenance because of the worry about enforcement actions taken by the government. Interestingly, the survey results suggested that the successes of homeowners of other buildings in taking good care of their buildings did not motivate most of the respondents to engage in building care.

Barriers to engaging in building care

Same as above, a five-point Likert scale was used to investigate the homeowners' perceived barriers for their engagement in building care. The results are tabulated in Table 4, which are somehow contradictory to our common belief that people hesitate to participate in building management or maintenance because of the lack of time and energy after work. This was regarded as one of the major barriers by merely about half of the respondents (52.0 per cent). On the other hand, difficulties in raising fund or

Table 4: Survey results on the barriers for homeowners' engagement

<i>Barriers for homeowners to engage in building management and maintenance</i>	<i>Count (N=346)</i>	<i>Percentage</i>
Lack of trust and cooperation among residents	212	61.3
Need of a large sum of capital which may not be paid back	181	52.3
Difficulties in raising fund or collecting money	247	71.4
Lack of knowledge and fear of bearing legal liability	211	61.0
No free time and energy after work to deal with the building management and maintenance issues	180	52.0
Fear of being free-ridden by others	184	53.2
Lack of government support	203	58.7
Lack of confidence in building professionals and contractors	222	64.2

Table 5: Survey results on the incidents affecting homeowners' impetus for engagement

<i>Incidents affecting homeowners' impetus to engage in building care</i>	<i>Count (N=346)</i>	<i>Percentage</i>
Outbreak of SARS in 2003	214	61.8
Court judgment of Albert House Case in 2004	191	55.2
Public consultation on mandatory building inspection in 2005	80	23.1
Amendment of the Building Management Ordinance in 2008	66	19.1

collecting money was the most frequently mentioned barrier (71.4 per cent). This obstacle is followed by the lack of confidence of the homeowners in the building professionals and contractors engaging in the building management and maintenance exercise (64.2 per cent).

Incidents affecting homeowners' impetuses

Apart from the drivers and barriers, it is also worthwhile to study what events or incidents give people more homeowners more momentum to engage in building care. As indicated in Table 5, 61.8 per cent of the respondents stated that they were more participative because the outbreak of the Severe Acute Respiratory Syndrome (SARS) in Hong Kong in 2003. In that local epidemic, 1755 people were infected and 299 died within 4 months (Tam *et al*, 2004). Furthermore, 55.2 per cent of the respondents agreed that the court judgment of the Albert House Case in 2004 changed their minds. This case refers to an accident occurring in Albert House, an apartment building in Aberdeen, on 1 August 1994. In that accident, a concrete canopy along one side of the building collapsed and fell onto the street below, causing 16 injuries and one death. In *Tse Lai Yin Lily and Others v. The Incorporated Owners of Albert House and Others* (1997), HCPI828, the court ruled that the incorporated owners, together with other five defendants, should be held jointly and separately liable for damages amounting to HK\$33 million to the plaintiffs. The majority owner of the building, as one of the parties who remained solvent, had already paid the full damages for itself and on behalf of the other five defendants. The majority owner then applied to the court to seek contributions from the incorporated owners of Albert House.

In *Aberdeen Winner Investment Co. Ltd. v. The Incorporated Owners of Albert House and Another* (2003), HCA3408, the court ruled that the solvent parties, including the incorporated owners of Albert House, had to contribute to the whole sum of compensation from their respective shares. For the incorporated owners, their share, together with legal costs, was approximately \$25 million. On 8 November 2004, the High Court ordered the incorporated owners of Albert House to wind up, as they were unable to pay the judgment debts. Aside from attracting attention of the local press, the High Court's

judgment also aroused public concern over the potentially huge costs of building neglect. Comparatively, changes or proposed changes in building-related legislation such as mandatory building inspection and mandatory taking out of third-party liability insurance for buildings' common parts seemingly did not have any significant impacts on the surveyed homeowners' mindsets.

DISCUSSIONS AND POLICY IMPLICATIONS

From the findings presented above, one may suggest that Hong Kong homeowners are quite money-minded when deciding whether they participate in the management and maintenance of their buildings or not. The survey findings suggested that homeowners were unwilling to engage in voluntary building care initiative in the absence of external pressure or force. This sighting is rather reasonable as when no penalty was charged for the poor use and management of housing and no bonus for more responsible behaviour, building management and maintenance would rely only upon the morality of the homeowners. Therefore, punishment and enforcement are important for making sure that the homeowners' compliance with legislation. Currently in Hong Kong, the *Buildings Ordinance* (BO, Chapter 123 of *the Laws of Hong Kong*) and its subsidiary regulations serve as the legal framework and the Buildings Department is the enforcement agency to control the fitness of the existing buildings. To enforce against any dangers or irregularities identified in existing buildings, the Building Authority (BA) serves statutory orders on the building owners concerned under different sections of the BO. For instance, the BA is empowered under Section 26 of the BO to order building owners to take remedial action when any building is found to be rendered dangerous or liable to become dangerous. Such an order issued is usually called a 'repair order'. Generally speaking, the problems that trigger the issue of a repair order include poor structural conditions of a building (for example, cracked, spalled or deteriorated concrete of the structural elements), detachment of mosaic tiles or ceramic tiles from external walls, inadequately fixed cladding panels, unsecured or broken windows, and defective or dangerous overhanging structures. A repair order usually requires an owner, owners or an owners' corporation (as the case may be) to appoint an authorized person or registered structural engineer to coordinate and supervise the repair works and a registered general building contractor to carry out the works within a specified period of time.

Under Section 40(1B)(b) of the BO, non-compliance with a statutory order issued by the BA without reasonable excuse is a criminal offence. The owners involved may be liable, upon conviction, to a fine of HK\$50 000 and imprisonment for 1 year. Defaulted owners may also be subject to a further fine of HK\$5000 for each day the owners continue to fail to comply with an order. All statutory orders issued under the BO are copied into the Land Registry for registration against the titles of owners. The registration will only be discharged when the subject order is complied with by the owner(s) and a letter of compliance is issued by the BA. Although the penalty has been institutionalized in legislation, the Buildings Department has long adopted a toleration approach. Enforcement actions are seldom taken against the owners of dilapidated buildings unless the dilapidation creates imminent danger to the building occupants and general public. Besides, the existing level of punishment may not have strong deterring effects against irresponsible homeowners. In this light, there is an urgent need for the Hong Kong Government to strengthen the enforcement actions and increase the penalties against building dilapidation.

Nevertheless, stricter enforcement can only drive homeowners to achieve the required minimum, and cannot motivate them to undertake compliance-plus activities because they

were not legally required to do so. In this regard, other approaches should be considered to motivate homeowners' participation in building care. As shown by the survey findings, homeowners were sensitive to the economic costs (for example, damages or monetary penalties) and casualties as a result of building neglect. In addition, they were also sensitive to the economic benefits of proper building management and maintenance (for example, enhanced property value). In this regard, the Hong Kong Government and other organizations should make better use of these kinds of money-related information in their propaganda or promotion campaigns. In the long run, a building classification scheme which gives the general public information on relative performance of the buildings in terms of their healthiness and safety should be implemented. This thinking is in line with Chau *et al* (2004) who envisaged that the difference in the building performance across the building stock would create a value league in which buildings that are well maintained and managed qualify for high ratings, and thereby command higher prices or rents and attract more favourable mortgage terms or insurance premiums. These monetary benefits can motivate homeowners to maintain their buildings in good order.

Furthermore, financial subsidies offered by the government or other organizations can attract homeowners to participate more in building care. Nowadays, different types of grant or loan schemes, such as the Building Safety Loan Scheme administered by the Buildings Department, the Building Management and Maintenance Scheme (BMMS) run by the Hong Kong Housing Society (HKHS) and the Building Rehabilitation Materials Incentive Scheme run by the Urban Renewal Authority are in place to serve this purpose. A higher level of subsidies may be considered for greater attraction. Besides, in order to make more buildings properly managed and maintained in a timely manner, the administrators of the subsidy schemes should relax the eligibility criteria for application. For example, there are delimitations in terms of building age (20 years or above) and development scale (not more than 400 residential units) in the HKHS's BMMS. These thresholds may induce the homeowners of those ineligible buildings to delay their building care initiative or fragment the management of a physically or structurally connected building.

From the operational perspective, homeowners' motive to participate in building care is often hampered by the difficulties in raising fund or collecting money for the works required for building upkeep (for example, repair or improvement works). These hitches can be ascribed to the lack of mandatory requirement for the establishment of sinking fund or maintenance reserve in private buildings in Hong Kong. Every time when the homeowners would like to improve their building, they have to collect money from all homeowners to pay for the works. Yet, it is rather common that some homeowners are not traceable and some are not willing to contribute. The failure to collect money from all homeowners eventually lead to the delay or cessation of the improvement works. Therefore, scholars and governments (for example, Bailey and Robertson, 1997; Home Affairs Department, 2001; Yau *et al*, 2005) have long argued that individual owners should contribute regularly to a fund to build up reserves for routine maintenance, emergency repair or improvement works. With this capital fund in hand, the future performance of a building can be guaranteed, and it also reduces the response time during emergencies and unexpected circumstances. Hence, the Hong Kong Government should make reference to the United States, Australia and Singapore to mandatorily require a reserve fund for the repair and renewal of communal areas and services for each building.

Last but not least, homeowners' lack of confidence in building professionals and contractors also dissuades them from engaging in building care. Since the daily

operations of building management and maintenance usually involve a substantial amount of money and their results have significant impacts on the well-being of the residents, homeowners have a strong interest in the accountability of the building professionals and contractors directly involved in housing management. However, homeowners may take a view that the professionals and contractors are profit-oriented entity so the latter may maximize their profits at the former's cost. Besides, as reported by the Independent Commission Against Corruption (2008), over 40 per cent of the corruption-related complaints in the private sector in Hong Kong were related to building management. This figure may reflect the distrust of homeowners against building professionals and contractors. To rebuild the confidence of homeowners, the government may need to consider implementing a registration system for the maintenance and repair contractors. Furthermore, professional institutes should improve the ethical standards of their members. The public authorities including Independent Commission Against Corruption and the BA are required to tighten the disciplinary actions against the black sheep in the industry.

From above, it is crystal clear that the surveyed homeowners were rather sensitive to the economic costs and benefits of their participation in building care, and their approach towards building care is predominantly reactive. In this regard, legislation and economic incentives remain the key drives for engaging them with the building problems. Operational difficulties in building management and inadequate enforcement actions contribute significantly to the comparatively poor development of building care culture in Hong Kong. As long as most homeowners regard voluntary building management and maintenance as time- and money-consuming 'extras', fundamental improvements in the urban built environment, particularly the existing buildings, will be difficult to achieve. Therefore, it is also essential to educate the homeowners about the benefits of proper building care and the costs of building neglect.

CONCLUSION

The main objective of the present survey was to identify drivers and barriers to engaging Hong Kong's homeowners in building care, and to see if homeowners' perceptions change with any events or incidents. The survey findings suggest that private homeowners in Hong Kong were motivated by economic incentives (for example, financial subsidies and property value enhancement) and fear of punishment to engage in management and maintenance of their buildings. These findings may confirm that command-and-control mechanisms can be one of the most effective tools to tackle the building problems, at least for the time being. In other words, compliance with existing legislation can be a key motivating factor behind the homeowners' consciousness about the building care issue, given that the government strictly enforces the law. On the other hand, difficulties to collect or raise money and lack of confidence in building professionals and contractors were found to be major obstacles for homeowners' participation. Overall speaking, property owners were sensitive to casualties and economic losses arising from the accidents attributed to building neglect. That means growing public awareness about the dreadful consequences of building neglect is a further driver for building care action among homeowners. Given that a sustainable building stock in Hong Kong requires active engagement of the homeowners in building care, the findings of this study offer the policy makers valuable insights for formulating public policy in the arena of building management and maintenance in the city.

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