Building the Capacity and Improvement Factors in Real Estate Management and Maintenance

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Key words

Real estate management, building maintenance, legal provisions, budgetary impacts, improvement factors.

SUMMARY

There have been various tragedies in real estate management and maintenance, especially in some aged properties in Hong Kong; which were arised from accidents like collapse of unauthorized building works, dilapidated building structure, poor management, unattended maintenance, insufficiency in legal provisions, social issues, budgetary impacts, lack of required knowledge and government promotion etc. In this research, we'll attempt to explore the critical reasons leading to such situation and the means to improve; through quantitative method and questionnaires to major stakeholders. Statistical analysis on returned data will be conducted to establish the probable reliability, significance and correlation in these problem areas to facilitate better property management/maintenance for owners, managing agents and related parties.

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INTRODUCTION

Wikipedia (2009) states that as much of Hong Kong's terrain is hilly to mountainous with steep slopes, less than 25% of the territory's landmass is developed, and about 40% of the remaining land area is reserved as country parks and nature reserves. Most of the territory's urban development exists on Kowloon peninsula, along the northern edge of Hong Kong Island and in scattered settlements throughout the New Territories.

HKRVD (2009) states that private domestic units have rised to 1085900. About 382237 units (35.2%) are over 29 years old or 659141 units (60.7%) over 19 years old; primarily situated in main urban areas. These buildings are usually dilapidated, without proper property management and regular maintenance; and pose hazards to the occupiers and public.

Year	Age of building (years)	Residential Units	Percentage %
Pre 1960	over 49	36921	3.4
1960-69	39-49	153112	14.1
1970-79	29-39	192204	17.7
1980-89	19-29	276905	25.5
1990-94	15-19	140081	12.9
1995-99	10-14	100999	9.3
Post 1999	Less than 10	185689	17.1
Total at end of 2008		1085900	100%

Table 1- Age of private domestic units in HK

Scarce land resources meant that taller buildings have to be constructed. The Buildings Ordinance is enacted in 1955 to permit more intensive development. Moreover, the widespread use of reinforced concrete in 1950's multi-storey reinforced concrete buildings began to appear gradually. The buildings

at that time were commonly six storeys high. Thereafter, there was a corresponding demand for more building land. Rising land prices and the introduction of lifts lead to more high-rise buildings. High-density development, with multi-ownership was therefore taking root firmly since 1960's.

Many large estates would consist of several thousand flats e.g. Mei Foo Sun Chuen. It appears quite difficult to organize effective management/maintenance because of the diverse attitudes of individual owners especially regarding mode/timing of expenditure. In particular for major renovation, owners would have strong argument on the newly proposed design on façade/lobbies/material selections, selection of main contractors/subcontractors, programming/protection of works, etc. All these hurdles would delay the entire program of works, even owners may be willing to contribute financially. Individual owners would have different perspective towards their property/investment; especially when property market fluctuates. These factors shed some ideas about H.K. owners' ethic/attitudes towards management/maintenance.

In recent years, deaths and injuries have been caused by unsafe buildings and collapses of part building elements e.g. spalling concrete. These incidents have prompted owners to pay more attention to building management/maintenance; which has been constantly ignored.

In 1994, Government engage a consultant to investigate building management/maintenance problems, in 2 phases Per Phase I report, about 990 out of 4,308 post-war buildings (23%) were constructed with cantilevered reinforced concrete structures such as balconies/canopies. 32 buildings were affirmed as dangerous, prompting the Building Authority (BA) to demolish two. The others were issued with Orders to carry out repair immediately.

Moreover, the internal inspection revealed that 1770 out of 29500 flats (6%) had structural problems and required immediate attention.
Tragic accidents due to building failures occur frequently in Hong Kong. Some of the shocking accidents are:

On 8 October 1990, the rear portion of a pre-war building in Sheung Wan collapsed and one woman was killed. Before the accident, the building had been marked on a list for further investigation by the HKSAR Buildings Authority (BA). The building collapsed before any investigation could be taken.

In Aberdeen, another reinforced concrete canopy outside a Chinese restaurant collapsed on 1 August 1994. One old woman was killed and 16 people seriously injured. A big fish tank was built on top of

the collapsed canopy which increased the allowable loading. Sea water drained from the fish tank and caused reinforcement to corrode through the crack between canopy slab and main building. HKBD (1994) observed that "no general maintenance, repair or inspection of the canopy had been carried out by the management company. There is only evidence of specific actions being taken in response to individual complaints.

On 2 April 1996, spalling concrete fell from high level at crowdy Jordan Road. A tourist suffered from serious head injuries. The building had never received regular building maintenance.

On 10 August 1999, a woman hawker was killed outside 65 Tung Choi Street by a concrete fragments fallen from an extended canopy of the building.

Defects can be identified at an earlier stage via regular inspections before fatal accidents occur, e.g. cracks usually appear before loosen concrete would delaminate/fall down. In addition, unauthorized building works, alteration and addition would compound the problem. Poor management/maintenance pose a significant effect to these tragedies.

LITERATURE REVIEW

BS 3811 (BSI, 1994) defines "maintenance" as "work undertaken in order to keep or restore every facility, i.e. every part of a site, building and contents, to an acceptable standard". It is a combination of any actions carried out to retain an element in, or restore it to, an acceptable condition. Certainly, the standard referred to much depends on the balance between the needs and resources. Different types of property may have different maintenance needs and budget.

Lee (2003) comments that the concept of an "acceptable standard" may be construed as acceptability to the person paying for the work, to the person receiving the benefit or to some outside body with the responsibility for enforcing minimum standards. There are actually two processes envisaged: "retaining" and "restoring". Retaining is the work being carried out in anticipation of any failure. It is called "preventive maintenance". Whilst restoring is the work being carried out after a failure and it is usually referred as "corrective maintenance".

Anderson (1969) also indicates that it is a combination of management, financial, engineering and other practices applied to physical assets in pursuit of economic life-cycle costs. It requires cooperation between various parties such as building owners/occupiers, property manager and maintenance team to

ensure that every element in the building is well-maintained in its functional condition with a minimum cost.

BS 3811 suggests that "planned" maintenance is worthwhile if:

- It is cost effective;
- It is intended to meet statutory or other legal requirements;
- It satisfies user need from an operating point of view;
- It will minimize future maintenance.

Without regular maintenance, deterioration of building may proceed more rapidly than expected. As Iselin and Lerner (1993) illustrates in Figure 1, this deterioration is indicated by a more steeply declining performance curve, and the minimum acceptable performance is reached sooner. Thus, the service life is reduced.

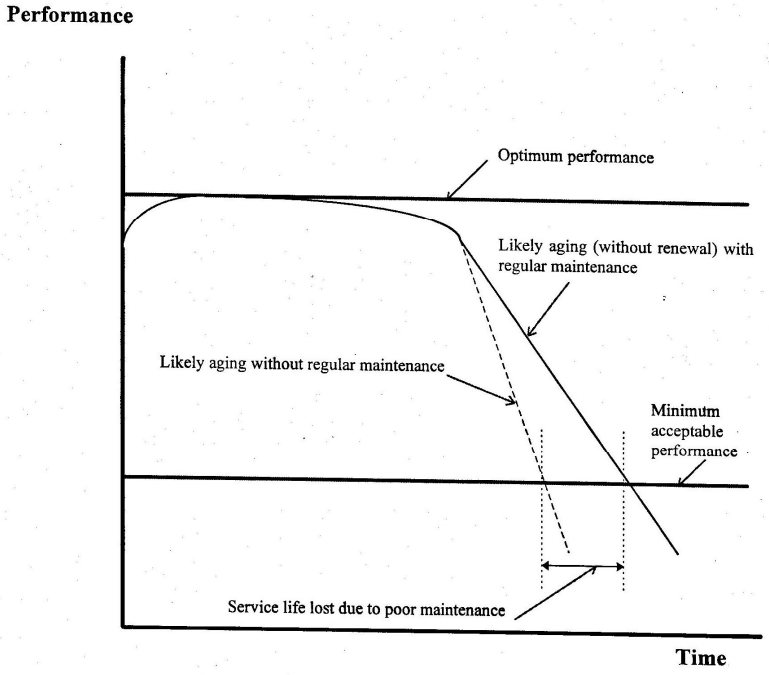

Figure 1 – Maintenance practices can influence service life

Few research studies have been conducted in this area for Hong Kong, apart from some prepared by District Boards, HKSAR.

CWDB (2001) identifies that their major problem is unauthorized building works/illegal structures and lack of regular building maintenance.

The Mong Kok Pilot Scheme study report (MKDB, 2001) suggests:

- Individual owners/OCs should take a more proactive role in building management;
- Individual owners should not remain apathetic towards management/maintenance;
- Owners should engage building management/maintenance consultants, if they need;
- Government should provide assistance to public.

Lee (1990) contends that "For many people, building maintenance is perceived to be the caretakers' business or something to do with the professionals; for as long as garbage is collected and maintenance charges are low, building maintenance is of very low priority to the busy people of Hong Kong."

Thomas and Pillai (1990), in their psychological analysis on building maintenance, contend that most activities are goal-directed, which are actually the "felt needs" of individuals. Every need is a disturbance in the psychic equilibrium. It is the result of the constant interaction between several psychological, social, economic, cultural and religious variables, as follows:

- Maintenance of building is positively correlated with the personality of the occupants/owners;
- If the "self esteem" of the occupants/owners is high, it will certainly reflect on the way he maintains his premises;
- Cultural, economic and social factors would reinforce the maintenance-precepts and practices.

Also, the followings would discourage people from undertaking major maintenance works:

- Peer group influence;
- Influence of the neighbourhood;
- Unsatisfactory financial position;
- Education level/awareness.

To upkeep/restore the anticipated conditions of a building, it is required to carry out maintenance regularly with proper planning. However, most studies only emphasize management techniques and technical issues, without addressing the real reasons underlying the attitude of public towards building management/maintenance.

The above studies only illustrate some primary problems, without addressing practically to resolve fully the ignorance and apathetic attitude of the public on building management/maintenance. This renders a gap to study further.

BA's "Monthly Digest, Nov. 2009" reveals 84% compliance for statutory orders and 11% for advisory letters on average during 2004-2009. It reflects that the public are not so cautious about advisory letters, due to its advisory nature; while adopt a more positive attitude towards statutory orders.

Description	Advisory Letters			Statutory Orders		
	Complied	Issued	%	Complied	Issued	%
2004	970	9777	9.9	28457	30580	93.1
2005	818	11639	7.0	26328	27028	97.4
2006	969	8547	11.3	28684	35032	81.9
2007	702	7328	9.6	29929	35908	83.4
2008	683	5999	11.4	27926	34742	80.4
Upto 11/2009	598	5950	10.1	26594	36744	72.4
Total	4740	43290	11.0	167918	200034	84.0

Table 2 - BA's Monthly Digest, Nov. 2009

It's quite difficult to develop any sense of belonging nor responsibility towards management/maintenance; especially when owners are lack of knowledge in building management/maintenance, personal financial etc.

The current major legislation regarding building management/maintenance in Hong Kong are Cap 123 Buildings Ordinance (BO), and Cap 344 Building Management Ordinance (BMO). It has been said that the more stringent the legislation, the higher the degree of compliance by owners.

BO provides control for the planning, design and construction of buildings and associated works; to make provision for the rendering safe of dangerous buildings and land; and to make provision for matters connected therewith. For building maintenance, the relevant Sections are:

- Section 26 – Dangerous Buildings
- Section 26A – Defective Buildings
- Section 27 – Closure Order
- Section 27 A – Dangerous Hillsides, etc.
- Section 28 – Drainage

Previously, BA was solely responsible for carrying out inspection of every potentially dangerous building and appropriate order will then be served as necessary. BA can issue "Investigation Order"

under Section 26A and 28(3), after a preliminary inspection, requiring the relevant building owner to appoint an authorized person to carry out investigation on the defects in his building and submit a remedial proposal.

BA may approve; require amendments to or substitution of; or refuse to approve the proposal. Upon approval, BA may by order in writing require the owner to carry out the approved remedial work within a period of time. Failure to comply with the order, BA may carry out the necessary investigation and remedial works and then recover the costs incurred from the owner accordingly. Thus, BA needs not to conduct time-consuming detailed survey on the dilapidated buildings. The main role is to identify which building is "suspicious" of danger by conducting a preliminary survey. The detailed investigation responsibility is rested on the relevant owners.

In BO Section 26A(1), it stipulates that "where, on inspection, BA finds any dilapidation or defect in a building he may by order in writing ….." It appears not guilty for not taking initiative to do maintenance until the building is regarded as defective, dilapidated or dangerous if identified by BA. Owners would adopt a rather passive attitude until Government's enforcement if any. Yet, it's the primary duty of owners to upkeep their buildings for better living.

With regards to BMO, it consists of some key Sections regarding building management/maintenance in multi-owned buildings:

- Section 18 –Duties and powers of corporation;
- Section 34H – Duty to maintain property; and
- Section 40 – Powers of entry and inspection.

Under BMO Section 40A, the Home Affairs Department (HAD) can (a) enter and inspect any common parts of a building; (b) attend any general meeting of a corporation; and (c) require a corporation …….. to furnish him with such information …….in relation to the control, management and administration of the building.

BMO Section 18(l)(a) and 34H require owners/owners corporations to perform the duty to repair and maintain their properties in a state of good and repair condition. It seems that no specific standard of maintenance nor frequency of inspection are mentioned; and no penalty provisions are there upon owners' non-performance in their own maintenance.

In other words, the non-compliance owner will not be liable to a fine until he/she does not comply with

the requirement given by HAD or an authorized officer. The maximum fine is $10,000 which may be considered not high enough.

With regard to awareness of law, KCDB (1999) identifies that only 4.0% residents have knowledge on legislation regarding building management/maintenance. About 63.5% members of owners' committee show no interest on legislation.

In essence, it would be worthwhile to explore:

- To promote education/knowledge on building management/maintenance to public;
- Government to raise level of consultation/assistance to public on building management/maintenance e.g. establishing OC, tendering etc.;
- Consolidate efforts from various Government departments e.g. Home Affairs Department, Buildings Department, Food & Environmental Hygiene Department, Fire Services Department, Water Authority;
- Whether any budgetary assistance would help in particular to the lower sector;
- To tighten up relevant ordinances/regulations;
- Professional institutes' advice/involvement;
- Advocate better property management/maintenance practices through services providers and trade associations e.g. Association of Property Management Companies.

METHODOLOGY

Quantitative approach with questionnaires are dispatched to solicit property management and owners' views, with statistical analysis on (1) owners' level of awareness/attitude to current problems, with student's t test; (2) relationship between various factors/variables e.g. owners' initiative versus government's support, with paired samples test on equalities of means; and (3) ascertain possible improvement/remedial actions upon building management/maintenance.

Likert's five points scale 1 to 5 marks for "the highest", "high", "moderate", "low" and "the lowest" respectively; and other questions are simply "1 for Yes" or "2 for No"; (Questions shown in Appendix 1).

The questionnaire consists of 32 questions, grouped under 2 sections i.e. Section A for general background of respondents, building characteristics, occupation, education level, years living in Hong Kong etc; and Section B for studying respondents' attitude/comments towards building

management/maintenance and covers primarily:

- Value of property, management and maintenance;
- Owner's views, responsibility and initiative;
- Owners' knowledge of legislation;
- Sources of owners' maintenance knowledge;
- Owners' views on Government's promotion/support;
- Budgetary and financial concerns

300 target respondents are identified through random sampling from old districts. 46 owners (18 %) validly return the questionnaire, though not a big return rate, but still sufficient for basic analysis (n > 30).

FINDINGS & ANALYSIS

Question 1 – 100 % respondents are from residential buildings

Question 2 – Background within respondents' buildings

Description	No.	%
1. Owner	19	41.3
2. Member of owners corporation	17	37.0
3. Tenant	5	10.9
4. Property Management	5	10.9
Total	46	100

Question 3 – No. of blocks within respondents' buildings

Description (block)	No.	%
1. One	23	50.0
2. Two	2	4.4
3. Three	8	17.4
4. Four	0	0
5. Five	3	6.5
6. More than five	10	21.7
Total	46	100

Question 4 – Age of buildings

Description (years)	No.	%
1. 1-5	12	26.1
2. 6-10	0	0
3. 11-15	8	17.4
4. 16-20	7	15.2
5. More than 20	19	41.3
Total	46	100

Question 5 – Who takes up the property management role?

Description	No.	%
1. Property management co.	24	52.2
2. Consultant firm	10	21.7
3. Nobody	0	0
4. Mutual aid committtee	0	0
5. Owners corporation	12	26.1
Total	46	100

Question 6 – Respondents' education level

Description	No.	%
1. Tertiary	12	26.1
2. Secondary school	18	39.1
3. Primary school	16	34.8
Total	46	100

Question 7 – Year of living in HK

Description (year)	No.	%
1. 0-1	0	0
2. 2-5	0	0
3. 6-10	2	4.3
4. 11-20	2	4.3
5. More than 20	42	91.4
Total	46	100

Question 32 – No. of accidents happened in past 1 year

Description (no.)	No.	%
0	28	60.9
1	8	17.4
2	2	4.3
3	2	4.3
4	6	13.1
Total	46	100

The following statistical analyses are tabulated for various questions under different clusters:

1. These questions focus on assessing respondents' responsibility towards building maintenance.

One-Sample Statistics

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VAR00009	6.582	45	.000	.82609	.5733	1.0789
VAR00012	7.576	45	.000	.82609	.6065	1.0457
VAR00023	2.573	45	.013	.36957	.0802	.6589
VAR00025	7.284	45	.000	.80435	.5819	1.0267

All findings hereof are statistically significant at $P < .05$ (as shown in the Sig. 2-tailed column). It reveals that respondents reckon a high consideration for regular maintenance (Q9 = VAR00009 and so on), responsibility (Q12) and acceptance to implement mandatory building inspection policy (Q25); while a moderate to high attitude in preferring Government to look after building maintenance for them at their own cost (Q23). In addition, for Yes (score 1) and No (score 2) questions, the following analyses are identified:

One-Sample Test

	Test Value = 1.5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00028	-5.147	45	.000	-.30435	-.4235	-.1852
VAR00029	-.883	45	.382	-.06522	-.2141	.0836

All respondents reckon that their property has no regular maintenance (Q27). The reason for not carrying out regular building maintenance is mainly due to insufficient budget (Q28). There appears no strong significance (Q29, $p > .05$) in concluding " the reason for not carrying out regular building maintenance is mainly because of consensus from all owners".

2. These questions focus on assessing respondents' investment/budgetary views towards building maintenance.

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00010	29.590	45	.000	3.78261	3.5251	4.0401
VAR00011	28.373	45	.000	3.76087	3.4939	4.0278
VAR00026	23.584	45	.000	3.56522	3.2607	3.8697

The findings here are significant ($p < .05$). Respondents reckon high consideration/worthy to spend on building maintenance (Q10), which can retain their property value (Q11); and feel the necessity to have grants/loans with low interest rate provided by Government for implementing building maintenance (Q26).

3. These questions focus on assessing respondents' legal concepts towards building maintenance.

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00016	19.209	45	.000	.89130	.7979	.9848

One-Sample Test

	Test Value = 1.5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00013	-1.494	45	.142	-.10870	-.2552	.0378
VAR00014	-2.489	45	.017	-.17391	-.3147	-.0332
VAR00015	-.883	45	.382	-.06522	-.2141	.0836

Respondents reckon a high degree of knowledge on legislation governing building maintenance (Q16). They moderately know that there are provisions in the Building Management Ordinance relating to building maintenance (Q14). However, there appears no strong significance in concluding that they "know that there are provisions in the Building Ordinance relating to building maintenance" (Q13, $p > .05$); nor they "know that Deed of Mutual Covenant usually have provisions requiring owners of multi-storey building to maintain their common areas properly. Obviously, there is a gap between findings of Q16 and Q13-15, respondents may have overvalue their overall knowledge on legislation in maintenance.

4. These questions focus on assessing respondents' opinion towards government's action in building maintenance.

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00020	-2.540	45	.015	-.32609	-.5846	-.0675
VAR00021	-2.105	45	.041	-.28261	-.5531	-.0121

All findings hereof are statistically significant at $P < .05$. Respondents show a moderate opinion on "the adequacy of the current promotion (Q20) and degree of success (Q21) on proper building maintenance by Government.

5. These questions focus on assessing respondents' knowledge towards building maintenance.

One-Sample Test

	Test Value = 1.5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00017	-.883	45	.382	-.06522	-.2141	.0836
VAR00018	-2.852	45	.007	-.19565	-.3338	-.0575
VAR00019	4.103	45	.000	.26087	.1328	.3889
VAR00030	-3.653	45	.001	-.23913	-.3710	-.1073

Respondents reckon moderately "that their knowledge on the necessity of building maintenance is obtained from Government publications e.g. posters or pamphlets" (Q18); and moderately "the reason for not carrying out regular building maintenance is mainly because of a lack of knowledge" (Q30). Respondents reckon largely "no, their knowledge on the ncecessity of building maintenance obtained from college/technical institute" (Q19). There appears no strong significance in concluding that their knowledge on the necessity of building maintenance is obtained from mass media e.g. TV, newspaper (Q17).

6. These questions focus on assessing respondents' initiative towards building maintenance.

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00022	2.817	45	.007	.43478	.1239	.7456
VAR00024	7.012	45	.000	.76087	.5423	.9794

All findings hereof are statistically significant at P < .05. Respondents reckon a high degree of agreement that building owners should take the initiative to inspect/maintain their own building (Q24); and a moderate to high willingness to take remedial action if a Repair Order/Investigation Order has been served on their property that rendered dangerous or liable to become dangerous (Q22).

Furthermore, some student's t-tests for equality of means from critical paired samples are also conducted:

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	VAR00009 - VAR00010	.04348	.55604	.08198	-.12164	.20860	.530	45	.598

It reflects no significant difference between the 2 samples/elements (P>.05). Respondents reckon high consideration for regular maintenance (Q9), and worthy to spend on building maintenance (Q10).

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	VAR00009 - VAR00022	.39130	.74471	.10980	.17015	.61246	3.564	45	.001

It reflects a significant difference between the 2 samples/elements (P<.05). While respondents reckon a high consideration for regular building maintenance (Q9), the degree of willingness to take remedial action upon a Repair Order/Investigation Order (Q22) is only moderate to high.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00009 - VAR00023	.45652	1.34506	.19832	.05709	.85595	2.302	45	.026

It reflects a significant difference between the 2 samples/elements (P<.05). While respondents reckon a high consideration for regular building maintenance (Q9), they adopt a moderate attitude in preferring Government to look after building maintenance for them at their own cost (Q23).

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00022 - VAR00024	-.32609	1.31748	.19425	-.71733	.06516	-1.679	45	.100

It reflects no significant difference between the 2 samples/elements (P>.05). Respondents reckon a high degree that building owners should take the initiative to inspect/maintain their own building (Q24); and a moderate to high degree of willingness to take remedial action upon receiving a Repair Order/Investigation Order (Q22).

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00013 - VAR00024	-2.36957	.97431	.14365	-2.65890	-2.08023	-16.495	45	.000

It reflects a significant difference between the 2 samples/elements (P<.05). While respondents reckon a high degree that building owners should take the initiative to inspect/maintain their own building (Q24), there appears no strong significance in concluding that they "know that there are provisions in the Building Ordinance relating to building maintenance" (Q13). Improving their legal knowledge regarding building maintenance would help.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00014 - VAR00020	-1.34783	.89981	.13267	-1.61504	-1.08061	-10.159	45	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00014 - VAR00021	-1.39130	1.04304	.15379	-1.70105	-1.08156	-9.047	45	.000

It reflects a significant difference between the 2 samples/elements (P<.05). While majority respondents moderately know that there are provisions in the Building Management Ordinance relating to building maintenance (Q14); they show a moderate opinion on "the adequacy of the current promotion (Q20) and degree of success (Q21) on proper building maintenance by Government. Government would have to do more in this respect.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00016 - VAR00024	.13043	.83290	.12280	-.11691	.37778	1.062	45	.294

It reflects no significant difference between the 2 samples/elements (P>.05). Respondents reckon a high degree of knowledge on legislation governing building maintenance (Q16), and highly agree that building owners should take the initiative to inspect/maintain their own building (Q24). This sounds positive, yet it may differ when it comes to reality.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00017 - VAR00018	.13043	.71829	.10591	-.08287	.34374	1.232	45	.224

It reflects no significant difference between the 2 samples/elements (P>.05). Respondents reckon moderately "that their knowledge on the necessity of building maintenance is obtained from Government publications e.g. posters or pamphlets" (Q18); and there appears no strong significance in concluding that their knowledge is obtained from mass media e.g. TV, newspaper (Q17).

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00020 - VAR00021	-.04348	.66522	.09808	-.24102	.15407	-.443	45	.660

It reflects no significant difference between the 2 samples/elements (P>.05). Respondents show a moderate opinion on "the adequacy of the current promotion (Q20) and degree of success (Q21) on proper building maintenance by Government. It remains a question " to what extent should Government do to improve?"

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	VAR00025 - VAR00026	.23913	1.43271	.21124	-.18633	.66459	1.132	45	.264

It reflects no significant difference between the 2 samples/elements (P>.05). Respondents reckon a high acceptance to implement mandatory building inspection policy (Q25), and feel the necessity to have grants/loans with low interest rate provided by Government for implementing building maintenance (Q26). It implies that mandatory building inspection seems acceptable if Government would financially support.

DISCUSSIONS

All respondents reckon that their property has no regular maintenance. The reason for not carrying out regular building maintenance is mainly due to insufficient budget. There appears no strong significance in concluding "the reason for not carrying out regular building maintenance is mainly because of consensus from all owners".

Respondents reckon a high degree of knowledge on legislation governing building maintenance. They moderately know that there are provisions in the Building Management Ordinance relating to building maintenance. However, there appears no strong significance in concluding that they "know that there are provisions in the Building Ordinance relating to building maintenance"; nor they "know that Deed of Mutual Covenant usually have provisions requiring owners of multi-storey building to maintain their common areas properly. Respondents may have overvalued their overall knowledge on legislation in maintenance.

Respondents reckon moderately “that their knowledge on the necessity of building maintenance is obtained from Government publications e.g. posters or pamphlets”; and moderately “the reason for not carrying out regular building maintenance is mainly because of a lack of knowledge”. Respondents reckon largely “their knowledge on the ncecessity of building maintenance not obtained from college/technical institute”. There appears no strong significance in concluding that their knowledge on the necessity of building maintenance is obtained from mass media e.g. TV, newspaper.

Respondents reckon high consideration for regular maintenance to retain their property value. This phenomenon is not unusual, as in Hong Kong.

Respondents reckon a high consideration for regular building maintenance, and also a high degree of agreement that building owners should take the initiative to inspect/maintain their own building. However, it may be a subjective desire, when it comes to reality e.g. to finance on maintenance, it may not be the case.

While respondents reckon high consideration/worthy to spend on building maintenance, the reason for not carrying out regular building maintenance is mainly due to insufficient budget. Obviously, there is a gap between perception and reality.

While respondents reckon a high degree that building owners should take the initiative to inspect/maintain their own building, they adopt a moderate attitude in preferring Government to look after building maintenance for them at their own cost. Assistance is sought after from Government on top of self initiative.

While respondents reckon a high degree of knowledge on legislation governing building maintenance, there appears no strong significance in concluding that they “know that there are provisions in the Building Ordinance relating to building maintenance”. Obviously, there is a gap between their perception and reality.

While respondents reckon a high degree of knowledge on legislation governing building maintenance, they moderately know that there are provisions in the Building Management Ordinance relating to building maintenance. Improving their legal knowledge regarding building maintenance would help.

While respondents reckon a high degree of knowledge on legislation governing building maintenance,

there appears no strong significance in concluding that their knowledge is obtained from mass media e.g. TV, newspaper.

Respondents reckon a high degree of knowledge on legislation governing building maintenance, and high acceptance to implement mandatory building inspection policy.

Respondents reckon moderately "that their knowledge on the necessity of building maintenance is obtained from Government publications e.g. posters or pamphlets"; and moderately "the reason for not carrying out regular building maintenance is mainly because of a lack of knowledge". Further publications may not be a critical issue to help improve respondents' lack of knowledge.

Respondents adopt a moderate attitude in preferring Government to look after building maintenance for them at their own cost, and feel the necessity to have grants/loans with low interest rate provided by Government for implementing building maintenance. It appears that respondents demand for financial assistance/loans by Government in a more practical manner.

CONCLUSION

Government would have to increase professional/technical support in advising potential owners to better manage/maintain their buildings; on top of the services/assistance provided via Home Affairs Department, Housing Society and associated bodies. Besides, financial assistance is sought after by owners on top of their self initiative also. Currently, there are loan schemes launched by Government via Building Authority, Housing Society, Urban Renewal Authority etc.; which may be revamped for improvement. There appears a strong correlation between owners' acceptance of mandatory building inspection scheme and Government's financially support. In addition, improving owners' legal knowledge regarding building maintenance would help, perhaps more workshops/seminars by legal experts may be organized. Government would have to do more hands-on promotions regarding proper building maintenance; and not just rely on publications to improve owners' lack of knowledge. Wider consultation/forums may be held to further solicit owners' views.

While owners perceive positively that they are willing, with initiative, to do regular building maintenance; the reality seems not. Primarily, they would expect/demand Government's support in finance and legal/professional education to enhance their knowledge in management/maintenance, though they claim to know. Perception differs with reality, in particular when people try to rely on others/government's resources to fulfill one's obligation. Is it justified?

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Appendix I - Questions
1. Type of Property
2. Role within building
3. No. of block
4. Age of building
5. Who takes up the property management role?
6. Education Level
7. Year of living in HK
8. Occupation
9. To what extent buildings require regular maintenance
10. To what extent it's worthy to spend on maintenance
11. To what extent proper maintenance can retain property value
12. To what extent a building owner is responsible for proper maintenance
13. Knowledge on Building Ordinance re. building maintenance
14. Knowledge on Building Mangement Ordinance re. building maintenance
15. Knowledge on Deed of Mutual Covenant re. maintaining common areas
16. Overall knowledge on legislation governing building maintenance
17. Knowledge on necessity of building maintenance from mass media
18. Knowledge on necessity of building maintenance from Government publications
19. Knowledge on necessity of building maintenance from college
20. Adequacy of current promotion on proper maintenance by Government
21. Degree of success of current promotion on proper maintenance by Government
22. Degree of willingness to action upon receiving Repair Order/Investigation Order
23. To what extent in preferring Government to look after maintenance on behalf, at owners cost
24. Owners should take initiative to maintain
25. To what extent in accepting mandatory building safety inspection scheme
26. Necessity for grants/loans with low interest from Government
27. Any regular maintenance
28. Insufficient budget hinders regular maintenance
29. Lack of consensus from owners hinders regular maintenance
30. Lack of knowledge hinders regular maintenance
31. General comment on public's awareness on building maintenance
32. No. of accident happened

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