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Exploring policy options to combat illegal microapartments in Hong Kong

Illegal building can take multiple forms, including squatter settlements and illegal building extensions. Among the various forms of illegal building, illegal microapartments (IMAs), which take the form of unauthorised subdivided housing units, have recently aroused wide public concern in Hong Kong. On account of their unlawful nature, IMAs pose serious threats to the safety of local communities by undermining structural stability and fire safety in buildings. They may also adversely affect natural lighting and ventilation for building occupants. Fatal fires in buildings with IMAs in recent years have demonstrated the painful consequence of ignoring this issue in the city. Nonetheless, the problem of IMAs has seldom attracted scholarly attention around the world. In light of the seriousness of the IMA problem in Hong Kong, this study explores workable policy options for cracking down

on the problem. It reviews policies or proposals in different jurisdictions to crack down on IMAs. Then a three-round policy Delphi study is carried out with a panel of stakeholders to identify and prioritise policy options for combating IMAs in Hong Kong. Various measures are proposed or identified by the panel members, ranging from increasing the frequency of building inspections and imposing stricter penalties on non-conforming owners to licensing IMAs for private renting. Among these options, stricter enforcement is considered the most workable option. The results of the policy Delphi study are discussed and policy recommendations are made.

Keywords: building inspection, illegal housing, microapartments, Delphi study, private rental, unauthorised building work

1 Introduction

To serve as a shelter, a building should not only be weather-proof and comfortable, but also safe. Unfortunately, the safety of the built environment is often jeopardised by a number of human factors. Erroneous design, poor workmanship and building misuse or abuse are the most often cited factors for safety hazards (Lo, 1998; Al-Homoud & Khan, 2004; Pearson & Delatte, 2005; Wong & Lau, 2007). Nonetheless, illegal building, such as unlawful additions, alterations and removals, which also plays an important role in determining building safety, has not attracted much academic attention. In fact, in spite of the growing volume of literature on building inspection, the main focus of previous research tends to be one-sided. Building inspection for new developments has predominated in the literature (Baiche et al., 2006; Meijer & Visscher, 2006; Imrie, 2007), but minimal work has been dedicated to inspecting existing buildings. Given that vigilant management of the existing building stock is one of the key determinants of sustainable urban development (Ho et al., 2008), there is no point in upholding such an imbalance in the research focus between new and existing buildings. In this regard, this article on combating illegal microapartments (IMAs) in existing buildings can contribute to the body of knowledge by counteracting this imbalance.

For various reasons such as unaffordable rentals in the private housing sector and long waiting lists for public rental housing, some people in Hong Kong have no choice but transient accommodation in IMAs, which often result from unlawful flat subdivision. Here, flat subdivision refers to a situation in which “individual living quarters having been subdivided into two or more smaller units for rental” (Policy 21 Limited, 2013: 5). Policy 21 Limited (2013) estimates that, as of 30 April 2013, 18,800 units were subdivided in the territory, producing 66,900 subdivided units and accommodating 171,300 persons (accounting for 2.4% of the total population of Hong Kong). However, these estimates did not include IMAs in residential buildings built after 1988 and industrial buildings. In general, the living conditions of IMAs are unsatisfactory. Many safety, health and social problems are associated with IMAs.

This article presents a study that identifies and prioritises policy options for cracking down on the problem of IMAs in the private housing stock in Hong Kong. Although a handful of works address different forms of illegal building in Hong Kong (e.g., Davison, 1990; Lai & Ho, 2001; Lai, 2003; Leung & Yiu, 2004; Yiu et al., 2004; Yiu, 2005; Yiu & Yau, 2005; Ho et al., 2008), no previous attempt has been made to explore workable solutions to the IMA problem in the city. To fill the research gap, we look for some practical policy options by applying the policy Delphi method.

This article is organised as follows. First, the problem of IMA and the regulatory inspection of existing buildings in Hong Kong is overviewed. Afterwards, measures to deal with the IMA problem in other jurisdictions are reviewed. Then, the policy Delphi method is detailed, followed by the key findings of the research. In the conclusion, the policy implications of the research findings are discussed and policy recommendations are presented.

2 IMAs in Hong Kong

In the early 2010s, Hong Kong's economy started its recovery from the global financial turmoil. However, the land supply in Hong Kong has long been constrained by the lack of developable land in the city. Moreover, the suspension of regular land sales by public auction or tender between 2002 and 2013 further limited the supply of new land for housing development. At the same time, the housing demand surged because of a continuous inflow of new immigrants from mainland China and new household formation. Eventually, the supply of new housing could not keep pace with the surging demand, resulting in a sharp rise in the rental level. Between 2003 and 2015, the private residential rental level in Hong Kong increased by 135% (Rating and Valuation Department, 2017). The rental inflation far outpaced the salary increase. Although public rental housing could provide accommodation to low-incomeers at affordable costs, the waiting time has been notoriously long. Many people had to seek their accommodation in the private rental sector, but it was clear that housing costs and family incomes had fallen out of balance. In view of the imbalance in the housing market, speculative landlords subdivided and leased out their properties. Several families crowded into a subdivided structure originally designed to hold only one household. To a certain extent, therefore, flat subdivision, which allows more intensive use of existing dwellings, is a natural response to the prevailing market imbalance. In Hong Kong, subdivided flats mainly proliferate in aging buildings in old districts. *Hong Kong Commercial Daily* (2015) reported that over 90% of the private standalone buildings in the Sham Shui Po area had subdivided flats.

2.1 Illegality of flat subdivision

Daniel Chi Wing Ho, Kwong Wing Chau and Yung Yau (2008) classified illegal building into two broad headings. The first category is the erection of structures on state land with no legal title obtained from the state. Informal housing settlements and squatter housing are typical examples of this type of illegal building. The second category covers unlawful additions, alterations, erections or demolitions carried out on land leased or granted by the state. In fact, a vast

majority of the subdivided units in Hong Kong belong to the second category because they constitute unauthorised building work (UBW). In Hong Kong, all building work, including construction of new buildings, demolition work, and additions and alterations to existing buildings, are subject to statutory inspection under the Buildings Ordinance and its subsidiary legislation (Department of Justice, 2017). The Buildings Department executes and enforces these legislations. To ascertain that the design and implementation of building work meet the minimum acceptable standard, approval and consent must be obtained from the Building Authority (i.e., the Director of Buildings) before the building work can commence, except for some situations (Chan & Chan, 2003; Yiu & Yau, 2005; Ho et al., 2008). Building work carried out in contravention of this stipulation is generally regarded as UBW (Yiu et al., 2004).

There are three exceptional situations in which prior approval and consent are not needed. The first is when the building work is excluded from the regime of the Buildings Ordinance. This includes building work carried out in buildings belonging to the Hong Kong Special Administrative Region (HKSAR) Government and building work carried out on land vested in the Housing Authority or the Hong Kong Garrison. The second is when the building work is designated exempted work, which includes common household renovation work such as painting, internal plastering, wallpapering and replacement of bathroom fittings. This work needs to be carried out inside a building and does not involve the building structure. The third is when the building work falls in the category of Class III work in the Minor Works Control System (MWCS), which was introduced in 2010. Under the MWCS, prior approval and consent is not necessary for forty-two types of low-risk building work provided that this work is carried out and certified by a registered minor work contractor and relevant documents are submitted to the Buildings Department within fourteen days after the completion of the work. Production of microapartments through flat remodelling or subdivision usually involves the erection of non-load-bearing walls for partitioning and alteration of interior plumbing. Before the introduction of the MWCS, this building work was exempted, given that the building work did not contravene any regulations under the Buildings Ordinance. Since the MWCS came into operation, subdivision of a flat is no longer treated as exempted building work in most cases. Whether the work is classified as Class I, Class II or Class III minor work depends on the specifications of the work, such as the thickness of the partition wall (Buildings Department, 2012). However, many landlords that engaged in flat subdivision did not fulfil the submission requirements under the MWCS. Even worse, many microapartments do not have any windows, and so their designs do not conform to relevant building codes. Therefore, most microapartments in Hong Kong are illegal.

2.2 Impacts of the IMA problem

The proliferation of IMAs in old buildings creates various safety and health hazards for the community. Because IMAs were produced without the scrutiny and approval of the Building Authority, their safety standards are not guaranteed. They endanger the fire safety of a building in various ways. For instance, the flat addition increases the number of occupants in a building and congests emergency exit routes. In some cases, flat subdivision involves physical alterations of flats, which disrupts the structural integrity of the building. This mostly happens when openings are made in load-bearing walls or the load-bearing walls are removed completely for more flexible spatial remodelling. Moreover, flat subdivision often adversely affects natural lighting and ventilation for building occupants. Alteration of plumbing systems may invoke problems such as pipe leakage and water seepage. Moreover, poorly planned flat subdivision makes some parts of the building inaccessible for repairs and maintenance, further aggravating building disrepair and dilapidation. These problems are vividly reflected in recurring complaints by residents in subdivided units regarding water seepage and concrete spalling (Policy 21 Limited, 2013). From the urban planning perspective, flat subdivision means more people, and increased population entails the need for more public services. Provision of more services in old districts, however, is often constrained by limited land and financial resources. Flat addition can affect perceived densities. To the extent that this occurs, the quality of life in the neighbourhood and property values may also be affected (Yau, 2015). From the viewpoint of neighbourliness, privacy issues and nuisances are difficult to avoid in the congested living environment in IMAs. Conflicts arise among occupants of IMAs, leading to confrontations in many cases.

2.3 Enforcements against IMAs in Hong Kong

In Hong Kong, enforcements against IMAs are rooted in the building inspection and land administration regimes. In the building inspection regime, the Buildings Ordinance serves as a statutory weapon for the HKSAR Government to fight against UBW, including IMAs, in the city. Section 24(1) of the ordinance empowers the Building Authority to serve statutory orders on building owners to remove any UBW within a specified period of time. The UBW that must be removed is explicitly specified in an order. A statutory order of this kind is commonly known as a “removal order” (Chan & Chan, 2003), but this name is rather misleading. UBW, by its nature, is not necessarily limited to unauthorised additions to a building, but also includes unlawful alterations or removals of approved building elements. In this light, a removal order would better be referred to as a “reinstatement order”. The

subject of the statutory order, which may be an individual or an owners' corporation, is required to reinstate the parts of the building so affected as per the originally approved building plans (Chan & Chan, 2003). If the reinstatement work is substantial or involves structural work, the Building Authority may specifically require the subject of the order to appoint a prescribed building professional to coordinate and supervise the reinstatement work on the subject's behalf. At the same time, appointment of a registered contractor to carry out the work under the supervision of the prescribed building professional is usually necessary for more complex reinstatement work. In some extreme cases, if the Building Authority is of the opinion that the whole or part of a building is not suitable for occupation, it can apply to the court for a closure order (Buildings Department, 2015). For example, IMAs were found in some premises in an industrial building in Tuseen Wan, Hong Kong in 2015. The Buildings Authority applied to the district court for a statutory closure order. With the order, the Buildings Department closed the premises with IMAs, facilitating the reinstatement work by the government contractor and discontinuing residential use in the industrial building.

To effectively prevent UBW, there must be penalties for those that do not observe the legal requirements. In Hong Kong, statutory and non-statutory penalties are employed in parallel. On the statutory side, Section 40(1BA) of the Buildings Ordinance stipulates that non-compliance with a statutory order served under Section 24(1), without any reasonable excuse, is a criminal offence. The offenders are liable to a fine and imprisonment. At the time of writing this article, convicted offenders are liable to a fine of up to HKD200,000 and to imprisonment of up to one year. In addition, continuing offenders may be subject to a further fine of HKD20,000 for each day they continue to violate an order. To supplement the criminal punishment, the statutory orders issued are registered with the Land Registry against the titles of the properties (Chan & Chan, 2003). Such a registration is only removed when the owners comply with the subject order to the satisfaction of the Building Authority (Buildings Department, 1997). With the enactment of the Building (Amendment) Ordinance 2004, the Building Authority is authorised to issue warning notices to owners of premises with an UBW and to register the notices in the Land Registry if the UBW is not rectified within a specified period. Although properties with title encumbrances can still be freely traded, their market values are usually lower. These non-statutory mechanisms create economic disincentives for creating UBW. On the other hand, the land administration regime relies on the enforcement of the terms or conditions in government leases. Virtually all of the land in Hong Kong is held under a leasehold system. Land uses and parameters of development potential are specified in government leases. Non-conforming use of a site (e.g., running IMAs

in an industrial building erected on a non-residential site) is a breach of the government lease condition. Upon identifying non-conforming uses, the Lands Department issues warning letters to the leaseholders concerned requesting that they stop their non-conformance. If the warning is ignored, the HKSAR Government can repossess the land or properties with non-conforming uses. In general, enforcement under the building inspection regime is applicable for all private buildings in Hong Kong. Conversely, as far as IMAs are concerned, enforcement of government land leases against this type of illegal accommodation is effective only in non-residential sites (lease conditions are not breached if IMAs are located in residential sites).

Enforcements against IMAs in Hong Kong, particularly in private residential or residential-commercial buildings, are thorny. Due to the lack of resources, it is impossible for the Buildings Department to inspect all private buildings in Hong Kong. The Buildings Department has to rely on complaints from the public to initiate investigations. Even worse, IMAs are not easily identifiable from a building's exterior. In-flat inspection is required, but warrants have to be obtained from the court beforehand unless the building occupants permit the entry of government inspectors. In order to obtain the warrants, the Buildings Department has to gather evidence such as multiple mailboxes and doorbells, which are difficult to discover in many cases. From the perspective of institutional economics, therefore, the transaction costs incurred in the Buildings Department's enforcement against IMAs, particularly costs of IMA identification, are very high. Apart from the difficulties in identifying non-conformance, the bureaucratic incapacity of the Buildings Department has been one of the major obstacles to the effective inspection of IMAs in Hong Kong. As shown in Figure 1, the number of removal orders issued by the Building Authority has fluctuated greatly since 1997. From 1997 to 2007, the number of statutory orders issued each year for UBW removal increased more than tenfold, from 3,103 to 32,898. Yet the number of orders issued dropped to an annual average of about 12,300 between 2012 and 2015. This significant reduction in statutory orders issued reflects the lack of capacity of the Buildings Department to handle the problem of UBW in the city. Various reports have criticised the Buildings Department for not closely following up on compliance with removal or reinstatement orders (Audit Commission, 2003, 2015; Yiu et al., 2004; Office of the Ombudsman, 2014). About 20% of the statutory orders were not cleared five years after their issuance. In spite of the significant proportion of non-compliance cases, the prosecution rate has been rather low. Given the safety and health concerns arising from IMA proliferation, it is clear that a more effective policy is urgently needed to bring the problem in the city to an end.

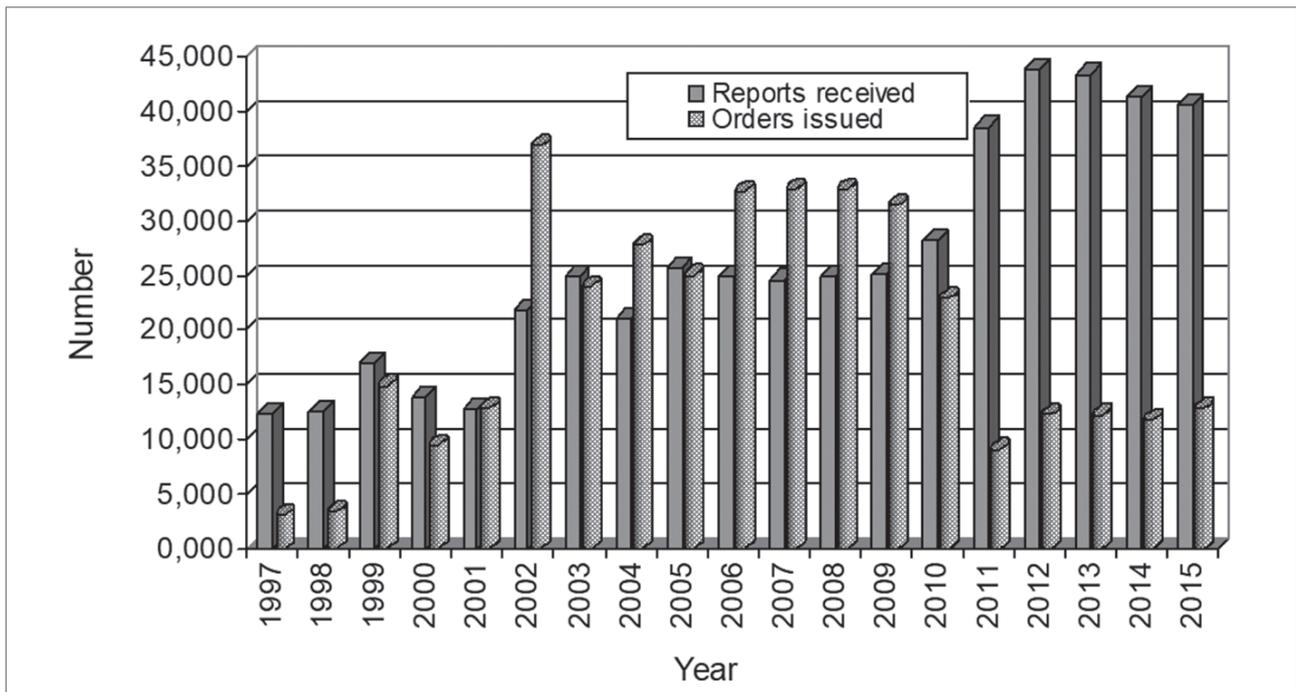


Figure 1: Number of reports on UBW received and removal orders issued by the Buildings Department (source: Buildings Department, 2001, 2004, 2008, 2011, 2014, 2016).

3 Measures for dealing with IMAs abroad

Subdivision of the housing stock is nothing new. At various times in the history of modern cities, flat subdivision has provided a large share of additions to the housing inventory. For example, apartment subdivision was trendy in New York City, particularly the Manhattan area, in the 1930s (Hokinson, 1936). Informal subdivision of dwellings was also commonly found in São Paulo and Johannesburg in the early 2000s (Few et al., 2004). Various measures or policies have been adopted by governments around the world to deal with the issue of IMAs or similar problems of illegal flat subdivision. In general, if flat subdivision contravenes building codes or regulations, in many jurisdictions public authorities will order the property owners to reinstate the properties. Failure to comply with the statutory orders can be a serious criminal offence. For example, in Singapore, a property owner that fails to comply with a statutory enforcement order is liable to a fine of up to SGD20,000 and up to six months in prison. Apart from building inspection, zoning or planning supervision has been employed against the problem of illegal accessory dwellings in the United States. In many houses built on land zoned for single-family use, there are legally constructed rooms accessory to the primary residence. These spaces are frequently illegally converted into a separate dwelling unit for some other families by adding separate kitchen and bathroom facilities. Upon

identifying violations, the planning authority will require the offenders to stop or correct the non-conformance. Similar to the statutory building inspection, neglect of or non-compliance with the abatement orders without a reasonable excuse is a misdemeanour or criminal offense. In addition, governments can impose minimum standards on residential properties for leasing purposes. For example, in mainland China, an apartment or house originally designed for occupation by a single household is the minimum unit for leasing, and the per-capita living spaces of rental properties must not be smaller than the minimum standards determined by the local government. In Beijing, for instance, the living space per capita must not be less than five square metres and the maximum number of occupants per room is two. Similar measures regulating living space standards are also in force in Singapore and the United Kingdom.

IMAs often become popular in a housing market through active marketing by real estate brokers. In this light, governments can depopularise IMAs by removing intermediaries in leasing or trading these informal dwellings through regulating brokerage practices. Real estate brokerage companies have been asked to sign an agreement with the Beijing Municipal Housing, Land and Resources Administration that they will not engage in improper brokerage practices, including leasing or trading illegally subdivided units. Companies that breach the agreement

will be punished. In Beijing, people are rewarded if they report suspected group-oriented leasing and misuse of dwelling units. In some countries, such as the United Kingdom, Australia and Singapore, on the other hand, approval or regularisation of UBW is allowed provided that the designs and construction of the UBW complies with the prevailing building codes. On account of the demand-supply imbalance in housing markets, many scholars and policymakers propose legalising IMA or flat subdivision, which is not permitted under the current laws. For example, microapartments in the form of single-room occupancy housing have been prohibited in the United States, and Brian Sullivan and Jonathan Burke (2013) have proposed legalising single-room occupancy housing to provide more affordable housing to the market.

4 Research method

Awareness of all available options and experts' views on these options is essential for the formulation of a workable and well-informed policy for combatting IMAs in Hong Kong. In many cases, identification and evaluation of policy options necessitates idea generation, which can be exercised in two ways; namely, an individual-based approach and a group-based approach. According to Roger Needham and Robert de Loe (1990), the individual-based approach obtains input from individual experts without a chance for them to exchange ideas or interact with each other, whereas the group-based approach allows some forms of interaction among the informants. Previous studies argue that the group-based approach is preferable to the individual-based approach in many aspects (Osborne, 1975; Herbert & Yost, 1979; Pearson et al., 2010). In most cases, the former is thought to produce more options and better-quality ideas.

4.1 The policy Delphi method

In line with the research objectives, we adopted policy Delphi, a group-based idea generation method, to generate options and opinions from a panel of stakeholders. This method was first proposed by Murray Turoff (1970). It is designed to ensure that the best possible information will be available for decision-makers or policymakers and that all possible options are on the agenda (Turoff, 1975). It is useful when decision-makers do not want a group of experts or informed advocates to come up with a decision for them, but rather to suggest all of the possible options and justifications for their consideration. In its operation, policy Delphi involves a series of organised steps for obtaining, exchanging and developing informed opinions on a specific topic (Dunn, 2012). With some adaptations, it can also allow the estimation of the acceptability and potential impacts of the identified options for

a problem. Unlike the conventional Delphi method, which is designed to pursue a consensus on a particular topic among a group of experts, policy Delphi seeks to "generate the strongest possible opposing views on the potential resolutions of a major policy issue" (Turoff, 1975: 84). In other words, the policy Delphi technique should be chosen when eliciting dissensus among different people is more important than achieving a consensus (Klenk & Hickey, 2011). Although it is a systematic method for obtaining, exchanging and developing informed opinions on a particular policy issue from a wide spectrum of participants (Rayens & Hahn, 2000), Robert de Loe (1995) has pointed out that policy Delphi focusses on the breadth of an issue more rather than the depth.

From above, it is clear that policy Delphi is suitable for policy analysis, rather than for achieving a decision. A policy Delphi process usually includes several question-response rounds. Paul Baker and Nathan Moon (2008, 2010) proposed several principles underlying the design of a policy Delphi process. For example, none of the participants know the identities of the others. Anonymity aims to minimise the mutual influences among individual participants and ensure candid responses from each single participant. In addition, the questionnaire for each question-response round is developed based on the results of the previous rounds. Moreover, it is important that inputs of the participants be convertible into quantitative data so that statistical analyses can be performed.

4.2 The expert panel

For a thorough exploration of options for the IMA problem in the policy Delphi process, a vigilant design of the expert panel plays an important role. Although the results obtained from a larger panel may be more valid in a statistical sense, what is more important to the quality of the research is a well-adjusted mix of experts from various backgrounds (Wheeller et al., 1990; Garrod & Fyall, 2000). In this study, the panel members in the policy Delphi process should be the key stakeholders in the quality built environment in Hong Kong and should have a committed interest in the quality of the urban built environment and in-depth knowledge of IMA issues in Hong Kong.

The target panel members are divided into three groups. The first group, which is the largest among the three, includes various types of building professionals from the private and public sectors. These building professionals include architects, building surveyors, engineers, housing managers and town planners. They are the major gatekeepers (i.e., regulators), designers or caretakers of the built environment in Hong Kong. The second group includes district councillors in districts with serious IMA problems. Sham Shui Po, Tsuen Wan, Tokwawan and

Table 1: Descriptive characteristics of the panel members.

Group	Characteristic	Percentage (%)			
		Invitee	First-round respondent	Second-round respondent	Third-round respondent
1	Sex				
	Male	80.0	78.2	77.7	78.3
	Female	20.0	21.8	22.3	21.7
	Occupation				
	Architect	13.3	10.9	10.7	10.4
	Building surveyor	27.5	30.3	31.3	31.1
	Builder	6.3	3.4	3.6	2.8
	Fire engineer	7.5	5.9	5.4	4.7
	Structural engineer	15.4	16.0	15.2	15.1
	Town planner	10.0	10.1	8.9	9.4
Property and facility manager	20.0	23.5	25.0	26.4	
Professional experience					
10 years or less	20.8	19.3	19.6	19.8	
11–20 years	31.3	31.1	30.4	31.1	
21–30 years	37.1	37.8	38.4	39.6	
Over 30 years	10.8	11.8	11.6	9.4	
Labour sector					
Public sector	62.1	58.0	58.0	57.5	
Private sector	37.9	42.0	42.0	42.5	
2	Sex				
	Male	86.7	94.7	93.8	93.3
	Female	13.3	5.3	6.3	6.7
3	Sex				
	Male	60.0	47.4	81.8	80.0
	Female	40.0	15.8	18.2	20.0

Note: The percentages in each category may not add up to 100% due to rounding.

Yau Tsim Mong are examples of these districts. The last group comprises residents of buildings with an IMA problem. The chairmen of the resident associations (e.g., owners' corporations, owners' committees and mutual aid committees) and representatives from locally based concern groups belong to this group. The inclusion of the second and third groups in the study aims to offer suggestions and views from a more socially oriented perspective. These groups of participants are presumed to be the ones that often receive complaints against IMAs, know how buildings or neighbourhoods with IMAs actually work and have a better understanding of the difficulties of IMA residents.

Purposive sampling, which is commonly used in policy Delphi studies (Paraskevas & Saunders, 2012), was employed for selecting panel members for this study. As shown in Table 1, three hundred target participants were invited to take part in the policy Delphi study, with 240 building professionals (Group 1), thirty district councillors (Group 2) and thirty

other stakeholders, such as chairmen of resident associations and representatives of locally based concern groups (Group 3). For convenience and to save paper, target participants were invited to complete the policy Delphi survey electronically using the web-based platform Qualtrics®. However, a paper survey was conducted among the respondents in the third group.

4.3 The policy Delphi process

For this study, the policy issue is about resolving the IMA problem in Hong Kong. Following the principles suggested by Baker and Moon (2008, 2010), the current policy Delphi process has four steps: 1) identifying the options, 2) determining initial positions on the issues, 3) exploring and obtaining the reasons for disagreements, and 4) re-evaluating the options. To complete these four steps, three rounds of policy Delphi survey were carried out. Following the research design suggested by de Loe (1995), a specific questionnaire was designed for each round of the survey. In the first-round survey, the participants

were mainly asked what action or policy can be taken to cope with the IMA problem in Hong Kong's residential and mixed-use (i.e., residential plus commercial) buildings. Background information about the problem of IMAs in Hong Kong and a brief summary of regulatory measures adopted in other countries were given to the participants for reference together with the questionnaire. In this round, each participant could suggest any number of policy options that he or she regarded as workable. It has been commonly believed that an increase of housing supply in both the public and private sectors is the ultimate solution to the IMA problem in Hong Kong. However, this goal cannot be achieved in the short run because of the complex and politicised land-administration and town-planning issues in the city. Therefore, the participants were asked to propose immediate or medium-term solutions to the IMA problem.

In the second round, the same group of participants evaluated the consolidated options suggested during the first round. They were asked whether the policy options identified are desirable and feasible using two six-point rating scales (from 6 = very desirable to 1 = very undesirable; and from 6 = definitely feasible to 1 = definitely unfeasible). In addition, the participants were asked for open-ended responses to explain their evaluation (e.g., why a low level of desirability is accorded to a specific option). From the participants' ratings obtained in the second round, it was possible to determine whether there was consensus or disagreement among the respondents for each suggested option. This exercise also reveals the reasons for the consensus or disagreement. In the third-round survey, the participants were informed of the consolidated inputs from all respondents in the second round and they were then required to reassess their initial positions. Each participant was asked to rate the desirability and feasibility of each policy option based on the six-point scales. Nonetheless, the third-round survey was solely committed to information feedback, rather than to achieving consensus among the participants. The questionnaires for all three rounds of the survey were pretested before the surveys.

5 Results of the policy Delphi survey and discussion

Invitations to take part in the policy Delphi study and the questionnaire for the first-round survey were sent to the three hundred target participants in December 2015. One hundred fifty of the three hundred invitees (50%) agreed to participate in the policy Delphi process by submitting responses to the first-round survey. The overall response rate of district councillor group was the highest (63.3%). The panels completing both the second and third rounds numbered 139 and 131, respectively. In other words, eleven participants in the first round dropped out in the second round, and eight

participants in the second round dropped out in the third round. The second-round survey was conducted in February 2016, and the third-round survey in March 2016. Table 1 summarises the characteristics of the panel members that participated in the different rounds of the policy Delphi survey.

In the first-round survey, the 150 panel members returned 467 possible options to tackle the problem of IMA proliferation in Hong Kong's residential premises. On average, each panel member offered 3.11 suggestions. In fact, some of these suggested options were very similar or duplicated. Following a thorough review of all of the options suggested by the panel members, the options were reduced to sixteen options falling under four broad categories, which are listed and described in Table 2. In the second and third rounds, the panel members were directed to rate each of the sixteen consolidated options obtained from the first round with reference to their desirability and feasibility. Their ratings are summarized in Tables 3 and 4.

The results obtained in the second and third rounds of the policy Delphi survey did not deviate significantly. As far as the desirability criterion is concerned, "stricter penalties against non-conformers" had the highest mean rating, followed by "more frequent patrols" and "facilitating in-flat inspection". These findings imply that stepping up of enforcement actions was viewed as the most desirable strategy in solving the IMA problem in Hong Kong's private housing stock. By imposing stricter punishments or penalties on non-conformers, who may be owners or builders of UBW, the government could deter legal violations. On the other hand, "development of an information platform" and "statutory disclosure" were rated as the least desirable options. Some panel members felt that market players such as homebuyers and renters might not place much emphasis on the existence of IMAs in a building when searching for a home. As for feasibility, "public education programmes" ranked first, with "stricter penalties against non-conformers" and "regulating brokerage practices" being second and third, respectively. Conversely, "forfeiture of IMAs" and "criminalising IMA work" received the lowest feasibility ratings.

By integrating the mean desirability and feasibility ratings obtained in the third round, it is possible to determine which policy options should be accorded higher priority for being considered for implementation. Figure 2 shows a scatter plot of the mean desirability and feasibility ratings. The graph is divided into four quadrants. The policy options that lie in Quadrant I are those considered undesirable and unfeasible. These include "rewarding informants", "criminalising IMA work" and some other suggested options. Quadrant II accommodates options that are feasible but undesirable. The implementation of the options in that quadrant is relatively straightforward, but

Table 2: Descriptions of consolidated policy options.

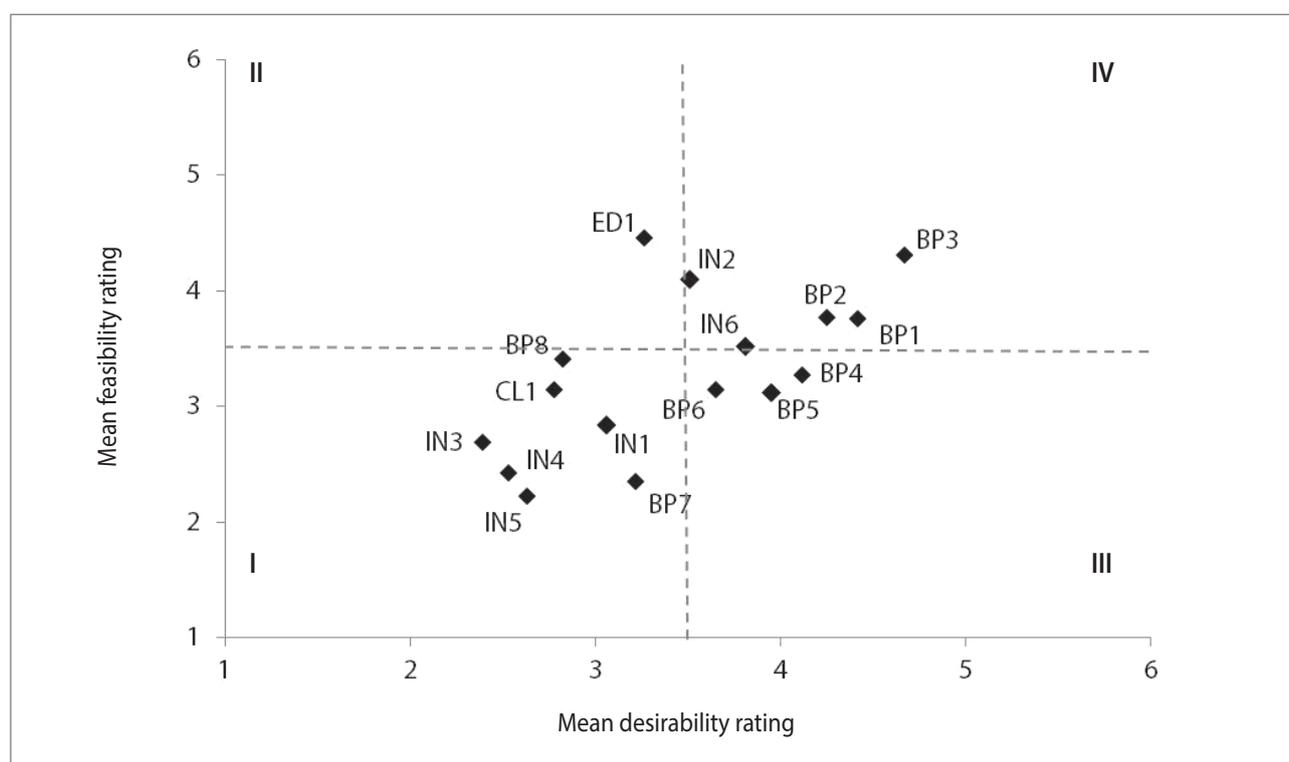
Category	Option	Action(s) involved or needed
Education	(ED1) Public education programmes	Programmes for educating the general public about what IMAs are and the negative outcomes of IMAs
	(BP1) Facilitating in-flat inspection	Waiving the warrant requirement or simplifying the process for obtaining a warrant for public officials to enter premises for inspection
	(BP2) More frequent patrols	Stepping up inspections in private residential buildings to identify IMAs
	(BP3) Stricter penalties against non-conformers	Imposing stricter punishments against owners and/or builders of IMAs
Building and planning inspection	(BP4) Higher prosecution rate	Increasing the rate of prosecuting non-conformers with statutory orders issued under the Buildings Ordinance with respect to IMAs
	(BP5) Closure of IMAs	Increasing the rate of using statutory power to close IMAs detected
	(BP6) Mandatory building inspection	Including identification of IMAs as an essential inspection element in the Mandatory Building Inspection Scheme
	(BP7) Criminalising IMA work	Amending the law and making illegal flat subdivision a criminal offence
	(BP8) Enforcing occupancy standards	Stipulating and enforcing the minimum space requirements for each occupant
Incentivisation	(IN1) Rewarding informants	Offering rewards to people that provide regulatory agencies with useful information about IMAs in a residential building
	(IN2) Regulating brokerage practices	Penalising real estate agents that lease or make transactions involving IMAs
	(IN3) Developing an information platform	Setting up a platform for informing the public about the seriousness or extent of IMA proliferation in each building in the territory
	(IN4) Statutory disclosure	Requiring vendors or landlords to disclose whether IMAs exist in their buildings during property transactions or when concluding lease agreements
	(IN5) Forfeiture of IMAs	Seizing premises used as IMAs by the government
	(IN6) Criminalising IMA leasing	Amending the law and making leasing of IMAs a criminal offence
Conditional legalisation	(CL1) Licensing existing IMAs	Permitting existing IMAs to exist provided that they fulfil specific building design and construction requirements and they are registered

Table 3: Statistics of the desirability ratings obtained in the second and third rounds.

Option	Second Round		Third Round	
	Mean	s	Mean	s
(BP3) Stricter penalties against non-conformers	4.68	1.43	4.67	1.41
(BP2) More frequent patrols	4.45	1.41	4.43	1.35
(BP1) Facilitating in-flat inspection	4.22	1.51	4.25	1.47
(BP4) Higher prosecution rate	4.12	1.48	4.12	1.46
(BP5) Closure of IMAs	3.97	1.39	3.95	1.35
(IN6) Criminalising IMA leasing	3.83	1.48	3.81	1.43
(BP6) Mandatory building inspection	3.69	1.46	3.66	1.41
(IN2) Regulating brokerage practices	3.52	1.65	3.51	1.59
(ED1) Public education programmes	3.27	1.24	3.27	1.14
(BP7) Criminalising IMA work	3.25	1.58	3.23	1.53
(IN1) Rewarding informants	3.09	1.34	3.06	1.29
(BP8) Enforcing occupancy standards	2.82	1.41	2.83	1.34
(CL1) Licensing existing IMAs	2.79	1.38	2.78	1.34
(IN5) Forfeiture of IMAs	2.65	1.32	2.64	1.24
(IN4) Statutory disclosure	2.54	1.22	2.54	1.15
(IN3) Developing an information platform	2.43	1.14	2.40	1.06

Table 4: Statistics of the feasibility ratings obtained in the second and third rounds.

Option	Second Round		Third Round	
	Mean	s	Mean	s
(ED1) Public education programmes	4.46	1.31	4.44	1.28
(BP3) Stricter penalties against non-conformers	4.32	1.45	4.31	1.49
(IN2) Regulating brokerage practices	4.12	1.36	4.10	1.30
(BP1) Facilitating in-flat inspection	3.90	1.41	3.77	1.36
(BP2) More frequent patrols	3.76	1.55	3.74	1.49
(IN6) Criminalising IMA leasing	3.65	1.40	3.52	1.33
(BP8) Enforcing occupancy standards	3.41	1.70	3.41	1.64
(BP4) Higher prosecution rate	3.35	1.74	3.27	1.72
(BP6) Mandatory building inspection	3.15	1.30	3.14	1.24
(CL1) Licensing existing IMAs	3.13	1.35	3.13	1.33
(BP5) Closure of IMAs	3.11	1.33	3.12	1.30
(IN1) Rewarding informants	2.87	1.32	2.84	1.25
(IN3) Developing an information platform	2.67	1.28	2.69	1.26
(IN4) Statutory disclosure	2.44	1.00	2.41	0.94
(BP7) Criminalising IMA work	2.32	1.22	2.34	1.23
(IN5) Forfeiture of IMAs	2.24	1.06	2.21	0.95

**Figure 2:** Scatter plot of the mean desirability and feasibility ratings (author: Yung Yau).

the positive policy impacts are limited. For instance, public education programmes can be easily devised and implemented but their impacts on IMA proliferation are doubtful. In contrast, the options falling into Quadrant III are those regarded as desirable but unfeasible. In other words, it is impractical to implement these options, even though they can bring about positive impacts. For example, “closure of IMAs” may deter

landlords from converting their premises into IMAs. However, it is very costly and difficult for the Building Authority to acquire closure orders from the court.

Quadrant IV contains policy options that were considered both desirable and feasible. The options in this quadrant include three options under the “building and planning

inspection” category and two under the “incentivisation” category. Speaking overall, the option “stricter penalties against non-conformers” was most preferable because it ranked first and second in the desirability and feasibility leagues, respectively. However, this option is not free of criticisms. Some panel members warned that the local community may object to amendments to the legislation because people may worry about breaking the law unknowingly. In other words, it is necessary to help property owners fully understand what a UBW is and the proper procedures to obtain building approval before revising the penalty levels. “Facilitating in-flat inspection” was also regarded as desirable and feasible. On many occasions, identification of IMAs is particularly difficult, and so many panel members welcomed waiving the warrant requirement or an expedited process for Buildings Department officials to obtain a warrant for an in-flat inspection. Nonetheless, privacy and gratuitous nuisance were often-cited concerns of the panel members in relation to this policy option. The option “more frequent patrols” was also preferable, but it would be effective only if the government invested more in the building inspection workforce.

6 Conclusion

Illegal flat subdivision can turn an ordinary apartment into a death-trap. Unlawful internal alterations may block the means of escape and undermine the structural integrity of a building. Moreover, IMAs pose health risks to and induce clashes between occupants. Drawing on the findings of the three-round policy Delphi survey, this study explored workable policy options to combat the IMA problem in Hong Kong. The participants in the survey generally regarded imposing stricter punishments against non-conformers as the most preferable policy option when desirability and feasibility were jointly considered. In this regard, the HKSAR Government should further increase the penalties against property owners that engage in UBW in their properties because penalties with strong deterrent effects are expected to prevent building code violations. Alternatively, the HSKAR Government can consider introducing new fixed penalties specifically for illegal housing conversions. A legislative proposal was made to create a new building code violation called “aggravated illegal conversions” in New York City in 2016 (New York City Council, 2016). “Aggravated illegal conversions” were defined as three or more illegal dwelling units being created within one structure that threaten the safety of occupants and neighbours. It was proposed that the fine for this new code violation would increase with the number of units illegally created. The HKSAR Government can model this legislative proposal.

In fact, increasing the level of penalties alone does not appear to be a very promising approach if public officials face

great difficulties in identifying IMAs or collecting evidence for prosecution. This is why the survey participants also called for measures to facilitate in-flat inspection by public officials, although some were concerned by possible privacy and nuisance issues. Apart from giving public officials more power for in-flat inspection, the HKSAR Government should enhance the operational efficiency of investigation exercises by setting up a multi-agency investigation team. The team should comprise public officers from the Buildings Department, Fire Services Department and Hong Kong Police as the core member, and may also include members from other government departments. As demonstrated by the pilot scheme run by the New York City Council, it is much easier for building inspectors to gain access to apartment units for inspection when firefighters are present (Hernández, 2011). Moreover, the inclusion of police officers with specialised skills in forensic evidence in the investigation team can improve enforcement efficiency. These specialists can also help carry out undercover investigation for IMAs.

Nonetheless, one should bear in mind that the policy options investigated in the study are not mutually exclusive. Some options can complement each other. For example, stricter enforcements against perpetrators can be supplemented by public education and incentivisation programmes in order to achieve better policy outcomes. To further investigate the suitability of the policy options identified in the policy Delphi survey, researchers and policymakers should conduct all-inclusive social impact assessments and detailed cost-benefit analyses of the options. Although the use of expert panels has been recommended for policy Delphi, involvement of the general public in the policymaking process is still indispensable. Therefore, the views of other stakeholders in the community should receive full consideration in formulating an acceptable policy to deal with the problem of IMAs in Hong Kong.

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