

URBAN PLANNING FOR HEALTHY PHYSICAL LIVING ENVIRONMENT

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Background

1. The fast spread of the SARS virus in early 2003 generated a wave of panicking and mad criticisms, followed by irrational blame apportioning. This is nowadays the usual scene in Hong Kong whenever a crisis strikes. Scapegoats, political or otherwise, are then identified.
2. A scapegoat for the SARS spread was quite soon thought to have been found. When it was discovered that the spread was even more speedy in particular intensively developed housing sites, attention was drawn to the close proximity of living-quarters, housing blocks and housing sites in Hong Kong. On further deduction, it was alleged, without much evidence (scientific or otherwise), that the real cause is the high development density in general and in particular individual housing blocks or housing sites as, it was suggested, development density gives rise to high population density and close proximity of living-quarters and congested housing development. As usual, the urban planner was then criticized for wrong planning that led to such poorly built housing estates. Fingers pointed at such urban planning tools as plot ratio control, building height restrictions, density targets and urban design guidance, or the lack of these. Many of those pointing their fingers forgot that the urban planner had for long tried hard, but in vain, to persuade the community to take adequate note and action on these urban design factors.
3. As the crisis started to ease and rational thinking returned, experts began to study the problem in greater depth and more objectively and systematically. It quickly became apparent that other aspects related to the physical environment played much more significant roles in the virus spread. These included building design, building construction, building maintenance and the bad behaviours of the residents.
4. This paper does not intend to refute responsibility or rebut charges. If the mistakes are evidently his, the urban planner would no doubt be ready to correct

and to improve. But it is the duty of everyone concerned to first find out what the real causes are, so as not to let the real culprit to escape to cause other harms elsewhere and at other times. Neither would it even venture a guess on the real cause. This is quite a complicated matter, well beyond urban planning and definitely the capacity of this author.

Alleged Impacts of Development Form

5. When extremely rapid spread of the SARS virus was first experienced in a certain high-density housing site, based on some superficial reasons development density was somehow identified as the cause. This was undoubtedly one of those unfounded guesses nowadays so common in Hong Kong. Admittedly, this particular virus generated an unprecedented panic in the community. Wild fault pinpointing and blame apportioning were not unexpected. Upon more careful analysis when the dust started to settle and people had calmed down from the panic, however, the claimed correlation between physical development form (development density and overcrowdedness in particular) and the occurrence or spread of epidemic diseases began to be questioned.
6. The development density was singled out as it was thought obvious that the nearer the buildings and living-quarters were located and the more crowded the living conditions were the easier the virus could pass between people and between living-quarters. Therefore, the lower the plot ratio granted the lower would be the development and population densities and thus the lower the rate of contact between people. Consequently, the lower the rate of virus spread would be.
7. A simple investigation on validity of this correlation is to compare the geographical distribution of the occurrence of SARS cases and development densities by districts. During the SARS period, lower case occurrence was recorded in the old districts with higher development densities and greater degree of overcrowdedness (like Mong Kok, Wan Chai and Yau Ma Tei); higher occurrence was, on the other hand, found in newer districts with lower development densities and lower degree of overcrowdedness (such as Tai Po and Sha Tin). One of course should not read too much from this rather strange and unexpected situation. It is too simplistic an approach. Many more in-depth analyses must be undertaken before drawing any conclusion. Nonetheless, it should be obvious that the alleged direct and simple correlation between

development density and occurrence or spread of epidemic diseases does not exist.

8. Explanations about this phenomenon have been offered. One view is that districts like Tai Po and Sha Tin are near to general hospitals where many SARS patients were treated, whereas Mong Kok and Wan Chai are not. Is this a plausible explanation? Mong Kok, for instance, has its Kwong Wah Hospital which, after all, was the starting point of this particular epidemic.
9. The phenomenon does demonstrate that even the lower densities and greater physical separation between development sites in new towns are not sufficient to reduce the spread or occurrence of this disease. Conversely, this may perhaps help to prove that the SARS virus does not spread through the atmosphere.
10. Some have thought that plot ratio is the real culprit. If development densities are a cause, it is only logical that we must exercise strict restrictions on plot ratio (which gives rise to the development density) – that is, we must keep permitted plot ratio as low as possible. Hence during the fight against this disease, there was the call for the urban planner to consider lowering the plot ratio permitted in various districts. Since it was later realized that there is no apparent relationship between development density and the disease, plot ratio should be taken out of the list of culprits.
11. This deduction is not soundly based. Even if we do not challenge the alleged correlation, it must be realized that the lowering of plot ratio may not lead to greater separation between buildings or living-quarters, as the relative distribution of buildings and living-quarters in any housing sites is a consequence of the design of the development on particular housing sites. Higher plot ratios may not give rise to crowdedness; lower plot ratios may not result in better relative distribution. A plot ratio restriction can only control the overall development intensity in terms of the total floor area permitted to be built on a given site. It cannot control how this total is used and distributed within the site (that is, the design of the development on the site) or how many living-quarters will be constructed as this depends on the size of the living-quarters. Decisions on these rest with the commercial judgment of the developers. Neither can it control the population accommodated since occupancy in the flats is a totally private matter.

12. Lowering the plot ratio has some most undesirable effects. In reducing the maximum permissible floor space on urban development sites, it would decrease the population and activity accommodation capacity of the urban areas. To house the same population and activities, more of the countryside would have to be urbanized at extremely high cost to the community. Low plot ratio would of course further reduce the profit margin of development schemes, rendering it more difficult for the private developers to provide the high-quality housing and environment we desire. The third major implication is that it can discourage redevelopment, a point further discussed in paragraph 36 below.
13. On the other hand, not all is lost. The urban planner can of course exercise some control over some aspects of the urban development form. He can and should help to achieve better built-forms no matter whether these are related to the outbreak or the spread of diseases.

Effects of Urban Design and Building Design

14. Research studies undertaken soon after the outbreak of SARS seem to have revealed the effects of some urban design and building design aspects. These were discussed in the “Public Forum on Planning and Building for a Healthy Living Environment” jointly organized by the Hong Kong Institute of Architects and Hong Kong Institute of Planners and held on 4 May 2003.
15. In essence, there are some probable effects of urban design and building design in housing areas.
 - (a) The disposition of building blocks and the orientation of living-quarters can influence daylight penetration and natural ventilation into individual rooms. The quality and quantity of such daylight and ventilation can affect significantly the health of the residents.
 - (b) The seepage of drain pipes and the accumulation of debris in these pipes may result in a spilling of wastewater to the environment.
 - (c) The malfunction of the U-traps in floor drain can cause back-flow of odour and, more important, bacteria into the living-quarters.
 - (d) The improper connection between storm-water and flush-water drainage systems can result in harmful crossover flows.
 - (e) The interplay of a number of building design and maintenance drawbacks at the re-entrant area – such as problems with the sewage system, U-traps, and

ventilation mechanism (including the prevailing wind direction and the arrangement of windows opening onto the re-entrant area) – may lead to the formation of a wind curtain across the entry section of the re-entrant area, sealing off the area and thus stopping horizontal air-flow outward from the re-entrant area, so that droplets with the viruses flow vertically up the re-entrant area carrying the viruses to the other floors.

16. These findings have come from quite “scientific” experiments. There should not be any serious doubts on them. They are, however, only building design and maintenance problems, not urban planning or urban design matters.

Better Development for Better Environment

17. That macro urban form, as contrast to specific building design features, are not the real and direct development factors behind the outbreak or the spread of epidemic diseases seems now clear. They may not be the physical environmental conditions directly affecting our health. They are, nevertheless, still very important bases for residents to lead a satisfying life. All involved in the provision of housing and urban environment – urban planners, housing suppliers, housing managers and the Government – must do their best individually and collectively to ensure that the physical environment is satisfactory and remain so. Not least are the users of the housing provided. The ensuing paragraphs examine a number of proposals which, when implemented, can produce better development to assist achieve better environment.

Proposal 1 – Better High-density Housing Areas

18. In the past, not all housing suppliers paid sufficient attention to the physical environment they produced in the housing areas they built. For many years, developers just provided the bare minimum in the living-quarters and the housing development schemes in general. This was, to some extent, due to the financial capacity of the developers at the time. This had meant that these developers could not afford to invest more on quality and that they must regain their investments as quickly and at as great a profit margin as possible. For the private sector developers, speed and profit are the keys to commercial success. This was fair enough in the earlier days.

19. Neither did the purchasers and users of these living-quarters and housing schemes demand much more than the minimum. They at that time simply could not afford higher quality – any shelter was good enough.
20. Housing suppliers, private and public, have since changed. Due to the greater financial capability of the suppliers, stronger competition in the market and higher aspiration (and hence more sophisticated demand) of the purchasers and users, many suppliers of today provide living-quarters of much higher quality. Housing suppliers of tomorrow should build on this trend and supply high-quality living-quarters in well-designed housing development schemes. For the same total gross floor area, the suppliers could achieve better disposition of building blocks and living-quarters to meet the requirements for good living.
21. Suppliers should further enhance the quality of the environment by providing adequate spaces to accommodate the needed facilities and services. Examples include landscaped areas, social and recreational facilities for all ages, homes and services for the elderly and primary schools. These will help the residents to lead an active, positive and healthy life. They should preferably be provided in excess of the basic requirements stipulated in the Hong Kong Planning Standards and Guidelines; they should be the design targets irrespective of whether conclusive proof can ever be found concerning the relationship between physical environmental setting and the outbreak or spread of any disease.
22. Housing suppliers in the private sector will definitely argue that this is not practicable. They will suggest that the provision of these facilities will either add to the cost of housing or reduce the profit of the suppliers. It is not easy to defeat this line of reasoning. It will indeed increase the cost of housing. However, it must also be borne in mind that better environment can and do enhance the value of properties.

Proposal 2 – Better Urban Design

23. Relevant sectors in the Government must also do their parts. Effective ways should be formulated to help to ensure the preparation and implementation of plans for well-designed urban environment at the district and housing area levels. In ensuring the sensible disposition of building blocks, provision of adequate open and green spaces in appropriate locations and orientation, suitable

arrangement of building heights to achieve attractive townscape, relevant building setbacks, effective breezeways, preservation of historical features, conservation of natural landscape and the like, good layouts can be conducive to the efficient flow of air for higher air-quality and better ventilation (hence avoiding the concentration of viruses, amongst other benefits), sufficient penetration of daylight, attractive environment, the leading of positive and active daily living and, consequently, healthy existence.

24. Here is where the urban planner can contribute. It is no doubt his responsibility to assist in this general effort. A series of appropriate and necessary urban design principles and guidelines should first be developed toward this goal (and of course for other purposes such as achieving beauty in the townscape). They have indeed been formulated by the urban planners in the Government. They are unfortunately not readily accepted by many of the players who are wary of the various “costs” which, they fear, may be incurred.
25. Ways therefore have to be developed to compel the application and adherence to these principles and guidelines. Incorporation into the Hong Kong Planning Standards and Guidelines is definitely one approach. Where necessary and possible, relevant guidelines should become parts of statutory town plans to give them the needed legal power. Consideration should also be given to the possibility of publishing statutory urban design plans.
26. More frequent use can be made of the Comprehensive Development Area zoning. Many who have misunderstood the purpose and operation of this zoning have raised misguided objection to it. It, in fact, has undeniable benefits. Through this mechanism, the urban planning authority can, on behalf of the community, exercise effective influence over the overall design and the layout of housing development schemes on relatively large sites, as well as such other aspects like the provision of environmental and other required facilities therein. It is a means to enable the planning authority and the developers to work together through two-way discussions to develop satisfying schemes.

Proposal 3 – Building/District Management and Maintenance

27. No matter how well designed and finely constructed housing blocks and housing schemes are at the beginning, deterioration sets in as soon as the buildings are completed. Some buildings deteriorate very much pre-maturely due to the lack

of building management and maintenance. The Government has for many years struggled very hard to try to convince all concerned about the importance of good management and maintenance. One approach is to enact laws to give legal power to management committees to require owners/occupiers of private sector housing units to co-operate and to contribute, financially and otherwise, to ensure that proper maintenance is undertaken. It has not been very successful so far. Much more effort is needed; much more support is hoped for.

28. Better building management and maintenance do not only extend the physical life of individual buildings. A very significant outcome is the possible avoidance of rapid deterioration of utilities and other installations so as to prevent the occurrence of the undesirable physical conditions which facilitate the spread of viruses between buildings and between living-quarters as recently experienced.
29. Similarly, public areas and public facilities in the general district as well as communal parts of housing development schemes should be properly managed and maintained. Streets, rear lanes, private streets, open spaces and landscaped areas, transport facilities, pedestrian pavements, markets and hawker bazaars are examples. The street furniture and urban landscape in Hong Kong must be greatly improved in both design and subsequent management. Substantial joint effort and co-operation between the supplying organizations and the users (namely the people) are indispensable. The recent Team Clean exercise is an excellent start; this community has to establish means to sustain it unflinchingly.

Proposal 4 – Rehabilitation and Urban Renewal

30. Many buildings in Hong Kong now require urgent rehabilitation or even renewal actions. They are either in very poor physical conditions, due to the low building construction quality or the past neglect toward proper management and maintenance, or short of even the basic modern internal facilities, or both. Some of these can be rehabilitated; some others are so rundown that there is no alternative remedy except complete redevelopment.
31. The Urban Renewal Authority has already started rehabilitation schemes to demonstrate how such actions can revive run-down but still structurally sound buildings. Residents and owners should soon be able to see the benefits like upgraded environment and increased property value. The Hong Kong Housing

Society has taken up some of the renewal projects and is also investigating into other possibilities in both rehabilitation and renewal.

32. However, public resources should not be used to generate private gains. The public and quasi-government bodies have only limited resources. They can only contribute some financial aid and technical assistance where needed; they can try to lead in demonstration schemes, including persuading owners and tenants to participate and co-operate. Most of the costs of rehabilitation works must be recouped from the owners. It is hoped that the successful implementation of the demonstration cases will convince other owners about the reward of such work so that they will embark on similar projects for their own properties.
33. The number of buildings crying out for rehabilitation or renewal is extremely large. Ways must be derived to require the private owners to play their part in improving the living environment. This is a most daunting task. It is a challenge that Hong Kong must face if we want to offer a basis on which people can lead a healthy life.
34. As part of this effort, the Government must introduce a more frequent and more effective building inspection mechanism. Should more legal power be bestowed on public offices to require owners to undertake regular proper management and maintenance and, where suitable, rehabilitation? Is this practicable – particularly for owners collecting only meagre rentals from their deteriorating properties? If not, are there alternative solutions?
35. In many cases in the old urban areas, buildings are beyond rehabilitation. They must be redeveloped if we adhere to the objective of providing for our citizens good living-quarters and good environment in housing development schemes and in the general districts. As we know, the Government and the urban renewal agencies have undertaken in-depth studies on this matter. Not only have these studies found that the number of buildings requiring such actions is enormous; they have also revealed that, due to various factors, renewal on most (if not all) of the sites now remaining to be redeveloped is financially unprofitable. Who, then, are willing and capable to handle these? Is there a solution other than spending huge amounts of public resources (which is in fact not really available)?

36. One main reason why many of the urban renewal projects are not financial profitable is that there is minimal, if any, floor space gain through redevelopment. In some cases, the existing buildings have already been built to the maximum plot ratio. To enable renewal, therefore, not only that we should not reduce the plot ratio; we should seriously consider the possibility of increasing the plot ratio.

Concluding Remarks

37. A great deal of work has yet to be done about the quality of our urban environment. The occurrence or spread of SARS is only one recent incident drawing our attention to the matter. We do not have to spend our energy debating whether the two are correlated; we must upgrade our environment irrespective of this correlation. Much concerted effort on all fronts and from all sections of the community is required, together with the investment of resources and bestowing of legal power to relevant authorities, if we wish to achieve our objectives.

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