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Panel on Environmental Affairs

Subcommittee on Issues Relating to Air, Noise and Light Pollution

Minutes of the meeting
held on Friday, 31 May 2013, at 4:50 pm
in Conference Room 3 of the Legislative Council Complex

Members present : Hon Cyd HO Sau-lan(Chairman)
Hon Claudia MO
Hon WU Chi-wai, MH
Hon Gary FAN Kwok-wai
Hon CHAN Han-pan
Dr Hon Kenneth CHAN Ka-lok
Hon KWOK Wai-keung
Hon Dennis KWOK
Dr Hon Elizabeth QUAT, JP
Hon Christopher CHUNG Shu-kun, BBS, MH, JP
Hon Tony TSE Wai-chuen

Member absent : Dr Hon Helena WONG Pik-wan

Public Officers : **For item I**
attending

Ms Christine LOH
Under Secretary for the Environment

Mr TANG Kin-fai, JP
Assistant Director (Environmental Assessment)
Environmental Protection Department

Mr Maurice YEUNG
Principal Environmental Protection Officer
(Assessment and Noise)
Environmental Protection Department

Mr Louis CHAN
Principal Environmental Protection Officer
(Regional Assessment)
Environmental Protection Department

Attendance by invitation : For item I

The Chinese University of Hong Kong

Professor LAM Kin-che
Department of Geography and Resource Management

Professor CHAN Ying-keung
Department of Sociology

Clerk in attendance : Ms Miranda HON
Chief Council Secretary (1)1

Staff in attendance : Miss Lilian MOK
Council Secretary (1)1

Miss Mandy POON
Legislative Assistant (1)1

Action

I. Current legislation and administrative measures on the control of noise pollution and the associated public expenditure, as well as cases of noise pollution and mitigation measures

Meeting with the Administration and academics

(LC Paper No. CB(1)982/12-13(01) — Administration's paper on "Current Legislation and Administrative Measures on the Control of Noise Pollution and the Associated Public Expenditure"

LC Paper No. CB(1)1183/12-13(01) — Submission from Civic Exchange)

Academics attending the meeting

Professor LAM Kin-che, Department of Geography and Resource Management, The Chinese University of Hong Kong (LC Paper No. CB(1)1167/12-13(01))

Professor CHAN Ying-keung, Department of Sociology, The Chinese University of Hong Kong

The Under Secretary for the Environment ("USEN") advised that the Environmental Protection Department ("EPD") had commissioned The Chinese University of Hong Kong to undertake a consultancy study on the health effects of transportation noise in Hong Kong ("the Study"). The Study was not only the first systematic survey reviewing the correlation between traffic noise and human health in Hong Kong, but also one of the very few of its kind in the world. As such, findings of the Study were significant both locally and internationally. In view of the wide public concern about noise pollution and the continuous increase in the number of noise complaints in the community, USEN said that the Study provided an overview of transportation noise in Hong Kong and presented a vision of how traffic noise problem could be tackled in future. The full report of the Study was available on EPD's website for public viewing.

2. With the aid of a power-point presentation, Professor LAM Kin-che, who was the Principal Investigator of the Study, briefed members on the major aspects of the Study as well as its findings and implications. Professor LAM said that the Study was commissioned by EPD and its objectives were threefold. Firstly, the Study aimed to examine the annoyance effects due to transportation noise in Hong Kong. Secondly, it reviewed the adverse health effects of transportation noise, namely, annoyance, sleep disturbance and cardiovascular diseases, with reference to the literature available as well as relevant research findings and studies. Lastly, based on the above review, the Study looked into the applicability and relevance of overseas results to the local situation. The Study was supported by a separate noise mapping exercise assessing the noise exposure levels of the whole territory. Based on a random sampling approach, over 10 000 households were successfully interviewed by the Census and Survey Department ("C&SD"). Given that Hong Kong was densely populated, Professor LAM opined that the conventional approach of managing an acoustic environment by mere noise reduction (e.g. limiting traffic volume at busy corridors and erecting noise barriers at roadsides) might not be adequate for providing a total solution to the traffic noise problem nowadays. He expected that innovative building designs would be the latest trend in noise mitigation.

Noise sensitivity of the Hong Kong population

3. Noting from the Study that the Hong Kong population was less sensitive to noise, Mr Tony TSE said that this might be attributed to the fact that Hong Kong people had adapted to the high-density living environment and become tolerant on this front. Being a Member returned by the Architectural, Surveying and Planning functional constituency, Mr TSE opined that better urban design and planning could reduce noise at its source and pre-empt noise problems. However, given the limited land resources in Hong Kong, it might be difficult to increase separation between residential developments and carriageways for creating a buffer area to minimize noise impact on domestic premises.

4. Professor LAM Kin-che responded that whether Hong Kong people's less strong reaction to noise problems was culturally related or associated with other factors, such as the length of residence at a particular location, habits of closing windows and having air-conditioning facilities in living quarters, merited further investigation. Professor CHAN Ying-keung echoed that Hong Kong people had adapted to the cramped living environment. Although high development intensities could be associated with poor health and mental illness, such association was not apparent in Hong Kong. Notwithstanding this, Professor CHAN opined that noise pollution was worth the attention of the community, given its potential health consequences.

5. As quite a sizeable proportion of the Hong Kong population had reported themselves to have been annoyed by environmental noise, Mr KWOK Wai-keung commented that the crowded living conditions and long working hours had taken their toll on people's health. He enquired whether there was any correlation between people's mental state and their sensitivity to noise.

6. Professor LAM Kin-che explained that according to the findings of the Study, personal sensitivity to noise was a significant factor in predicting annoyance of noise and sleeping quality. However, the length of residence was not associated with noise sensitivity. In other words, there was no evidence of habituation to noise. While it was not yet possible to predict noise annoyance reactions on an individual basis, the Study revealed that higher noise exposure would increase heart rate and awakenings.

Control on renovation noise

7. Mr Tony TSE urged the Administration to consider tightening control on construction activities which would not only cause noise nuisance to nearby residents, but also create considerable amount of waste to be disposed of. Sharing a similar view, Dr Elizabeth QUAT expressed concern that people recovering from mental illness were vulnerable to noise nuisance. She proposed the Administration to consider putting in place control measures against

prolonged renovation works and to restrict construction works on Saturdays in order to minimize noise annoyance to the public as far as possible.

8. Professor LAM Kin-che explained that construction and demolition noise had not been examined in the Study. He therefore might not be able to draw any conclusion that renovation works carried out on an intermittent basis would be less annoying to neighbouring residents. However, he agreed that construction was one of the noise sources which were highly annoying. While construction waste charges could help reduce the quantity of reusable construction waste being sent to landfills, Professor LAM considered it more desirable for the Administration to instill a less wasteful culture in the community. Professor CHAN Ying-keung added that some owners' corporations might have already drawn up specific house rules to regulate renovation works in their buildings.

Control on road traffic noise

9. Noting that the existing traffic noise limit was 70 dB(A) L_{10} (1 hour), Mr KWOK Wai-keung noted with concern that although in most cases the average noise level was within 70 dB(A), there were intermittent noise levels which were high enough to wake residents from their sleep, such as the ambient noise caused by a passing heavy vehicle. He enquired about the correlation between unpredictable night-time noise events and annoyance of noise. Professor LAM Kin-che responded that in some overseas studies, the occurrence of noise events in the traffic stream was related to self-reported annoyance.

10. The Chairman highlighted that road traffic noise level was specified in terms of L_{10} (1 hour) which was the noise level exceeded for 10% of a one-hour period. While this level might be considered as the average maximum noise level during a specified period, the actual increase in noise levels due to individual noise events that happened during a period might not be truly reflected by the L_{10} (1 hour) readings. As such, the Chairman doubted whether the current statutory noise limit could adequately deal with the occurrence of single noise events which exceeded 70 dB(A) intermittently but not continuously.

11. Sharing the views of the Chairman, Mr Christopher CHUNG proposed the Administration to consider shortening the measuring period from one hour to, say, five minutes, and lowering the noise limit of 70 dB(A). Any person who caused the noise should be issued a noise abatement notice requiring him/her to abate the noise to the statutory limit within a specified time period. Mr CHUNG also urged the Administration to expedite the retrofitting works of noise barriers on existing roads.

12. USEN responded that the Administration had adopted a comprehensive approach to address the problem of noise on all fronts. For example, the Administration had implemented innovative noise mitigation designs and measures at noise affected premises, and had reduced the impact of environmental noise through planning to govern land uses for different purposes. As regards legislation to enhance control on noise emission, USEN said that the Administration had to carefully consider and evaluate the feasibility and possible impact of tightening the existing traffic noise limit in the context of Hong Kong.

13. The Principal Environmental Protection Officer (Assessment and Noise), EPD explained that the existing traffic noise limit of 70 dB(A) L₁₀(1 hour) was a stringent and commonly used international standard. While the sporadic noise caused by vehicles passing road joints and manholes might be disturbing to some residents living next to the roads concerned, the traffic noise level of a one-hour period was still within the limit. Nevertheless, the Highways Department had been resurfacing roads and flyovers with low noise materials to fill the uneven joints to reduce the wheel-passing noise.

14. Professor LAM Kin-che agreed that the index of L₁₀(1 hour) was widely adopted by road authorities around the world to measure road noise at peak traffic flow. Given the low prevailing background noise level at night, people tended to find traffic noise particularly loud and disturbing even if the actual noise level did not exceed the statutory limit. Acknowledging that residents nearby might have their sleep disturbed by intermittent noise events, Professor LAM hoped that the use of noise reduction materials for surfacing road sections with a high traffic noise level would be further promoted.

15. Mr Tony TSE pointed out that there were vehicles the exhaust of which had been altered to create more noise emission. He enquired whether the Administration would take any enforcement action against such illegal alternation/modification causing noise nuisance. Sharing a similar view, Dr Elizabeth QUAT also expressed concern about the intermittent noise generated by speeding motorists or illegal road racing at night. Professor LAM Kin-che responded that as far as he understood, such types of noise were under the control of the Road Traffic Ordinance (Cap. 374) and enforcement actions would be conducted against any noisy activity.

16. Referring to the noise complaints against the flyover at Texaco Road in Tsuen Wan and the operation of the logistics industry near Rambler Crest in Tsing Yi, Mr CHAN Han-pan enquired about the effective measures that the Administration could implement to mitigate the traffic noise impact of existing roads on the neighbourhood environment. Professor LAM Kin-che acknowledged the noise nuisances caused to the residents in the vicinity. However, he considered it not technically feasible to retrofit barriers on the

Texaco flyover due to the inadequate supporting strength of the existing flyover structure, and other mitigation measures such as resurfacing the road with low noise materials would neither be durable nor effective in reducing the noise generated by passing vehicles. Given that noise from existing roads was difficult to tackle and very limited options were available to reduce noise exposure, Professor LAM opined that the alignment of new roads should be carefully considered during the planning stage to minimize the population that would be exposed to traffic noise. Professor CHAN Ying-keung echoed that in some cases the constraints of the site might render implementation of direct engineering remedies, barriers or enclosures not practicable. As such, he considered it more desirable to prevent the noise problem through better transport and housing planning.

Innovative noise mitigation designs and measures

17. Dr Elizabeth QUAT noted that many housing developments in the urban areas were situated next to high-speed roads. Although retrofitting noise barriers on busy highways could protect adjacent high-rise dwellings from traffic noise, there might not be adequate space for constructing noise barriers and enclosures in a compact city like Hong Kong. Dr QUAT enquired whether the Administration had adopted any innovative designs and measures to reduce the traffic noise impact of existing roads on the residential blocks nearby, such as by incorporating water features in the planning of residential development projects where the sound of flowing water could create a sense of tranquility and refreshing comfort.

18. Professor LAM Kin-che agreed that the provision of adequate level of sound of water and bird songs could effectively improve the acoustic environment of an area. He also pointed out that public rental housing estates enjoyed a quieter living environment than private housing as the former was designed to achieve optimum disposition of residential blocks and open space for healthy living and environmental sustainability, instead of maximizing development intensity.

19. In response to the Chairman's enquiry about the effectiveness of the installation of "acoustic windows" in residential buildings next to busy roads to protect residents from excessive traffic noise, Professor LAM Kin-che said that he had not taken part in any relevant research study. Nevertheless, according to his understanding, some mock up tests had found that noise level could be reduced by 7 dB(A) to 8 dB(A) after fitting acoustic windows. He hoped that the installation of acoustic windows would be expedited to protect residents of building blocks close to busy road sections where space was inadequate for retrofitting barriers from excessive traffic noise.

Conduct of the Study

20. The Chairman enquired about the methodology of the Study and information on the participating households. Professor LAM Kin-che reiterated that the Study had focused on examining the annoyance and sleep disturbance effects of traffic noise in Hong Kong while the relationship between traffic noise and cardiovascular diseases had not been reviewed. With the assistance of C&SD, a thematic survey on environmental noise issues had been undertaken. Over 10 000 households had been selected by random sampling to take part in the survey.

Admin 21. As requested by the Chairman, the Administration undertook to provide the following information on the households selected for interview in the Study –

- (a) the characteristics of the living environment of the sampled households (e.g. types of living quarters (public/private), floor levels of living quarters, household size, districts of residence, levels of noise exposure at the place of residence (high/medium/low), etc);
- (b) the demographic features of the respondents of the sampled households (e.g. gender, age, education attainment, occupation, etc); and
- (c) the physical and mental health status of the respondents of the sampled households.

(Post-meeting note: The Administration's response was circulated to members on 24 June 2013 vide LC Paper No. CB(1)1366/12-13(02).)

Control over the noise level of traditional cultural activities

Admin 22. Mr KWOK Wai-keung enquired about the current legislation on the control of the noise level of traditional cultural activities. He pointed out that some traditional activities, such as lion dance, could be noisy and could cause noise disturbances to nearby residents. However, there was a need for them to practise. He enquired how the Administration would exercise control over the noise level of such activities without depriving them of the chance to practise. The Administration undertook to provide information on the enforcement of the Noise Control Ordinance (Cap. 400) and other pieces of legislation in exercising control over the noise level of traditional cultural activities while catering to the need of such activities for practices, etc.

(Post-meeting note: The Administration's response was circulated to members on 24 June 2013 vide LC Paper No. CB(1)1366/12-13(02).)

II. Date of next meeting and item(s) for discussion

(LC Paper No. CB(1)982/12-13(02) — List of outstanding items for discussion)

23. The Chairman proposed and members agreed that the meeting originally scheduled for Friday, 14 June 2013, at 10:45 am would be cancelled. The Subcommittee further agreed that the next meeting would be held on Friday, 28 June 2013, at 4:00 pm or immediately after the House Committee meeting, whichever was later to continue the discussion on "Current legislation and administrative measures on the control of noise pollution and the associated public expenditure, as well as cases of noise pollution and mitigation measures".

III. Any other business

24. There being no other business, the meeting ended at 6:25 pm.

Council Business Division 1
Legislative Council Secretariat
20 August 2013