

# LCQ15: Enhancing flood prevention ability

Following is a question by the Hon Starry Lee and a written reply by the Secretary for Development, Ms Bernadette Linn, in the Legislative Council today (October 18):

Question:

Hong Kong was hard hit by severe rainstorms last month, and the Government had made its first-ever "extreme conditions" announcement. It has been reported that traffic was half paralysed due to severe flooding in widespread locations, such as MTR stations, shopping malls and trunk roads. With the number of storm surges and rainfall records constantly hitting new highs in recent years, some members of the public are worried that extreme weather may become the norm. Regarding enhancing Hong Kong's flood prevention ability, will the Government inform this Council:

(1) of the plans in place to review and enhance the capacity of stormwater drainage systems in various districts, in order to cope with the risks brought about by extreme weather; whether it will consider streamlining the relevant consultancy study, engineering design and works procedures, so as to expedite the implementation of improvement works for such systems;

(2) whether it will give due consideration to the risks brought about by extreme weather in designing and planning the infrastructure facilities of new development areas, including increasing vegetation coverage, constructing higher dams, improving the stormwater drainage systems and enhancing flood prevention ability of buildings, etc;

(3) of the plans in place to review the ability of various low-lying areas in coping with extreme weather; whether the Government will accord priority to improving the stormwater drainage systems in such areas;

(4) whether it has plans to review the existing design guidelines governing the flood discharge capacity of underground car parks, basements of shopping malls, etc, with a view to reducing flooding at these locations during heavy rainstorms; if so, of the details; if not, the reasons for that; and

(5) whether it will step up publicity and education to further raise public awareness of flood prevention; if so, of the details; if not, the reasons for that?

Reply:

President,

Hong Kong was affected by successive heavy rainstorms in recent months.

The Hong Kong Observatory issued the Black Rainstorm Warning Signal on the evening of September 7. Afterwards, the rain became intense and heavy. The Hong Kong Observatory Headquarters even recorded an hourly rainfall of 158.1 millimetres, which was the highest since records began in 1884. From September to the present (as at October 12), the cumulative rainfall recorded by the Hong Kong Observatory has reached 1 500 mm, accounting for about 60 per cent of the annual average rainfall. Even in face of the abovementioned highly intense rainstorm, the overall drainage capability of Hong Kong's stormwater drainage system had still served its purpose, which allowed the community to resume normal operation within the shortest period of time.

When the Hong Kong Observatory forecasted that there will be heavy rains, the Drainage Services Department (DSD) will deploy inspection teams in advance to locations susceptible to flooding to inspect and clear any clogged stormwater drainage system swiftly. In addition, whenever a Red or Black Rainstorm Warning Signal, or a Tropical Cyclone Warning Signal No. 8 or above is issued, the DSD will immediately activate the Emergency Control Centre and deploy additional emergency response teams according to rainfall and flooding conditions in each district to deal with flooding incidents and clear blocked drains and river channels. After a heavy rainstorm, the DSD will also proactively inspect major drains and river channels, remove obstructions such as debris, leaves and garbage, and carry out emergency repairs so as to prepare for the next rainstorm.

The reply to the Hon Starry Lee's question is as follows:

(1) and (3) The design of Hong Kong's stormwater drainage system is comparable to advanced international cities such as Singapore, Tokyo and London with the standard of some of the facilities excel those of the said cities. The DSD has all along been making persistent efforts to enhance the drainage capacity of the stormwater drainage facilities. Currently there are 11 on-going stormwater drainage improvement projects, including construction of stormwater drains and underground stormwater storage tanks, and another 18 flood prevention/stormwater drainage improvement projects under planning. In response to the recent flooding incidents, we are reviewing the implementation priorities of the planned stormwater drainage improvement projects with a view to improving the areas with higher flooding risk (such as Eastern District of Hong Kong Island, Wong Tai Sin District and other low-lying areas) as soon as possible. In addition, the DSD will also adopt all feasible methods such as adopting parallel tendering when seeking funding from the Legislative Council to shorten the duration of engineering design, procurement and construction for commencing and completing the improvement works as soon as possible.

(2) Climate change is a global problem faced by the world. Hong Kong must also adopt a forward-looking strategy to actively respond to this challenge. In order to strengthen Hong Kong's flood prevention capabilities to cope with climate change, the DSD updated its Stormwater Drainage Manual in August 2022 with reference to the sixth assessment report published by the United Nations Intergovernmental Panel on Climate Change in 2021. This updated manual provides the latest data and guidelines, including design requirements

for the rainfall increase and sea level rise associated with climate change, for designing and planning of stormwater drainage infrastructures.

The DSD also actively recommends the adoption of "blue-green infrastructure" design elements, including flood lakes, rain gardens, green roofs and other green facilities, in new development areas so as to reduce the burden of drainage facilities and hence enhance the city's flood resilience.

In order to further cope with the more frequent extreme weather events in recent years, the DSD has made advance arrangements and commenced a "Strategic Planning Study on Flood Management Against Sea Level Rise and Extreme Rainfall" in 2022. The study purpose is to assess the impact of climate change on Hong Kong's stormwater drainage systems till the end of the century and formulate new and comprehensive territory-wide flood management strategies. This study is expected to be completed in 2024.

(4) The DSD from time to time will liaise with property management companies in districts and provide technical advice on prevention of flood in facilities such as underground car parks and basements, including optimising their drainage design, and implementing drainage improvement measures such as installing water pumps, flood warning systems, and flood barriers.

(5) The DSD has been promoting and educating the public about flood risks and precautionary measures through TV Announcements in the Public Interest, publications, emergency drills and other activities such as opening the DSD's flood prevention facilities for public visits and outreach educational programmes, with a view to enhancing their awareness of flood prevention and emergency preparedness. In addition, the DSD has set up a 24-hour hotline 2300 1110. Members of the public can call the hotline to report flooding cases so that the DSD can handle them as quickly as possible.