

LCQ18: Preparatory work for coping with inclement weather

Following is a question by the Hon Kenneth Leung and a written reply by the Secretary for Development, Ms Bernadette Linn, in the Legislative Council today (April 24):

Question:

Regarding the preparatory work for coping with inclement weather, will the Government inform this Council:

(1) of the number of flooding reports received by the Drainage Services Department (DSD) in each of the past three years, with a breakdown by the 18 districts across the territory; among the flooding locations involved in such reports, of the number of locations where flooding has recurred; whether the relevant government departments had subsequently investigated the causes of flooding in such locations and taken improvement measures; if so, of the progress of the relevant work;

(2) of the number of landslides triggered by rainstorms in each of the past three years; the number of footpaths and roads blocked and damaged as a result of landslides, and the average time taken for the relevant repair works; the works carried out by the authorities for landslide prevention and mitigation since the once-in-a-century torrential rain in September last year, and the progress of such works;

(3) as information from DSD shows that there are currently only four flooding blackspots in Hong Kong, but the locations where severe flooding occurred during typhoons and rainstorms in recent years were not flooding blackspots, whether the authorities will consider reviewing the data on flooding blackspots or formulating a separate mechanism, so as to enable members of the public to gain a clear understanding of the locations in the districts where they live that are prone to severe flooding, and enable the relevant government departments to accord priority to taking precautionary measures and conducting work such as clearing the blocked drains in the locations concerned;

(4) given that during typhoons and rainstorms in the past, shop operators and vehicle owners suffered losses due to the occurrence of flooding in a number of shopping malls and underground car parks, whether the authorities have systematically issued guidelines or recommendations on flood prevention to property management (PM) companies and PM staff; in respect of basements of shopping malls or underground floors of car parks which are prone to flooding, whether the authorities have special measures in place to assist the relevant owners' corporations and PM companies in taking proper flood prevention measures;

(5) as the Chief Executive has indicated in the 2023 Policy Address that the

\$8 billion drainage improvement works projects will be taken forward expeditiously, of the progress of the relevant works to date and the expected date of completion; as the Director of Drainage Services has indicated earlier on that a number of minor drainage improvement works have been implemented in various districts since the once-in-a-century torrential rain in September last year, of the number, geographical distribution and progress of such works to date, and whether such works can be completed before the onset of the rainy season this year; and

(6) whether it will conduct drills (including cross-government department drills) before the onset of the rainy season this year, so as to make good preparation for the overall contingency operations and disaster relief arrangements during rainstorms; if so, of the details; whether it will study ways to give advance warnings more effectively, so as to enable members of the public to make early preparation?

Reply:

President,

Hong Kong was repeatedly affected by extreme weather in September last year. In the evening of September 7, the Hong Kong Observatory recorded an hourly rainfall of 158.1 millimetres, the highest on record since 1884. In September and October last year, the cumulative rainfall recorded by the Hong Kong Observatory reached 1 600mm, accounting for about 60 per cent of the average annual rainfall. Despite facing the record-breaking heavy rain, the overall drainage capacity of stormwater drainage system in Hong Kong continued to function well, allowing society to return to its normal operations in the shortest time.

Adapting to the Hong Kong's topographic conditions, the Drainage Services Department (DSD) has been adopting a multi-pronged approach, including "stormwater interception", "flood storage" and "drainage improvement" to enhance the flood control capabilities of different areas in Hong Kong. Over the years, a vast number of drainage improvement works have been completed in various districts, which reduced the risk of flooding in the concerned areas. Currently, the DSD is carrying out 11 drainage improvement works. Besides, whenever a rainstorm or typhoon is forecasted, the DSD will plan in advance and early deploy inspection teams to the locations with higher risk of flooding to inspect and clear the blocked stormwater drainage system as needed. Moreover, 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 its Emergency Control Centre to handle flooding cases and clear the blocked drainage channels and rivers. After the rainstorm, the DSD will also proactively inspect all major drainage channels and rivers, remove debris such as soil, rock, leaves and litters, and carry out necessary emergency repair works to prepare for the next rainstorm.

A consolidated reply to each part of the question is provided as follows:

(1) Between 2021 and 2023, the DSD confirmed a total of 257 reported flooding cases. Please refer to the Appendix I for the number of reported flooding cases in each district, among which 22 locations had more than one reported flooding case. The DSD reviewed the cause of each reported flooding case and found that the major causes of flooding were blockage at drainage inlets due to leaves, sediment or debris. The DSD have stepped up their clearance works to the drainage channels, and carried out pre-wet season inspection and the necessary drainage improvement measures.

(2) The Civil Engineering and Development Department (CEDD) received 146, 76 and 601 reports of landslide incidents in 2021, 2022 and 2023 respectively; among them, the number of reported landslide incidents affecting footpaths or roads were 95, 37 and 340 respectively. Most emergency repair works were completed within days except for relatively major landslide incidents (such as the Yiu Hing Road landslide caused by the torrential rain in September 2023).

In order to cope with the landslide risk caused by rainstorms, relevant government departments and private owners have to regularly inspect and repair their slopes to ensure that they are properly maintained. In addition, the CEDD continues the Landslip Prevention and Mitigation Programme (LPMitP) for strengthening slopes against inclement weather according to a risk-based approach. The CEDD is conducting systematic investigations and studies on major landslide incidents triggered by rainstorms in recent years, including reviewing the criteria of the LPMitP for risk-based priority ranking for landslip prevention and mitigation works, according priority to those natural hillsides and man-made slopes that have the potential to have a greater impact on the daily life of the public, such as those adjacent to sole vehicular accesses, and carrying out mitigation works for more natural hillsides.

(3) Flooding blackspots are identified by the DSD taking into account the design drainage capacity of the stormwater drainage system, past flooding records, flooding complaints and flood protection standards at the relevant locations.

Based on past observations, many flooding cases were due to blockage at drainage inlets by leaves, sediment or debris being washed by the surface runoff and flooding causes were not related to the design capacity of drainage system. The DSD has identified some 220 locations in the territory that are prone to flooding due to blockages from debris or leaves. Whenever a rainstorm is forecasted, the DSD will arrange and deploy resources to step up their inspections. If a drain is found clogged, clearance works will be carried out immediately in order to reduce the flood risk.

(4) The DSD promulgated a practice note on flood resilience and emergency response measures and has uploaded it to its website for public reference. The practice note includes suitable flood resilience measures for commercial basement area or underground carpark, such as installing demountable flood barriers and elevating entrance and exit platforms. For emergency response measures, the practice note promotes the preparation of contingency plans and conducting drills. Before the rainy season, the DSD arranges to have meetings

with relevant stakeholders, including government departments, public organisations, public utilities companies and property management organisations in order to enhance their understanding of flood resilience and emergency response measures. The DSD also liaises with residential estate management companies to provide technical advice on preventing flooding in the housing estates' underground car parks and basement areas, etc.

(5) The DSD plans to seek funding of approximately HK\$8 billion (at September 2023 price level) for seven drainage improvement works projects in various districts (namely Mong Kok, Wong Tai Sin, Kwun Tong, Kowloon City, Hong Kong Island East, Tai Po, Sha Tin and Sai Kung) in 2024-25. The DSD has expedited the works and conducted parallel tendering to shorten the procurement time, with an aim to commencing the improvement works projects as early as possible after obtaining funding approval. It is targeted to complete the seven drainage improvement works projects in phases within approximately 3.5 to six years.

Since September last year, in order to reduce the flood risk over the territory, the DSD has been implementing a series of follow-up measures, including around 120 minor improvement works such as improving the existing drainage inlets and constructing additional roadside gullies and drainage channels. Most of these improvement works were substantially completed.

(6) In order to cope with the extreme weather in the future, the Security Bureau will regularly hold inter-departmental drills before the typhoon season to strengthen the preparation, co-operation and co-ordination of various policy bureaux, departments and other relevant agencies to ensure that various departments and agencies would take prompt and effective contingency measures to deal with the impact of extreme weather, allowing the society to return to normal as soon as possible. This year's inter-departmental drill, which will be held in May, will simulate a super typhoon hitting Hong Kong, causing extensive property damage and severe obstruction of trunk roads. Each participant is required to explain the contingency actions to deal with different scenarios so that all participants can better understand each other's roles and responsibilities when dealing with super typhoons, helping various departments make adequate preparation and enhance their co-ordination capabilities.

In respect of advance warning, the Government will continue to introduce advanced meteorological observation instruments and explore the use of technologies such as big data and artificial intelligence. It will also strengthen scientific research co-operation on meteorological data exchange, information communication and forecast technology with the meteorological departments in different areas to improve the monitoring of extreme weather and strengthen early warning and forecasting work, including weather forecast and warning, flooding, landslides. The Government will continue to strengthen its capabilities in all aspects to cope with the challenges posed by extreme weather for protecting the lives and property of Hong Kong citizens.