

## LCQ3: Flood prevention in the New Territories

Following is a question by the Hon Kenneth Lau and a reply by the Secretary for Development, Mr Michael Wong, in the Legislative Council today (June 26):

Question:

Last month, a series of severe rainstorms caused serious flooding at a number of villages in Tin Shui Wai, with floodwater reaching the waist level and quite a number of villagers being trapped. Some villagers have relayed that during the onslaught of super typhoons in Hong Kong in the past two years, they suffered huge losses and their lives were under threat. As extreme weather conditions have become increasingly frequent and this year's typhoon season is drawing near, the villagers are very worried. In this connection, will the Government inform this Council:

(1) of the number of flooding reports received by the Drainage Services Department in each of the past five years, the number of the flooding locations which were flooding black spots, as well as the causes for the flooding;

(2) of the measures taken by the Government, since the onslaught of super typhoon Mangkhut in September last year, to improve the flood discharge capacity at the flooding black spots and the villages at low-lying locations vulnerable to seawater inundation in the New Territories, as well as the details of such measures; and

(3) whether it reviewed afresh and updated, in the past six months, the list of flooding black spots and the list of low-lying locations vulnerable to seawater inundation in the New Territories, and carried out corresponding flood prevention works; if so, of the details; if not, the reasons for that?

Reply:

President,

The drainage facilities in rural areas in the New Territories (NT) comprise a mixture of natural streams, man-made channels and pipes. In general, the construction and maintenance of the required drainage facilities are undertaken by the Drainage Services Department (DSD), other relevant departments and private owners concerned according to their respective responsibility. To prevent flooding caused by drain blockage, the DSD, before every rainy season, collaborates with other relevant departments to step up cleaning of public channels and pipes, and reminds private owners to properly check and repair the drainage facilities on their lands through distribution of pamphlets.

Upon receipt of a flooding report, the DSD will provide emergency support to help the citizens tackle the flooding problem. In the morning of May 27, 2019, the Hong Kong Observatory (HKO) issued the Amber Rainstorm Warning Signal, meaning "rain has fallen generally over Hong Kong, exceeding 30 millimetres in an hour". However, at that time, rainfall in some parts of Tuen Mun and Yuen Long (including Tin Shui Wai) had already reached 70 millimetres in an hour and the DSD had received a total of five flooding reports in the two districts. The DSD staff were swiftly deployed to the affected areas to render assistance, sparing no effort in cleaning blocked channels and draining excessive water, regardless of whether the drains were on private or government land. These areas resumed to their normal state shortly after the flood.

In addition to offering emergency support, the DSD has been examining villages with past flooding records so as to formulate appropriate drainage improvement measures. It has completed a number of flood prevention works in the NT, including the river training works for Sheung Yue River, Shan Pui River and Kam Tin River. We are currently seeking funding approval from the Finance Committee for conducting drainage improvement works in the rural areas of Northern NT, Yuen Long and Ngong Ping. Moreover, the Home Affairs Department will consider the villagers' requests for implementation of minor construction or improvement works to the drainage facilities in the villages under minor works projects.

Having consulted the relevant departments, I provide a reply to the three parts of the Hon Kenneth Lau's question as follows:

(1) According to records, the DSD received about 400 flooding reports in the past five years, with an average of 80 cases per year and seven of which occurred in NT flooding blackspots. Basically, these were incidents of localised flooding lasting for a short period of time. The affected areas were quickly reinstated after emergency services had been rendered by the DSD. The findings of the DSD indicated that the flooding incidents mainly occurred in areas with blocked drains or inadequate drainage under persistent heavy rain, and low-lying locations vulnerable to seawater infusion or inundation during typhoons.

(2) and (3) The DSD reviews the flooding blackspots and locations vulnerable to seawater infusion and inundation in Hong Kong every year.

With the progressive completion of major flood prevention projects, the number of flooding blackspots has reduced substantially. As at March 2019, 125 flooding blackspots have been eliminated, and there are only six remaining. Drainage improvement works for two flooding blackspots located at Ting Kok Road in Tai Po and Wan Chai District have already been completed, with their effectiveness being closely monitored. These blackspots will be eliminated when appropriate. As regards the other four blackspots, two of them are located in the NT, namely Shek Wu Wai in San Tin and Lam Tsuen Valley Basin, while the other two are in Tsim Sha Tsui and the Southern District. The DSD is taking forward in phases the strengthening of the

drainage facilities in these areas. Funding approval is being sought from the Finance Committee to enhance the flood prevention capacity of the blackspot in the Southern District. Strategically, upstream interception and downstream upgrading works are generally effective measures to alleviate the flooding risk in the village environ.

As revealed from previous severe or super typhoons, the Government has identified some low-lying locations vulnerable to seawater infusion or inundation (including Luen On San Tsuen, Kar Wo Lei, Sham Tseng San Tsuen, Lei Yue Mu, Nam Wai in Sai Kung, Tai O and low-lying areas along the seaside of North-western Yuen Long). The DSD and other relevant departments are implementing measures such as provision of flood walls/demountable flood barriers and installation of flap valves at the drainage outlet to prevent seawater from flowing in. The construction of concrete walls and rock-armoured bunds along the seashore can also lower the risk of flooding caused by waves overtopping the seawalls. Besides, the Government has set up storm-surge alert systems at various low-lying areas that are vulnerable to seawater inundation. Upon the issuance of warning on storm surge by the HKO, the DSD will, at the relevant locations, deploy pumping facilities, install water-stop boards, or provide sandbags for the use of the residents and shop operators in need, in order to reduce the flooding risk arising from storm surge.

In April this year, the Civil Engineering and Development Department commissioned a consultant to undertake a feasibility study entitled "Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures". The study aims to conduct a comprehensive review of the low-lying coastal or windy locations, and to carry out investigations into storm surge and wave in order to assess the impacts of extreme weather on these locations. Based on the outcome of the study, the Government will formulate appropriate protection measures, including improvement works, management measures and other options, to strengthen the resilience to big waves at the coastal areas in the long run.