

**CONTROLLING OFFICER'S REPLY**

**(Question Serial No. 0014)**

Head: (39) Drainage Services Department

Subhead (No. & title): Not specified

Programme: (1) Stormwater Drainage

Controlling Officer: Director of Drainage Services (MOK Wing-cheong)

Director of Bureau: Secretary for Development

Question:

As mentioned by the Government, the study for Strategic Planning Study on Flood Management Against Sea Level Rise and Extreme Rainfall will be completed in 2024. In this connection, would the Government inform this Committee:

1. of the progress of the study and the expenditure involved in the current year;
2. of the estimated expenditure and establishment involved in drainage improvement works for 2024-25;
3. whether there are any plans to introduce new technologies or innovative methods that can enhance drainage efficiency in order to reduce and manage stormwater runoff; if so, of the details;
4. regarding long-term town planning, of how the impact of extreme weather is taken into account and the sustainability of drainage infrastructures is ensured;
5. whether comprehensive risk assessments have been made to identify the districts most vulnerable to the impact of extreme weather, and of the way to establish an effective monitoring system;
6. whether consideration will be given to the establishment of a Steering Committee on the Safety of the City to optimise the strategy aimed at enhancing the overall capability for tackling extreme weather; and
7. whether there will be any exchanges of experience with other cities so as to learn from those who have successfully tackled extreme weather and strengthened drainage infrastructure?

Asked by: Hon LO Wai-kwok (LegCo internal reference no.: 15)

Reply:

As climate change is an important issue across the globe, Hong Kong must come up with a forward-looking strategy to tackle such a challenge in a proactive manner. In order to further cope with the more frequent extreme weather events in recent years, the Drainage Services Department (DSD) proactively commenced the Strategic Planning Study on Flood Management Against Sea Level Rise and Extreme Rainfall (Strategic Study) in 2022.

1&3 to 5. Having taken account of the topographical features of Hong Kong, the DSD has been adopting multi-pronged approaches including stormwater interception, flood

storage and drainage improvement to upgrade the flood protection capability over the territory. To continuously strengthen Hong Kong's overall capability of coping with extreme weather conditions, the Government has incorporated the concept of "Blue-Green Infrastructure" into town planning.

"Blue-Green Infrastructure" is not only an urban drainage system that interweaves the natural environment with community characteristics and modern functions, but it is also a modernised stormwater management concept. "Blue-Green Infrastructure" aims to simulate the water cycle in nature in accordance with the principle of "infiltration, storage, purification, reuse and discharge" so that rainwater can be collected and used before being discharged. It is instrumental in reducing the burden of drainage facilities. The design elements concerned include flood storage ponds, flood lakes, floodable areas, revitalised channels and other sustainable drainage systems.

Moreover, having regard to the latest Sixth Assessment Report published by the Intergovernmental Panel on Climate Change (IPCC) of the United Nations, along with the studies conducted by the relevant departments on the latest changes in climate, the DSD updated in August 2022 the design parameters set out in the Stormwater Drainage Manual for rainfall increase and sea level rise associated with climate change, with a view to further enhancing the resilience of the drainage systems against climate change. In response to the extreme rainstorm in September 2023, the DSD has conducted a review of the design parameters set out in the Stormwater Drainage Manual. The relevant updating work was completed in the first quarter of the current year.

In order to further cope with the more frequent extreme weather events in recent years, the DSD commenced in 2022 the Strategic Study 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. The Strategic Study has been progressing well, and is expected to be completed in 2024. The expenditure on the Strategic Study in 2023-24 is approximately \$5 million.

To enhance Hong Kong's overall flood prevention capabilities, the DSD is actively adopting new technologies. In order to monitor and analyse the risk of flooding associated with water level rise at major rivers/drainage channels for the purpose of facilitating the implementation of necessary contingency measures in a timely manner, the DSD has developed a hydrometric information system whereby hydrometric data (including the water level of these rivers/drainage channels, rainfall and the tide level) can be collected and analysed in real time via remote devices installed throughout the territory. Furthermore, the DSD has introduced a river desilting robot and a pipeline inspection robot to assist with maintenance work so as to enhance the efficiency in and safety of maintenance of the drainage system.

2. The DSD is currently carrying out 11 drainage improvement projects. The estimated expenditure on drainage improvement works is approximately \$1.87 billion (in money-of-the-day prices) in 2024-25. On staffing provision, the

DSD will arrange for its existing internal professional and technical staff to carry out the relevant improvement works.

6. The Government attaches great importance to the impact of climate change and extreme weather. In this connection, the Government has set up the inter-departmental Steering Committee on Climate Change and Carbon Neutrality to oversee the efforts of various bureaux and departments (including the DSD) to optimise the strategies on coping with extreme weather, thereby strengthening the overall capability for coping with climate change and extreme weather.
7. Over the years, the DSD has not only been sharing its experience with other cities such as Guangzhou (the Mainland), Copenhagen (Denmark), London (UK) and Hull (UK), but also drawing on their experience in implementing measures and strategies to cope with extreme weather.

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