

CONTROLLING OFFICER'S REPLY

DEVB(W)081

(Question Serial No. 1300)

Head: (39) Drainage Services Department

Subhead (No. & title): Not Specified

Programme: (1) Stormwater Drainage

Controlling Officer: Director of Drainage Services (TONG Ka Hung, Edwin)

Director of Bureau: Secretary for Development

Question:

At present, the stormwater drainage systems in many old districts across the territory may fail to meet the drainage needs during rainstorms.

- (1) Regarding the inspection and maintenance of stormwater drainage, flood relief channels and other flood control installations, will the Department put in more resources to introduce modern technologies to facilitate the above work? If yes, how will the resources be allocated? If not, what are the reasons and difficulties?
- (2) Regarding the construction of phase 2 of Happy Valley Underground Stormwater Storage Scheme (HVUSSH) to be continued, what are the expected time and expenditure required? Has the Department studied whether the underground water storage space in Hong Kong is sufficient? What will be the daily expenses on the treatment of rainwater to be collected under HVUSSH? Will the Department consider implementing similar schemes in other districts? If yes, what are the details? If not, what are the reasons?
- (3) Regarding the planning and upgrading of the stormwater drainage systems as well as the implementation of the proposed improvement works by stages, what will be the expenditure involved? Will the Department put in more resources to make good use of modern innovative technologies for relevant improvement works? If yes, what is the proportion of expenditure involved? Will the Department allocate or direct more resources to explore ways to better utilise the rainwater for enhanced environmental friendliness?

Asked by: Hon Tony TSE Wai-chuen (Member Question No. 18)

Reply:

- (1) The Drainage Services Department (DSD) has been keeping a close watch on modern technologies and applications to assist the inspection and maintenance of drainage facilities. Trenchless technology, which brings about the benefit of minimising traffic impact and shortening construction time, has been adopted in the maintenance and repair of underground drains. We have also undertaken a trial of the ultraviolet cured-in-place liner rehabilitation method, which provides a high-quality, speedy and cost-competitive solution for rehabilitation of underground drains. For inspection, we have conducted a trial use of a remotely-operated vehicle to overcome the difficulties encountered in condition surveys of submerged underground box culverts. In future, we will put in more resources and adopt modern technologies to facilitate the above work with a focus on aged and high-risk drainage facilities.
- (2) The Happy Valley Underground Stormwater Storage Scheme (HVUSSS) is the third underground storage scheme in Hong Kong. The construction of Phase 2 of HVUSSS is in good progress and targeted for completion by February 2018. The estimated project cost of Phase 2 is about \$250 million. The estimated recurrent cost of maintaining and operating the water harvesting system under HVUSSS is about \$450,000 per year.

We regularly review drainage systems in the whole territory in order to maintain their capacity to cope with the latest land use, planned development and climate change effects. We will evaluate the constraints and condition of individual drainage catchments; appraise the need for drainage improvement measures including underground storage schemes if found appropriate; and formulate optimal measures for implementation.

- (3) We are currently undertaking the planning and design of various drainage projects in different parts of the territory. The estimated total cost of the projects is about \$9.4 billion.

We have been putting in more resources and adopting modern and innovative technologies in our drainage improvement works in recent years. For example, we have adopted a sophisticated computational hydraulic modelling tool for assessing the performance of drainage systems. With real-time flood water level monitoring and intelligent control afforded by the inflow weir system of HVUSSS, the storage capacity and efficiency of the storage scheme is optimised. The resources required for implementing these initiatives have been included in the estimated cost of individual projects.

Regarding rain water harvesting, HVUSSS is an example of its application. Currently, we are also exploring the harvesting of rainwater under the Inter-Reservoirs Transfer Scheme, which aims to channel the water collected from the Lai Chi Kok hillside upstream area into Lower Shing Mun Reservoir. We will continue to explore under other relevant drainage projects practical measures to better utilise water resources.

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