

CONTROLLING OFFICER'S REPLY

ENB035

(Question Serial No. 1198)

Head: (39) Drainage Services Department

Subhead (No. & title): (-) Not Specified

Programme: (2) Sewage Services

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

Director of Bureau: Secretary for the Environment

Question:

Early last year, it was reported that massive fish deaths occurred in Hong Kong for months. Due to the massive amount of toxic algae, nearly 215 tonnes of fish in 8 fish culture zones in Tolo Harbour of New Territories East died. Locals reflected that the possible cause is misconnections to stormwater drains, leading to the discharge of raw sewage into Shing Mun River and Lam Tsuen River which directly affected the water quality of Tolo Harbour. According to the Matters Requiring Special Attention in the Controlling Officer's Report 2017-18, the Government will continue with the review of the drainage master plans for Northern Hong Kong Island, Tai Po, Sha Tin, Sai Kung and Outlying Islands. In this connection, will the Government advise this Committee:

whether the Department has put in resources and adopted measures to deal with the raw sewage discharge issue, in order to improve the water quality of Tolo Harbour? If yes, what are the details? If not, what are the reasons?

Asked by: Hon LEUNG Mei-fun, Priscilla (Member Question No. 42)

Reply:

Regarding the cultured fish kill incident happened in the waters of Tolo Harbour to Long Harbour last year, upon conducting toxicological studies on *Karenia mikimotoi*, pathological analysis on the gill tissues of the affected fish as well as field studies on the response of fish to *Karenia mikimotoi*, the Agriculture, Fisheries and Conservation Department and the Red Tide Expert Advisory Group comprising local and mainland red tide experts have come to believe that the fish kill was highly likely caused by the red tides formed by *Karenia mikimotoi*. Red tide is a natural phenomenon, caused by rapid growth of algae which led to discolouration of seawater. Its formation and duration are determined by various factors such as sunlight intensity, water temperature, salinity, trace elements in seawater, water flow and whether the seawater is polluted. As for water quality, following the implementation of sewage management and water quality improvement measures, including the discharge of treated effluent that meets the stringent standards in waters outside the district after the sewage has been treated by Sha Tin and Tai Po Sewage Treatment Works, the total pollution load in Tolo Harbour has drastically reduced by 80% from mid-1980s to the present. As shown in the surveillance of the Environmental Protection Department, the pollutants and nutrients in waters, including 5-day biochemical

oxygen demand, total inorganic nitrogen, ammonia nitrogen and orthophosphate phosphorus, have substantially decreased, resulting in significant improvement in water quality.

To further improve the water quality of Tolo Harbour, the Drainage Services Department (DSD) will continue constructing public sewerage systems and improving the existing main sewers as well as sewerage works.

In Sha Tin District, DSD has provided public sewerage to 32 villages and public sewerage works for 9 villages are in progress with expected completion in succession by the end of 2017. Moreover, to lower the risk of environmental pollution due to damage to main sewers, DSD is constructing “a duplicate trunk sewer running from Shing Mun River and Siu Lek Yuen nullah to Fo Tan nullah”, which is expected to be completed in mid-2017. With regard to Tai Po District, DSD has completed the laying of sewers, including trunk sewers, for 63 villages in Lam Tsuen Valley and along the shore of Tolo Harbour. The public sewerage works for 11 other villages are in progress with expected completion in succession by the end of 2018. The approved project estimate of the above projects was about \$3.1 billion. Besides, DSD will bid for resources to provide public sewerage to 30 villages along Tolo Harbour to further improve the sewerage systems.

Apart from the above works, DSD will regularly inspect the sewerage in the districts and cleanse the sewers as well as carry out repair, maintenance and improvement works for the sewage pumping stations and treatment facilities to ensure these installations function properly and the water quality of the effluent consistently meets the discharge standard. Treated effluent is discharged into the Victoria Harbour through water tunnels and Kai Tak nullah, which also helps improve the water quality of Tolo Harbour.

In addition, the Government is carrying out drainage master plan review studies for Northern Hong Kong Island, Tai Po, Sha Tin, Sai Kung, Lantau Island and Outlying Islands to examine the performance of the existing stormwater drainage systems in the districts and if necessary, implement relevant drainage improvement works in order to reduce the flood risk. These studies mainly involve flood prevention work, but not sewerage system and sewage treatment.

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