Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)116

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0210)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

The Department expects that the provision for this programme in 2026-27 (estimate) is $63.8 million (or 16.7%) higher than that in 2025-26 (revised estimate). This is mainly due to the increased cash flow requirements for the implementation of the Water Safety Plan Subsidy Scheme (WSPSS) and the replacement of one launch for assisting water quality control. The Government announced the launch of the WSPSS in the 2019 Policy Address aiming to provide subsidies to a maximum of about 5 000 eligible buildings within five years. (1) Given that the scheme should have concluded by 2025, will the increased provision be used to extend the WSPSS? (2) If yes, by how long will the scheme extend? How many additional eligible buildings' demand can the increased provision satisfy?

Asked by: Hon YIM Kong, Erik (LegCo internal reference no.: 36)

Reply:

A reply to various parts of Hon YIM's question is as follows:

(1) In 2019, the Government earmarked $440 million to launch the Water Safety Plan Subsidy Scheme (WSPSS) with the purpose of promoting the implementation of the water safety plan for buildings (WSPB) in eligible private residential or composite (i.e. commercial and residential use) buildings by providing financial support. The WSPSS aimed at providing subsidies to a maximum of about 5 000 eligible buildings within five years, and the amount of subsidy to be disbursed for each building is capped at $310 000.

Shortly after the Government launched the WSPSS, the COVID-19 pandemic broke out. Owing to restrictions imposed by relevant social distancing measures, etc., many applicants were unable to convene owners' meetings in a timely manner to pass the resolution for participating in the WSPSS, resulting in the progress of the WSPSS not meeting our expectation. After the epidemic, the Water Supplies Department (WSD) has launched various publicity and promotion activities through different channels since the end of 2022 to encourage owners and property management agents to

participate in the WSPSS and assist them in applying for relevant subsidies. The numbers of applications for and participations in the WSPSS have thus increased gradually since 2023. Taking into account the fact that there remains unspent funding under the WSPSS after being launched for five years, the WSD is still continuing to accept and process applications for subsidy from eligible buildings at this stage according to its original target. The relevant provision estimated by the Department for 2026-27 is intended to cater the estimated expenses of the WSPSS in that financial year, but not to initiate a new round of the scheme.

(2) As at end of February 2026, the WSD had issued Approval-in-Principle (AIP) Letters to around 4 500 eligible buildings involving an estimated total subsidy of around $370 million. The WSD is also continuing to process around 500 application cases. Applicants who have received the AIP Letter can apply for the disbursement of subsidies from the WSD in phases based on the progress of major items under the WSPSS, such as having completed the formulation of the WSPB, completed the recommended rectification works and implemented the WSPB for the first and second two-year periods. We expect all subsidies under the WSPSS to be fully disbursed in 2030-31.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)104

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0268)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Although Programme (1) includes the operation and maintenance of the water supply system, the report has not clearly provided the related expenses.

1. Please provide the expenses in the past 3 years and in 2026 as anticipated on the following facilities with details:

a) water mains for fresh water, flushing water and reclaimed water;
b) water treatment works;
c) service reservoirs;
d) impounding reservoirs;
e) strategic transfer mains (such as Dongjiang water), water tunnels, regional water supply mains (such as cross-harbour water mains and Lion Rock Tunnels water mains);
f) pump houses.

2. Please provide the names and the designed service lives of the facilities which are over 50 years old respectively, and whether there are plans for reconstruction or in-depth rehabilitation for those facilities that are approaching or have already exceeded their service lives. If no, please indicate with details how the current maintenance plans can ensure the water supply system remains safe, stable, and reliable.

Asked by: Hon BOK Kwok-ming, Aaron (LegCo internal reference no.: 43)

Reply:

The Water Supplies Department (WSD) has all along been committing to providing reliable, sufficient and quality water supply to the public, thereby ensuring the health condition of water supply networks through continuous improvement in asset management and making good use of technology. The WSD is responsible for the management of the extensive and complex water supply networks, as well as the operation and maintenance of the waterworks, such as water treatment works, service reservoirs, impounding reservoirs, pumping stations (pump houses), along with around 200 kilometres of water tunnels and around 8 400 kilometres of underground water mains, providing a reliable supply of wholesome potable water and flushing water to people in Hong Kong every day.

1. The maintenance expenses of the WSD in the past three financial years and the estimate for 2026 are summarised as follows:

	2023-24 (Actual)	2024-25 (Actual)	2025-26 (Revised Estimate)	2026-27 (Estimate)
	$million	$million	$million	$million
(a) and (e) Water Mains and Tunnels*	460	467	406	368
(b) Water Treatment Works	102	108	99	90
(c) Service Reservoirs	21	14	21	19
(d) Impounding Reservoirs	5	4	4	4
(f) Pump Houses	65	66	64	58
Total	**653**	**659**	**594**	**539**

* including fresh water, salt water and reclaimed water mains, catchwaters and water tunnels, etc.

As the WSD adopts a holistic management strategy for unified planning, operation, and resource allocation across the entire water supply system, the Department does not maintain a detailed breakdown of operation expenses for individual facilities.

2. To optimise the performance of our waterworks while minimising operation cost and the risk of incidents, the WSD has formulated the Waterworks Asset Management System for waterworks assets such as water treatment works, service reservoirs, impounding reservoirs, pumping stations (pump houses) and water tunnels; and the "Risk-based Asset Management Programme for Water Mains" ("Programme") to assess the risk of around 8 400 kilometres of water mains, and prioritise improvement works for water mains with high risks. The details are as follows:

<u>The Waterworks Asset Management System (including Water Treatment Works, Service Reservoirs, Impounding Reservoirs, Pumping Stations (Pump Houses) and Water Tunnels)</u>

The WSD established an asset management system in 2020 certified under the international standard ISO 55001 to manage the waterworks assets. The WSD has formulated specific asset management policies and objectives, asset management system manuals, established comprehensive asset management plans for various facilities, and set up mechanisms for continuous monitoring, review, improvement, corrective and preventive actions. This enhances the performance of the assets while minimising the operation cost and the risk of incidents throughout their "life cycles".

In general, the designed service lives of the structural parts of waterworks are about 50 years. However, under the asset management plans, the WSD adopts a risk-based approach to carry out routine monitoring and testing, preventive and predictive maintenance, risk assessments, and improvement or rehabilitation works in a timely manner. This extends the service lives of the waterworks and ensures they remain in good conditions throughout their entire life cycles. In addition, under the asset management system, the WSD will continuously monitor and evaluate the conditions

and the operational data of the waterworks, as well as timely implement the reconstructions and large-scale rehabilitations of waterworks. Listing the service lives based solely on particular systems or equipment within facilities can easily lead to misunderstanding by the public. Therefore, the WSD is unable to provide a general list of facilities of more than 50 years old along with their designed service lives.

Risk-based Asset Management Programme for Water Mains ("Programme") (including a water supply network of 8 400 kilometres)

The water supply network of Hong Kong spans approximately 8 400 kilometres. Depending on various water main materials, operational and environmental factors, the designed service lives vary from 20 years to 60 years. Due to the continuous enhancement of water main materials and anti-corrosion coatings, newly laid water mains generally have longer service lives. The average year of service of the whole water supply network is around 22 years. Water mains with longer years of service are not necessarily those with high risks of burst or leak. It is inappropriate to decide on the implementation of improvement works on water mains based solely on year of service. Instead, the asset management strategy for water mains should be applied to prioritise improvement works for water mains with higher risks to ensure cost-effectiveness.

Since 2015, the WSD has implemented multi-pronged measures, including the implementation of the Programme and the "main burst hotspots" [Note] and the establishment of the Water Intelligent Network (WIN). Under the Programme, the WSD introduces factors such as age of use, materials, past records of bursts or leaks, surrounding environment and consequences resulting from bursts or leaks, for assessing the risk of water main bursts or leaks and replace or rehabilitate water mains with higher risk progressively. At the same time, the Department applies coating materials with higher durability and corrosion resistance on water mains to reduce the risk of water main bursts and leaks.

As at the end of December 2025, a total of approximately 584 kilometres of water mains have been included in the Programme. Amongst them, approximately 250 kilometres long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains will be progressively carried out under the Programme.

Note: "Main burst hotspots" - If more than one main burst (with diameter of 150 millimetres or above) occurs within a 400-metre long road section in two years, the WSD will designate the location as a "main burst hotspot" and arrange for expedited replacement or rehabilitation of the concerned water main so as to reduce the risk of recurrent main bursts.

- End –

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)105

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0269)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Frequent water main bursts across Hong Kong are inconsistent with its image as an international city.

1. Please provide the implementation timetable of the Water Intelligent Network (WIN) along with the resources input over the past three years and to be input for the next three years with details. What are the expected outcomes upon its implementation? Are there any performance indicators to show its effectiveness?

Is technology utilised to assist the regulation of water pressure and flow to reduce the risk of water main bursts and leaks?

Asked by: Hon BOK Kwok-ming, Aaron (LegCo internal reference no.: 45)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains, etc. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025. The WSD is currently expanding and upgrading the WIN to achieve more comprehensive coverage of the fresh water supply network and upgrade the real-time data transmission function of the existing WIN. The relevant works are expected to be completed in phases by mid-2027.

In the first phase of the expansion and upgrading of the WIN, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN. The WSD will install approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network that do not require road excavation. The works are expected to be completed by mid-2026. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct shafts for sensor installation, the installation works will take longer time and are projected to be completed by mid-2027.

The WSD had established 210, 397 and 51 new DMAs under WIN across the territory in 2023, 2024 and 2025 (by the end of March) respectively. As the installation involved road excavation and construction of shafts, the total expenses on the establishment of new DMAs under the WIN in 2023-24 and 2024-25 were around $190 million and $250 million respectively, while the expenses on the enhancement related to the WIN in 2025-26 (including consultation fee and the replacement of 500 old sensors with real-time sensors which did not involve road excavation) were around $10 million. In the next 3 years, the estimated expenses on the enhancement related to the WIN will be around $74 million.

In general, by the establishment of the WIN, the implementation of the Programme and other relevant measures, the WSD aims at reducing the leakage rate of fresh water mains to below 10% by 2030.

Due to the hilly and undulating terrain of Hong Kong, in order to maintain adequate water supply pressure in places located on high ground or at the end of the distribution network, the water pressure of the fresh water distribution mains is generally higher than that of other cities. To address the issue of increasing water main bursts and leaks due to high water supply pressure, the WSD proposes the construction of an Internet of Things (IoT) perception system for the water supply networks and the development of the Smart Water Pressure Management System. Currently, the WSD is exploring the development of a comprehensive IoT perception system to monitor the water flow and pressure of water mains in real time. Apart from collecting the flow and pressure data from the WIN in real time, the WSD will also install real time online sensing devices (including flow meters, water pressure meters, thermometers, noise detector, etc.) in the fresh water and salt water supply networks. Smart water meters will be installed at user end at the same time to collect comprehensive water supply and consumption data of the network in real time and continuously monitor the operation of the entire water supply network. Through the high-precision hydraulic model analysis, smart dynamic pressure reduction measures can be implemented without affecting the water use of the public, thereby reducing the cases of bursts and leaks in public water supply networks and private inside service. The continuous monitoring system will also issue alerts for abnormal water supply automatically, supporting the WSD to take swift response to water main burst incidents, following for timely management of the water supply networks, minimising the impact of the burst incidents on water supply and traffic.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)121

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0735)

Head: (194) Water Supplies Department

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

Programme: (-) Not Specified

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Regarding the visiting arrangement of the Ex-Sham Shui Po Service Reservoir (Ex-SSPSR), would the Government inform this Committee of the following:

1. Please provide the Government's estimated expenditure related to the management of the Ex-SSPSR in 2025-26 and 2026-27.
2. Please provide the monthly number of visitors to the service reservoir in 2025, and the top 10 dates with the highest number of visitors.
3. Please provide the monthly number of guided tour participants, the number of participants under individual/group application respectively, along with the relevant expenditure on providing guided tour service.
4. What plan does the Government have to further utilise the Ex-SSPSR, such as using it as a venue for performances or activities, or further revitalise its use?

Asked by: Hon YIU Pak-leung (LegCo internal reference no.: 20)

Reply:

1. In 2025-26, the expenditure on the operation (including guided tour service) and maintenance of the Ex-Sham Shui Po Service Reservoir (Ex-SSPSR) was around $7 million. Following the adjustment of guided tour service arrangements with effect from 1 January 2026, guided tour service has been provided by existing staff of the Water Supplies Department (WSD) instead of outsourced service contractors. Therefore, the relevant estimated expenditure decreases to around $6 million in 2026-27.

2-3. The monthly number of visitors of the Ex-SSPSR in 2025 are set out in Table 1, while the top 10 dates with the highest number of visitors are set out in Table 2. The number of guided tour participants under individual or group application in 2025 are set out in Table 3. The expenditure for providing guided tour service at the Ex-SSPSR in 2025-26 was around $1 million.

4. In 2021, the Ex-SSPSR was accorded the Grade 1 historical building status by the Antiquities Advisory Board, and was open for public visit at the end of the same year. Questionnaires have been distributed to collect views on the conservation and revitalisation of the Ex-SSPSR from visitors. The Government will continuously examine the public views on the long-term use of the Ex-SSPSR, study the feasibility of different conservation and revitalisation plans, and devising further details on the plans. During the study, we will consider the factors normally examined when including historical buildings in the Revitalising Historic Buildings Through Partnership Scheme, such as the accessibility of the building, whether it is suitable for non-profit-making organisations to operate social enterprises there sustainably, as well as the views from local stakeholders and public expectations, etc.

   Since 2023, various enterprises and groups have rented the Ex-SSPSR for purposes such as filming and event venues. The Government will continue to actively explore different viable options, including exploring cooperation with suitable organisations as well as liaising and inviting interested individuals and groups, to revitalise the Ex-SSPSR in a sustainable manner.

Annex

Table 1: Number of visitors in 2025 (included the figures for the same period in Table 3)

Month	Number of visitors
January	10 518
February	11 998
March	10 981
April	11 616
May	12 435
June	6 837
July *	5 423
August *	5 358
September *	3 661
October	8 133
November	10 456
December	11 373

* The number of visitors decreased from July to September 2025, mainly because the weather in Hong Kong was under the effects of hot weather, rainstorms and typhoons, etc.

Table 2: Top 10 dates with the highest number of visitors in 2025 (included the number of guided tour participants)

Month	Number of visitors
23 February	890
4 April	944
21 April	853
1 May	1 016
3 May	851
4 May	852
5 May	1 107
25 May	844
31 May	890
29 October	897

Table 3: Number of guided tour participants (booking required) in 2025

Month	**Number of visitors**	
	Individual application	**Group application**
January	496	211
February	497	313
March	548	396
April	447	461
May	548	291
June	383	237
July	384	258
August	461	265
September	284	132
October	363	349
November	515	361
December	472	467
Note: The above attendance records are included in the figures for the same period in Table 1.		

- End –

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)117

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0783)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

The Matters Requiring Special Attention in 2026–27 mentions that the Water Supplies Department (WSD) will accord priorities to sections of water mains with high risks of burst and leak for continuous improvement works as well as implement and enhance the Water Intelligent Network (WIN). In this connection, would the Government inform this Committee of the following:

1. the total length of water main sections already identified as having high risks of burst and leak at this stage and their main locations of distribution, with a breakdown by the 18 districts, and the judgement criteria for prioritising the improvement works (such as service life, frequency of bursts in the last three years and the leakage volume);
2. the total length of water mains to be replaced or improved under the replacement and improvement works for water mains with high risk, which are planned to be commenced in 2026-27, along with the respective regions and financial provisions involved;
3. the current coverage of the WIN along with its effectiveness since its implementation, such as the numbers of leaks and potential risks of burst of water mains identified by the WIN and the resolution rate, and whether there is any plan for enhancement in the coming year.

Asked by: Hon YIU Ming (LegCo internal reference no.: 28)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water

mains, etc. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025. The WSD is currently expanding and upgrading the WIN to achieve more comprehensive coverage of the fresh water supply network and upgrade the real-time data transmission function of the existing WIN. The relevant works are expected to be completed in phases by mid-2027.

1. Regarding the Programme, we assess the risk levels associated with the likelihood and consequences of water main bursts or leaks based on factors such as the years of service (e.g. cast iron and asbestos cement water mains which have been in use for over 50 years, and ductile iron water mains which have been in use for over 60 years are at higher risk), materials (e.g. asbestos cement or cast iron water mains have higher risk of bursts or leaks; the peeling of the bitumen coating on the inner wall of steel water mains may lead to rusting), past records of bursts or leaks (e.g. frequent leakage spots identified through the WIN or at "main burst hotspots"), surrounding environment (e.g. impacts on major estates, hospitals and busy roads from burst or leak incidents) and the consequences resulting from bursts or leaks (e.g. past or anticipated suspension of fresh water supply or serious traffic congestion), in order to prioritise high-risk water mains for improvement works. As at the end of December 2025, a total of approximately 584 kilometres of water mains have been included in the Programme. Amongst them, approximately 250 kilometres long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains will be progressively carried out under the Programme. The relevant water mains (with a breakdown by District Council district) were tabulated as follows:

District	**Length of water mains with works already commenced or to be commenced in/after 2026 (kilometres)**	**Detailed design in progress (kilometres)**
Central and Western	15	4.5
Eastern	20	0.5
Islands	7.5	2.5
Southern	19	2
Wan Chai	6	5.5
Kowloon City	20	18.5
Kwun Tong	4.5	2
Sham Shui Po	13	1
Wong Tai Sin	2.5	1.5
Yau Tsim Mong	22.5	12.5
North	16	8
Sai Kung	33.5	3
Sha Tin	20.5	6
Tai Po	11	6
Kwai Tsing	7.5	3

District	Length of water mains with works already commenced or to be commenced in/after 2026 (kilometres)	Detailed design in progress (kilometres)
Tsuen Wan	13	7
Tuen Mun	7	0.5
Yuen Long	9.5	2
Total	**248**	**86**

2. The WSD plans to replace and rehabilitate about 35 km of water mains (including around 2 kilometres as Category A projects and 33 kilometres as Category D projects) in 2026, which has approximately doubled the length compared to last year. It involves expenses of around $200 million and $900 million respectively. The works mainly locate in Eastern, Central and Western, Sai Kung, Sham Shui Po, Tuen Mun, Kwai Tsing, Tsuen Wan, North, Yau Tsim Mong, Wong Tai Sin, Kowloon City, and Islands Districts.

3. The numbers of the approximately 2 400 DMAs being breakdown by district are tabulated as follows:

District	Number of DMAs
Central and Western	69
Eastern	81
Islands	115
Southern	143
Wan Chai	64
Kowloon City	85
Sham Shui Po	87
Wong Tai Sin	57
Kwun Tong	121
Yau Tsim Mong	55
Northern	181
Sai Kung	286
Sha Tin	224
Tai Po	148
Kwai Tsing	132
Tsuen Wan	147
Tuen Mun	171
Yuen Long	234
Total	**2 400**

The WSD is expanding and upgrading the WIN in phases to cover the fresh water trunk mains and the remaining fresh water distribution network that are currently not covered by the WIN. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors

within the WIN, and is currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by mid-2026. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct chambers for sensor installation, the installation works will take longer time and are projected to be completed by mid-2027.

The number of leak cases of government water mains detected by the WIN increased from 880 in 2022 to about 951 in 2025. The leakage volume was reduced after the timely repairs by the Department. In general, by the establishment of the WIN, the implementation of the Programme and other relevant measures, the WSD aims at reducing the leakage rate of fresh water mains to below 10% by 2030.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)118

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0784)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

The Matters Requiring Special Attention in 2026–27 mentions that the Water Supplies Department (WSD) will enhance the water supply emergency incident management. In this connection, would the Government inform this Committee of the following:

1. the frequencies, the total numbers of hours, the average numbers of hours, the main reasons and the affected locations of emergency as well as preparatory temporary water suspensions occurred in the area of North District, Yuen Long and Tin Shui Wai in the past 3 years respectively;
2. the actual and specific enhancement effects of the water supply stabilisation works, water main renewal works and the coverage of the Water Intelligent Network (WIN), which have already been implemented, on tackling the problems of unstable water supply, ageing, bursts and leaks of water mains in Northern New Territories; and
3. the enhancement measures, monitoring mechanism and emergency arrangements by the Government which aim at stabilising water supply and safeguarding water quality in rural, low-lying and remote areas.

Asked by: Hon YIU Ming (LegCo internal reference no.: 29)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains, etc. Regarding the Programme, we assess the risk levels associated with the

likelihood and consequences of water main bursts or leaks based on factors such as the years of service, materials, past records of bursts or leaks, surrounding environment, and the consequences of bursts or leaks, so as to replace or rehabilitate water mains with higher risk progressively. As at the end of December 2025, a total of approximately 584 kilometres of water mains have been included in the Programme. Amongst them, approximately 250 kilometres of water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains (Including approximately 24 kilometers of water mains in the North District and approximately 11.5 kilometers in the Yuen Long District) will be progressively carried out under the Programme. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025. The WSD is currently expanding and upgrading the WIN by achieving full coverage of the fresh water network with metering areas and upgrading the real-time data transmission function of the existing WIN. The relevant works are expected to be completed in phases by mid-2027.

1. The frequencies of emergency and planned temporary water suspensions related to fresh water supply in the past 3 years, with a breakdown by North District and Yuen Long District (including Tin Shui Wai area) of the District Council districts, are tabulated below with details:

District	**Frequency of Emergency Temporary Water Suspensions**			**Frequency of Planned Temporary Water Suspensions**		
	2023	**2024**	**2025**	**2023**	**2024**	**2025**
North	888	1936	901	127	391	227
Yuen Long (including Tin Shui Wai)	374	641	299	112	420	243

Most of the cases recorded above affected localised areas only and involved water suspensions of less than 3 hours. The main reason for emergency temporary water suspensions was emergency repair work on waterworks installations or water mains. The main purpose of the planned temporary water suspensions is to carry out pre-planned works related to water mains. Notification will be made to affected customers regarding the temporary water suspension to allow users to make necessary preparations and minimize the user impact as much as possible. The WSD will redirect water supplies whenever possible in each case to maintain water supply and minimise the affected area as far as practicable. The main reason for planned temporary water suspensions was implementation of water main replacement and rehabilitation projects, water main maintenance/improvement works and water main leakage detection works. In general, if planned temporary water suspension is necessary, the WSD will communicate with the stakeholders of the area where water supply is affected (such as management offices of housing estates or managers of important facilities) to avoid suspending the water supply during peak hours of water consumption as far as practicable, so as to minimise the impact of temporary water suspension on the public and consumers. The WSD also issues temporary water suspension notices to affected housing estates and buildings, requesting management offices to post them in prominent locations. If the temporary water suspension affects a wider area or lasts for longer time, the WSD will timely coordinate with relevant District Office, District Council

members and Care Teams, and will arrange for temporary water supply during the works as necessary.

2. Under the Programme, the WSD has been progressively replacing or rehabilitating water mains with higher risk. At the same time, water mains with coating materials of higher durability and corrosion resistance are used to reduce the risk of water main bursts and leaks. Regarding the above-mentioned Programme, as at the end December 2025, the WSD has completed the improvement works on around 11 kilometres and 30 kilometres of water mains in North District and Yuen Long District (including the area of Tin Shui Wai) respectively. From 2026 onwards, the improvement works on approximately 24 kilometres and 11.5 kilometres of water mains will be progressively carried out in North District and Yuen Long District respectively. Around 5 kilometers and 3.8 kilometers in the North District and Yuen Long District are either under construction or will commence in 2026, with an expected gradual completion by the end of 2030. The remaining approximately 19 kilometers and 7.7 kilometers of water mains are planned to begin construction in 2027 or later.

   In addition, regarding the above-mentioned WIN, 415 DMAs had been set up in North District and the area of Yuen Long (including Tin Shui Wai). The WSD is upgrading and expanding the WIN in phases to cover the fresh water trunk mains and the remaining fresh water distribution network that are currently not covered by the WIN. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN, and is currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by mid-2026. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct shafts for sensor installation, the installation works will take longer time and are projected to be completed by mid-2027.

3. Regarding some remote villages with small populations but without fresh water supplies, facilities are available for supplying stream water, well water or for collecting rainwater which have been in use for many years. Most of these facilities are under the maintenance of the Home Affairs Department while the Food and Environmental Hygiene Department regularly monitors the water quality to ensure the water is suitable for potable consumption after boiling. In the event of depletion or insufficiency of the water sources, the Government will provide timely assistance, including delivering potable water to meet the need of the villagers. The WSD has also enhanced the contingency response mechanism for emergency incidents to strengthen its communication with District Offices, dissemination of information and on-site coordination.

   In addition, the Government will launch the "Northern Metropolis Urban-rural Integration Fund" and local improvement works at the Northern Metropolis and South Lantau respectively to carry out water supply improvement works, with an aim to further enhance the stability of water supply and safeguard water quality in rural, low-lying, and remote areas.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)119

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0785)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

The Matters Requiring Special Attention in 2026–27 mentions the work related to supplying recycled water for non-potable purposes in Tin Shui Wai, Yuen Long Town and Tuen Mun – Yuen Long Corridor areas. In this connection, would the Government inform this Committee of the following:

1. the progress, coverage and the expected scale of supply of the project of supplying recycled water for non-potable purposes in the 3 above-mentioned areas respectively;
2. the water quality standard and the main purposes of recycled water, along with the frequency of regular water quality tests, the items to be tested and the institutions responsible for conducting the tests;
3. the relevant operating cost following the implementation of recycled water compared with the current water supply mode, and how supply stability can be ensured to address emergency situations such as supply shortage or equipment failures.

Asked by: Hon YIU Ming (LegCo internal reference no.: 30)

Reply:

The Government has been implementing the Total Water Management Strategy ("Strategy") to ensure water security and support the sustainable development of Hong Kong. Expansion of the use of recycled water (including reclaimed water, treated grey water and harvested rainwater) for non-potable purposes is one of the key initiatives of the Strategy to contain fresh water demand growth. Since March 2024, the Water Supplies Department (WSD) has started to supply reclaimed water in phases to certain areas of Sheung Shui and Fanling via the Shek Wu Hui Water Reclamation Plant (SWHWRP)[1] in Sheung Shui to replace temporary mains fresh water for flushing.

Note 1 In view of the Shek Wu Hui Sewage Treatment Works being upgraded to an Effluent Polishing Plant with tertiary sewage treatment, the WSD established a water reclamation plant in Shek Wu Hui to process tertiary-treated effluent by hypo-chlorination treatment and addition of edible dye to produce reclaimed water.

1. The WSD plans to supply recycled water (mainly reclaimed water) to Tin Shui Wai, Yuen Long Town and Tuen Mun – Yuen Long Corridor areas for non-potable purposes. The investigation and design works are currently underway. To tie in with the development planning, implementation progress and population intake of those areas, the WSD plans to commence the supply of recycled water in 2034 in phases to replace the current salt water and temporary mains fresh water for flushing, mainly covering areas such as Tin Shui Wai Town Centre, Yuen Long Town Centre, Wan Chau and Ping Shan. Based on the discharge capacity of treated sewage effluent supplied by the Yuen Long Effluent Polishing Plant, the estimated final supply capacity of recycled water can reach 62 000 cubic metres per day.

2. The WSD supplies recycled water to Tin Shui Wai, Yuen Long Town and Tuen Mun – Yuen Long Corridor areas mainly for flushing purpose. Its water quality must comply with the Water Quality Standards for Recycled Water formulated by the WSD to ensure that water quality, aesthetic and hygienic aspects all meet the standards. For the main monitoring parameters and standards of the Water Quality Standards for Recycled Water, please refer to:

   https://www.wsd.gov.hk/filemanager/en/content_1240/Code%20of%20Practice%20for%20Recycled%20Water.pdf

   During the production of recycled water, the WSD rigorously monitors water quality in a real-time and continuous manner through 24-hour online monitoring equipment and regular sampling tests twice a month. Recycled water is only supplied to customers after it is ensured to have met the established water quality standards. The WSD also updates the latest monitoring results on its website every 6 months for public access.

3. Currently, the salt water supplied for flushing in Tin Shui Wai, Yuen Long Town, and the Tuen Mun-Yuen Long corridor is provided by the Lok On Pai Salt Water Pumping Station. Upon the WSD's review, the operation cost (including treatment and distribution cost) after switching to recycled water will be lower than the current level of supplying salt water for flushing. The main reason is that salt water for flushing involves longer distribution pipelines, which increases the distribution cost. In contrast, the water reclamation plant for treating recycled water is close to the supply area. The distribution cost saved is able to offset the higher treatment cost. For emergency situations at the recycled water supply system (such as equipment or power failure), the WSD has formulated plans to switch to fresh water on a temporary basis to maintain the supply of flushing water.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)120

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0786)

Head: (194) Water Supplies Department

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

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

It is mentioned in the Matters Requiring Special Attention in 2026–27 that the Water Supplies Department (WSD) will continue to encourage private building owners and property management agents to implement Water Safety Plans (WSP) in their buildings in order to safeguard drinking water quality in the community. In this connection, would the Government inform this Committee of the following:

1. the current number, coverage rate and distribution by district of private buildings over the territory which have already formulated and implemented the water safety plans for buildings (WSPB), along with the training, accreditation and work arrangement of Designated Persons and Assisting Staff;
2. the number of cases of drinking water safety complaints and water quality abnormalities received by the WSD, the major complaint categories, and their distributions across the 18 districts in the past 3 years;
3. the follow-up mechanism, average processing time, completion rate and final outcomes after processing the above-mentioned cases about drinking water safety.

Asked by: Hon YIU Ming (LegCo internal reference no.: 31)

Reply:

A reply to each part of Hon YIU's question is as follows:

1. As at the end of February 2026, a total of 3 797 private buildings across the territory have implemented WSPB, covering about 455 000 households which account for about 16% of the total households in Hong Kong. The distribution of private buildings that have formulated and implemented WSPB by district is as follows:

District	Number of private buildings that have formulated and implemented WSPB
Central and Western	429
Eastern	157
Islands	82
Southern	190
Wan Chai	128
Kowloon City	292
Sham Shui Po	100
Wong Tai Sin	63
Kwun Tong	272
Yau Tsim Mong	171
North	144
Sai Kung	219
Sha Tin	426
Tai Po	244
Kwai Tsing	131
Tsuen Wan	164
Tuen Mun	306
Yuen Long	279
Total	**3 797**

To implement WSPB, owners or property management agents must first appoint a Designated Person, who is conversant with the management and maintenance of buildings (usually undertaken by property management staff), and then formulate and implement the WSPB with the assistance of appropriate Assisting Staff (i.e. qualified persons who are conversant with the inside services, such as licensed plumbers, building services engineers and building surveyors).

The WSD regularly organises briefings of WSPB for Designated Persons and coordinates with accredited institutions to provide relevant training courses for Assisting Staff. To ensure their competency meets the required standards, Assisting Staff who have completed WSPB training must pass the assessment of an institution designated by the Department before they are included in the List of Qualified Persons Trained in WSPB on WSD's website, which is accessible by Designated Persons.

2. In the past 3 years (i.e. from 2023 to 2025), the WSD received a total of 7 131 complaint cases involving odour, colour or impurities in drinking water. These cases are tabulated according to District Council districts as follows:

District	Odour (Number of Cases)	Colour (Number of Cases)	Impurities (Number of Cases)	Total (Number of Cases)
Central and Western	34	106	152	292
Eastern	78	148	257	483
Islands	39	88	80	207
Southern	28	63	58	149
Wan Chai	93	124	136	353
Kowloon City	77	146	182	405
Sham Shui Po	70	136	162	368
Wong Tai Sin	36	69	85	190
Kwun Tong	89	177	209	475
Yau Tsim Mong	69	127	166	362
North	46	296	797	1 139
Sai Kung	81	219	177	477
Sha Tin	46	189	150	385
Tai Po	76	177	109	362
Kwai Tsing	59	83	83	225
Tsuen Wan	40	75	107	222
Tuen Mun	82	164	179	425
Yuen Long	117	200	295	612
Total	**1 160**	**2 587**	**3 384**	**7 131**

3. Upon receiving a complaint related to drinking water quality, the WSD will contact the complainant as soon as possible to understand the situation and, if necessary, deploy staff to conduct an on-site inspection of the water quality within 24 hours. According to the Department's records, most complaint cases were due to lack of regular flushing of internal pipework within buildings. Such situations typically showed immediate improvement following flushing of the water meter of the affected flat by WSD staff, and no further follow-ups were required. If the water quality issue persists after the water meter of the unit has been flushed, the WSD will assist the property management agent in conducting an in-depth investigation, including inspection of the water tanks of the building and collection of water samples for laboratory testing, so as to ascertain the root of the problem and arrange appropriate follow-up actions. The majority of the complaint cases received by the WSD can be resolved within 3 days.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)109

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1095)

Head: (194) Water Supplies Department

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

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Previously, sediment particles were found in housing estates in various districts across the territory. The Water Supplies Department (WSD) usually collects water samples for laboratory testing, strengthens public water main flushing in the vicinity of the relevant areas, and installs equipment such as strainers at the intake points of public water mains to improve water quality. In this connection, would the Government inform this Committee of the following:

1. How many strainers were installed at the intake points of public water mains in various districts across the territory in 2025 (please provide with a breakdown by the 18 administrative districts)?
2. What is the average material and administrative cost for each strainer installed at public water mains?
3. Following the installation of strainers, how often does the Department arrange contractors to conduct regular cleaning and maintenance of strainers?
4. How many additional strengthened flushing actions on public water mains were taken beyond regular flushing in various districts across the territory in 2025 (please provide by the 18 administrative districts)?
5. What is the average cost for each arrangement for contractors to conduct emergency flushing of water mains?
6. What is the average cost for the laboratory testing of each water sample collected by the Department?
7. What is the process of the laboratory testing of a water sample? How long does it take for each sample to undergo laboratory testing?
8. Regarding the successive finding of sediment particles in water mains, has the Department implemented any corresponding measures, other than strengthened water main flushing and installation of strainers, to address the problem of sediment particles at its root source?

Asked by: Hon CHIK Kit-ling, Elaine (LegCo internal reference no.: 105)

Reply:

Currently, a small portion of Hong Kong's fresh water distribution network still consists of water mains with bitumen inner protective coating. The bitumen coating of these water

mains may peel off after years of use. Bitumen is an inert substance which is not harmful to human body. In the long run, the Water Supplies Department (WSD) will replace or rehabilitate this type of water mains in phases. Before these water mains are replaced, to mitigate the potential risk of the sediment entering the inside service, a common international practice is to regularly clean the pipes and water tanks to flush out such sediments as far as practicable. The WSD has been adopting this time-proven method and has installed strainers at suitable locations in the water supply networks containing water mains with bitumen coating and conducted regular inspections and cleansing to ensure the sediment will not enter the inside service at downstream. Based on a risk-based principle, the WSD plans to enhance the filtration capacities of around 1 000 existing strainers, and install around 1 100 additional strainers. In 2025, the WSD enhanced the filtration capacities of the around 1 000 existing strainers mentioned above. By January 2026, the WSD also completed the installation of around 660 additional strainers. Remaining strainers are currently being installed. The installation will take longer to complete since it will involve modification or construction of chambers which is relatively complicated.

1. Currently there are around 1 660 strainers across the territory, with a breakdown by the 18 administrative districts as follows:

Region	**District**	**Approximate Number of Strainers**
Hong Kong and Islands	Central and Western	20
	Eastern	60
	Islands	60
	Southern	60
	Wan Chai	40
Kowloon	Kowloon City	40
	Kwun Tong	60
	Sham Shui Po	70
	Wong Tai Sin	40
	Yau Tsim Mong	30
New Territories	North	160
	Sai Kung	280
	Sha Tin	170
	Tai Po	130
	Kwai Tsing	60
	Tuen Mun	120
	Tsuen Wan	80
	Yuen Long	180
Total		**1 660**

2. In general, we need to install strainers inside chambers to protect the strainers and facilitate future cleansing and maintenance works. Therefore, the cost of installing a new strainer includes not only the strainer itself but also the modification of the existing chamber or the construction of a new chamber, depending on factors such as the size of the new chamber and whether the works are carried out at busy road sections. The expenses (including materials, labour of contractors and related construction expenses) involved range from around $55,000 to $400,000. As for the administrative cost, since

the WSD staff responsible for supervising the installation of strainers are also handling other tasks, no separate breakdown statistics are available.

3. The WSD will arrange inspections and cleansing of the strainers based on the "risk-based" principle. In general, depending on the length, size and years of service of the water mains with bitumen coating upstream of the strainers, the number of consumers in downstream, past incident records, and the water supplies to important buildings or facilities (such as hospital), etc., the WSD will inspect and clean the relevant strainers every 3 to 6 months. To enhance cost-effectiveness, the inspection and cleansing cycle for strainers in lower-risk locations will be extended. In addition, with respect to special circumstances, such as before or during large-scale redirection of water supply, the WSD may advance or increase the frequency of inspections and cleansing works of relevant strainers.

4. Since the water quality incidents at Queen's Hill Estate on 30 May 2025, the WSD has proactively strengthened the additional government water main flushing. From 30 May 2025 to 31 December 2025, the numbers of the relevant additional government water main flushing actions taken (not including regular water main flushing) with a breakdown by the 18 administration districts are set out below:

Region	**District**	**The Number of Additional Strengthened Water Main Flushing Actions**
Hong Kong and Islands	Central and Western	15
	Eastern	42
	Islands	1
	Southern	3
	Wan Chai	5
Kowloon	Kowloon City	6
	Kwun Tong	16
	Sham Shui Po	4
	Wong Tai Sin	3
	Yau Tsim Mong	1
New Territories	North	130
	Sai Kung	3
	Sha Tin	15
	Tai Po	3
	Kwai Tsing	10
	Tuen Mun	16
	Tsuen Wan	2
	Yuen Long	26
	Total	**301**

5. The WSD usually arranges in-house manpower to carry out the additional water main flushing actions. No additional costs are involved.

6&7. The WSD obtains water samples from its fresh water distribution network and the storage tanks of relevant buildings to conduct water sample tests on appearance,

turbidity, colour, visible substances, etc. as well as rapid tests on toxicity and Benzo[a]pyrene to ensure the safety of drinking water. Testing on each sample requires approximately 1 day and incurs a cost of around $4 000.

8. In addition to strengthening flushing of government water mains and installation of additional strainers, upon carrying out a risk-based assessment, the WSD has identified around 70 kilometres of higher risk large diameter water mains with bitumen inner protective coating for improvement. The Finance Committee has approved the upgrading of the improvement works for the first 20 kilometres of water mains to Category A. The WSD will seek funding from the Legislative Council in due course for commencing the improvement works for the remaining 50 kilometres of water mains.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)110

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1099)

Head: (194) Water Supplies Department

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

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

The Shek Wu Hui Water Reclamation Plant (SWHWRP) in Sheung Shui commenced operation in March 2024, and is marking its second anniversary in March 2026. It further processes effluent treated by sewage treatment works and adds blue edible dye to produce reclaimed water. In this connection, would the Government please inform this Committee of the following:

1. At the early stage of implementation, reclaimed water was supplied to 4 housing estates and 3 schools in Sheung Shui for flushing. Where is the current supply area of reclaimed water for flushing? Where is the Department's target supply area for expansion in 2026?
2. How many complaints were received from consumers regarding the quality of reclaimed water in each of the past 2 years?
3. How many cases of emergency temporary water suspensions were caused by the water reclamation plants or their transfer mains in each of the past 2 years?
4. What are the actual average reclaimed water production output per day of the SWHWRP in Sheung Shui in each of the past 2 years?
5. Following the above question, is there any discrepancy between the actual reclaimed water production capacity per day and the Department's estimated target production capacity per day? If yes, what are the reasons?
6. Regarding users' complaints about the quality of reclaimed water, has the Department implemented any measures over the past 2 years to enhance the water quality, so as to facilitate the smooth implementation of reclaimed water for flushing in the future?

Asked by: Hon CHIK Kit-ling, Elaine (LegCo internal reference no.: 108)

Reply:

The Government has been implementing the Total Water Management Strategy ("Strategy") to ensure water security and support the sustainable development of Hong Kong. Expansion of the use of recycled water (including reclaimed water, treated grey water and harvested rainwater) for non-potable purposes is one of the key initiatives of the Strategy to contain fresh water demand growth. Since March 2024, the Water Supplies Department (WSD) has started to supply reclaimed water in phases to certain areas of Sheung Shui and

Fanling via the Shek Wu Hui Water Reclamation Plant (SWHWRP)[1] in Sheung Shui to replace temporary mains fresh water for flushing.

Note 1: In view of the Shek Wu Hui Sewage Treatment Works being upgraded to an Effluent Polishing Plant with tertiary sewage treatment, the WSD established a water reclamation plant in Shek Wu Hui to process tertiary-treated effluent by hypo-chlorination treatment and addition of edible dye to produce reclaimed water.

1. As at February 2026, the SWHWRP in Sheung Shui has supplied reclaimed water to 26 housing estates, 12 schools, 2 non-residential facilities and 2 government facilities across the area from Po Shek Wu Road, Sheung Shui to Pak Wo Road, Fanling. The WSD plans to increase the supply of reclaimed water to around 70 locations in 2026. The supply area will further expand to Shek Wu Hui, Sheung Shui and the On Lok Tsuen Industrial Area and its vicinity.

2.&6. The number of complaint cases by consumers about the quality of reclaimed water received by the WSD in the past 2 years are tabulated as below:

Content Involved	**2024**	**2025**
Reclaimed water appears in varying shades of blue colour	20 cases	97 cases
Odours and impurities in reclaimed water	1 case	13 cases
Total	**21 cases**	**110 cases**

The Colour of Reclaimed Water

Since reclaimed water is colourless and odourless, blue food-grade dye is added to the reclaimed water to allow consumers to distinguish it from fresh water. The WSD proposed this arrangement in the public consultation in 2018. At that time, the majority of the feedback agreed with this arrangement. Since reclaimed water was used for flushing for the first time, colour should be added to distinguish reclaimed water from fresh water. It prevents misuse of reclaimed water or cross-connection between reclaimed water and fresh water supply systems, thereby ensuring public safety through multiple barriers. The variation of the colour intensity of reclaimed water due to retention time and changes in flow volume is a normal phenomenon and does not affect the efficiency of flushing or the safe use of water.

As temporary mains fresh water for flushing has been used for many years, residents were often not yet used to using blue dyed flushing water when their housing estates began to switch to reclaimed water, thus residents might have concerns about the colour of the flushing water. The WSD has adjusted the reclaimed water to a lighter colour to minimize the impact on public perception.

In view of some consumers are still holding different views on addition of blue food-grade dye to reclaimed water, the WSD is currently exploring the feasibility of alternative proposals.

Ensuring the Compliance of the Water Quality Standard

The water quality of the reclaimed water must comply with the Water Quality Standards for Recycled Water formulated by the WSD to ensure that the water quality, aesthetic and hygienic aspects all meet the established standards. During the production of reclaimed water, the WSD rigorously monitors water quality in a real-time and continuous manner through 24-hour online monitoring equipment and regular laboratory tests with random sampling. Recycled water is only supplied to consumers after it is ensured to have met the established water quality standards (such as parameters like odour and turbidity). The WSD also updates the latest monitoring results on its website every 6 months for public access. Regarding the relevant complaints received, the WSD has conducted inspections and collected samples for laboratory testing to ensure the water quality complies with the standard.

3. In the past two years, no emergency temporary water supply suspension incidents were in connection with reclamation plant or its transfer mains.

4.&5. In 2024 and 2025, the actual average production output per day of the SWHWRP in Sheung Shui were around 1 400 cubic metres and 3 600 cubic metres respectively. As the actual production output of the SWHWRP in Sheung Shui is formulated according to the current estimated consumption demand, the demand and production output of reclaimed water will scale up in response to the continuous expansion of supply area and growth in consumer population. The final target production capacity of the SWHWRP in Sheung Shui depends on the discharge capacity of the tertiary-treated effluent of the Shek Wu Hui Effluent Polishing Plant. Based on the discharge capacity of treated effluent supplied by the Shek Wu Hui Effluent Polishing Plant, the final supply capacity of recycled water can reach 61 000 cubic metres per day by estimation.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)111

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1110)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

The Water Supplies Department (WSD) has established the Water Intelligent Network (WIN) since 2016, and has completed the establishment of 2 400 District Metering Areas (DMAs) by the end of March 2025, which cover around 80% of the fresh water distribution network and strengthen the management of leakage in the water supply network.

1. What were the numbers of DMAs under the WIN established in various districts across the territory in the past 5 years?
2. Since the end of 2024, the Government has expanded the metering area of the WIN to the fresh water trunk mains and the remaining 20% of the fresh water distribution network. Does it represent that more DMAs have been added to the existing 2 400 DMAs? What is the current progress of the expansion and the coverage rate?
3. What were operational expenses involved by the WIN in each of the past 5 years?
4. What were the general leakage rates of water mains over the territory in each of the past 5 years?
5. What were the leakage rates of water mains over the territory by district in each of the past 5 years?

Asked by: Hon CHIK Kit-ling, Elaine (LegCo internal reference no.: 107)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains, etc. Through the above-mentioned multi-pronged measures and with efforts over the

years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025. The WSD is currently expanding and upgrading the WIN to achieve more comprehensive coverage of the fresh water supply network and upgrade the real-time data transmission function of the existing WIN. The relevant works are expected to be completed in phases by mid-2027.

1&3. New DMAs were established across the territory under the WIN in 2021, 2022, 2023, 2024 and 2025. Their distribution by District Council district is tabulated as follows:

District	**Number of New DMAs Established**				
	2021	**2022**	**2023**	**2024**	**2025**
Central and Western	0	6	5	11	1
Eastern	8	10	6	13	2
Islands	13	13	10	30	1
Southern	6	10	6	21	0
Wan Chai	3	2	2	17	5
Kowloon City	2	2	1	42	1
Sham Shui Po	26	8	5	6	1
Wong Tai Sin	2	5	11	12	0
Kwun Tong	4	4	3	28	1
Yau Tsim Mong	0	0	2	20	2
North	1	17	30	21	7
Sai Kung	2	4	5	7	7
Sha Tin	28	33	9	43	1
Tai Po	0	31	3	13	2
Kwai Tsing	4	5	6	8	3
Tsuen Wan	5	5	19	10	1
Tuen Mun	2	16	6	12	6
Yuen Long	0	31	81	83	10
Total	**106**	**202**	**210**	**397**	**51**

As the installation involved road excavation and construction of shafts, the total expenses on the establishment of new DMAs under the WIN in 2021-22, 2022-23, 2023-24 and 2024-25 were around $120 million, $180 million, $190 million and $250 million respectively, while the expenses on the enhancement related to the WIN in 2025-26 (including consultation fee and the replacement of 500 old sensors with real-time sensors within the WIN which did not involve road excavation) were around $10 million. In the next 3 years, the estimated expenses on the enhancement related to the WIN will be around $74 million.

2. The WSD is expanding and upgrading the WIN in phases. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN, and is

currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by mid-2026. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct shafts for sensor installation, the installation works will take longer time and are projected to be completed by mid-2027.

4&5. In the past 5 years, i.e. 2021, 2022, 2023, 2024 and 2025, the leakage rates of government fresh water mains were 14.6%, 14.4%, 14.0%, 13.4% and 12.8% respectively. As the leakage rate is calculated based on the whole water supply network, the WSD does not maintain statistics of the leakage rates by district.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)112

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1302)

Head: (194) Water Supplies Department

Subhead (No. & title): Not Specified

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

In 2026-27, the Water Supplies Department (WSD) will continue to implement the risk-based water main asset management strategy to accord priorities to sections of water main with high risks of burst and leak for continuous improvement works. In this connection, would the Government inform this Committee of the following:

(a) the estimate expenses on water main asset management;

(b) whether smart water meters will be installed to record the past water consumption pattern of individual household, enabling the WSD to adjust water supply pressure more precisely and avoid maintaining excessively high pressure over long periods; if yes, of the details; if not, of the reasons;

(c) whether full-scale implementation of the Water Intelligent Network (WIN) is considered to expand its coverage to water mains across the entire territory; if yes, of the details; if not, of the reasons;

(d) the results of the WSD's test on the split water supply mode in Siu Sai Wan and Chai Wan to reduce water pressure in salt water mains.

Asked by: Hon CHONG Ho-fung (LegCo internal reference no.: 36)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains, etc. Regarding the Programme, we assess the risk levels associated with the

likelihood and consequences of water main bursts or leaks based on factors such as the years of service, materials, past records of bursts or leaks, surrounding environment, and the consequences of bursts or leaks, so as to replace or rehabilitate water mains with higher risk progressively. As at the end of December 2025, a total of approximately 584 kilometres of water mains have been included in the Programme. Amongst them, approximately 250 kilometres long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains will be progressively carried out under the Programme. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025.

(a) Under the Programme, the WSD plans to complete the replacement and rehabilitation of approximately 35 kilometres of water mains in 2026, which has approximately doubled the length compared to last year and 2 kilometres are Category A projects while 33 kilometres are Category D projects. The estimated expenses involved in 2026-27 financial year are approximately $200 million and $900 million respectively.

(b) Due to the hilly and undulating terrain of Hong Kong, in order to maintain adequate water supply pressure in places located on high ground or at the end of the distribution network, the water pressure of the fresh water distribution mains is generally higher than that of other cities. To address the issue of increasing water main bursts and leaks due to high water supply pressure, the WSD is currently developing the Smart Water Pressure Management System. Apart from collecting the flow and pressure data from the WIN in real time, WSD will also install real time online sensing devices in the fresh water and salt water supply networks. Smart water meters will be installed at user end at the same time to collect comprehensive water supply and consumption data of the network in real time and continuously monitor the operation of the entire water supply network. Through the high-precision hydraulic model analysis, smart dynamic pressure reduction measures can be implemented without affecting the water use of the public, thereby reducing the cases of bursts and leaks in public water supply networks and private inside service. The estimated expenses on study and system development are around $2.1 billion. Subject to availability of resources, the relevant works will commence in the first quarter of 2027 and are targeted for completion in phases within 5 years.

(c) The WSD has been upgrading and expanding the Water Intelligence Network (WIN) in phases to cover the fresh water trunk mains and the remaining fresh water distribution network that are currently not covered by the WIN. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN, and is currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by mid-2026. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct shafts for sensor installation, the installation works will take longer time. This project incurs an estimated expense of around $74 million and is targeted for completion by mid-2027.

(d) Since April 2025, the WSD has launched a pilot scheme to test the new “split water supply mode” for supplying salt water in Siu Sai Wan and Chai Wan. The original

water supply area is divided into high zone and low zone. For the low zone, water is supplied directly to users using a low-pressure pumping system. Water supply to the high zone continues to follow the existing mode, where water is pumped at high pressure from the transfer mains of pumping station to the salt water service reservoirs located on high ground for storage before distributing to users. This diversion approach can significantly reduce water mains pressure by 30% to 50% which can help lower the risk of bursts. In the approximately 11 months since the start of the trial, water main burst and leak cases in Siu Sai Wan and the low zone of Chai Wan significantly dropped from 22 cases recorded within 1 year prior to the trial to 13 cases over the approximately 11-month period to date, showing that the new salt water supply mode can effectively reduce the risk and impact of water main bursts. The WSD is conducting a study on implementing pressure reducing measures for salt water supply systems at a total of 22 pilot sites (including Siu Sai Wan and Chai Wan) in various districts, which incurs an estimated expenditure of around $14 million and is targeted for completion by 2027.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)108

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1373)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Regarding the handling of water main bursts and leaks, along with the implementation and upgrading of the Water Intelligence Network (WIN), would the Government inform this Committee of the following:

1. the actual total expenses of the Government on improvement works of water mains and the numbers of staff across permanent and short-term positions responsible for relevant duties in the past 3 financial years;

2. the numbers of cases of water main bursts and leaks recorded in various districts over the territory in the past 3 financial years with a breakdown by the 18 districts; and among them, the number and percentage of cases detected by the WIN; the specific follow-up enhancement measures implemented by the Department in response to these cases; and the current completion progress of relevant works;

3. regarding the establishment of the WIN to monitor water main leaks, the overall construction progress of its coverage across the territory; the cumulative expenses incurred to date, and the estimated expenses with respect to the enhancement and maintenance works of the WIN in this financial year.

Asked by: Hon CHENG Wing-shun, Vincent (LegCo internal reference no.: 39)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water

mains, etc. Regarding the Programme, we assess the risk levels associated with the likelihood and consequences of water main bursts or leaks based on factors such as the years of service, materials, past records of bursts or leaks, surrounding environment, and the consequences of bursts or leaks, so as to replace or rehabilitate water mains with higher risk progressively. As at the end of December 2025, a total of approximately 584 kilometres of water mains have been included in the Programme. Amongst them, approximately 250 kilometres long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains will be progressively carried out under the Programme. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025. The WSD is currently expanding and upgrading the WIN by achieving full coverage of the fresh water network and upgrading the real-time data transmission function of the existing WIN. The relevant works are expected to be completed in phases by mid-2027.

1. In 2023-24, 2024-25 and 2025-26 (as at 6 March 2026), the expenses of the WSD on the Programme (including Category A and D projects) were around $680 million, $610 million and $860 million respectively. Currently, the WSD has a total of 10 officers in permanent posts responsible for relevant duties, including 3 senior engineers and 7 engineers/assistant engineers.

2. The number of fresh water main burst and leak cases in the past 3 years by District Council district were detailed in Table 1. In 2023, 2024 and 2025, the numbers of leak cases in government water mains detected through the WIN were around 1 037, 1 221 and 951 respectively. Leakage cases of government fresh water mains detected by the WIN have all been analysed through the WIN management computer system using the data collected to continuously monitor the network condition, prioritise the follow-up works and set out the most effective network management measure such as active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains. All along, the relevant leakage points of leakage cases of government fresh water mains detected by the WIN have not developed into water main burst incidents after being timely handled. The WSD will continue to implement multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks by using the WIN to monitor leakage in the network and formulating and implementing the Risk-based Improvement of Water Mains based on the Programme.

Table 1 - Number of fresh water main burst and leak cases in the past 3 years by district

District	Burst Case [1]			Leak Case [2]		
	2023	2024	2025	2023	2024	2025
Central and Western	2	1	0	216	355	357
Eastern	1	0	2	149	129	186
Islands	4	1	1	511	484	508

District	Burst Case [1]			Leak Case [2]		
	2023	**2024**	**2025**	**2023**	**2024**	**2025**
Southern	1	2	2	296	287	351
Wan Chai	0	1	0	196	194	232
Kowloon City	1	3	1	164	162	137
Kwun Tong	0	0	1	142	149	132
Sham Shui Po	1	1	0	115	129	98
Wong Tai Sin	0	0	1	65	65	79
Yau Tsim Mong	1	0	1	290	201	232
North	2	1	1	651	507	662
Sai Kung	3	1	0	635	570	497
Sha Tin	0	0	0	203	266	305
Tai Po	1	0	1	239	300	452
Kwai Tsing	0	1	0	110	104	133
Tuen Mun	1	0	1	384	387	325
Tsuen Wan	2	1	0	191	206	216
Yuen Long	1	0	2	1 494	1 420	1 217
Total	**21**	**13**	**14**	**6 051**	**5 915**	**6 119**

[1] "Main burst" refers to a rupture of a water main caused by parts or structural failure which triggers a rapid and large volume of overflow of water causing drop of water supply pressure. As a consequences, the water supply system can no longer maintain continuous water supply to the affected areas, leading to serious traffic disruption and widespread water supply suspension.

[2] Typical water main leaks are caused by holes or joint damage which involve minor leaks that have limited impact on water supply and traffic. Serious water main leaks can lead to serious consequences including severe traffic disruption, substantial overflow from damaged water mains and disruption to water supply. However, the severity of water main leaks is lower than that of water main bursts.

3. The WSD is currently upgrading and expanding the WIN in phases. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN, and is currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by mid-2026. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due

to the need to identify suitable locations, conduct road excavation works and construct chambers for sensor installation, the installation works will take longer time and are projected to be completed by mid-2027. Regarding the construction of WIN, by the end of March 2025, the WSD has set up about 2 400 DMAs and related pressure management areas in the fresh water distribution network over the territory, which involved a total expense of $1.07 billion, while the expenses on the enhancement related to the WIN in 2025-26 (including consultation fee and the replacement of 500 old sensors with real-time sensors within the WIN which did not involve road excavation) were around $10 million. In the next 3 years, the estimated expenses on the enhancement related to the WIN will be around $74 million.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)114

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1449)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

It is mentioned in the Matters Requiring Special Attention in 2026-27 under Programme (3) that the Water Supplies Department (WSD) will "continue to step up prosecution and inspections against overcharging for water in subdivided units (SDUs) with strengthened enforcement power pursuant to the Waterworks (Amendment) Ordinance 2024". On preventing SDU tenants from being overcharged for water, would the Government inform this Committee of:

(a) the numbers of inspections on SDUs conducted/to be conducted by the WSD, and among them, the numbers of inspections jointly operated with the Rating and Valuation Department or the Buildings Department in the past 3 years and in 2026 as anticipated; the staffing, expenses on emoluments, operation and equipment involved;

(b) the numbers of SDUs with separate water meters installed/to be installed by the WSD in the past 3 years and in 2026 as anticipated; the staffing, expenses on emoluments, operation and equipment involved;

(c) since the launch of the "non-routine water bill" service in October 2023, the number of non-routine water bills issued and the number of SDUs involved; and

(d) the number of complaints received, prosecutions and court convictions in respect of overcharging for water by SDU owners in the past 3 years; and the amount of fine and the length of prison sentence in each case convicted by the court.

Asked by: Hon TANG Ka-piu (LegCo internal reference no.: 23)

Reply:

The Government will continue its efforts to combat the unscrupulous landlords for overcharging their tenants for water through an inter-departmental and multi-pronged approach, including stepping up inspections, streamlining the application procedures for the installation of separate water meters, and strengthening publicity and education efforts, with a view to enhancing the deterrent effect against overcharging subdivided unit (SDU) tenants for water.

(a) At present, the Water Supplies Department (WSD) adopts two approaches to proactively identify cases of overcharging for water in SDUs. The first approach is "proactive

inspection", by which suspected cases of overcharging for water are identified by visiting various SDU tenants. From 2023 to 2025, the WSD conducted proactive inspections on about 5 800 SDUs. Amongst these, about 5 100 SDUs were jointly inspected with the Rating and Valuation Department, and 38 suspected cases of overcharging for water were identified for further investigation.

The second approach is "proactive investigation" which has commenced since April 2024. With the power in evidence collection strengthened since the Waterworks (Amendment) Ordinance 2024 came into effect on 19 April 2024, the WSD can request relevant person (such as landlords, registered consumers and their agents) to submit relevant information. Coupled with inviting suspicious SDU landlords to interview for further investigation, as well as the publicity and promotion efforts in tandem with the legislative amendment resulting in an increasing number of reports from members of the public, the WSD can more effectively identify suspected cases of overcharging for water. From the legislative amendment coming into effect to 31 December 2025, the WSD had proactively investigated 397 suspected cases of overcharging for water.

With the WSD's introduction of the "proactive investigation" approach, the number of cases with successful prosecutions has risen significantly, from an average of 6 cases per year before the legislative amendment to an average of 27 cases per year after the legislative amendment.

For the "proactive investigation" approach enables more effective identification of suspected cases of overcharging for water, the WSD will concentrate its resources on conducting "proactive investigation" into suspected overcharging cases in SDUs in 2026. It is estimated that the number of cases under "proactive investigation" in 2026 will be around 200. In addition, the Department will also retain the "proactive inspection" approach and the target number of SDUs to be inspected in 2026 is around 500.

At present, there are a total of 29 staff posts in the WSD responsible for handling SDU inspection and following up the proactive investigation of suspected cases of overcharging for water, including 1 engineer post as well as 28 inspector and works supervisor posts. Since the above-mentioned staff have other duties to handle as well, no separate breakdown of the expenses on emoluments, operation and equipment involved is available. Therefore, we are unable to provide the figures concerned.

(b) From 2023 to 2025, the WSD had installed separate water meters for over 2 100 SDUs. As the Basic Housing Units Ordinance (Cap. 658) came into effect on 1 March 2026, the WSD expects an increase in applications for installing separate water meters in 2026. In view of this, the WSD had consulted the industry and implemented "Self-Certification Scheme by Licensed Plumbers" in December 2025 to streamline relevant procedures. At the same time, sufficient manpower has been deployed to process relevant applications in a centralised manner to ensure applications for the installation of separate water meters under the Basic Housing Units Ordinance are properly handled.

There are a total of 11 staff posts in the WSD responsible for assisting the work on processing the applications for installing separate water meters, including 1 engineer post as well as 10 inspector and clerical posts. Since the above-mentioned staff have other duties to handle as well, no separate breakdown of the expenses on emoluments,

operation and equipment involved is available. Therefore, we are unable to provide the figures concerned.

Note: Under "Self-Certification Scheme by Licensed Plumbers", applicants can commence plumbing works by engaging qualified licensed plumbers to formulate the installation plan of plumbing works. After completion of works, water meters can be collected and installed upon submitting form and relevant documents to the WSD. Applicants do not need to wait for on-site inspection by the Water Authority in the process. The scheme streamlines the application procedures, saves cost and enhances efficiency.

(c) From the launch of the "non-routine water bill" service in October 2023 to the end of February 2026, the WSD had issued 18 non-routine water bills involving 17 units upon consumers' requests.

(d) From 2023 to 2025, the WSD had investigated a total of 610 cases of suspected overcharging SDU tenants for water. Amongst these, investigation on 581 cases were completed, while 29 cases are still under investigation. The WSD had instituted prosecutions in 64 cases where there were sufficient evidence, of which 57 cases were successfully prosecuted and convicted. The fines for the convicted cases ranged from $1 000 to $29 000. The remaining 7 cases are pending hearing.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)106

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1737)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Regarding the issues of bursts/leaks in communal fresh and salt water mains (especially those with diameters of 150 millimetres or above), would the Government please inform this Council of the following:

(1) the numbers of burst/serious leak cases of fresh water mains and salt water mains (with diameters of 150 millimetres or above) across the 18 districts over the territory in the past 3 years; the numbers of burst/serious leak cases and the number of affected households with a breakdown by the 18 districts; the main reasons and the distribution hotspots of incidents;

(2) whether specific resources have been reserved for handing water main bursts/leaks in 2026-27; If yes, of the total amount and the detailed breakdown by sub-item;

(3) whether the progress of replacing water pipes will be expedited; the schedule of the prioritised replacement of the 36 kilometres of aged cast iron/asbestos cement pipes under the "Risk-based Asset Management Programme for Water Mains" in the next 3 years; the current work progress on the 8 "main burst hotspots"; and

(4) whether other measures, such as expanding the Water Intelligent Network (WIN) to include real-time monitoring, installing additional strainers, implementing smart pressure reduction systems, applying in-line robots and the split water supply mode of salt water, will be taken to reduce the risk of incidents; the expected effects and the additional resources required.

Asked by: Hon CHAN Wing-kwong (LegCo internal reference no.: 33)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the Risk-based Improvement of Water Mains based on the "Risk-based Asset Management Programme for Water Mains" ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks

through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains, etc. Regarding the Programme, we assess the risk levels associated with the likelihood and consequences of water main bursts or leaks based on factors such as the years of service, materials, past records of bursts or leaks, surrounding environment, and the consequences of bursts or leaks, so as to replace or rehabilitate water mains with higher risk progressively. As at the end of December 2025, a total of approximately 584 kilometres of water mains have been included in the Programme. Amongst them, approximately 250 kilometres long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains will be progressively carried out under the Programme. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025.

(1) "Main burst" refers to a rupture of a water main caused by parts or structural failure which triggers a rapid and large volume of overflow of water causing drop of water supply pressure. As a consequence, the water supply system can no longer maintain continuous water supply to the affected areas, leading to serious traffic disruption and widespread water supply suspension. The numbers of fresh water and salt water main (with diameter of 150 millimetres or above) burst cases in the past 3 years by District Council district are set out in Table 1 below with details.

Table 1: Numbers of fresh water and salt water main (with diameter of 150 millimetres or above) burst cases in the past 3 years by district

District	Fresh Water Main Burst Case			Salt Water Main Burst Case		
	2023	2024	2025	2023	2024	2025
Central and Western	2	1	0	1	1	0
Eastern	1	0	2	0	1	2
Islands	4	1	1	0	0	0
Southern	1	1	2	0	2	0
Wan Chai	0	1	0	0	3	0
Kowloon City	1	3	1	0	0	0
Kwun Tong	0	0	1	0	1	0
Sham Shui Po	1	1	0	1	1	1
Wong Tai Sin	0	0	1	4	0	0
Yau Tsim Mong	1	0	1	0	2	0
North	0	1	1	0	0	0

District	Fresh Water Main Burst Case			Salt Water Main Burst Case		
	2023	2024	2025	2023	2024	2025
Sai Kung	2	0	0	0	0	1
Sha Tin	0	0	0	1	0	1
Tai Po	0	0	1	1	0	0
Kwai Tsing	0	1	0	1	0	1
Tuen Mun	1	0	1	3	2	0
Tsuen Wan	2	1	0	0	0	0
Yuen Long	0	0	2	0	0	0
Total	**16**	**11**	**14**	**12**	**13**	**6**

"Serious water main leaks" are caused by holes or joint damage in water mains. Serious water main leaks, being different from typical water main leaks, can lead to more serious consequences including severe traffic disruption, more substantial overflow from damaged water mains and disruption to water supply. However, the severity of water main leaks is lower than that of water main bursts. The numbers of fresh water and salt water main (with diameter of 150 millimetres or above) serious leak cases in the past 3 years by District Council district are set out in Table 2 below with details.

Table 2: Numbers of fresh water and salt water main (with diameter of 150 millimetres or above) serious leak cases in the past 3 years by district

District	Fresh Water Serious Leak Case			Salt Water Main Serious Leak Case		
	2023	2024	2025	2023	2024	2025
Central and Western	0	0	1	0	1	3
Eastern	1	1	2	0	2	3
Islands	0	1	0	0	0	0
Southern	0	2	1	0	1	0
Wan Chai	2	2	0	1	0	3
Kowloon City	3	1	4	3	3	1
Kwun Tong	6	3	1	4	3	3
Sham Shui Po	0	1	0	1	3	0

District	Fresh Water Serious Leak Case			Salt Water Main Serious Leak Case		
	2023	2024	2025	2023	2024	2025
Wong Tai Sin	1	4	0	3	7	0
Yau Tsim Mong	3	0	1	0	2	1
North	4	4	3	0	0	0
Sai Kung	2	0	0	8	11	2
Sha Tin	0	3	2	18	19	4
Tai Po	0	0	0	2	1	0
Kwai Tsing	1	4	1	0	2	1
Tuen Mun	0	1	1	0	1	1
Tsuen Wan	0	1	1	2	2	0
Yuen Long	3	2	3	1	2	2
Total	**26**	**30**	**21**	**43**	**60**	**24**

Most cases mentioned above were caused by ageing or corrosion of water mains. According to the records in the past 3 years, among the cases requiring emergency water suspension due to water main bursts and serious leaks, the average numbers of population affected by fresh water and salt water cases were fewer than 21 000 and 32 000 respectively.

(2) Given the annual total expenditure on handling water main burst and leak cases (including expenses on temporary traffic arrangements, excavation works, reinstatement of sub-bases and road surfaces, provision of temporary fresh water supply and hiring contractors) is around $135 million, it is estimated that the relevant expenditure in 2026-27 is similar.

(3) The WSD plans to complete the replacement and rehabilitation of around 35 kilometres of water mains (including Category A and D projects) in 2026, which include aged cast iron/asbestos cement pipes. Within the 3 years from the 4th quarter of 2025 to the 3rd quarter of 2028, the WSD commences the improvement works of around 8 kilometres of aged cast iron/asbestos cement water pipes. The WSD will strive to commence the improvement works of the remaining parts in 2027 and expect to complete the works in phases within 8 years. We will conduct periodic review of the project in due course.

Currently, improvement works at 2 locations of the 8 "main burst hotspots" are completed, while the improvement works at 6 locations are in progress. The details are as follows:

Table 3: "Main Burst Hotspots"

Region	District	Location	Progress of Improvement Works (In Progress/Under Planning/Completed)
Hong Kong and Islands	Central and Western	Queen's Road West (near Eastern Street)	Completed
	Central and Western	At the junction of Belcher's Street and Smithfield	In Progress
	Southern	Wong Chuk Hang Road (near Aberdeen Technical School)	In Progress
	Wan Chai	Fenwick Street (between Jaffe Road and Hennessy Road)	In Progress
New Territories	Tuen Mun	Lung Mun Road	Completed
	Tuen Mun	Tuen Mun Heung Sze Wui Road	In Progress
	Tsuen Wan	Sai Lau Kok Road	In Progress
	Tsuen Wan	Texaco Road	In Progress

(4) The WSD currently applies the following innovative technologies to reduce the risk of incidents:

Upgrading and Expanding the Water Intelligent Network (WIN)

The WSD is currently upgrading and expanding the WIN in phases to cover the fresh water trunk mains and the remaining fresh water distribution network that are currently not covered by the WIN. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN, and is currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by the middle of this year. For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct chambers for installation of sensors, the installation works will take longer time. The estimated expenses are around $74 million and the works are projected to be completed by mid-2027.

In-line Robots

The WSD set up the joint laboratory of in-line robots in September 2025. It focuses on the development of advanced in-line robot techniques which apply artificial intelligence to analyse related data, enabling high-precision inspections in the complex environment of the water supply network of Hong Kong. This allows early identification of water mains with high risk for maintenance or replacement in due

course, thereby reduces the occurrences of water quality incidents caused by water main bursts and leaks. The estimated expenses on the research and development of in-line robots in the next 3 years are around $17 million.

Smart Water Pressure Management System

Due to the hilly and undulating terrain of Hong Kong, in order to maintain adequate water supply pressure in places located on high ground or at the end of the distribution network, the water pressure of the fresh water distribution mains is generally higher than that of other cities. To address the issue of increasing water main bursts and leaks due to high water supply pressure, the WSD proposes the construction of an Internet of Things (IoT) perception system for the water supply networks and the development of the Smart Water Pressure Management System. Currently, the WSD is exploring the development of a comprehensive IoT perception system to monitor the water flow and pressure of water mains in real time. Apart from collecting the flow and pressure data from the WIN in real time, the WSD will also install real time online sensing devices (including flow meters, water pressure meters, thermometers, noise detector, etc.) in the fresh water and salt water supply networks as well as smart water meters at consumer end to collect comprehensive water supply and consumption data of the network in real time for continuous monitoring of the operation of the entire water supply network. Through the high-precision hydraulic model analysis, smart dynamic pressure reduction measures can be implemented without affecting the water use of the public, thereby reducing the cases of bursts and leaks in public water supply networks and private inside service. The estimated expenses on research and system development are around $2.1 billion. Subject to the availability of resources, the relevant works will commence in the 1st quarter of 2027 and are targeted for completion in phases within 5 years.

Split Water Supply Mode of Salt Water

The “split water supply mode” of salt water divides the original water supply area into high zone and low zone. For the low zone, water is supplied directly to users using a low-pressure pumping system. Water supply to the high zone continues to follow the existing mode, where water is pumped at high pressure from the transfer mains of pumping station to the salt water service reservoirs located on high ground for storage before distributing to users. This diversion approach can significantly reduce water mains pressure by 30% to 50% which can help lower the risk of bursts. The WSD is conducting a study on implementing pressure reducing measures for salt water supply systems at a total of 22 testing locations in various districts at an estimated expenses of around $14 million, and the study is expected to be completed in 2027.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)107

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1958)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

In 2025, incidents of foreign objects such as bitumen and resin found in fresh water were successively reported in various districts across the territory, raising public concern over the quality of water supply and ageing water mains, whereas in Programme (1), the Water Supplies Department (WSD) mentions that it will continue with the implementation of the risk-based water main asset management strategy to accord priorities to sections of water main with high risks of burst and leak for continuous improvement works; and continue with the implementation and enhancement of the Water Intelligent Network (WIN). In this connection, would the Government inform this Committee of the following:

(a) What is the total length of fresh water mains over the territory currently managed by the WSD? Among this, what is the length of old water mains with bitumen inner protective coating and their geographical distribution? What are their years of laying and the scheduled replacement years?

(b) What were/are the lengths of water mains replaced/rehabilitated in the past 3 years and in 2026 as anticipated under the Risk-based Improvement Programme of Water Mains, along with their geographical distributions?

(c) Expanding and upgrading the district metering area of the WIN, installing real-time sensors and applying in-line robots were mentioned in the document submitted by the Department to the Panel of Development of the Legislative Council (LC Paper No. CB(1)1200/2025(03)) in July 2025. What were/are the numbers of new real-time sensors installed in 2025 and in 2026 as anticipated, their geographical distributions and the expenses on installation respectively?

(d) What were the numbers of water main leak/burst incidents in each of the past 3 years? Among these, how many of them (i) involved fresh water or salt water; (ii) caused temporary water suspension for a certain period; (iii) occurred in areas where the WIN had been established? Has the Department analysed the number of incidents mentioned in Item (iii) in which (1) the early signs of burst could not be detected by the WIN; or (2) the early signs of burst were detected by the WIN but repair works could not be done on time (provide a breakdown by District Council districts); and

(e) What were/are the staffing and expenses on emoluments, operations, materials and equipment for the Department to (i) implement the WIN and (ii) supervise the repair/replacement works of water mains respectively in 2025-26 and 2026-27 as anticipated?

Asked by: Hon CHAN Wing-yan, Joephy (LegCo internal reference no.: 23)

Reply:

Since 2015, the Water Supplies Department (WSD) has implemented multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks through the establishment of the Water Intelligent Network (WIN) and the formulation and implementation of the risk-based improvement of water mains based on the Risk-based Asset Management Programme for Water Mains ("Programme"). Regarding the WIN, by the end of March 2025, we have completed the establishment of about 2 400 District Metering Areas (DMAs) in the fresh water distribution networks over the territory. This initiative strengthens the management of leakage in water supply networks through the "Divide and Conquer" strategy and continuous monitoring. It allows for the implementation of targeted measures including active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains, etc. Regarding the Programme, we assess the risk levels associated with the likelihood and consequences of water main bursts or leaks based on factors such as the years of service, materials, past records of bursts or leaks, surrounding environment, and the consequences of bursts or leaks, so as to replace or rehabilitate water mains with higher risk progressively. As at the end of December 2025, a total of approximately 584 kilometres of water mains has also been included in the Programme. Amongst them, approximately 250 kilometres long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 kilometres of water mains will be progressively carried out under the Programme. Through the above-mentioned multi-pronged measures and with efforts over the years, the leakage rate of fresh water mains has also dropped from over 25% in 2000 to around 12.8% in 2025.

(a) Currently, the total length of fresh water mains over the territory managed by the WSD is around 6 700 kilometres. Among this, around 230 kilometres of fresh water distribution mains with large diameters (i.e. with diameters over 600 millimetres) use bitumen as inner protective coating, which accounts for around 3.9% of the 5 900 kilometres of fresh water distribution mains over the territory. The geographical distribution is tabulated as follows:

Region	**District**	**The Length of Fresh Water Distribution Mains with Bitumen Coating (kilometres)**
Hong Kong and Islands	Central and Western	6.5
	Eastern	8.3
	Islands	18.3
	Southern	9.3
	Wan Chai	6.9
Kowloon	Kowloon City	11.1
	Kwun Tong	6.3
	Sham Shui Po	8.0
	Wong Tai Sin	3.6
	Yau Tsim Mong	9.4

Region	District	The Length of Fresh Water Distribution Mains with Bitumen Coating (kilometres)
New Territories	North	15.3
	Sai Kung	14.5
	Sha Tin	9.2
	Tai Po	14.2
	Kwai Tsing	12.7
	Tuen Mun	25.2
	Tsuen Wan	16.1
	Yuen Long	34.6
	Total	**Approximately 230**

Upon review, the WSD has identified around 70 kilometres of large diameter water mains with higher risk in various districts, and plans to conduct the replacement or rehabilitation works within the next 10 years. The improvement works on the first 20 kilometres of water mains with higher risk have already been upgraded as Category A projects by the Financial Committee. The WSD will seek funding approval from the Legislative Council in due course for commencing the improvement works for the remaining 50 kilometres of water mains.

(b) The WSD replaced or rehabilitated around 52 kilometres, 50 kilometres and 18 kilometres of water mains (including fresh water and salt water mains) in 2023, 2024 and 2025 respectively, including around 1 kilometre of large diameter fresh water distribution mains with higher risk located at Sai Kung District and Eastern District. The WSD plans to complete the replacement and rehabilitation of around 35 kilometres of these water mains (including 2 kilometres as Category A projects and 33 kilometres as Category D projects) in 2026. The length of water mains involved will approximately double the figure of last year.

(c) The WSD is upgrading and expanding the Water Intelligent Network (WIN) in phases. In the first phase, at locations where road excavation is not involved, the WSD has completed the replacement of about 500 old sensors with real-time sensors within the WIN, and is currently installing approximately 200 additional real-time sensors in fresh water trunk mains and the fresh water distribution network. The works are expected to be completed by mid-2026. The relevant numbers of sensors with a breakdown by District Council districts are tabulated below:

District	Number of New Sensors to be Set Up
Central and Western	15
Eastern	7
Islands	13
Southern	10
Wan Chai	5

District	Number of New Sensors to be Set Up
Kowloon City	7
Sham Shui Po	8
Wong Tai Sin	9
Kwun Tong	16
Yau Tsim Mong	10
North	18
Sai Kung	10
Sha Tin	15
Tai Po	7
Kwai Tsing	14
Tsuen Wan	13
Tuen Mun	9
Yuen Long	14
Total	**200**

For the next phase, the WSD will install about 250 additional real-time sensors at fresh water distribution network that require road excavation. Due to the need to identify suitable locations, conduct road excavation works and construct chambers for installation of sensors, the installation works will take longer time and are projected to be completed by mid-2027.

The expenses on the expansion and upgrading of the WIN in 2025-26 (including consultancy fee and the replacement of about 500 old sensors with real-time sensors within the WIN which did not involve road excavation) were around $10 million. In the next 3 years, the estimated expenses on the expansion and upgrading of the WIN will be around $74 million.

(d) The number of burst[1] and leak (including typical and serious leak)[2] cases of government water mains in the past 3 years are tabulated below:

Year	Burst Case			Leak Case		
	Fresh Water	Salt Water	Total	Fresh Water	Salt Water	Total
2023	21	13	34	6 051	1 890	7 941
2024	13	14	27	5 915	2 200	8 115
2025	14	6	20	6 119	2 299	8 418

Note 1: "Main burst" refers to a rupture of a water main caused by parts or structural failure which triggers a rapid and large volume of overflow of water causing drop of water supply pressure. As a consequences, the water supply system can no longer maintain continuous water supply to the affected areas, leading to serious traffic disruption and widespread water supply suspension.

Note 2: Typical water main leaks are caused by holes or joint damage which involve minor leaks that have limited impact on water supply and traffic. Serious water main leaks can lead to serious consequences including severe traffic disruption, substantial overflow from damaged

water mains and disruption to water supply. However, the severity of water main leaks is lower than that of water main bursts.

Among the above-mentioned water main burst cases in 2023, 2024 and 2025, the numbers of cases which resulted in temporary water suspensions were 24, 15 and 13 respectively.

Leakage cases of government fresh water mains detected by the WIN have all been analysed through an intelligent network management computer system using the data collected to continuously monitor the network condition, prioritise the follow-up works and set out the most effective network management measure such as active leakage detection, pressure management, speedy repair of water main leaks and replacement or rehabilitation of water mains. All along, the relevant leakage points of leakage cases of government fresh water mains detected by the WIN have not developed into water main burst incidents after being timely handled. The WSD will continue to implement multi-pronged measures to maintain the healthiness of the water supply network and reduce the risk of water main bursts or leaks by monitoring the leakage condition of the water supply network via the WIN and the formulation and implementation of the risk-based improvement of water mains based on the Programme.

In the past 3 years, there were a total of 48 cases of fresh water main bursts and 33 cases of salt water main bursts. The WIN currently covers the fresh water distribution network only but not the salt water supply network. Among these 48 cases of fresh water main bursts, only 10 occurred within the DMAs of the WIN (the current coverage of the WIN has been largely expanded compared to 3 years ago, with the number of DMAs increased from 1 740 to 2 400.), including Tsuen Wan, Islands, Tai Po, Sai Kung, North and Kowloon City Districts, of which 5 cases were caused by damages done by road excavation works nearby. The remaining 5 cases involved symptomless bursts of old asbestos cement water pipes, ductile iron pipes and lined galvanised steel pipes because the materials are more fragile. The remaining 38 cases of fresh water main burst occurred outside the DMAs of the WIN.

(e) Currently, there are a total of 22 permanent posts in the WSD responsible for the relevant duties of the implementation of the WIN, including 3 senior engineers, 7 engineers, 4 senior waterworks inspectors, 5 waterworks inspectors/assistant waterworks inspectors and 3 works supervisors. Since the staff concerned have other duties to handle as well, we do not keep separate breakdown statistics on the salary expenses involved in the above work.

There are a total of 632 permanent posts in the WSD responsible for the relevant duties of supervision of water main maintenance/replacement works, including 8 senior engineers, 36 engineers, 3 chief technical officers, 25 senior waterworks inspectors, 131 waterworks inspectors/assistant waterworks inspectors, 276 works supervisors, as well as 153 artisans and staff from other posts. Since the staff concerned have other duties to handle as well, we do not keep separate breakdown statistics on the salary expenses involved in the above work. The relevant figures could not be provided.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)115

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2086)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Regarding the coverage and progress of treated water supply in remote rural areas and outlying islands, the Government had noted that the per capita capital cost for the construction of treated water supply systems for these villages would be very high, and low water consumption may result in risks in water quality. According to the Water Supplies Department (WSD)'s data, 99.9% of Hong Kong's population are currently supplied with treated water, yet 16 inhabited villages in Tai Po, Tsuen Wan, Islands, Tuen Mun, Sai Kung, and North District still do not have treated water supply.

(a) Among the above-mentioned 16 villages, how many villages had commenced water supply work researches or works as at the end of February 2026? Please provide the progresses to date with a breakdown by the District Council district and the name of the village;

(b) How many villages had completed connections to treated water supply in each of the past 3 years? What were the sizes of population benefited and the expenses on related works? Please provide a breakdown by District Council district and the name of the village.

(c) What were the frequencies of temporary transportation of potable water to remote villages by the Government and the relevant expenses in the past 3 years? Please provide a breakdown by District Council district and the name of village.

(d) Has the Government researched for alternatives (such as rainwater harvesting system, small-scaled desalination devices and development of water sources) to provide remote villages and outlying islands with more cost-effective solutions for water supply?

Asked by: Hon WONG Ho-ming, Augustine (LegCo internal reference no.: 55)

Reply:

A consolidated reply in response to the questions raised by the Member is as follows:

Regarding some remote villages with small populations but without mains water supply,

currently there are facilities in use for many years for supplying stream water, well water or collected rainwater. Most of these facilities are under the maintenance of the Home Affairs Department (HAD) while the Food and Environmental Hygiene Department regularly monitors the water quality to ensure the water is suitable for potable consumption after boiling. In the event of depletion or insufficiency of the above water sources, the Government will provide timely assistance, including delivering potable water to meet the need of the villagers. The WSD has also enhanced the contingency response mechanism against emergency incidents, in order to strengthen its communications with District Offices, dissemination of information and on-site coordination. When considering whether to supply mains water to these villages, the WSD will take into account the actual circumstances of the villages and factors such as population, cost effectiveness, technical feasibility and water safety risk associated with the water demand.

In 2022, the Government commenced the **laying of water mains supplying mains water for Tai Long (Islands District)** with a population of about 60. The project involved an expenditure of about $29.4 million and was substantially completed in the 1st quarter of 2026. **The water supply will commence in the 2nd quarter.**

According to the latest information, there remain **15 villages** in Hong Kong which have inhabitants but **do not have mains water supply**. Their estimated populations are as follows:

District Council	Village Name	Estimated Population (Note 1)
Tai Po	Lai Chi Chong	10
	Tung Sam Kei	1
	Sham Chung	10
	Tung Ping Chau	10
Tsuen Wan	Luk Keng (Lantau)	8
	Tai Chuen (Northeast Lantau)	12
	Tso Wan (Northeast Lantau)	30
Islands	Po Toi Island	10
	Fan Lau (West Lantau)	10
	Nim Shue Wan (Lantau)	200
	Cheung Sha Lan (Lantau)	80
Tuen Mun	Tin Fu Tsai	30
Sai Kung	Tung Lung Chau	22
North	Kap Tong	4
	Mui Tsz Lam	40

Note 1: The information on estimated populations is provided by the HAD.

In the past 3 years, the Government had temporarily delivered potable water for around 5 times to remote villages, involving expenses of around $200 000. The figures are tabulated below with a breakdown by village:

District Council	Village Name	Frequency (Financial Year)	Expenses Involved
Islands	Nim Shue Wan (Lantau)	1 (2023-24)	Around $ 10 000
Tuen Mun	Tin Fu Tsai	4 (2024-25)	Around $ 190 000

The Government is currently cooperating with a non-governmental organisation to pilot the use of domestic seawater filter devices to provide an alternative water source for the villagers of Tung Ping Chau. Operational data of the device is being collected and monitored for analysis in order to explore the suitability and feasibility of applying this device to remote villages.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)113

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3218)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

According to the earlier investigation report on the water quality incident at Queen's Hill Estate and Shan Lai Court, currently around 700 kilometres of water supply steel mains in Hong Kong use bitumen as the inner protective coating. Among these, 230 kilometres are fresh water distribution mains, accounting for around 3.9% of the fresh water supply network across the territory. In this connection, would the Government inform this Committee of the following:

1. May the Water Supplies Department (WSD) provide the information of all water mains across the territory which still use bitumen as inner protective coating, including:
   - the locations (categorised by District Council district or water supply zone);
   - the purposes of the mains (such as fresh water distribution mains);
   - the numbers of service years and designed service lives.

2. Please provide the total length of water mains with bitumen inner coating replaced in the past 3 years, along with the budgets and expenses for the replacement works.

3. The WSD submitted the water main replacement plan in short-term and middle-term to the Development Bureau earlier. What are the budget, time of commencement and the expected completion date of the relevant plan? By estimation, when can all the water mains with bitumen inner coating be replaced?

4. During the implementation of the water main replacement plan, what measures will the Government take to ensure the drinking water safety and public confidence?

Asked by: Hon TAM Chun-kwok (LegCo internal reference no.: 40)

Reply:

In the past, a type of specially formulated bitumen[Note 1] was commonly used worldwide as inner protective coating for preventing rusting of steel pipes. This specially formulated bitumen is an inert substance that does not dissolve in water; even if accidentally ingested

through drinking water, there is no evidence showing it is harmful to human health. Regions such as the United Kingdom, Italy, Canada, and the USA still use this type of steel fresh water pipes nowadays. However, the bitumen inner coating may detach after prolonged use. After 2005, the Water Supplies Department (WSD) has terminated the use of steel pipes with bitumen inner protective coating, and switched to more durable steel pipes with epoxy coating.

Note 1 Both the bitumen used for the inner protective coating of steel fresh water pipes and the bitumen used in road works or waterproofing of roofs are extracted from crude oil, but their processing methods differ. Bitumen for water pipes undergoes a specialised process to become oxidised bitumen, which enhances its adhesiveness, corrosion resistance and thermal stability. The bitumen inner protective coating of steel fresh water pipes used by the WSD must comply with the British standard BS4147 "Specification for Hot Applied Bitumen Based Coatings for Ferrous Products". Even if bitumen is accidentally ingested through drinking water, there is no evidence showing it is harmful to human health.

1. Currently, around 700 kilometres of fresh water distribution mains with large diameters (i.e. with diameters over 600 millimetres) use bitumen as inner protective coating. Among these, 470 kilometres are the fresh water trunk mains upstream of service reservoirs, which transfer fresh water from water treatment plants to facilities such as service reservoirs. Fresh water undergoes sedimentation in the service reservoirs so that bitumen sediments will not enter the water supply network downstream. Therefore, only the remaining 230 kilometres of fresh water distribution mains downstream of service reservoirs supply fresh water for public use. This type of water mains have been used for more than 20 years in average while their design lives are around 70 years. The regional distribution is tabulated as follows:

Region	**District**	**The Length of Fresh Water Distribution Mains with Bitumen Coating (kilometres)**
Hong Kong and Islands	Central and Western	6.5
	Eastern	8.3
	Islands	18.3
	Southern	9.3
	Wan Chai	6.9
Kowloon	Kowloon City	11.1
	Kwun Tong	6.3
	Sham Shui Po	8.0
	Wong Tai Sin	3.6
	Yau Tsim Mong	9.4
New Territories	North	15.3
	Sai Kung	14.5
	Sha Tin	9.2

	Tai Po	14.2
	Kwai Tsing	12.7
	Tuen Mun	25.2
	Tsuen Wan	16.1
	Yuen Long	34.6
Total		**Approximately 230**

2&3. In the long run, the WSD will replace or rehabilitate the 230 kilometres of water mains with bitumen coating in phases. Based on the risk-based principle, the WSD has identified a total of around 70 kilometres of large diameter water mains with higher risk in various districts, and plans to conduct the replacement and rehabilitation works within the next 10 years. The WSD has been conducting the improvement works for 20 kilometres of large diameter water mains, which require an expense of $2.16 billion. Relevant works were commenced in June 2024 and are targeted to be completed in phases within around 6 years. The WSD will seek funding from the Legislative Council in due course for commencing the improvement works for the remaining 50 kilometres of water mains. In the past 2 years, the WSD has replaced or rehabilitated around 900 metres of large diameter water mains. In 2024-25 and 2025-26 (as at 9 March 2026), the expenses of the WSD on replacement and rehabilitation of large diameter water mains were around $69 million and $180 million respectively.

4. To mitigate the potential risk of bitumen sediments entering the inside service before the replacement of the above-mentioned water mains is completed, a common international practice is to regularly clean the pipes and water tanks to flush out such sediments as far as practicable. The WSD has been adopting this time-proven method. The WSD also installs strainers at suitable locations and conducts regular inspections and cleansing to ensure the sediment will not enter the inside service at downstream. Based on a risk-based principle, the WSD plans to enhance the filtration capacities of around 1 000 existing strainers, and install around 1 100 additional strainers. In 2025, the WSD enhanced the filtration capacities of the around 1 000 existing strainers mentioned above. As at the end of January 2026, the WSD also completed the installation of around 660 additional strainers. Remaining strainers are currently being installed. The installation will take longer to complete since it will involve modification or construction of inspection shafts which is relatively complicated.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

DEVB(W)137

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3499)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

Question:

Regarding water consumption in the past 3 years in Hong Kong, would the Government inform this Committee of:

1. the water consumption per year in Hong Kong, the source of drinking water supply and the proportion of drinking water purchased from the Mainland;
2. the number and results of tests on drinking water of residential units each year;
3. the ratio of using fresh water for flushing; whether it will be lowered in the coming 10 years; if yes, of the details;
4. the estimated number of households living in village houses in rural areas that will convert to salt water for flushing in the coming year (broken down by District Council district);
5. with the increasing popularity of smart water closet, the number of illegal installation cases identified by the Department in which no backflow prevention device was installed as required in the past 3 years;
6. the respective number of reports of fresh water main bursts and salt water main bursts in each district each year;
7. the total quantity of drinking water wasted each year; and
8. the progress of the Replacement and Rehabilitation Programme for water mains?

Asked by: Hon CHAN Hak-kan (LegCo internal reference no.: 57)

Reply:

At present, the major sources of fresh water supply in Hong Kong include rainwater collected from local catchments of impounding reservoirs, Dongjiang (DJ) water imported from Guangdong Province and fresh water produced by the first stage of Tseung Kwan O Desalination Plant.

1. The fresh water consumptions (including consumption of fresh water for flushing), the supply quantity and proportion of DJ water in Hong Kong in the past 3 years are tabulated below:

Year	Fresh water consumption (million cubic metres)	DJ water	
		Supply quantity (million cubic metres)	Percentage in fresh water consumption
2023	1 068	820	77%
2024	1 060	818	77%
2025	1 075	820	76%

2. The Water Supplies Department (WSD) implemented the Enhanced Water Quality Monitoring Programme ("Enhanced Programme") in December 2017 to monitor the drinking water at consumers' taps in randomly selected premises. The parameters currently being monitored include 5 metals (viz. cadmium, chromium, copper, lead and nickel), residual chlorine and Escherichia coli. The numbers of tests on drinking water samples under the Enhanced Programme in the past 3 years are as follows:

	2023	2024	2025(Note)
Number of randomly selected premises (Number of samples)	661 (1 987)	644 (1 933)	690 (2 072)

Note: Since 2017, antimony has not been detected in all samples collected under the Enhanced Programme. The testing for antimony has been discontinued since June 2025, following experts' recommendations and the endorsement of the Drinking Water Safety Advisory Committee.

According to the test results of the sampling protocol under the Enhanced Programme in the past 3 years, the drinking water of all premises randomly selected for monitoring complied with the Hong Kong Drinking Water Standards.

3. Salt water for flushing is largely adopted in Hong Kong. The consumption of temporary fresh water for flushing currently accounts for only about 15% of the total flushing water consumption. The WSD is proactively and progressively expanding the supply of lower grade water (including salt water and recycled water) for flushing to save fresh water resources. The consumption of fresh water for flushing in the future will gradually decrease to an amount accounting for about 12% of the total flushing water consumption by 2030.

To expand the supply of lower grade water, the WSD completed the first phase of grey water recycling system at Anderson Road in end 2024. Treated grey water will be supplied for flushing and other non-potable uses progressively to tie in with the development progress of the area and its population intake. In addition, the WSD began to supply reclaimed water to certain areas of Sheung Shui and Fanling in phases from March 2024 to replace the current temporary mains fresh water for flushing. We will also extend the supply of reclaimed water to Kwu Tung North and Fanling North New Development Areas (NDAs) in accordance with their development progresses. Besides, the WSD has extended the salt water supply system to Shui Chuen O Estate in

Sha Tin for flushing since 2025. It is expected that the extension of the salt water flushing system to Tung Chung New Town and its extension will commence within 2026.

4. Currently, some of the villages in the New Territories still using fresh water for flushing are mainly located in Yuen Long, North, Tai Po, Islands, Sai Kung and Tuen Mun districts. Some of these remote villages are generally scattered, with low density and distant from the seafront, etc. To supply salt water for flushing there, it is necessary to construct water mains of long distance and pumping stations, which do not constitute the most cost-effective and energy efficient solution. As mentioned above, the Government is constructing salt water flushing systems for Tung Chung New Town and its extension so that the systems could supply salt water to these areas including the nearby villages for flushing by phases. Moreover, the Government is implementing the supply of reclaimed water for flushing and other non-potable use in the Northern Metropolis.

The Government will continue to review the situation and expand the supply of salt water for flushing and recycled water to other NDAs and those areas still using fresh water for flushing whenever technically feasible and cost-effective to further save fresh water resources.

5. In the past 3 years, the WSD did not institute prosecution against the cases of smart water closets without a backflow prevention device installed which contravene the Waterworks Regulations.

6. The numbers of fresh water and salt water main burst[1] cases in the past 3 years by District Council district are tabulated below:

District	**Burst cases**					
	Fresh water main			**Salt water main**		
	2023	**2024**	**2025**	**2023**	**2024**	**2025**
Central & Western	2	1	0	1	1	0
Eastern	1	0	2	1	1	2
Islands	4	1	1	0	0	0
Southern	1	2	2	0	2	0
Wan Chai	0	1	0	0	3	0
Kowloon City	1	3	1	0	0	0
Kwun Tong	0	0	1	0	1	0
Sham Shui Po	1	1	0	1	2	1
Wong Tai Sin	0	0	1	4	0	0
Yau Tsim Mong	1	0	1	0	2	0
North	2	1	1	0	0	0
Sai Kung	3	1	0	0	0	1
Sha Tin	0	0	0	1	0	1
Tai Po	1	0	1	1	0	0

District	Burst cases					
	Fresh water main			Salt water main		
	2023	2024	2025	2023	2024	2025
Kwai Tsing	0	1	0	1	0	1
Tuen Mun	1	0	1	3	2	0
Tsuen Wan	2	1	0	0	0	0
Yuen Long	1	0	2	0	0	0
Total	**21**	**13**	**14**	**13**	**14**	**6**

1: "Main burst" refers to a rupture of a water main caused by parts or structural failure which triggers a rapid and large volume of overflow of water causing drop of water supply pressure. As a consequences, the water supply system can no longer maintain continuous water supply to the affected areas, leading to serious traffic disruption and widespread water supply suspension.

7. In the past 3 years, i.e. 2023, 2024 and 2025, the leakage rates of government fresh water mains were 14%, 13.4% and 12.8% respectively.

8. Since 2015, the WSD has implemented the "Risk-based Asset Management Programme for Water Mains" ("Programme") by introducing factors such as years of service, materials, past records of bursts or leaks, surrounding environment, etc. for assessing the risk of water main bursts or leaks so as to replace or rehabilitate water mains with higher risk progressively with a view to maintaining the healthiness of the water supply network and reducing the risk of water main bursts or leaks. As at the end of December 2025, a total of approximately 584 km long water mains have been included in the "Risk-based Asset Management Programme for Water Mains". Amongst them, approximately 250 km long water mains have been replaced or rehabilitated. Therefore, the works on a total length of around 334 km of water mains will be progressively carried out under the Programme.

- End -

Examination of Estimates of Expenditure 2026-27 Reply Serial No.

EEB(E)224

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3500)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (-) Not Specified

Controlling Officer: Director of Water Supplies (WONG Yan-lok, Roger)

Director of Bureau: Secretary for Development

[Note: The question below concerns matters under the policy purview of the Environment and Ecology Bureau (EEB). The reply was prepared by the Water Supplies Department and vetted by the EEB.]

Question:

The Government has been installing floating photovoltaic (PV) systems at reservoirs since 2017. In this connection, would the Government inform this Committee:

1. What are the installation costs of the solar energy generation systems at reservoirs?

2. What were the annual amount of electricity generated by the solar energy generation systems at reservoirs in the past 5 years?

3. Further to the above question, where will the electricity generated by the solar energy generation systems at reservoirs be used respectively?

4. What is the frequency of damage of floating solar panels caused by adverse weather since the installation? What is the repair expenditure involved? What are the measures to enhance the resilience of the solar energy generation systems against super typhoon?

5. As the solar energy generation systems at reservoirs are subject to more environmental factors, what is the repair and maintenance cost of the systems in comparison with other solar energy generation systems?

6. Further to the above question, does the Government have any new plan to install solar panels at reservoirs in future? If yes, what are the details? If no, what are the reasons?

Asked by: Hon CHAN Hak-kan (LegCo internal reference no.: 58)

Reply:

1-3. The Government has implemented the pilot projects of floating solar energy generation system at Shek Pik Reservoir, Plover Cove Reservoir and Tai Lam Chung Reservoir

since 2017. The installation costs of and the relevant information on the floating solar energy generation systems at the reservoirs are tabulated as follows:

Installation location	Shek Pik Reservoir	Plover Cove Reservoir	Tai Lam Chung Reservoir
Generating capacity	100 kilowatts (kW)	100 kW	100 kW
Completion date	February 2017	October 2017	April 2022
Cost (HK$)	about 3.5 million	about 3.3 million	about 3.1 million
Facilities powered	Shek Pik Raw Water Pumping Station	Plover Cove Reservoir Air Compressor House	Tai Lam Chung Reservoir Air Compressor House

The amount of electricity generated by a solar energy generation system is subject to the weather and insolation duration of an individual area. According to the design, each floating solar energy generation system can generate about 120 000 kilowatt-hours (kWh) of electricity annually.

4. During the passage of super typhoon Mangkhut in September 2018, the anchorage system of the floating solar energy generation system at Plover Cove Reservoir was damaged as the wind force had exceeded the requirements of the system design at the time, resulting in damage to some solar panels. The repair expenditure for that occasion was about $1.2 million. Subsequently, when designing the floating solar energy generation system for Tai Lam Chung Reservoir, the Water Supplies Department (WSD) adopted an enhanced anchorage system with tensile strength to raise the system's resilience against typhoon.

5. With the enhancement of the anchorage system, the annual repair and maintenance cost of each floating solar energy generation system at the 3 abovementioned reservoirs is around $50,000, which is similar to the cost of the solar energy generation systems at other waterworks of the WSD.

6. By drawing reference to the 3 completed pilot projects of floating solar energy generation systems, the WSD will continue to review the development of large-scale floating solar energy generation system and explore a more cost-effective way to install solar energy generation systems at waterworks facilities.

- End -