CONTROLLING OFFICER'S REPLY

(Question Serial No. 1695)

Head: (194) Water Supplies Department

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

Programme: (-) Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 66):

It is stated that Government departments will review fees and charges including water charges, which have not been revised for 19 years. However, the hardware (e.g. sewage treatment works) and software (e.g. updated water quality objectives) for ensuring desirable water quality have not been significantly improved in the past 19 years. In this regard, will the Government consider providing the public with better services before increasing the fee levels? If yes, what are the details? If no, what are the reasons?

Asked by: Hon. CHAN Hak-kan

Reply:

The Water Supplies Department (WSD) has strived to improve the water quality by adhering to the latest water standard of the World Health Organization (WHO), applying advanced water treatment technology and uplifting the water monitoring and control measures.

In regard to water quality standard, the WSD has been keeping pace with the latest developments and revisions of WHO Guidelines for drinking-water quality which was updated in 1984, 1993, 2004 and 2011 respectively. The quality of drinking water supply in Hong Kong is stringently controlled in accordance with the latest edition of WHO's Guidelines for Drinking-water Quality (WHO-2011).

As for water treatment facilities, new technologies such as dissolved air flotation, ozonation and biological filtration and advanced monitoring and control systems have been adopted to enhance the performance of water treatment works under different operating conditions and to assure the quality of treated water supply to customers.

In regard to uplifting water quality monitoring and control, we have developed and adopted advanced water quality monitoring technologies such as "zebrafish" water quality monitoring system to enhance the capability of rapid and preventive monitoring of the quality of water supply. In addition, we have implemented a Water Safety Plan in accordance with the WHO's requirements. The plan identifies and monitors potential sources of contamination in the water supply systems together with the implementation of

necessary risk control measures to ensure the water quality from the source, through water treatment and distribution networks to consumer taps. Over the years, we have been consistently achieving the target of 100% compliance with the WHO's standards for drinking water quality as set out in the WSD's performance pledge.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0166)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 6):

According to Programme (1), the Water Supplies Department will continue to plan and develop water resources and supply systems in 2014-15. Will the Government advise on the following:

1. What are the details and progress of the planning and investigation study for the desalination plant at Tseung Kwan O? What are the expenditure and manpower involved this year?

2. What are the details of the investigation and studies on the use of reclaimed water for toilet flushing and other non-potable purposes in the Northeast New Territories, their commencement and completion dates, and the expenditure and manpower involved?

Asked by: Hon. CHAN Yuen-han

Reply:

1. The Water Supplies Department has engaged a consultant to carry out a planning and investigation study for the setting up of a seawater desalination plant at Tseung Kwan O. The scope of the study covers detailed assessment on technical feasibility and cost effectiveness, formulation of implementation strategy and programme, preliminary design, and various technical impact assessments for the construction of the desalination plant. Up to February 2014, different technical options on seawater intake, seawater treatment and, concentrate discharge have been explored and evaluated. The estimated expenditure in 2014-15 is $15.7 million and 1.5 in-house professional staff is assigned to oversee the study.

2. For supplying reclaimed water for toilet flushing and other non-potable purposes to the north-eastern part of the New Territories, we plan to commence technical and financial studies in late 2014 for completion by 2017. The estimated expenditure for the studies in 2014-15 is $0.5 million and 0.7 in-house professional staff is assigned to oversee the studies undertaken by consultatns.

. Examination of Estimates of Expenditure 2014-15 Reply Serial No.

DEVB(W)113

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2264)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 52):

What items are included in the 26 projects under planning in the Estimate of the Water Supplies Department this year? Please provide the estimated expenditure on and the scheduled commencement date of works for each item using the table below.

Project under planning	Estimated expenditure	Scheduled commencement date of works

Asked by: Hon. FAN Kwok-wai, Gary

Reply:

The 26 projects are categorized into three groups as illustrated in the table below. Most of the planning items are now at conceptual and preliminary planning stage and have not yet been included in the Public Works Programme (PWP). The items are subject to change and refinement to cope with the latest situation of development proposals and associated water demand.

Group	Project under planning	Value of projects under planning in 2014-15 ($ million)	Scheduled commencement date of works
A	Provision of water supply to cope with land supply and new developments including Kai Tak Development, Lok Ma Chau Loop Development, Fanling North New Development Areas and Kwu Tung North, Tung Chung and Lantau (18 projects)	7,500 (The preliminary project estimates)	Project commencement date to be ascertained upon completion of detailed planning.
B	Enhancement or improvement of existing water supply infrastructure including water mains, water treatment works, service reservoir and pumping station (6 projects)		
C	Implementation of new water resources including water reclamation and seawater desalination (2 projects)		

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2301)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 39):

Regarding the commencement of the "desalination" programme:

1. What is the estimated expenditure in 2014-15? When will funds be sought?

2. The proposed incineration facility in Shek Kwu Chau consists of a desalination plant. Have the study and project costs been included in the above estimate or funds?

Asked by: Hon. FAN Kwok-wai, Gary

Reply:

1. We sought funds in 2012-13 for carrying out a planning and investigation study for the construction of a desalination plant in Tseung Kwan O (TKO) and commenced the study in December 2012. The entire study will largely be completed in early 2015. The estimated expenditure for the study in 2014-15 is about $15.7 million. Further funding for the project will then be considered if the technical feasibility and cost-effectiveness of the project is established.

2. The proposed incineration facility in Shek Kwu Chau is not a project under Water Supplies Department. The study for the desalination plant in TKO is funded under PWP item No. 9345WF and the project estimate of the future TKO desalination plant will be exclusively for the construction of the TKO plant only.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0742)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 14):

According to Paragraph 150 of the Budget Speech, "fees and charges is an important source of government revenue. Last year, I asked government departments to review their fees and charges, beginning with items which did not directly affect people's livelihood. After a review of more than 1 300 fees and charges, more than 200 increases have been proposed. These will reduce the loss of public revenue by around $60 million per year. We shall review other fees and charges this year, including water charges, which have not been revised for 19 years, the fees for use of leisure facilities and services, and charges relating to environmental hygiene services". Could the Administration advise this Committee on the details of the review on revision of water charges, whether public opinions will be sought during the review, whether the affordability of the grassroots is an important consideration, and the estimated time of completing the review and introducing new charges?

Asked by: Hon. FUNG Kin-kee, Frederick

Reply:

We aim at completing a review on water charges this year. The review will cover water charges for domestic and non-domestic supplies. We will take into consideration in the review a number of factors including affordability, the financial performance of waterworks operation, the prevailing economic situation and views of the Legislative Council members. After completion of the review, a time table for the implementation of the revised charging rates, if proposed, will be determined in due course.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0773)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 46):

Regarding "assessing fresh water supply requirements on the basis of providing round-the-clock supply of water throughout the year to meet the demand of the territory; developing fresh resources to cope with such requirements" mentioned in the Aim, could the Administration advise this Committee on the proportion of the sources of fresh water supply in Hong Kong in the past two years, and the cost comparison among the latest locally collected rainwater, Dongjiang water imported and the production of reclaimed water using reverse osmosis technology?

Asked by: Hon. FUNG Kin-kee, Frederick

Reply:

The quantities of fresh water supply from water collected locally and Dongjiang water in the past two years are as follows:

	2012-13		**2013-14 (up to end Feb 2014)**	
	Quantity (million cubic metre**)**	**%**	**Quantity (**million cubic metre**)**	**%**
From water collected locally	218	23.4	333	38.8
From Dongjiang water	715	76.6	526	61.2
Total quantity of fresh water supply	**933**	**100**	**859**	**100**

The production costs per cubic metre of fresh water supply from water collected locally and Dongjiang water at 2013-14 price level are estimated to be about $4.2 and $8.8 respectively. At the moment, we have no plan to produce reclaimed water using reverse osmosis technology. We therefore do not have the estimated cost for production of reclaimed water using the technology.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0774)

Head: (194) Water Supplies Department

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

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 47):

Regarding "monitoring closely the level of arrears of water charges; and coping with the growth in the number of consumer accounts" mentioned in the Brief Description, could the Administration advise this Committee on the level of arrears of water charges including the number of cases, the amounts involved and the amounts of irrecoverable water charges in the past 2 years; and the estimated growth in the number of consumer accounts in the next 3 financial years?

Asked by: Hon. FUNG Kin-kee, Frederick

Reply:

The level of arrears of water charges including the number of cases and the total amount involved for the past two years are provided below-

	2012-13	2013-14 (as at 31.1.2014)
Number of cases	14 492	15 276
Total amounts involved	$8.0 million	$7.2 million

The average amount of irrecoverable water charges for the past two years (2012-13 and 2013-14) was $2.7 million per annum, which represented 0.1% of the water charges received.

It is estimated that there will be an annual increase of about 40 000 new consumer accounts from 2014-15 to 2016-17.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2315)

Head: (194) Water Supplies Department

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

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 48):

Regarding the matter of "operating and maintaining fresh water supply and distribution systems" in the Brief Description, could the Administration advise this Committee on the number of cases of bursting or apparent leaking of fresh water pipes and salt water pipes by District Council district in the past two years; the main causes of bursting or apparent leaking as revealed by investigations; the longest and average hours of suspension of water supply affecting the general public as a result; and the longest and average time taken by the Department's staff for attending to urgent repairs upon the outbreak of the incidents.

Asked by: Hon. FUNG Kin-kee, Frederick

Reply:

The numbers of fresh and salt water main burst and leakage cases in 2012-13 and 2013-14 (up to February 2014) broken down by the demarcation of District Councils are tabulated in Table 1 and Table 2 below –

Table 1 - Numbers of water main burst and leakage cases in 2012-13 –

District	Fresh water main		Salt water main	
	Burst	Leakage	Burst	Leakage
Central and Western	4	506	3	202
Eastern	3	279	6	195
Islands	1	339	0	1
Kowloon City	10	374	16	279
Kwai Tsing	32	231	14	133
Kwun Tong	7	384	11	268
North	0	1 057	1	2
Sai Kung	7	1 012	7	36

Sha Tin	11	369	16	100
Sham Shui Po	10	200	16	150
Southern	0	365	3	91
Tai Po	2	411	15	58
Tsuen Wan	3	290	2	118
Tuen Mun	3	605	6	117
Wan Chai	6	460	3	188
Wong Tai Sin	0	95	4	103
Yau Tsim Mong	5	299	18	258
Yuen Long	22	2 034	0	0
Total	126	9 310	141	2 299

Table 2 - Numbers of water main burst and leakage cases in 2013-14 (up to February 2014) –

District	Fresh water main		Salt water main	
	Burst	Leakage	Burst	Leakage
Central and Western	2	432	2	189
Eastern	5	254	5	167
Islands	0	308	0	1
Kowloon City	10	317	16	248
Kwai Tsing	27	202	12	175
Kwun Tong	4	320	5	199
North	3	790	0	0
Sai Kung	15	668	8	27
Sha Tin	10	306	5	113
Sham Shui Po	10	164	9	119
Southern	1	323	0	88
Tai Po	9	448	17	39
Tsuen Wan	1	234	2	106
Tuen Mun	2	434	0	103
Wan Chai	2	363	4	205
Wong Tai Sin	2	87	4	83
Yau Tsim Mong	6	252	11	220
Yuen Long	20	1 806	0	2
Total	129	7 708	100	2 084

Burst and leakage of water mains are commonly due to a confluence of various factors, including ageing of water mains, ground settlement or upheaval and external loading or vibration.

The average and longest time of fresh and salt water supply suspension affecting the general public are shown in Table 3 below:

Table 3 - Suspension of Water Supply

	Average time of Suspension	Longest time of Suspension
Fresh Water Supply	1.5 hours	73.4 hours
Salt Water Supply	6.6 hours	120.5 hours

The exceptional cases with much longer time of suspension of water supply were isolated cases due to such reasons as i) congested ground conditions with lots of underground pipes, conduits and cables of the utility companies, ii) repairs requiring breaking of large concrete blocks, iii) fabrication of special pipe fittings to suit site conditions, iv) time for locating leakage spots, v) repairs affected by adverse weather conditions such as typhoon and by other repairs in the vicinity, and vi) repairs requiring prior ground strengthening. For fresh water supply suspension expected to last for more than three hours, we will provide emergency temporary fresh water supply to meet the basic need of the affected consumers.

The average and longest time taken by the Department's staff for attending to urgent repairs upon the outbreak of fresh and salt water main bursts are shown in Table 4 below:.

Table 4 – Attending to Urgent Repairs

	Average time of Attending to Urgent repairs	Longest time of Attending to Urgent repairs
Fresh Water Main Burst	0.4 hours	1.2 hours
Salt Water Main Burst	0.4 hours	1.6 hours

The cases with longer time for attending to urgent repairs were isolated cases due to such reasons as i) the emergency gangs concerned being engaged in dealing with other main burst incidents, and ii) remote location of burst main, busy traffic condition or adverse weather conditions such as typhoon requiring longer travelling time for the emergency gang to reach the site.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2235)

Head: (194) Water Supplies Department

Subhead (No. & title): (223) Purchase of water

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 54):

The expenditures on purchasing Dongjiang water from Guangdong Province by a package deal approach from 2012-13 to 2014-15 are $3,575.9 million, $3,782.58 million and $3,959.34 million respectively. The Administration will negotiate a new agreement on the price of Dongjiang water with the Government of the Guangdong Province within this year. When will the negotiation start? What is the estimated expenditure on purchasing Dongjiang water in 2015? Will the quantity ceiling for purchasing Dongjiang water be lowered? If yes, what are the estimated quantity ceiling and the reasons for lowering the quantity ceiling? If no, what are the reasons?

Asked by: Hon. KWOK, Dennis

Reply:

We have started the negotiation with the Guangdong authorities on the Dongjiang water supply agreement after 2014. Water price and quantity are issues that will be discussed during the negotiation.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2236)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 55):

Regarding the planning and investigation study for a desalination plant at Tseung Kwan O, will the Government advise this Committee on the following:

a) The Administration indicated that the investigation study for the desalination plant would be completed by the end of 2014. However, the Financial Secretary stated in the Budget this year that the study would largely be completed early next year. What are the reasons for the extension of time / difficulties in completing the study?

b) The allocation for the study was $9 million in 2013-14. What was the expenditure on the study last year? What were the works covered by or the reasons for the expenditure?

Asked by: Hon. KWOK, Dennis

Reply:

a) The consultant has taken more time to carry out seawater sampling and analysis, site investigation works and the ecological field survey which are essential for the preliminary design and the environmental impact assessment for the project. The study is expected to be completed in early 2015. We anticipate that the slight delay in completion of the study will not have any adverse impact on the overall project programme for commissioning the desalination plant in 2020.

b) The expenditure for the planning and investigation study in 2013-14 is estimated to be about $4.2 million covering consultants' fee and investigation works. The expenditure is less than the allocation mainly due to the longer time taken to carry out the seawater sampling and analysis, site investigation works and the ecological field survey.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2504)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 76):

The Water Supplies Department indicated that it would continue to plan, design and construct salt water supply and distribution systems. Will the Administration advise this Committee on the following:

a) Please provide the information on each salt water flushing system in detail using the table below:

Area	Number of residents	Quantity of salt water supplied for flushing	Commencement date of works	Completion date of works	Estimated amount of expenditure	Estimated quantity of fresh water saved
Pok Fu Lam						
Northwest New Territories						
Tung Chung						
(Other projects to be implemented)						

b) Apart from the works of salt water flushing for Pok Fu Lam area and salt water supply for Northwest New Territories, will the Administration develop any other salt water flushing systems? If yes, what are the details and the estimated expenditure involved? If no, what are the reasons?

Asked by: Hon. KWOK, Dennis

Reply:

a) Details of the salt water flushing systems are provided as follows –

Area	Number of residents	Quantity of salt water supplied for flushing (cubic metre/day)	Commence-ment date of works	Completion date of works*	Estimated amount of expenditure in 2014-15 ($million)	Estimated quantity of fresh water saved* (cubic metre/day)
Pok Fu Lam	98 000	15 100	October 2009	July 2013	1.5	15 100
Northwest New Territories	600 000	60 000	February 2008	2015	53.2	60 000
Tung Chung	89 000#	10 600	(under planning)	(under planning)	-	10 600
(Other projects to be implemented)	-	-	-	-	-	-

* This refers to the substantial completion date of the salt water supply system including service reservoir(s), pumping station(s) and distribution mains

Existing population

b) WSD is planning to develop a salt water flushing system in Tung Chung to serve 89 000 residents in the area. We will continue to review regularly, based on the anticipated developments and demand forecast, the technical feasibility and cost effectiveness for developing salt water flushing system for other areas.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0970)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 32):

According to Matters Requiring Special Attention in 2014-15 under Programme (1), the Administration will continue with the construction of stages 3 and 4 of the replacement and rehabilitation programme (R&R programme) of water mains. Will the Government advise on the following:

1. The progress of the construction of stages 3 and 4 of the R&R programme of water mains this year, the districts of the construction locations in details, the length in kilometres of water mains replaced or rehabilitated, and the expenditure and manpower involved in the construction.

2. The target of the construction of stages 3 and 4 of the R&R programme of water mains in the coming year, the districts of the construction locations in details, the expected lengths in kilometres of water mains replaced or rehabilitated.

Asked by: Hon. KWOK Wai-keung

Reply:

1. In 2013-14 (up to end January 2014), the length of water mains replaced or rehabilitated under stage 3 and stage 4 of the R&R programme is 75 km and 177 km respectively. The water mains replaced or rehabilitated are mainly located in Kowloon City, Eastern, Central & Western, Wan Chai, Tuen Mun and Yuen Long districts. The estimated expenditure for stage 3 and stage 4 works in 2013-14 are $2,621 million of which $378 million is for the employment of resident site staff for supervision of the construction works.

2. A total of about 354 km of water mains is planned to be replaced or rehabilitated in 2014-15 under stage 3 and stage 4 of the R&R programme. The water mains to be replaced or rehabilitated will be mainly located in Kowloon City, Eastern, Central & Western, Wan Chai, Yau Tsim Mong and Kwai Tsing districts.

Examination of Estimates of Expenditure 2014-15 Reply Serial No.

DEVB(W)123

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1206)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 21):

Regarding the investigation and studies on the use of reclaimed water for toilet flushing in the Northeast New Territories, what is the expenditure involved? Have the studies been outsourced? If yes, what was the contract cost involved and when will the studies be completed?

Asked by: Hon. LAU Wong-fat

Reply:

For supplying reclaimed water for toilet flushing and other non-potable purposes to the north-eastern part of the New Territories, we will engage consultants to carry out technical and financial studies. The studies will commence in late 2014 for completion by 2017. The estimated total consultancy fee of the studies is $8 million, while the estimated expenditure for the studies in 2014-15 is $0.5 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3260)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. (19)):

It is stated in the Budget Speech that the Administration will review water charges this year. Please set out in detail the fee items to be reviewed, and the suggested criteria for and rates of adjustment.

Asked by: Hon. LEE Wai-king, Starry

Reply:

The review will cover water charges for domestic and non-domestic supplies. We will take into consideration in the review a number of factors including affordability, the financial performance of waterworks operation, the prevailing economic situation and views of the Legislative Council members. The rates of adjustment, if proposed, are subject to the result of the review.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0141)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 15):

(1) In 2013-14, how many water main burst incidents have occurred due to the ageing of fresh water mains and salt water mains for flushing? For each burst water main, how many years has it been used and what was its originally expected lifespan?

(2) What measures has the Administration taken to address the problems of bursting and leakage of fresh water mains and salt water mains for flushing this year? What were the expenditure and manpower involved?

(3) Please provide the total lengths, existing ages, average ages and maintenance costs in 2013-14 of the fresh water mains and salt water mains for flushing in the territory.

Total length of fresh water mains: _____

Total length of salt water mains for flushing: _____

Fresh water mains	Proportion to total length	Maintenance cost in 2013-14 (Hong Kong dollars)
Below 5 years		
5 to <10 years		
10 to <15 years		
15 to <20 years		
20 to <25 years		
25 to <30 years		
30 to <35 years		
35 to <40 years		
40 to <45 years		
45 to <50 years		
50 years or above		

Average age: _____

Salt water mains for flushing	Proportion to total length	Maintenance cost in 2013-14 (Hong Kong dollars)
Below 5 years		
5 to <10 years		
10 to <15 years		
15 to <20 years		
20 to <25 years		
25 to <30 years		
30 to <35 years		
35 to <40 years		
40 to <45 years		
45 to <50 years		
50 years or above		

Average age: _____

Asked by: Hon. LEONG Kah-kit, Alan

Reply:

(1) Water main burst is commonly due to a confluence of various factors, including ageing of water mains, ground settlement or upheaval and external loading or vibration. The numbers of fresh and salt water main burst incidents in 2013-14 (up to February 2014) were 129 and 100 respectively. The numbers of years for which the burst water mains had been used before burst are shown in the table below-

Years of water main used before burst	Numbers of water main burst in 2013-14 (up to February 2014)	
	Fresh water main	Salt water main
Below 5 years	2	1
5 to <10 years	3	1
10 to <15 years	3	5
15 to <20 years	0	6
20 to <25 years	0	8
25 to <30 years	15	14
30 years or above	106	65
Total	129	100

The water supply network is made up of pipelines of different materials. The serviceable life of the water mains varies with the types of pipe materials, the ground conditions and the type of water they carry. Most of the burst water mains had been in use for nearly or more than 30 years before burst and were at the end of their typical serviceable lives.

(2) We have been taking a multi-pronged approach to tackle the water main burst and leakage problem including leakage detection, pressure management and implementation of the Replacement and Rehabilitation Programme for water mains. In 2013-14, the expenditure on implementing all these measures is estimated to be

$2,798 million. The number of staff involved for implementation of the measures is 100.

(3) The total lengths, ages and average ages of fresh water mains and salt water mains of the Water Supplies Department in the territory are provided below-

Total length of fresh water mains: about 6 300 kilometres (km)

Total length of salt water mains for flushing: about 1 500 km

Existing age of fresh water mains	Proportion to total length
Below 5 years	15%
5 to <10 years	19%
10 to <15 years	15%
15 to <20 years	10%
20 to <25 years	8%
25 to <30 years	8%
30 years or above	25%
Total	100%

Average age: approximately 19 years

Existing age of salt water mains for flushing	Proportion to total length
Below 5 years	14%
5 to <10 years	20%
10 to <15 years	18%
15 to <20 years	12%
20 to <25 years	10%
25 to <30 years	7%
30 years or above	19%
Total	100%

Average age: approximately 18 years

In 2013-14, the expenditure on maintenance and repair works for water mains is estimated to be $220 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1304)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 20):

It is mentioned in Matters Requiring Special Attention in 2014-15 that the Department will "continue with the planning and investigation study for a desalination plant at Tseung Kwan O".

(a) What was the progress of work in this area in 2013? Can the work be completed by 2014 as planned? If no, what are the reasons? What is the expenditure involved in the entire study?

(b) What are the unit costs (per cubic metre) of turning seawater into potable water, processing local fresh water and processing Dongjiang water according to the latest study findings?

Asked by: Hon. LEUNG Che-cheung

Reply:

(a) We commenced the planning and investigation study for a desalination plant at Tseung Kwan O in December 2012. The scope of the study includes detailed assessment on technical feasibility and cost effectiveness, formulation of implementation strategy and programme, preliminary design, and various technical impact assessments for construction of the desalination plant. Up to February 2014, different technical options on seawater intake, seawater treatment, and concentrate discharge have been explored and evaluated under the study. The study will continue in 2014-15 on preliminary design, site investigation works, environmental impact and traffic impact assessments, cost estimation and cost effectiveness analysis. As the consultant has taken more time to carry out the seawater sample collection and analysis, site investigation works and the ecological field survey in 2013-14 which are essential for the preliminary design and the environmental impact assessment for the project, the study is expected to be completed in early 2015. We anticipate that the slight delay in completion of the study will not have adverse impact on the overall project programme for commissioning the desalination plant in 2020. The estimated cost for the entire study is about $26 million.

(b) While the ongoing study has yet to arrive at an estimate of the production cost of fresh water by desalination, the unit cost of fresh water to be produced from desalination has previously been broadly estimated to be around $12 per cubic metre at 2012-13 price level. The unit cost of fresh water produced from locally collected fresh water and imported Dongjiang water are estimated to be $4.2 and $8.8 respectively at 2013-14 price level.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1339)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 1.05):

Regarding the matters on water supply and water resources management, will the Administration advise on:

1. The annual expenditures, quantities of water purchased and price increases for purchasing Dongjiang water from the Chinese Government in the past five years;

2. The quantities of fresh water discharged to the sea due to overflow from reservoirs in the past five years (please provide a breakdown by reservoir); and

3. Whether the Administration has explored ways to avoid overflow from reservoirs, and if yes, what the details and improvement measures are?

Asked by: Hon. LEUNG, Kenneth

Reply:

1. For the past five years (2009-2013), we have purchased 820 million cubic metres of Dongjiang (DJ) water each year and their annual expenditures and price increases are shown in the following table.

Year	Expenditure on purchasing DJ water ($ million)	Percentage increase in water price (%)
2009	2,959.0	-
2010	3,146.0	6.3
2011	3,344.0	6.3
2012	3,538.7	5.8
2013	3,743.3	5.8

2. The quantities of overflow from reservoirs* from 2009 to 2013 are as follows -

Year	Overflow Quantity from reservoir/reservoir group (million cubic metre)								
	Aberdeen	Kowloon	Shek Pik	Tai Tam	Tai Lam Chung	Lower Shing Mun	Plover Cove	High Island	Total
2009	1.8	3.1	0.5	9.4	0	0	0	0	14.8
2010	3.7	4.0	5.5	11.8	0	0	0	0	25.0
2011	0.3	0.0	0	0	0	0	0	0	0.3
2012	1.3	1.6	0.9	10.0	1.6	0	0	0	15.4
2013	3.3	5.2	15.7	15.4	0.6	0	0	0	40.2

Notes:

* We have not measured the overflow at Pok Fu Lam Reservoir due to its very small capacity (only contributing 0.03% of the total reservoir capacity in Hong Kong).

3. Overflow from small reservoirs during very heavy rainfall is an operational constraint. We have explored various ways to reduce reservoir overflows. Since 2006, we have adopted a flexible supply arrangement under the DJ water supply agreement with provision for adjusting the daily supply rate according to our need to facilitate better control on the storage level of our large reservoirs in which DJ water is stored. Overflow since then has been greatly reduced as compared to the period before 2006. The average overflow quantity over the past five years is 19 million cubic metres per annum, equivalent to about 2% of total fresh water supply.

   We have also considered different options including expanding the reservoir storages, to reduce overflow from reservoirs. However, these options are found not cost-effective and will have severe ecological impact and in some cases heritage impact on the downstream areas.

   Nevertheless, we will continue to review the situation with a view to reducing the quantity of overflow from reservoirs.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2055)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 1.14):

(1) Please provide the water main leakage rates and quantities in the past 5 years with a breakdown by fresh water and salt water.

(2) What specific measures has the Administration taken to reduce the leakage rate of water mains? Please provide the expenditures on water main maintenance and leakage prevention in the past 5 years, and the estimated expenditure involved in 2014-2015.

Asked by: Hon. LEUNG, Kenneth

Reply:

(1) The fresh water main leakage rates in the past 5 years are tabulated as follows:

Year	Fresh Water Main Leakage Rate
2009	21 %
2010	20 %
2011	19 %
2012	18 %
2013	17 %

As there is currently no reliable and economical technical solution for metering salt water consumption, we cannot ascertain the salt water main leakage rate with sufficient accuracy.

(2) We are taking a multi-pronged approach to tackle water main leakage, including leakage detection, pressure management and implementation of replacement and rehabilitation programmes for water mains. The expenditures on water main maintenance and leakage prevention in the past 5 years and the estimated expenditure involved in 2014-2015 are tabulated as follows:

Year	Expenditure on water mains maintenance and leakage prevention ($ million)
2009 – 2010	2,302
2010 – 2011	2,468
2011 – 2012	2,233
2012 – 2013	2,509
2013 – 2014 (estimates)	3,018
2014 – 2015 (estimates)	2,779

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2063)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 1.13):

Regarding the matter of flushing supply, please provide the following information:

(1) The expenditure, manpower and specific plan involved in the investigation and studies on the use of reclaimed water for toilet flushing and other non-potable purposes in the north-eastern part of the New Territories;
(2) The current percentage of flats covered by salt water flushing supply in the territory;
(3) The current number of flats in urban areas across the territory using fresh water for flushing (please provide a breakdown by building age);
(4) The current number of flats in rural areas across the territory using fresh water for flushing; and
(5) The expenditure on and progress of extending salt water flushing supply in 2013-2014, and the estimated expenditure involved in 2014-2015.

Asked by: Hon. LEUNG, Kenneth

Reply:

(1) For supplying reclaimed water for toilet flushing and other non-potable purposes to the north-eastern part of the New Territories, we will engage consultants to carry out technical and financial studies. The studies will commence in late 2014 for completion by 2017. The estimated total consultancy fee of the studies is $8 million. The estimated expenditure for the studies in 2014-15 is $0.5 million and 0.7 in-house professional staff is assigned to oversee the studies.

(2), (3) & (4). Our flushing water supply statistics are not based on the numbers of flats nor building age, but rather on the population coverage. Currently about 80% of the population in Hong Kong is receiving salt water for flushing. On the other hand, about 11% and 31% of the population in urban areas and rural areas (New Territories including outlying islands) are respectively using fresh water for flushing.

(5) In 2013-14, we completed the construction of a salt water flushing supply system in Pokfulam and we will provide salt water supply for flushing to consumers in the district

gradually. Furthermore, the construction of a salt water flushing supply system in the northwest New Territories will be completed by 2015. The total estimated expenditures on these works in 2013-14 and 2014-15 are $246.8 million and $54.7 million respectively.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2395)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 39):

The ageing of water mains increases the number of water main bursts and leaks which do not only waste the precious water resources, but also cause much inconvenience to the public. In this regard, could the Administration advise this Committee on the following:

1. What were the quantities of water loss due to water main bursts and leaks in the past 3 years, and the amounts of expenditure involved?

2. What were the progresses of the replacement of aged water mains in the past 3 years, and the amounts of resources allocated for such work? Please list out each expenditure item in detail.

3. Will the Administration increase the resources and manpower for expediting the replacement of aged water mains and reducing wastage of water resources? If yes, what are the details? If no, what are the reasons?

Asked by: Hon. LEUNG Mei-fun, Priscilla

Reply:

1. With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints rather than as losses. The water main leakage rates in 2011, 2012 and 2013 were 19%, 18% and 17% respectively. The quantity of water drained away due to main bursts was less than 0.01% of the total water supplied in 2011 and 2012, and less than 0.02% of the total water supplied in 2013.

2. In the past three financial years, the length of water mains replaced or rehabilitated and the corresponding expenditure are given in the table below: -

Financial Year	Length of water mains replaced or rehabilitated (km)	Expenditure ($ million)		
		Works	Employment of Resident Site Staff for works supervision	Total
2010-11	310	1,920	284	2,204
2011-12	235	1,710	267	1,977
2012-13	295	1,882	315	2,197

3. The replacement and rehabilitation of water mains programme was originally planned for implementation in stages over a 20-year period from 2000 to 2020. Since 2005, we have redeployed more resources and compressed the works programme to advance the target completion date of the entire project by 5 years, i.e. completion of the programme within 15 years by 2015. Although the works are conducted mostly in heavily trafficked roads with congested underground utilities, they are in reasonably good progress that enable us to meet our target of reducing the leakage rate to 15% by 2015. We will keep on monitoring the conditions of the water mains and advance the works of those aged water mains in need of earlier replacement and rehabilitation as far as practicable.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0513)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 26):

As mentioned in Matters Requiring Special Attention in 2014-15, the construction of stages 3 and 4 of the replacement and rehabilitation programme of water mains will be continued. Could the Government advise on the manpower and expenditure involved in 2013-14, the estimated manpower and expenditure involved in 2014-15, the present progress, and the estimated time of completion?

Asked by: Hon. LO Wai-kwok

Reply:

The estimated expenditures for stage 3 and stage 4 of the replacement and rehabilitation programme of water mains in 2013-14 and 2014-15 are $2,621 million and $2,368 million respectively of which $378 million and $339 million are for the employment of resident site staff for supervision of the construction works.

The length of water mains replaced or rehabilitated under stage 3 and stage 4 of the programme up to end January 2014 is 569 km (71% of stage 3 works) and 415 km (48% of stage 4 works) respectively. The remaining works will be completed by December 2015.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0514)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 27):

Regarding the studies on the use of reclaimed water for toilet flushing and other non-potable purposes in the north-eastern part of the New Territories including Sheung Shui and Fanling,

1. What are the estimated manpower and expenditure involved in 2014-15? Have the advance works of investigation been commenced? What is the present progress?

2. It is known that the high cost of using reclaimed water stems from water distribution facilities. Does the Administration have any measures to reduce the cost, such as collaborating with Hong Kong institutions to explore low-cost facilities for the development of reclaimed water? If yes, what are the details? If no, what are the reasons?

Asked by: Hon. LO Wai-kwok

Reply:

1. For supplying reclaimed water for toilet flushing and other non-potable purposes to the northeastern part of the New Territories, we plan to carry out technical and financial studies in late 2014 for completion by 2017. The estimated expenditure for the studies in 2014-15 is $0.5 million and 0.7 in-house professional staff is assigned to oversee the studies undertaken by consultants.

2. Reclaimed water will mostly be used for flushing purpose and its distribution system consisting of pumping stations, service reservoirs and distribution mains, is similar to other flushing system using fresh water or seawater. We will explore cost minimizing measures in detail at the detailed design stage of the project.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0176)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 14):

According to the Indicators under Programme (1), the actual leakage rates of water mains in the recent 2 years were 18% and 17% respectively, and the estimated leakage rate of water mains in the coming year is 16%. In this regard, will the Government advise on the following:

1. How many water main burst incidents have occurred due to the ageing of water mains this year? What were the respective expenditure and manpower involved in the replacement and rehabilitation programme of water mains, leakage detection and pressure management implemented by the Administration this year?

2. What measures has the Administration taken to address the problem of water main leakage this year? What were the expenditure and manpower involved?

3. The leakage rate reduces by a mere 1% each year. What measures will the Administration take to more effectively reduce the leakage rate for the coming year? What will be the expenditure and manpower involved?

Asked by: Hon. MAK Mei-kuen, Alice

Reply:

1 & 2. Water main bursts are commonly due to a confluence of various factors, including aging of water mains, ground settlement or upheaval and external loading or vibration. The number of water main bursts in 2013-14 (up to February 2014) was 229.

We have been taking a multi-pronged approach to tackle the water main burst and leakage problem including leakage detection, pressure management and implementation of the replacement and rehabilitation programmes for water mains. In 2013-14, the expenditure for implementing these measures is estimated to be $2,798 million. The number of staff involved for implementation of the measures is 100.

3. The 1% reduction in leakage rate each year involves an annual replacement and rehabilitation of some 300km of water mains. These works are conducted mostly in heavily

trafficked roads with heavily congested utilities. The works are in reasonably good progress that enable us to meet our target of reducing the leakage rate to 15% by 2015. We will continue with the above-mentioned measures in 2014-15, which will involve an estimated expenditure of $2,559 million. The number of staff involved for implementation of the measures is estimated to be about 89.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0194)

Head: (194) Water Supplies Department

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

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 13):

According to Programme (2), the Water Supplies Department (WSD) is responsible for ensuring that the purity, wholesomeness and safety of treated fresh water conform to international standards. Will the Government advise on the following:

1. What were the expenditure and manpower involved in taking samples from water treatment works, service reservoirs and consumers' taps by the Department this year?

2. What were the respective numbers of enquiries and complaints on fresh water quality received by the Department in the recent 3 years? How many of them involved residual chlorine in fresh water? Has the Department conducted any investigation into these enquiries and complaints in the recent 3 years? If yes, what were the details, and the respective expenditure and manpower involved in the recent 3 years?

Asked by: Hon. MAK Mei-kuen, Alice

Reply:

1. The departmental expenditure for water quality control in 2013-14 is estimated to be $92.2 million. There are 128 staff involved in sampling, testing as well as water quality control and monitoring. The expenditure and manpower are for the control of water quality to ensure compliance with the World Health Organization's Guidelines for Drinking-water Quality. It covers sampling, testing, control and monitoring of the quality of water from Dongjiang, in the water gathering grounds, impounding reservoirs, service reservoirs, distribution network as well as consumer taps. The expenditure and manpower for taking water samples from treatment works, service reservoirs and consumers' taps have not been separately accounted for.

2. The enquiries and complaints on fresh water quality received by the Department in the past 3 years are tabulated below:

	2011-12	2012-13	2013-14 (up to January 2014)
No. of enquiries and complaints on freshwater quality	2 193	1 574	1 282

Enquiries and complaints will usually not specifically refer to residual chlorine but rather about taste or odour of the water supply. The number of enquiries and complaints on fresh water quality related to taste or odour in treated water in the past three years are tabulated as below.

	2011-12	2012-13	2013-14 (up to January 2014)
No. of enquiries and complaints related to taste or odour	144	133	144

All enquiries and complaints on water quality including those related to taste and odour are dealt with expeditiously including site inspection, investigation, water sampling and testing as appropriate. Upon receipt of a complaint regarding chlorine taste or odour, the WSD will investigate the source of the treated water supply and arrange whenever necessary sample collection and testing to ensure that the treated water residual chlorine level fully complies with the drinking water quality standards. In the past three years, about 250 staff of various ranks were involved in dealing with the enquires and complaints on water quality. There is no additional expenditure other than the salary of the 250 staff. It should be noted that the 250 staff were also engaged in other customer services works.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0197)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 23):

According to the Brief Description under Programme (1), the Water Supplies Department is responsible for providing adequate and satisfactory supplies of water to the territory. However, a total of 24 villages are not yet provided with metered water supply at present, affecting about 625 people. Many villagers of remote villages are worried about water shortages. Will the Government advise on the following:

1. Has the Administration planned to design and construct any reliable and efficient fresh water supply and distribution systems for the villages not yet provided with metered water supply this year? If yes, what were the details, and the expenditure and manpower involved? If no, what were the reasons?

2. Will the Administration plan to construct any reliable and efficient fresh water supply and distribution systems for the villages not yet provided with metered water supply in the coming year? If yes, what are the details, and the expenditure and manpower involved? If no, what are the reasons, and can the Administration provide the programme of provision of metered water supply for those villages?

Asked by: Hon. MAK Mei-kuen, Alice

Reply:

1. In 2013-14, we carried out the engineering design for the treated water supply system for four villages not yet provided with treated water supply, viz Tung Ah, Tung Ah Pui, Ngan Hang and Lan Nai Wan villages in the Southern District. The estimated cost of this project is about $8 million. The construction works are anticipated to commence in 2014 for completion in 2016. We are deploying in-house resources of 0.5 professional staff and 0.7 technical staff to complete the design work. Supervision of the construction works will also be carried out by in-house staff and the estimated resources involved are 0.5 professional staff and 2.5 technical staff.

In 2014-15, we will carry out planning, design and construction for the treated water supply system for Yuen Tun Ha village in the Tai Po District. The estimated cost of this project is about $1 million. The construction works are anticipated to commence in late 2014 for completion in late 2015. We have deployed in-house resources of 0.1 professional staff and 0.2 technical staff to complete the design and supervision of the construction works.

2. For the remaining 19 villages, we will continue to conduct regular review based on updated information of anticipated water consumption, the estimated construction cost and other factors which may affect the provision of treated water supply systems.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1877)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 16):

The planning and investigation study for the desalination plant at Tseung Kwan O originally scheduled for completion in the end of this year has been deferred and will be largely completed early next year. What are the reasons? Are there any detailed assessments to see if the deferral will affect the progress of construction in future and the plan for putting the desalination plant into operation in 2020? Also, apart from desalination, what specific and practical measures have been taken to reduce the reliance on Dongjiang water? Will the Administration review the water supply agreement with the Mainland as soon as possible so as to reduce the supply quantity and price of Dongjiang water?

Asked by: Hon. MO, Claudia

Reply:

The consultant has taken more time to carry out seawater sample collection and analysis, site investigation works and the ecological field survey which are essential for the preliminary design and the environmental impact assessment for the project. The study is expected to be completed in early 2015. We anticipate that the slight delay in completion of the study will not have any adverse impact on the overall project programme for commissioning the desalination plant in 2020.

Apart from seawater desalination, we have been implementing a number of water demand and supply management measures to cope with the increase in water demand due to population and economic growth, and to enhance the resilience of our water sources to climate change impacts. The measures include extending the seawater supply networks for flushing purposes, studying the feasibility of supplying reclaimed water to the north-eastern part of the New Territories for flushing and other non-potable use, enhancing water leakage control and encouraging grey water recycling and rainwater harvesting in new government developments. We have also been stepping up the initiatives of water conservation with an aim to reducing the water demand.

Although we will strive to meet the demand increase by the aforesaid initiatives, Dongjiang water will still remain as our major source of water supply in the coming years. We have

started the negotiation with the Guangdong authorities on the Dongjiang water supply agreement for supply after 2014. Water price and quantity are issues that will be discussed during the negotiation.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1584)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 21):

According to Paragraph 53 of the Budget Speech, near 70 to 80 percent of Hong Kong's fresh water comes from Dongjiang. The Government has reserved a site for the construction of a desalination plant. Please advise on:

1) The Government expenditure on purchasing Dongjiang fresh water in the past 8 years;

2) The location of the site reserved for the construction of the desalination plant; and

3) The estimated annual quantities of salt water processed and fresh water supplied to Hong Kong by the desalination plant.

Asked by: Hon. TIEN Puk-sun, Michael

Reply:

1) The expenditure on purchase of Dongjiang water in the past eight years is shown in the following table –

Year	Expenditure on purchase of Dongjiang water (Hong Kong $ million)
2006	2,494.8
2007	2,494.8
2008	2,494.8
2009	2,959.0
2010	3,146.0
2011	3,344.0
2012	3,538.7
2013	3,743.3

2) A site at the southeastern side of Tseung Kwan O Area 137 near Tit Cham Chau (鐵箐洲) has been reserved for the construction of a desalination plant.

3) The fresh water production capacity of the desalination plant at Tseung Kwan O is around 50 million cubic metre (mcm) per annum, expandable to 90 mcm per annum which would involve processing of 125 mcm and 225 mcm of seawater per annum respectively.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1587)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 24):

Regarding the matter of "continuing with the construction of stages 3 and 4 of the replacement and rehabilitation (R&R) programme of water mains", there were reports saying that the Water Supplies Department had declared in 2000 to replace all water mains in Hong Kong within 15 years. However, 10 years from then, 50% to 60% of water mains in the territory are yet to be replaced with 70% of water mains in Wanchai, Hong Kong East, Kwai Tsing and Tuen Mun districts pending replacement. These districts will surely become the places hardest hit by water main burst. Please advise on:

1) The details of the R&R programme of water mains;

2) The progress of the replacement of water mains in all districts up to end 2013 as well as the remaining water mains to be replaced;

3) The reasons for the serious delay and difficulties in implementing the R&R programme of water mains; and

4) The cumulative total numbers of water main burst cases in all districts, quantities of fresh water lost and maintenance costs in the past 8 years (from 2005 to 2013).

Asked by: Hon. TIEN Puk-sun, Michael

Reply:

1) Hong Kong's fresh water and salt water supplies are provided through a network of about 7 800 kilometers (km) water mains. We commenced implementing a territory-wide programme in 2000 for replacement and rehabilitation (R&R) of some 3 000 km of selected aged water mains in 4 stages within a period of 20 years. Since 2005, we have compressed the works programme to advance the target completion date of the entire project by five years i.e. completion of the programme within 15 years by 2015. The details of the R&R programme are as follows:-

		Length (km)	Commencement Date	Completion Date
Stage 1	**Phase 1**	350	Dec 2000	Dec 2008
	Phase 2	250	Sep 2005	Mar 2010
Stage 2		750	Jan 2007	Jun 2011
Stage 3		800	Sep 2008	Dec 2014
Stage 4	**Phase 1**	500	Mar 2011	Dec 2015
	Phase 2	350	Jan 2012	Dec 2015
	Total	**3 000**	--	--

2) The progress of the entire R&R programme of water mains in 18 districts of Hong Kong (up to end December 2013) is as follows : -

	District	Length of completed water mains (km)	Remaining length of water mains to be completed (km)
Hong Kong	Central & Western	177	57
	Wan Chai	87	57
	Eastern	96	56
	Southern	104	23
Kowloon	Kwun Tong	104	49
	Wong Tai Sin	81	16
	Kowloon City	176	61
	Yau Tsim Mong	158	59
	Sham Shui Po	132	39
New Territories	Sai Kung	94	14
	Sha Tin	162	20
	Tai Po	107	11
	North	156	17
	Yuen Long	343	31
	Tuen Mun	136	44
	Tsuen Wan	57	36
	Kwai Tsing	78	53
	Islands	66	43
	Total	2 314	686

3) We target to complete the R&R programme by the end of 2015. We have completed 77% of the water mains up to late 2013. The progress is generally satisfactory. In the implementation of the R&R programme, we need to address the impacts arising from the works on traffic and environment. The main difficulties encountered are traffic

constraints, congested underground utilities and extensive roadwork co-ordination.

4) From 2005 to 2013, the cumulative total number of water main bursts was 9 091. The corresponding volume of fresh water drained away due to the water main bursts was about 1.3 million cubic metres, and the expenditure on urgent repair of these water mains was about $770 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2734)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 11):

The Government plans to review the fees and charges of its departments, including water charges. What are the manpower and expenditure involved in the review? What is the estimated rate of adjustment? What are the estimated water charges to be paid by the public?

Asked by: Hon. TONG Ka-wah, Ronny

Reply:

The review is carried out by internal manpower resources. The resources required constitute part of the department's expenditure estimates and are reflected in the operational expenses of the department. While we have not engaged dedicated consultants to conduct the review on water charges, we have engaged consultants to conduct studies on various issues of which some of the information collected or findings may be used for reference during the review. The total expenditure for the consultancy studies is about $1.4 million. The rates of adjustment, if proposed, are subject to the result of the review which is expected to be completed within this year.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1446)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 5):

Paragraph 53 of the Budget mentions that a desalination plant will commence operation in 2020. What are the estimated construction and operation costs involved? What policies will be introduced to avoid a repeat failure of Lok On Pai Desalination Plant, and ensure the cost-effectiveness of the proposed desalination project and a steady increase in Hong Kong's water supply?

Asked by: Hon. TSE Wai-chun, Paul

Reply:

The Water Supplies Department has engaged a consultant to carry out a planning and investigation study for the setting up of a seawater desalination plant at Tseung Kwan O. The scope of the study covers detailed assessment on technical feasibility and cost effectiveness, formulation of implementation strategy and programme, preliminary design, and various technical impact assessments for construction of the desalination plant. The construction and operation cost of the desalination plant will be estimated in the study. We will scrutinise the study findings to ensure that the project is technically feasible and cost-effective before proceeding to the design and construction stage.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1447)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 6):

1) What is the expenditure on purchasing Dongjiang water in the new financial year? What are the changes in expenditure and rate of increase in the past 3 years?

2) What policies will the Government introduce to ensure that the expenditure on purchasing Dongjiang water is reasonable, and the quality of Dongjiang water supplied to the public for potable use will not change for the worse?

Asked by: Hon. TSE Wai-chun, Paul

Reply:

1) The expenditures on purchase of Dongjiang (DJ) water in the coming / past three financial years and the corresponding rates of increase are shown in the following table -

Financial Year	Expenditure on purchase of DJ water ($ million)	Percentage increase in expenditure (%)
2011-12	3,379.40	6.2
2012-13	3,575.90	5.8
2013-14	3,782.58	5.8
2014-15 [1]	3,239.46 [1]	Not applicable

Note 1 : The current DJ water supply agreement covers a period from 1st January 2012 to end December 2014. The expenditure on purchase of DJ water for 2014-15 is calculated up to end December 2014.

2) The purchase price of DJ water in the new supply agreement after 2014 is subject to negotiation with the Guangdong (GD) authorities. In considering the adjustment of the DJ water purchase price, it will be based on the operation costs of GD side having

regard to the yearly changes in exchange rate between Renminbi and Hong Kong dollar as well as the relevant price indices of GD and Hong Kong to ensure the reasonableness of the water purchase price.

Under the current DJ water supply agreement, the quality of the DJ water supplied to Hong Kong is required to conform basically to the highest national standard set out for the abstraction for human consumption in the "Environmental Quality Standards for Surface Water GB3838-2002". We will negotiate with the GD authorities in the new DJ water supply agreement that the water quality should not be lower than this standard. In addition, the GD authorities and Hong Kong has all along been maintaining close liaison on water quality of DJ through an established institutional mechanism, which includes the GD/Hong Kong Water Supply Business Meeting, GD/Hong Kong Water Supply Operation and Management Technical Cooperation Sub-group Meeting and the Special Panel on the Protection of DJ Water Quality. We also closely monitor the DJ water quality round the clock through the on-line monitoring system installed at the reception point in Muk Wu Pumping Stations. Regular samples are also taken for detailed analysis to ensure that the DJ water supply complies with the required standard. If any abnormality in the DJ water quality is detected, we will immediately step up the monitoring and liaise with the GD authorities to take appropriate control measures to safeguard the quality of the DJ water supplied to Hong Kong.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1448)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 7):

What was the quantity of fresh water lost due to aged water main leakage and burst incidents in the financial year 2013-14? What is the estimated quantity of fresh water lost in the financial year 2014-15? What policies and measures will be introduced to reduce water loss and what is the expenditure involved?

What are the respective costs of fresh water loss in terms of expenditure on purchasing the same quantity of Dongjiang water at the latest price level in the financial years 2013-14 and 2014-15?

Asked by: Hon. TSE Wai-chun, Paul

Reply:

The water main leakage rate in 2013 was 17% and is estimated to be 16% in 2014. The quantity of fresh water drained away due to main bursts in 2013 was less than 0.02% of the total water supplied and the estimate for 2014 is about the same order.

In order to tackle the water main burst and leakage problem, we have been taking a multi-pronged approach including leakage detection, pressure management and implementation of the Replacement and Rehabilitation (R&R) Programme for water mains. The estimated expenditures on implementing these measures are $ 2,798 million in 2013-14 and $2,559 million in 2014-15.

With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints and it is not considered appropriate to deduce a cost for the water drained away.

Examination of Estimates of Expenditure 2014-15 Reply Serial No.

DEVB(W)143

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0941)

Head: (194) Water Supplies Department

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

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 65):

According to Targets under Programme (3), the Administration has set the accuracy of water meters at 100% (with inaccuracy not exceeding plus or minus 3%). However, the target could not be achieved in 2012 and 2013. Could the Government advise on the following:

1. What were the reasons for failing to achieve the target? How many complaints on inaccuracy of water meters has the Administration received this year? Will the Administration set about improving the accuracy of water meters? If yes, what are the details? If no, what are the reasons?

2. What were the participation figures of the "regular meter replacement programme" for the recent 3 years, and the manpower and expenditure involved?

Asked by: Hon. WONG Kwok-hing

Reply:

1. The target of having 100% of our water meters with accuracy level within plus or minus 3% of the actual consumption represents our long term goal. Although the target could not be achieved at present, with regular replacement of aged water meters over the years, the level of achievement has improved from 92.7% in 2006 to 96.3% in 2013. The achievement level is expected to further increase to 96.6% in 2014.

   The number of water meters currently in service is about 2 860 000. The number of complaints disputing the accuracy of water meters received in 2013-14 (up to end January 2014) was 214. After testing and follow-up investigations, there were 11 cases where the meters were confirmed to be inaccurate. Replacement of aged meters is the most cost-effective way to enhance the overall accuracy of water meters. To this end, we will strive to sustain the improvement by continuing the meter replacement programme.

2. In 2011-12, 2012-13 and 2013-14, we replaced 190 000, 210 000, and around 180 000 aged water meters respectively. The expenditure involved in the three years were $35 million, $41 million and around $40 million respectively. About 80% of the meter replacement works were carried out through contractors and the remaining by our in-house resources involving about 50 staff.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1180)

Head:	(709) Capital Works Reserve Fund: Waterworks
Subhead (No. & title):	(9345WF) Planning and investigation study of desalination plant at Tseung Kwan O
Programme:	Not Specified
Controlling Officer:	Director of Water Supplies (Enoch T.S. LAM)
Director of Bureau:	Secretary for Development

Question (Member Question No. 15):

Subhead: 9345WF Planning and investigation study of desalination plant at Tseung Kwan O

Regarding the proposed project for the construction of a desalination plant at Tseung Kwan O, the revised estimate for the project under the above subhead is $9 million in 2013-14. What is the progress for the project work including the feasibility study, preliminary design, site investigation, environmental and traffic impact assessments, etc.? What is the expected time for concluding and publishing the findings of the relevant study? What is the reason for not including further funding for the entire project in the 2014-15 Estimates?

Asked by: Hon. TSE Wai-chuen, Tony

Reply:

The scope of the planning and investigation study of desalination plant at Tseung Kwan O includes detailed assessment on technical feasibility and cost effectiveness, formulation of implementation strategy and programme, preliminary design, and various technical impact assessments for construction of the desalination plant. Up to February 2014, different technical options on seawater intake, seawater treatment and, concentrate discharge have been explored and evaluated. The study will continue in 2014-15 on preliminary design, site investigation works, environmental impact and traffic impact assessments, cost estimation and cost-effectiveness analysis. The estimated expenditure in 2014-15 for the study is $15.7 million. The study is expected to be completed in early 2015. Further funding for the implementation of the project will then be considered if the technical feasibility and cost-effectiveness of the project is established.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6325)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 391):

1. What was the total expenditure on the formulation of the Total Water Management Strategy? Did the Government budget for policy reviews at that time? If yes, what were the expenditure budgeted and the review timetables drawn up then?

2. Since the promulgation of the Total Water Management Strategy in 2008, has the Government conducted any reviews and updates of the Strategy? What is the expenditure involved?

3. The Government originally planned to complete a review in 2013. What are the reasons for the extension of time in conducting the review? What is the additional expenditure incurred?

4. Will the Government conduct a review of the Total Water Management Strategy in the coming year? If yes, what are its content, scope, allocation of funding and timetable?

Asked by: Hon. CHAN Ka-lok, Kenneth

Reply:

1. The total expenditure for the consultancy study for formulation of the Total Water Management (TWM) Strategy promulgated in 2008 was $7 million. It is a long term strategy and we did not fix a timetable for a comprehensive review of the strategy at the time of its promulgation.

2. Since the promulgation of TWM Strategy in 2008, we have been monitoring the implementation of the demand and supply management measures under the TWM Strategy and taking steps to enhance and strengthen the measures as necessary using in-house staff resources.

3. As mentioned in part 1 above, we did not fix a timetable for a comprehensive review of the TWM Strategy at the time of its promulgation. As the TWM Strategy has been implemented for five years, we consider now an appropriate time to conduct a

comprehensive review of it to take into account the results achieved and changes of circumstances occurred in the last five years. We have therefore commenced preparatory work for the review in late 2013 for commencement in 2014.

4. We will engage a consultant for conducting a comprehensive review of the TWM Strategy and have commenced the consultant selection process. One of the main objectives of the review is to study the strategy and measures including any new initiatives to strengthen our water resilience and preparedness to meet challenges such as severe droughts arising from climate changes. Different proportions of various water resources including water collected locally, Dongjiang water, reclaimed water, desalinated water etc. for meeting our demand will be studied in this review. The consultancy study will commence in 2014-15 for completion in 2016-17. The estimated expenditure of this study in 2014-15 is $3 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6326)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 392):

1. The Government has launched the "Let's Save 10L Water" Campaign and "Water Efficiency Labelling Scheme" to promote public awareness of water conservation and facilitate users' choice of water efficient devices. What are the respective expenditures on these two campaigns? Has the Government reviewed the effectiveness of the campaigns? What are the details?

2. Will the Government consider enacting legislation to make it compulsory to use water efficient devices and providing economic incentives for achieving water conservation? If yes, what are the work timetable and estimated expenditure involved?

Asked by: Hon. CHAN Ka-lok, Kenneth

Reply:

1. This year, the Water Supplies Department (WSD) launched the "Let's Save 10L Water" Campaign (Campaign) on the World Water Day on 22 March 2014. The estimated expenditure of the Campaign is about $4.7 million in 2014-15. We will review the effectiveness of the Campaign in early 2015.

In regard to the voluntary Water Efficiency Labelling Scheme (WELS), WSD has implemented the Scheme since 2009 to advise consumers of the water efficiency of common types of plumbing fixtures and water-consuming appliances in order to help them to choose water efficient products for water conservation. We have been conducting regular inspection visits to the retailers and meetings with the trade, and the feedback is positive. The estimated expenditure on the implementation of the WELS is about $1.1 million in 2013-14 and about $1.8 million in 2014-15.

2. We will review the need and if so, the suitable timing for mandating the WELS in the upcoming review of the Total Water Management Strategy for Hong Kong. Pending the outcome of the review, we will continue to encourage consumers to use these water efficient products through promotion, publicity and education.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6328)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 393):

Regarding the studies on the use of reclaimed water for toilet flushing and other non-potable purposes in Sheung Shui, Fanling and the Northeast New Territories Development Areas, what are the progresses of the studies? What specific measures have been taken at the present stage to accelerate the drive? What is the expenditure on the studies? What is the provision required?

Asked by: Hon. CHAN Ka-lok, Kenneth

Reply:

For supplying reclaimed water for toilet flushing and other non-potable purposes to the north-eastern part of the New Territories, we will engage consultants to carry out detailed technical and financial studies. We have commenced the consultant selection process. The studies will commence in late 2014 for completion by 2017. We will closely monitor the progress and resolve issues via inter-departmental steering and working groups to facilitate the early completion of the studies. The estimated total consultancy fee of the studies is $8 million, while the estimated expenditure in 2014-15 is $0.5 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6331)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 396):

Please advise on the numbers of water main burst and leakage cases in the past 2 years (2012 and 2013) by district in accordance with the demarcation of District Councils, the estimated total quantities of fresh water lost due to such incidents, and the expenditures on urgent repairs of these water mains.

Asked by: Hon. CHAN Ka-lok, Kenneth

Reply:

The numbers of water main burst and leakage cases in Hong Kong in 2012 and 2013 broken down in accordance with the demarcation of District Councils are tabulated below –

District	2012		2013	
	Burst	Leakage	Burst	Leakage
Central and Western	5	719	7	696
Eastern	8	458	10	513
Islands	1	366	0	329
Kowloon City	27	665	29	585
Kwai Tsing	47	370	46	403
Kwun Tong	14	653	11	584
North	1	1 080	1	920
Sai Kung	10	1 026	28	875
Sha Tin	28	486	16	454
Sham Shui Po	31	349	19	353
Southern	3	455	0	444
Tai Po	14	450	25	528
Tsuen Wan	4	410	4	387

District	2012		2013	
	Burst	Leakage	Burst	Leakage
Tuen Mun	10	726	3	603
Wan Chai	4	647	10	648
Wong Tai Sin	8	194	5	193
Yau Tsim Mong	22	560	19	522
Yuen Long	22	2 061	24	1 991
Total	259	11 675	257	11 028

In 2012, the leakage rate of fresh water mains was 18% and the water drained away due to main bursts was less than 0.01% of the total water supplied. In 2013, the leakage rate of fresh water mains was 17% and the water drained away due to main bursts was less than 0.02% of the total water supplied. The expenditures on urgent repairs of the above-mentioned water main burst and leakage cases in 2012 and 2013 were about $136 million and $132 million respectively.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4319)

Head: (194) Water Supplies Department

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

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 60):

According to Programme (3), the Administration will continue to conduct the annual review of water tariffs and other waterworks fees and charges, and monitor closely the level of arrears of water charges. Will the Government advise on the following:

1. What are the details on the review of water charges this year? Will there be any increase in water charges in the coming year? If yes, what are the rates of increase in water charges? Did the Government provide the public with any subsidies for water charges in the past 3 years? If yes, what were the details and the annual amounts of subsidies? If no, what were the reasons?

2. What were the respective amounts of water charges arrears in the past 3 years? What was the amount of water charges arrears successfully recovered? How many people were prosecuted for water charges arrears?

Asked by: Hon. CHAN Yuen-han

Reply:

1. We aim at completing a review on water charges this year. The review will cover domestic and non-domestic accounts. We will take into consideration in the review a number of factors including affordability, the financial performance of waterworks operation, the prevailing economic situation and views of the Legislative Council members. The rates of adjustment, if proposed, are subject to the result of the review.

   Water charges have not been revised for 19 years. The Waterworks Operating Accounts have been in deficit for many years. The deficit represents the excess of the total operating costs over the total income, which includes two notional items, i.e. contribution from rates and contribution from government on free allowance to consumers. The amounts of deficit in the past three years are as follows:

	Deficit ($ million)
2010-11	955.3
2011-12	1,025.3
2012-13	1,007.7

2. The arrears of water charges and the amount recovered from 2011-12 to 2013-14 are as follows-

	2011-12	2012-13	2013-14*
Arrears of water charges at year/period end ($ million)	8.7	8.0	7.2
Amount recovered ($ million)	3.9	3.1	3.0

Note: * up to 31 January 2014

Under section 21 of the Waterworks Ordinance (Cap. 102), a charge which is not paid shall be a debt due to the Government. We take civil proceedings instead of prosecution against arrears cases.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6637)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 327):

Please provide the lengths of existing underground water mains with different service lives in various districts of Hong Kong using the table below.

	0-10 yrs	11-20 yrs	21-30 yrs	31-40 yrs	Above 40 yrs
Central & Western					
Wan Chai					
Eastern					
Southern					
Yau Tsim Mong					
Sham Shui Po					
Kowloon City					
Kwun Tong					
Wong Tai Sin					
Sai Kung					
Sha Tin					
Tai Po					
North					
Tuen Mun					
Yuen Long					
Tsuen Wan					
Kwai Tsing					
Islands					

Asked by: Hon. CHEUNG Kwok-che

Reply:

The lengths in kilometres (km) of existing public water mains with different service lives in different districts of Hong Kong are listed below:

District	0-10 yrs	11-20 yrs	21-30 yrs	>30 yrs	Total
Central & Western	141	63	23	152	379
Wan Chai	52	36	41	120	249
Eastern	54	57	70	111	292
Southern	93	85	47	105	330
Yau Tsim Mong	145	52	23	118	338
Sham Shui Po	113	71	20	95	299
Kowloon City	155	55	26	153	389
Kwun Tong	142	57	64	100	363
Wong Tai Sin	85	25	26	52	188
Sai Kung	130	169	114	83	496
Sha Tin	225	156	93	82	556
Tai Po	196	190	100	55	541
North	230	213	114	98	655
Tuen Mun	100	186	120	105	511
Yuen Long	417	277	189	167	1 050
Tsuen Wan	127	142	60	63	392
Kwai Tsing	95	88	57	117	357
Islands	138	116	49	86	389
Total (km)	2 638	2 038	1 236	1 862	7 774

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5877)

Head: (194) Water Supplies Department

Subhead (No. & title): (223) Purchase of water

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 60):

The Department's estimated expenditure for purchasing fresh water from Guangdong Province in 2014-15 under Subhead 223 has increased by $176.76 million when compared with the revised estimate for 2013-14. What are the reasons? Has the Government studied ways to control the rate of increase in the aforesaid expenditure? If yes, what are the expenditure involved and the direction of the study? If no, what are the reasons?

Asked by: Hon. FAN Kwok-wai, Gary

Reply:

The current Dongjiang (DJ) water supply agreement covers the period up to end 2014. Under the current agreement, the water prices for 2012, 2013 and 2014 are $3,538.7 million, $3,743.3 million and $3,959.34 million respectively. We have assumed the DJ water price level for the first three months in 2015 to be the same as that in 2014. As such, the draft estimate for purchasing DJ water 2014-15 is $3,959.3 million, which is more than the estimate of $3,782.6 million for 2013-14 by $176.7 million.

The price of DJ water after 2014 is subject to negotiation with the Guangdong (GD) authorities. In considering the adjustment of the DJ water price, it will be based on the operation costs having regard to the yearly changes in relevant price indices in GD and Hong Kong as well as the exchange rate between Renminbi and Hong Kong dollar.

Since the promulgation of Total Water Management (TWM) Strategy in 2008, we have been carrying out various studies and implementing water demand and supply management measures to cope with, among others, the increase in water demand due to population and economic growth. One of the aims of such measures is to reduce the rate of increase in fresh water demand which will, in turn, have a positive effect in reducing the rate of increase in expenditure on purchasing DJ water.

In 2014-15, we will engage a consultant for conducting a comprehensive review of the TWM Strategy. One of the main objectives of the review is to study the strategy and measures including any new initiatives to strengthen our water resilience and preparedness to meet challenges such as severe droughts arising from climate changes. Different

proportions of various water resources including water collected locally, DJ water, reclaimed water, desalinated water etc. for meeting our demand will be studied in this review. The total estimated expenditure of the consultancy study for the review is about $16 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5640)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 53):

According to Paragraph 53 of the Budget Speech, "70 to 80 per cent of Hong Kong's fresh water comes from Dongjiang. Given the rising demand for fresh water in Guangdong Province and the challenge due to climate change, we shall endeavor to increase the supply of fresh water from local sources. Government has reserved a site for the construction of a desalination plant, and the planning and investigation study will largely be completed early next year. The desalination plant is expected to commence operation in 2020. Although the initial annual output of the plant will account for just five to ten per cent of Hong Kong's total fresh water consumption, I believe seawater desalination can serve as an important water source for Hong Kong in the long run as technology advances". Could the Administration advise this Committee on the details of the aforesaid construction project of the desalination plant, the estimated construction costs and subsequent operational expenses, and the estimated cost comparison among seawater desalination, Dongjiang water and locally collected rainwater when the desalination plant commences operation?

Asked by: Hon. FUNG Kin-kee, Frederick

Reply:

The Water Supplies Department (WSD) has engaged a consultant to carry out a planning and investigation study for the setting up of a seawater desalination plant at Tseung Kwan O. The scope of the study covers detailed assessment on cost effectiveness, formulation of implementation strategy and programme, and various technical impact assessments for construction of desalination plant. The study will largely be completed in early 2015. The desalination plant is expected to commence operation in 2020. The fresh water production capacity of the desalination plant is around 50 million cubic metre (mcm) per annum, and expandable to 90 mcm per annum.

The construction and operation cost of the desalination plant will be estimated in the study. While the ongoing study has yet to arrive at an estimate of the production cost of fresh water by desalination, the unit cost of fresh water produced from desalination has previously been broadly estimated to be around $12 per cubic metre at 2012-13 price level, The unit cost of

fresh water produced from locally collected fresh water and Dongjiang water are estimated to be $4.2 and $8.8 respectively at 2013-14 price level.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6341)

Head: (194) Water Supplies Department

Subhead (No. & title): (223) Purchase of water

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 90):

What were the specific expenditures on purchasing Dongjiang water and the specific quantities of Dongjiang water purchased in the past 5 years? What were the specific expenditures on treating Dongjiang water in the past 5 years? What were the quantities and values of Dongjiang water discharged into the sea without being used in the past 5 years? What are the estimated expenditure on purchasing Dongjiang water and the estimated quantity of Dongjiang water purchased in 2014-2015? What is the estimated expenditure on treating Dongjiang water?

Asked by: Hon. KWOK Ka-ki

Reply:

For the past five years, we have purchased 820 million cubic metres of Dongjiang (DJ) water each year and their annual expenditures are shown in the following table.

Year	Expenditure on purchasing DJ water ($ million)
2009	2,959.0
2010	3,146.0
2011	3,344.0
2012	3,538.7
2013	3,743.3

During the last five years, there was neither overflow nor discharge of DJ water into the sea.

The current DJ water supply agreement covers the period up to end 2014. We have started the negotiation with the Guangdong authorities on the DJ water supply agreement beyond 2014. As the DJ water price in 2015 is not yet available, we have assumed the DJ water price for the first three months in 2015 to be the same as that in 2014. As such, the provision on purchasing DJ water as shown in the draft estimate in 2014-15 is $3,959.34 million.

As DJ water is treated together with the locally collected fresh water, the expenditures solely on treating DJ water in the past five years and that for 2014-15 are not available.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5499)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 57):

The Financial Secretary stated that the Government has reserved a site for the construction of a desalination plant and the planning and investigation study will be completed early next year. The desalination plant is expected to commence operation in 2020. In this regard, will the Administration advise :

(a) given the report that anticipated unit cost for seawater desalination is $12 per cubic metre, which is $4 higher than the cost for Dongjiang water supply, whether it had assessed the cost-effectiveness of seawater desalination in Hong Kong, the impact to water tariff and proportion of fresh water coming from Dongjiang when the desalination plant comes in operation; and

(b) plan of enlarging annual output of the plant, given that seawater desalination can serve as an important water source in the long run as stated by the Financial Secretary in his Budget Speech; and the resources expected to be spent on related technology advancement in next ten years.

Asked by: Hon. SHEK Lai-him, Abraham

Reply:

(a) The Water Supplies Department has engaged a consultant to carry out a planning and investigation study for the setting up of a seawater desalination plant at Tseung Kwan O. The scope of the study covers, amongst others, detailed assessment on cost effectiveness for construction of the desalination plant. The study will be completed by early next year. As the study has not yet been completed, it is premature to estimate at this stage the impact of the desalination plant on the water production cost. In the review of water charges, in addition to the water production cost, we will consider a number of factors including affordability, the financial performance of waterworks operation, the prevailing economic situation, and views of the Legislative Council members. The fresh water production capacity of the desalination plant will be around 50 million cubic metre (mcm) per annum which is about 5% of Hong Kong's total fresh water consumption. Dongjiang water will however still remain as our major source of water in the coming years.

(b) As stated above, the fresh water production capacity of the desalination plant at Tseung Kwan O will be around 50 mcm per annum during the initial commissioning in around 2020. The plant is expandable to 90 mcm per annum. We will continue to keep abreast of the technology advancement in the desalination industry with a view to benefitting most from such advancement.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5885)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 80):

According to Programme (1), the Administration will carry out investigation and studies on the use of reclaimed water for toilet flushing and other non-potable purposes in the north-eastern part of the New Territories including Sheung Shui and Fanling next year. Will the Government advise on the following:

1. What are the commencement and completion dates of the above investigation and studies? What are the details of the investigation and studies, and the manpower and expenditure involved?

2. Will the Administration extend the investigation and studies to other districts? If yes, what are the details, and the expenditure and manpower involved? If no, what are the reasons?

Asked by: Hon. TANG Ka-piu

Reply:

1. For supplying reclaimed water for toilet flushing and other non-potable purposes to the north-eastern part of the New Territories, we will engage consultants to carry out technical and financial studies. The studies will commence in late 2014 for completion by 2017. The estimated total cost of the study is $8 million while the estimated expenditure for the studies in 2014-15 is $0.5 million and 0.7 in-house professional staff is assigned to oversee the studies.

2. Reclaimed water is generally used for non-potable applications such as toilet flushing and irrigation. Currently, non-potable water demand in Hong Kong mainly comes from toilet flushing. However, using seawater for toilet flushing is more cost-effective than other water resources (e.g. reclaimed water) in most areas in Hong Kong. Nevertheless, we will continue to explore the opportunities and feasibility of cost effective use of reclaimed water for non-potable uses in other districts which are outside seawater supply zones using in-house resources.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4737)

Head: (194) Water Supplies Department

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

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 142):

On engagement of "agency workers", please provide the following information:

	2013-14 (the latest position)
Number of contracts with employment agencies	( )
Contract sum paid to each employment agency	( )
Duration of service for each employment agency	( )
Number of agency workers	( )
Details of the positions held by agency workers	
Monthly salary range of agency workers • $30,001 or above • $16,001 - $30,000 • $8,001 - $16,000 • $6,501 - $8,000 • $6,240 - $6,500 • less than $6,240	 ( ) ( ) ( ) ( ) ( ) ( )
Length of service of agency workers • 15 years or above • 10 - 15 years • 5 - 10 years • 3 - 5 years • 1 - 3 years • less than 1 year	 ( ) ( ) ( ) ( ) ( ) ( )
Percentage of agency workers against the total staff in the department	( )
Percentage of expenditure for employment agencies against the total staff costs in the department	( )
Number of workers who received severance payment / long service payment / contract gratuity	( )
Amount of severance payment / long service payment / contract gratuity paid	( )

	2013-14 (the latest position)
Number of workers with severance payment/long service payment/ contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Amount of severance payment/long service payment/ contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Number of workers with paid meal break Number of workers without paid meal break	( ) ( )
Number of workers working 5 days per week Number of workers working 6 days per week	( ) ( )

Percentages in ( ) denote comparison with 2012-13

Asked by: Hon. WONG Kwok-hing

Reply:

The information in respect of engagement of agency workers is appended below. This information excludes services provided under term contracts centrally administered by the Office of the Government Chief Information Officer.

(a) The number of contracts with employment agencies (EAs)

2013-14 (as at 30.9.2013)
9 (+12.5%)

(b) Contract sums and duration of services

Contract sum	2013-14 (as at 30.9.2013) **Number of contracts**
Less than $0.5 million	1 (0%)
$0.5 million to $1 million	1 (0%)
Over $1 million	7 (+16.7%)
Total:	**9 (+12.5%)**

Duration of services	2013-14 (as at 30.9.2013) **Number of contracts**
6 months or less	1 (-)
Over 6 months to 1 year	8 (0%)
Over 1 year to 2 years	0 (-)
Over 2 years	0 (-)
Total:	**9 (+12.5%)**

(c) Number of workers against their job categories

	2013-14 (as at 30.9.2013)
Number of workers	74 (+7.2%)

Job categories of workers	2013-14 (as at 30.9.2013) **Number of workers**
Backend office support	2 (0%)
Technical services	72 (+7.5%)
Total:	**74 (+7.2%)**

(d) Monthly salary range of agency workers

With the implementation of the Statutory Minimum Wage (SMW) since 1 May 2011, bidders are required to pay their agency workers salaries not lower than the average monthly wages for "General Worker for all selected industries" in the Quarterly Report for December 2010, unless it is overtaken by the prevailing SMW plus one paid rest day in every period of seven days. As at 30 September 2013, the minimum monthly wage specified in the contracts was $8,031.

(e) Length of service of agency workers

The mode of using agency workers is that government departments and an EA enter into a service contract under which the agency will supply manpower as and when required. As long as the requirements of the government departments (in terms of the number of agency workers and the qualifications and/or experience required from agency workers) are satisfied, the EA may arrange any of their employees to work in the departments or arrange replacement agency workers during the contract period for different reasons. Therefore, we do not have information on the years of service of agency workers who are employees of the EAs and are at the disposal of the latter.

(f) Percentage of workers against the total number of staff in the Department

2013-14 (as at 30.9.2013)
1.4%

(g) Percentage of expenditure for EAs against the total staff costs in the Department

2013-14 (up to 30.9.2013)
0.9%

(h) Severance payment / long service payment / contract gratuity paid to agency worker by employment agency

The department entered into contracts with the EAs for provision of services as required by the department during the contract period. The contractual relationship of the agency workers is with the EAs which have to fulfil the obligations of employers under the relevant laws including the Employment Ordinance (Cap. 57) and Mandatory Provident Fund Schemes Ordinance (Cap. 485). We do not have information on the severance payment/ long service payment/ contract gratuity paid by the EAs to their workers.

(i) Meal break for workers

The agency workers are employed by the EAs, and whether the meal break is paid or not is governed by the employment contract between the two parties. We do not have information on this matter.

(j) Number of workers against working days Note

Working days	2013-14 (as at 30.9.2013) Number of workers
5 working days per week	65 (+10.2%)
6 working days per week	0 (-)
Total:	**65 (+10.2%)**

Note: For full-time workers only.

Percentages in ( ) denote comparision with 2012-13, except where the relevant figure in 2012-13 is zero.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4738)

Head: (194) Water Supplies Department

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

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question(Member Question No. 143):

On engagementof "outsourced workers",please provide the following information:

	2013-14 (the latest position)
Number of outsourced service contracts	( )
Total expenditure for outsourced service providers	( )
Duration of service for each outsourced service provider	( )
Number of workers engaged through outsourced service providers	( )
Details of the positions held by outsourced workers (e.g. customer service, property management, security, cleansing and information technology)	
Monthly salary range of outsourced workers • $30,001 or above • $16,001 - $30,000 • $8,001 - $16,000 • $6,501 - $8,000 • $6,240 - $6,500 • less than 6,240	 ( ) ( ) ( ) ( ) ( ) ( )
Length of service of outsourced workers • 15 years or above • 10 - 15 years • 5 - 10 years • 3 - 5 years • 1 - 3 years • less than 1 year	 ( ) ( ) ( ) ( ) ( ) ( )
Percentage of outsourced workers against the total staff in the department	( )
Percentage of expenditure for outsourced service providers against the total staff costs in the department	( )
Number of workers who received severance payment / long service payment / contract gratuity	( )
Amount of severance payment / long service payment / contract gratuity paid	( )

	2013-14 (the latest position)
Number of workers with severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Amount of severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Number of workers with paid meal break Number of workers without paid meal break	( ) ( )
Number of workers working 5 days per week Number of workers working 6 days per week	( ) ( )

Percentages in ( ) denote comparison with 2012-13

Asked by: Hon.WONG Kwok-hing

Reply:

The Water Supplies Department uses a wide range of outsourced services, such as cleansing and security, information technology support, etc. The requested information is provided below.

(a) Number of outsourced service contracts

2013-14 (as at 31.12.2013)
38 (+11.8%)

(b) Total expenditure for outsourced service providers

2013-14 (up to 31.12.2013) ($M)
49.6 (-4.8%)

(c) Duration of outsourced service contracts

Duration of service	2013-14 (as at 31.12.2013) **Number of contracts**
6 months or less	0 (-)
Over 6 months to 1 year	21 (+23.5%)
Over 1 year to 2 years	13 (0%)
Over 2 years	4 (0%)
Total:	**38 (+11.8%)**

(d) Total number of workers engaged through outsourced service providers Note

2013-14 (as at 31.12.2013)
283 (+9.7%)

Note : Only those contracts with specified number of staff to be provided are counted.

(e) Number of outsourced workers against their work nature

Nature of service contracts	2013-14 (as at 31.12.2013) **Number of workers**
Security	103 (0%)
Cleansing	53 (+1.9%)
Information Technology	16 (+6.7%)
Drivers	103 (+28.8%)
Logistics (Store support)	8 (0%)
Total:	**283 (+9.7%)**

(f) Salaries of outsourced workers

After the implementation of the Statutory Minimum Wage (SMW) on 1 May 2011, for service contracts on security and cleansing, contractors are required to pay their workers wages not lower than the prevailing SMW.

For other service contracts, we specify and require only the service to be provided. We do not have information about the salaries of the workers employed by the contractors.

(g) Length of service of outsourced workers

The mode of using outsourced workers is that government departments and the contractor enter into a service contract under which the contractor will supply manpower as and when required. As long as the requirements of the government departments (in terms of the number of outsourced workers and the qualifications and/or experience required from outsourced workers) are satisfied, the contractor may arrange any of their employees to work in the departments or arrange replacement outsourced workers during the contract period for different reasons. Therefore, we do not have information on the years of service of outsourced workers who are employees of the contractors and are at the disposal of the latter.

(h) Percentage of outsourced workers against the total staff in the Department

2013-14 (as at 31.12.2013)
6.4%

(i) Percentage of expenditure for outsourced service providers against the total staff costs in the Department

2013-14 (up to 31.12.2013)
4.3%

(j) Severance payment / long-service payment / contract gratuity paid to outsourced workers

The department entered into contracts with the outsourced contractors for provision of services as required by the department during the contract period. The contractual relationship of the outsourced workers is with the outsourced contractors which have to fulfil the obligations of employers under the relevant laws including the Employment Ordinance (Cap. 57) and Mandatory Provident Fund Schemes Ordinance (Cap. 485). We do not have information on the severance payment / long service payment / contract gratuity paid by the contractors to their workers.

(k) Meal break for outsourced workers

The outsourced workers are employed by the outsourced contractors, and whether the meal break is paid or not is governed by the employment contract between the two parties. We do not have information on this matter.

(l) Number of outsourced workers against working days

Working days	2013-14 (as at 31.12.2013) **Number of workers**
5 working days per week	155 (+18.3%)
6 working days per week	128 (+0.8%)
Total:	**283 (+9.7%)**

Percentages in ( ) denote comparison with 2012-13 except where the relevant figure in 2012-13 is zero.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4739)

Head: (194) Water Supplies Department

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

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question(Member Question No. 144):

Regarding the employment of "non-civil service contract (NCSC) staff", please provide the following information:

	2013-14 (the latest position)
Number of NCSC staff	( )
Details of the positions held by NCSC staff	
Total expenditure on salaries for NCSC staff	( )
Monthly salary range of NCSC staff • $30,001 or above • $16,001 - $30,000 • $8,001 - $16,000 • $6,501 - $8,000 • $6,240 - $6,500 • less than 6,240	 ( ) ( ) ( ) ( ) ( ) ( )
Length of service of NCSC staff • 15 years or above • 10 - 15 years • 5 - 10 years • 3 - 5 years • 1 - 3 years • less than 1 year	 ( ) ( ) ( ) ( ) ( ) ( )
Number of NCSC staff successfully appointed as civil servants	( )
Percentage of NCSC staff against the total staff in the department	( )
Percentage of staff costs for NCSC staff against the total staff costs in the department	( )
Number of NCSC staff who received severance payment / long service payment / contract gratuity	( )
Amount of severance payment / long service payment / contract gratuity paid	( )
Number of NCSC staff with severance payment / long service payment / contract gratuity offset by the accrued benefits attributable toemployer's contributionsto MPF	( )

	2013-14 (the latest position)
Amount of severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Number of NCSC staff with paid meal break Number of NCSC staff without paid meal break	( ) ( )
Number of NCSC staff working 5 days per week Number of NCSC staff working 6 days per week	( ) ( )

Percentages in ( ) denote comparison with 2012-13

Asked by: Hon.WONG Kwok-hing

Reply:

Information on the employment of full-time non-civil service contract (NCSC) staff is provided below.

(a) Number of NCSC staff against their job nature

Job nature	2013 – 14 (as at 31.12.2013)
	Number of NCSC staff
Professional	10 (+66.7%)
Technical & inspectorate	27 (+35%)
General administration	87 (-5.4%)
Total:	**124 (+5.1%)**

(b) Total expenditure on salary of NCSC staff

2013-14 (up to 31.12.2013) ($M)
23.4 (+10.9%)

(c) Number of NCSC staff against their salaries and length of service

Monthly salary	2013-14 (as at 31.12.2013)
	Number of NCSC staff
$30,001 or above	22 (+37.5%)
$16,001 to $30,000	39 (+30%)
$8,001 to $16,000	63 (-12.5%)
$6,501 to $8,000	0 (-)
$6,240 to $6,500	0 (-)
Less than $6,240	0 (-)
Total:	**124 (+5.1%)**

Length of services	2013-14 (as at 31.12.2013)
	Number of NCSC staff
15 years or above	0 (-)
10 years to less than 15 years	25 (-7.4%)
5 years to less than 10 years	13 (-18.8%)
3 years to less than 5 years	9 (-18.2%)
1 year to less than 3 years	40 (-20%)
Less than 1 year	37 (+164.3%)
Total:	**124 (+5.1%)**

(d) Number of NCSC staff appointed as civil servant [(Note1)]

2013-14 (up to 31.12.2013)
3 (-78.6%)

Note 1: Including information on appointment of NCSC staff as civil servant within Water Supplies Department (WSD) only. The said NCSC staff have joined the civil service through an open, fair and competitive process.

(e) Percentage of NCSC staff against the total number of staff in the Department

2013-14 (as at 31.12.2013)
2.7 %

(f) Percentage of staff costs for NCSC staff against the total staff costs in the Department

2013-14 (up to 31.12.2013)
2.0%

(g) Number of NCSC staff who received severance payment/long service payment/contract gratuity

2013-14 (up to 31.12.2013)
104(+7.2%)

(h) Amount of severance payment/long service payment/contract gratuity paid

2013-14 (up to 31.12.2013) ($M)
$2.2(+46.7%)

(i) Number of NCSC staff with severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF (Note2)

2013-14 (up to 31.12.2013)
0

(j) Amount of severance payment/ long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF (Note2)

2013-14 (up to 31.12.2013) ($M)
0

Note2: According to the Civil Service Bureau's guidelines on employment of NCSC staff, the contract gratuity for NCSC staff, plus the government's MPF contributions in respect of the NCSC staff, should not be more than 10% (for non-skilled jobs) or 15% (for skilled jobs) of the total basic salary drawn during the contract period. The government will not make reference to accrued benefits in calculating contract gratuity for NCSC staff.

(k) Number of NCSC staff against meal break

Meal break	2013-14 (as at 31.12.2013)
	Number of NCSC staff
Paid meal break	101 (-1%)
Unpaid meal break	23 (+43.8%)
Total:	**124 (+5.1%)**

(l) Number of NCSC staff against working days per week (Note3)

Working days	2013-14 (as at 31.12.2013)
	Number of NCSC staff
5 working days per week(Note3)	124 (+5.1%)
6 working days per week	0 (-)
Total:	**124 (+5.1%)**

Note3: Including staff who are rostered to work shift for 5 days or less in a week.

Percentages in ( ) denote comparison with 2012-13 except where the relevant figure in 2012-13 is zero.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5297)

Head: (194) Water Supplies Department

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

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 73):

What is the 2014-15 estimate for the Water Supplies Department's duty visits or exchange activities in the Mainland? Please provide information on the themes of the duty visits or exchange activities in the Mainland planned for 2014-15. How will the Administration prevent activities irrelevant to official duties from taking place during duty visits outside Hong Kong? And how will the Administration prevent applications for revising visit destinations from becoming a mere formality?

Asked by: Hon. WONG Yuk-man

Reply:

In 2014-15, when there are operational needs, officers of the Water Supplies Department will conduct duty visits to the Mainland, such as organising the annual visit to the Dongjiang for the Advisory Committee on Water Resources and Quality of Water Supplies. The estimated expenditure for this visit is $25,000. We do not have any plan for other exchange activities in the Mainland in 2014-15.

Duty visits, if publicly funded, are subject to control under the relevant regulations and guidelines to ensure effective monitoring and proper use of public funds. There is control on aspects, such as duty visits should only be conducted when there are strong operational reasons; all duty visits should obtain prior approval formally and should avoid non-official activities; the officers concerned should provide all necessary information in respect of the proposed visit as far as possible when submitting the application; if there are any subsequent changes to the arrangements, the officers concerned should inform the approving officers as soon as possible who should then assess whether re-consideration of the applications is needed.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5022)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 80):

Regarding "continue to take forward the implementation of the total water management strategy", please advise this Committee on the following:

1. What are the works involved in the coming year? What is the estimated expenditure on each work item?

2. For the introduction of grey water and rainwater reuse in public works projects, what is the current total number of public works projects employing the technologies of grey water and rainwater reuse? Please provide information about the projects, including the works departments implementing the projects, and the names and implementation timetables of the projects. Among the public works projects planned / under construction at present, how many of them have employed the relevant technologies? What are the details?

3. How many private development projects have adopted the technologies of grey water and rainwater reuse at present? What are the details?

Asked by: Hon. WU Chi-wai

Reply:

1. To take forward the Total Water Management (TWM) strategy, the measures in respect of water demand management and water supply management to be implemented in 2014-15 and the respective estimated expenditures involved are as follows :

	Estimated expenditure in 2014-15 ($ million)
Water Demand Management measures - Water mains replacement and rehabilitation - Public education and promotion on water conservation - Retrofitting government buildings and schools with water saving devices including flow controllers - Leakage detection and pressure management - Extension of the salt water flushing supply system	2,634
Water Supply Management measures - Continuing the study on setting up of a seawater desalination plant at Tseung Kwan O - Carrying out studies on supplying reclaimed water for toilet flushing and other non-potable purposes to the north-eastern part of the New Territories	16

2. So far, the Architectural Services Department (ArchSD) and the Drainage Services Department (DSD) have installed rainwater harvesting and recycling systems for schools and government facilities in 50 projects. The ArchSD has also installed grey water recycling systems for government facilities in 2 projects.

In addition, the two departments are installing rainwater harvesting and recycling systems in 24 other projects.

3. Installation of rainwater harvesting and recycling system or grey water recycling system in the private sector is on a voluntary basis. We do not have the list of private projects adopting such technologies.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5052)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 107):

Regarding treated sewage (reclaimed water) for reuse, please advise this Committee on:

1) The annual expenditures involved in the study of reclaimed water in the past 3 years; and

2) Whether the Administration has planned to promote the use of reclaimed water in the expanding / newly constructed sewage treatment works in the next 12 months apart from Ngong Ping Sewage Treatment Works, and if yes, what the details are.

Asked by: Hon. WU Chi-wai

Reply:

1) In the past three years, we have carried out two studies on establishing water quality standard and guidelines on the use of reclaimed water for toilet flushing and other non-potable purposes. The expenditures on these studies in 2011-12 and 2012-13 are $1.11 million and $0.42 million respectively. For 2013-14, the estimated expenditures is $0.02 million.

2) In the next 12 months, we will focus on the plan of producing reclaimed water at the Shek Wu Hui Sewage Treatment Works for toilet flushing and other non-potable uses in the north-eastern part of the New Territories. We will engage consultants to carry out detailed technical and financial studies for commencement in late 2014 and completion by 2017. The estimated consultancy fee of the studies is $8 million, while the estimated expenditure in 2014-15 is $0.5 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5111)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 180):

Regarding the fresh water supply, please advise this Committee on:

1) The proportion of the sources of fresh water supply in Hong Kong (i.e. locally collected rainwater against Dongjiang water purchased) in 2013-14, and the cost comparison among the latest locally collected rainwater, Dongjiang water purchased from the Mainland and the production of reclaimed water using reverse osmosis technology;

2) The total quantity of the discharge of water to the sea resulting from overflow from reservoirs in 2013-14, and the proportion of the overflow quantity to fresh water supply in Hong Kong for the year (please provide a breakdown by reservoir); and

3) Whether the Administration has conducted other projects, apart from the desalination plant in Tseung Kwan O, to explore local water sources in order to avoid wastage of fresh water resources and provide a steadier supply of water, and if yes, what the details of the measures are.

Asked by: Hon. WU Chi-wai

Reply:

1) The quantities of fresh water supply from water collected locally and Dongjiang (DJ) water in 2013-14 (up to end February 2014) are as follows:

	2013-14 (up to end Feb 2014)	
	Quantity (million cubic metre)	**Percentage (%)**
Water collected locally	333	38.8
Dongjiang water imported [1]	526	61.2

Total quantity of fresh water supply	**859**	**100**

Note 1 : Since 2006, we have adopted the package deal lump sum approach for the DJ water supply agreement in which we can import DJ water with an annual ceiling of 820 million cubic metres.

The production costs per cubic metre of fresh water supply from water collected locally and DJ water are estimated to be $4.2 and $8.8 respectively at 2013-14 price level. At the moment, we have no plan to produce reclaimed water using reverse osmosis technology. We therefore do not have the estimated cost for production of reclaimed water using the technology.

2) The overflow quantities from reservoirs in 2013-14 (up to end February 2014) are as follows:

Reservoir*	**Overflow Quantity (**million cubic metres**) in 2013-14 (up to end Feb 2014)**
Aberdeen	3.3
Kowloon	5.2
Shek Pik	15.7
Tai Tam	15.4
Tai Lam Chung	0.6
Total	**40.2**

* We have not measured the overflow at Pok Fu Lam Reservoir due to its very small capacity (only contributing 0.03% of the total reservoir capacity in Hong Kong).

Overflow from small reservoirs during very heavy rainfall is an operational constraint. We have explored various ways to reduce reservoir overflows. Since 2006, we have adopted a flexible supply arrangement under the DJ water supply agreement with provision for adjusting the daily supply rate according to our need to facilitate better control on the storage level of our large reservoirs in which DJ water is stored. Overflow since then has been greatly reduced as compared to the period before 2006. The total overflow quantity of 40.2 million cubic metres in 2013-14 was about 4.7% of total water supply (up to end February 2014). The rainfall in 2013 of 2 847mm was 18.7% above the mean yearly rainfall recorded in the Hong Kong Observatory between 1981 and 2010 thus resulting in higher overflow in that year.

3) Apart from seawater desalination project, we have been implementing a number of measures to optimise the utilisation of local water resources and to enhance our water security. The measures include extending the seawater supply for flushing to Pokfulam, Yuen Long, Tin Shui Wai, and Tung Chung areas, studying the feasibility of supplying reclaimed water to the north-eastern part of the New Territories including Sheung Shui

and Fanling for flushing and non-potable use, and exploring the effective use of grey water recycling and rainwater harvesting in new government developments.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5112)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 181):

Regarding the use of rainwater collected locally in reservoirs and Dongjiang water as sources of fresh water supply, please advise this Committee whether the Administration has carried out any studies on the effect of raising the proportion of local water sources used (e.g. from 10-20% at present to 30%) on the reliability of fresh water supply; and if yes, the details of the studies and the expenditure involved, and if no, whether any studies will be carried out in 2014-15.

Asked by: Hon. WU Chi-wai

Reply:

We promulgated the Total Water Management (TWM) Strategy in 2008 with an aim to, amongst others, upholding the reliability of water supply in a sustainable manner. We will conduct a comprehensive review on the TWM Strategy and have commenced the consultant selection process for the review. One of the main objectives of the review is to study the strategy and measures including any new initiatives to strengthen our water resilience and preparedness to meet challenges such as severe droughts arising from climate changes. Different proportions of various water resources including water collected locally, Dongjiang water, reclaimed water, desalinated water etc. for meeting our demand will be studied in this review. The consultancy study will commence in 2014-15 for completion in 2016-17. The estimated expenditure of this study in 2014-15 is $3 million.

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5113)

Head: (194) Water Supplies Department

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

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question (Member Question No. 182):

Regarding the maintenance of water mains and the replacement and rehabilitation programme of water mains (the programme), please advise this Committee on:

1) The number of water main burst incidents in 2013-14 with a breakdown by the 18 districts in Hong Kong;

2) Among the above incidents, the number of cases involving water mains which were completed under the programme and the number of such water mains which have been involved in one or more than one incident, together with the relevant information including the dates and locations of occurrence; and

3) The expected date of full completion of the programme, and the respective manpower and expenditures involved in the progamme in 2013-14 and 2014-15.

Asked by: Hon. WU Chi-wai

Reply:

1) The numbers of water main burst cases in Hong Kong in 2013-14 (up to February 2014) broken down by 18 districts are tabulated below -

District	Numbers of water main burst cases in 2013-14 (up to February 2014)
Central and Western	4
Eastern	10
Islands	0
Kowloon City	26
Kwai Tsing	39
Kwun Tong	9
North	3

Sai Kung	23
Sha Tin	15
Sham Shui Po	19
Southern	1
Tai Po	26
Tsuen Wan	3
Tuen Mun	2
Wan Chai	6
Wong Tai Sin	6
Yau Tsim Mong	17
Yuen Long	20
Total	229

2) Of the above water main burst cases, there were no cases of recurrence of water main burst since repairs. Two cases (less than 1%) involved water mains which were replaced under the water mains replacement and rehabilitation (R&R) programme. Both water main burst cases were isolated cases caused by latent defects of the pipes. The dates and locations of the two water main burst cases are as follows:

Date	Location
11 June 2013	Back lane of Cheung Sha Wan Road, Sham Shui Po
28 February 2014	Back lane of Shung Ling Street, Wong Tai Sin

3) The current R&R programme is planned to be completed by December 2015. The estimated expenditure of the R&R programme in 2013-14 and 2014-15 is $2,690 million and $2,409 million respectively of which $380 million and $340 million are for the employment of resident site staff for supervision of the construction works.

CONTROLLING OFFICER'S REPLY

(Question Serial No. S0101)

Head: (194) Water Supplies Department

Subhead (No. & title):

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding Reply Serial No. DEVB(W)135, the question asks about whether the Administration has planned to construct any reliable and efficient fresh water supply and distribution systems for villages not yet provided with treated water supply in the coming year. The Administration replies that it will continue to conduct regular review based on updated information of anticipated water consumption, the estimated construction cost and other factors which may affect the provision of treated water supply systems. Will the Administration provide wholesome fresh water for villagers not yet provided with treated water supply based on considerations of humanitarian grounds and tourism benefits to the locality apart from the construction cost?

Asked by: Hon. TANG Ka-piu

Reply:

At present, the remote villages without treated water supply are using stream water or well water for consumption. The quality of raw water is monitored and tested regularly by the Food and Environmental Hygiene Department. In the event that there is a dry out of the local stream course, the Government will provide assistance including the provision of potable water to meet the needs of the residents. Nevertheless, we will continue to closely monitor and regularly review the water supply in these remote villages taking into account the various relevant factors.

Examination of Estimates of Expenditure 2014-15 Reply Serial No.

S-DEVB(W)05

CONTROLLING OFFICER'S REPLY

(Question Serial No. S0102)

Head: (194) Water Supplies Department

Subhead (No. & title):

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding Reply Serial No. DEVB(W)134, according to the numbers of enquiries and complaints related to taste or odour received by the Water Supplies Department (WSD) in the past 3 years, I notice that the number of enquiries and complaints in 2013-2014 has been on a rising trend. Up to January this year, 144 enquiries and complaints has already been received. It is anticipated that the total number of enquiries and complaints received this year will be higher than those in the past 2 years. In January this year, some households in Tuen Mun and Yuen Long reflected that there was strange smell in domestic tap water. Has the Administration conducted any investigation into this matter? If yes, is the investigation completed? What are the investigation findings? Has excessive chlorine been detected in fresh water?

Asked by: Hon. TANG Ka-piu

Reply:

Chlorine is used for disinfection to maintain the wholesomeness of the treated water supply. Upon the receipt of complaints from 9 to 15 January 2014 about chlorine odour in the treated water supply in the Tuen Mun and Yuen Long areas, we conducted a thorough investigation. We found that the residual chlorine levels in the treated water supply leaving our water treatment works were maintained in the normal range of 1.0 to 1.1 mg/L during the above period, which was well below the maximum allowable value of 5 mg/L in the World Health Organization's "Guidelines for Drinking-water Quality" (2011). In addition, on-site analysis of water samples taken from the distribution systems and consumer taps in the same period revealed that the levels of residual chlorine levels were normal ranging from 0.6 to 0.8 mg/L.

Examination of Estimates of Expenditure 2014-15 Reply Serial No.

S-DEVB(W)06

CONTROLLING OFFICER'S REPLY

(Question Serial No. S0060)

Head: (194) Water Supplies Department

Subhead (No. & title):

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding the specific progress of improving the use of fresh water for flushing, the Director replied at the Special Finance Committee Meeting that the quantity of fresh water used for flushing will be reduced by 5%. Would the Administration advise on:

(1) The districts covered by the said reduction;
(2) The next steps planned; and
(3) The expected time for full extension of salt water (seawater) for flushing?

Asked by: Hon. WONG Kwok-hing

Reply:

(1) In 2013-14, we completed the construction of a salt water flushing supply system in Pokfulam. Furthermore, the construction of a salt water flushing supply system in the northwestern New Territories covering Tuen Mun, Yuen Long and Tin Shui Wai areas will be completed by 2015. We will gradually replace fresh water with salt water supply for flushing in these districts.

(2) We are planning to develop a salt water flushing supply system for Tung Chung.

(3) We will continue to actively explore the supply of salt water for flushing to those areas, which are outside the existing salt water supply zones, whenever it is technically feasible and cost-effective to do so.

Examination of Estimates of Expenditure 2014-15 Reply Serial No.

S-DEVB(W)07

CONTROLLING OFFICER'S REPLY

(Question Serial No. S0061)

Head: (194) Water Supplies Department

Subhead (No. & title):

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

As mentioned in the Administration's Reply Serial No. DEVB(W)143, after testing and taking follow-up investigations in response to the complaints received, the Administration confirmed 11 cases of inaccurate water meters. Would the Administration advise whether those cases involved the unauthorised use of water meters? If yes, what were the details?

During the direct investigations and inspections conducted in the past 3 years, did the Administration find any cases of unauthorised use of water meters? If yes, what were the figures for the past 3 years and the law enforcement actions taken by the Administration?

Asked by: Hon. WONG Kwok-hing

Reply:

For all the 11 cases of inaccurate water meters, they were not related to unauthorised use of water meters or unauthorised taking of water from an inside service without consent of the consumer.

In the past 3 years, we have not come across any case involving unauthorised use of water meters or unauthorised taking of water from an inside service without consent of the consumer.