滿足用水需求
Meeting Water Demand

用花灑沐浴代替在浴缸浸浴，每日可節省**44**公升的水。

Taking a shower instead of a bath can save **44** litres of water a day.

滿足用水需求
Meeting Water Demand

香港的供水系統是全球最安全可靠的系統之一。但是，隨著人口對優質供水的需求日益增加，在管理需求的同時，能確保供應有效地滿足需求，是本署的一大挑戰。

供水來源

本港的供水有兩個主要來源：廣東省的東江，以及遍佈本港的郊野公園及鄉郊地區的降雨集水區網絡。除此之外，亦輔以海水用作沖廁。

去年，本港平均七至八成用水由東江輸入香港。除了每年例行的停水期外，每日輸港的東江水量約相當於本港的每日食水耗用量。輸入的原水若有剩餘，會貯存於本港的水塘。

海水經由沿海的抽水站，經適當處理後，供應給本港八成人口，作沖廁用途。

Hong Kong enjoys one of the safest and most reliable water supply systems in the world. But as water demand grows within the city, the Department's challenge is to manage the demand and make sure that supplies are consumed efficiently.

Sources of Water

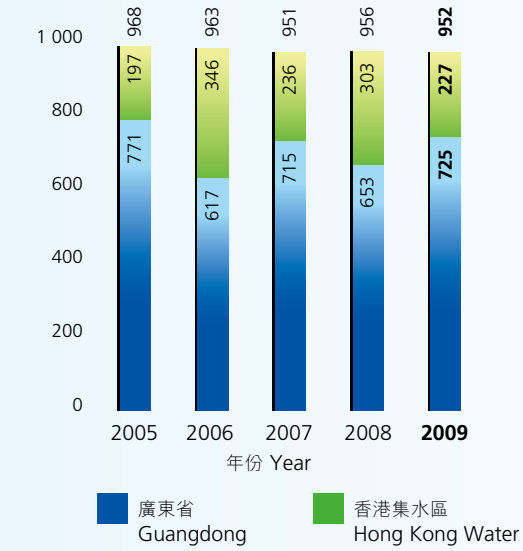
Hong Kong's water supply comes from two principal sources: the Dongjiang (or East River) in Guangdong Province and a network of domestic rainwater catchments that are located across the city's extensive country parks and rural areas. These fresh water supplies are supplemented by sea water that is used for toilet flushing.

Over the past year, between 70 per cent and 80 per cent of Hong Kong's fresh water supplies are piped into Hong Kong from Dongjiang. Except during the annual shut down period, this supply roughly equals the city's daily consumption. Imported water that is surplus to immediate needs is stored in the city's impounding reservoirs.

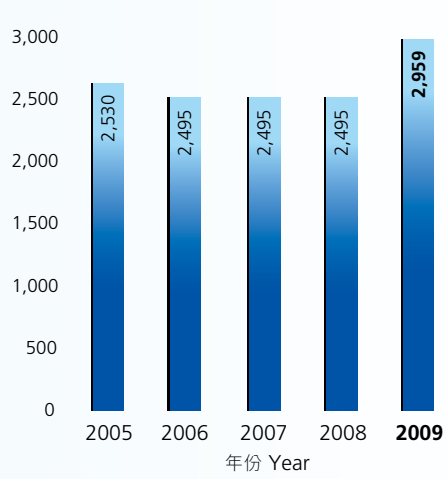
Sea water is abstracted by pumping stations located in coastal areas and piped to 80 per cent of the population for use as toilet flushing water after appropriate treatment.

廣東省為石馬河進行調污工程。
Diversion of polluted water from the Shima River by Guangdong authorities.

全年供水量
Annual Quantity of Water Supply



廣東省供水價格
Price of Dongjiang Water



珠江三角洲地區的人口增長和工業發展勢頭銳不可當。香港在制定水資源運用政策時，必須通盤考慮整個地區的需要。因此，本署一方面大力推廣節約用水的活動，以應付與日俱增的需要；另一方面，本署繼續拓展飲用水及非飲用水的其他供水來源，減少對東江水的需求。

東江供水

現時的東江水輸港協議於二零零八年十二月十一日簽訂。二零一零年四月七日，香港特別行政區行政長官與廣東省省長簽署的香港廣東框架協議，涵蓋供水事項，進一步確保了東江水輸港的質與量。東江水輸港協議保證東江每年為香港供應不多於11億立方米，足以應付至二零三零年的預計用水需求。香港於二零零九年、二零一零年及二零一一年，每年就東江水支付的費用，分別定為29.59億元、31.46億元及33.44億元。有關費用已計算自二零零六年以來錄得的人民幣兑港元匯率大幅升值，以及通脹率不斷上升所帶來的影響。

The Pearl River Delta is a rapidly growing area in terms of population and industry. Hong Kong recognises that when it comes to planning water use, it must think in the context of the needs of the entire region. As a result, the Department is on one hand promoting water conservation campaign extensively to contain demand growth, while on the other hand working to develop alternative sources of both potable and non-potable water, to reduce Hong Kong's demand for water imported from Dongjiang.

Dongjiang Water Supply

The current Dongjiang Water Supply Agreement was signed on 11 December 2008. The Chief Executive of the Hong Kong Special Administrative Region and the Governor of the Guangdong Province signed the Hong Kong-Guangdong Framework Agreement on 7 April 2010 which also covers our water supplies, thus further enhancing both the security and the safety of the Dongjiang water. The Dongjiang Water Supply Agreement guarantees Hong Kong access to up to 1 100 million cubic metres of water annually, that will be adequate to meet Hong Kong's need beyond 2030. The current cost regime for the Dongjiang water is fixed at $2,959 million for 2009, $3,146 million for 2010 and $3,344 million for 2011. These costs take into account the substantial appreciation of China's RMB against the Hong Kong dollar and escalating rates of inflation that have been recorded since 2006.

香港代表團參觀城南生活污水處理廠。
Hong Kong delegation visited the Chengnan Domestic Sewage Treatment Works.

二零零九年底至二零一零年初，廣東省及內地西南部分別發生嚴重旱情。本署與廣東省通力合作，並盡力配合當地抗災計劃。廣東省已成功實施水量調度方案，確保了香港的供水不受影響。新協議的條款讓香港能更有效地控制水塘的存水水平，從而減少浪費情況，並節省抽水成本。

東江是香港供水系統的命脈。廣東省致力保護水源環境，確保輸港的原水水質，符合國家地表水環境質量標準。原水的高質量也相應節省了食水處理的費用。

東江沿岸推行的保護水資源措施包括：設立污水處理廠、遷走具污染性的工廠、在深圳水庫啟用生物硝化廠，以及調走及處理石馬河的污水。

為確保市民對東江水水質的信心，粵港雙方一向就東江水事宜，保持高透明度的監察。水質事務諮詢委員會的成員定期到東江流域進行考察。二零零九年十一月，代表團前往新豐江水庫、楓樹壩水庫和白盆珠水庫這三個位於東江

Guangdong Province and the southwestern part of Mainland China suffered severe drought conditions in late 2009 and early 2010 respectively. The Department has maintained close communication with the Guangdong authorities to align with their anti-drought plans. With Guangdong's successful implementation of its water regulation plan, the water supply to Hong Kong has not been affected. However, the provisions of the new agreement have had a significant impact on the way we control storage levels in reservoirs on an 'as needs' basis and have assisted us in minimising waste and optimising pumping costs.

With the Dongjiang playing such a vital role in Hong Kong's supply network, the Guangdong authorities have attached great importance in protecting the Dongjiang's water environment to ensure that the quality of water pumped to Hong Kong meets the relevant national environmental quality standards for surface water. This in turn enables Hong Kong to keep the treatment costs for fresh water supplies low with consistent quality.

Measures implemented along the Dongjiang include building sewage treatment plants, removing polluting factories, commissioning a bio-nitrification plant at the Shenzhen Reservoir and diverting polluted water from the Shima River away from the Dongjiang.

To ensure public confidence in the quality of the Dongjiang water, both Hong Kong and Guangdong authorities together oversee the water transfer operations with a high degree of transparency

上游的主要水庫考察。此外，代表團又視察了污水處理廠、抽水站和石馬河調污工程。對於廣東省當局長期以來，實施一系列水污染防治措施，保護東江流域，特別是取水口和上游地區的水質，委員會對此感到滿意。

本港集水區

每年四至九月的西南季候風為香港的集水區帶來穩定的雨水。香港總面積為1 104平方公里，當中約三成的土地指定為集水區。收集的雨水和東江輸入的原水存在17個主要設於郊野公園的水塘。郊野公園的發展工程極少，較能保證存水免受污染。然而，本署仍會恒常地加強防污措施。

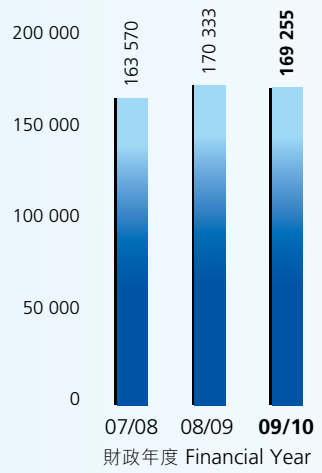
and vigilance. Members of Hong Kong's Advisory Committee on Quality Water Supplies (ACQWS) visit various operational aspects of the water transfer chain on a regular basis. In November 2009, members visited the three major reservoirs in the upper reaches of the Dongjiang – Xinfengjiang Reservoir, Fengshuba Reservoir and Bapenzhu Reservoir. They also inspected sewage treatment plants, a pumping station and the Shima River Sewage Diversion Improvement Project. Committee members were impressed by the continuous efforts under way to combat pollution, protect the watershed and maintain the quality of the Dongjiang water, especially at its source and in the upper reaches of the river.

Domestic Catchments

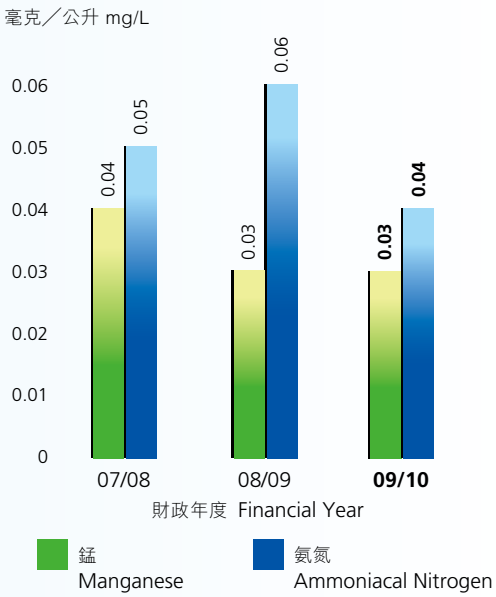
The southwest monsoon, which falls mainly between April and September each year, ensures a regular supply of rain for our domestic water catchments. About 30 per cent of Hong Kong's total land area of 1 104 square kilometres has been designated as water catchments. Both rainwater and the water pumped from the Dongjiang are stored in 17 reservoirs across the territory, the majority of which are located within country parks. With little development in the country parks, the locally collected water is largely free from contamination and despite that, protection measures are strengthened continuously.

石壁水塘是香港存水量第三大的水塘。
Shek Pik Reservoir has the third largest storage capacity in Hong Kong.

化驗樣本總數
No. of Samples Taken



東江原水內平均氨氮及錳水平
Average Ammoniacal Nitrogen and Manganese Levels in Dongjiang Water



水質及品質檢定

香港對整個供水系統的各方面實行嚴格的水質監察制度，不論是源自東江或香港本身集水區的原水，均會在整個食水收集、處理及供應過程中，進行包含了物理、化學、輻射學、生物學及細菌化驗的綜合性檢測項目。本署亦會定期在供水系統中指定及隨機的地點，抽取水質樣本，並採用先進及認可的技術，按嚴格品質保證方案進行分析。品質監察計劃從化學原理上保證本地供水安全，免受隱孢子蟲及賈第蟲等有害微生物的影響。水質化驗數據會在本署網站公布，以供公眾查閱。

Water Quality and Compliance

Hong Kong implements a strict water quality monitoring regime across all aspects of its water supply operations in Hong Kong. Irrespective of whether the water is sourced from the Dongjiang or collected within the city's catchments, comprehensive monitoring programmes involving physical, chemical, radiological, biological and bacteriological testing are implemented throughout the collection, treatment and supply processes. Samples are taken regularly from both pre-determined and randomly selected points along the supply chain. These samples are analysed using advanced and proven technologies according to rigorous quality assurance protocols. Our compliance monitoring programmes have confirmed that the treated water is chemically safe and free of harmful organisms such as Cryptosporidium and Giardia. All test data involving water quality are available for public viewing on the Department's website.

用來監測東江水水質的水樣本在木湖抽水站抽取。
Dongjiang water samples are collected from Muk Wu Pumping Station for quality check.

監察系統

去年，本署為測量東江水的水質，在木湖抽水站、船灣淡水湖和大欖涌水塘安裝了聯機水質監察系統，現已投入運作。本署又於指定的配水庫，安裝聯機氯分析儀進行先導測試。另外，本署現正為食水供應網絡的水質監測系統進行表現評估。

水質事務諮詢委員會在諮詢及監察水質方面，繼續擔當重要角色。去年，委員會除參觀和考察了東江的供水設施，更就特定議題進行探究，包括樓宇水質、其他水源及公眾教育項目等。

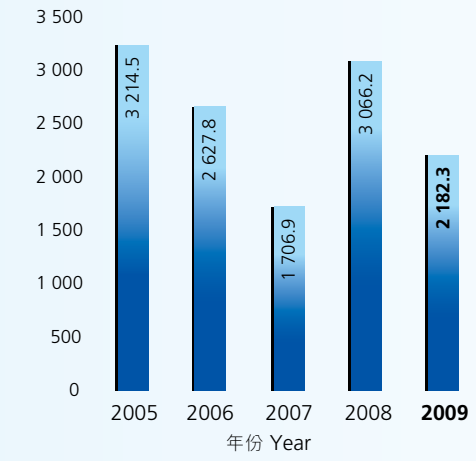
Monitoring Systems

Over the past year, we have installed and put into service online Water Quality Monitoring Systems to gauge the quality of the Dongjiang water at Muk Wu Pumping Station, Plover Cove Reservoir and Tai Lam Chung Reservoir. Pilot trials using online chlorine analysers at selected service reservoirs have been conducted. A performance evaluation of the system for monitoring quality in the fresh water distribution network is now under way.

The ACQWS continues to play an important role in terms of advising and monitoring the quality of water supplies. In addition to the monitoring and inspection of facilities along the Dongjiang over the past year, ACQWS members have studied issues that include water quality in buildings, alternative water resources and public education programmes.

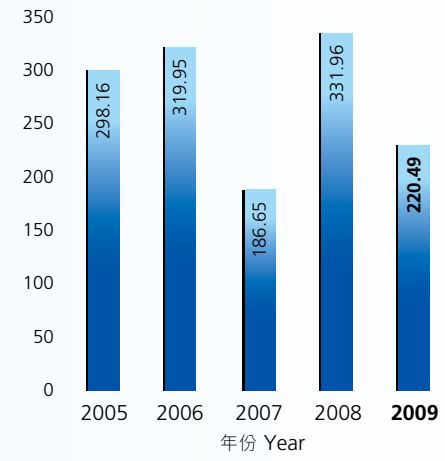
全年降雨量
Annual Rainfall

毫米 millimetres



全年集水量
Annual Yield

百萬立方米 million cubic metres



水安全計劃

部門之水安全計劃應用於水源、濾水處理、分配系統、本地集水區，以至源於東江的原水。此計劃同時評估和監察流經濾水廠以至分配系統內的水質。

水安全計劃採用多重屏障方法，把各個步驟和流程綜合成為一個完整系統，預防或減少污染風險。計劃採用世界衛生組織（世衛）於二零零四年發佈的飲用水水質準則。根據準則，本署評估食水中與人體健康相關的化學項目，以及制定危機管理框架，為用戶提供穩定而安全的食水。

去年，本署推行了以生物發光技術為基礎的全新測試系統，藉此迅速檢測各類水污染物。系統採用精密儀器，提供快捷、簡便及費用較為低廉的水質分析，亦可在任何污染或緊急情況下，提供快速有效的供水安全評估。

Water Safety Plan

The Department's Water Safety Plan is applied from source, through water treatment to distribution and to domestic catchments as well as the Dongjiang-sourced water. It is also used to assess and monitor the quality of water when it reaches water treatment works and once it goes into the distribution system.

This multi-barrier approach provides an integrated system of procedures and processes that, when taken together, combine to prevent or reduce water contamination risks in Hong Kong. The plan is based on the World Health Organization's (WHO) Guidelines for Drinking-water Quality, issued in 2004. The Guidelines evaluate individual chemicals of health significance that may be present in drinking water and also outlines a risk management framework that helps ensure the sustainable supply of safe fresh drinking water.

Over the past year, we have launched a new testing system based on bioluminescence technique. This can detect a wide range of water contaminants very quickly. The testing system offers speed, simplicity and a relatively low cost to complement analysis of water using sophisticated instruments. It also provides a quick and effective assessment of the water supply should a contamination or emergency occur.

為確保水體生態平衡，本署定期實施魚苗放養計劃。去年，本署把178 500尾魚苗（主要是鯪魚及大頭魚）放養於船灣淡水湖、大欖涌、九龍及城門等水塘。

為特定活動而制定之應變計劃亦和水安全息息相關。於二零零九年十二月五日至十三日期間舉行的香港2009東亞運動會，本署為21個比賽場地和參賽團隊所住宿的酒店實施特別水質驗證。這個計劃涵蓋了對場地和酒店供水的水塘、濾水廠和分配系統進行額外監測；也設定了應變措施，以應對食水在質量上可能出現的事故。

At our impounding reservoirs, we stock fish fry on a regular basis to help maintain an ecological balance. Over the past year, 178 500 fish fry, mainly silver carp and big head, were introduced to our reservoirs at Plover Cove, Tai Lam Chung, Kowloon and Shing Mun.

Water safety is also about contingency planning for specific events. The Hong Kong 2009 East Asian Games held from 5 to 13 December 2009 required a specific water quality monitoring plan which covered 21 different competition venues as well as the hotels which provided accommodation to the teams and their supporters. This involved additional monitoring of impounding reservoirs, water treatment works and distribution networks that were supplying the venues and hotels. The monitoring plan also dealt with incidents that would affect the reliability and the quality of the water supply.

吹掃捕集氣相色譜質譜儀，測定水中揮發性有機化合物。
A purge and trap gas chromatograph mass spectrometer is used to analyse volatile organic compounds in water.

以生物發光技術為基礎的快速檢測系統，甄別多種水中化學污染物。
A rapid testing system based on bacterial bioluminescence technique can detect a broadband of chemical contaminants in water.

本署設有嚴格的水質監察制度。
The Department applies a strict water quality monitoring system.

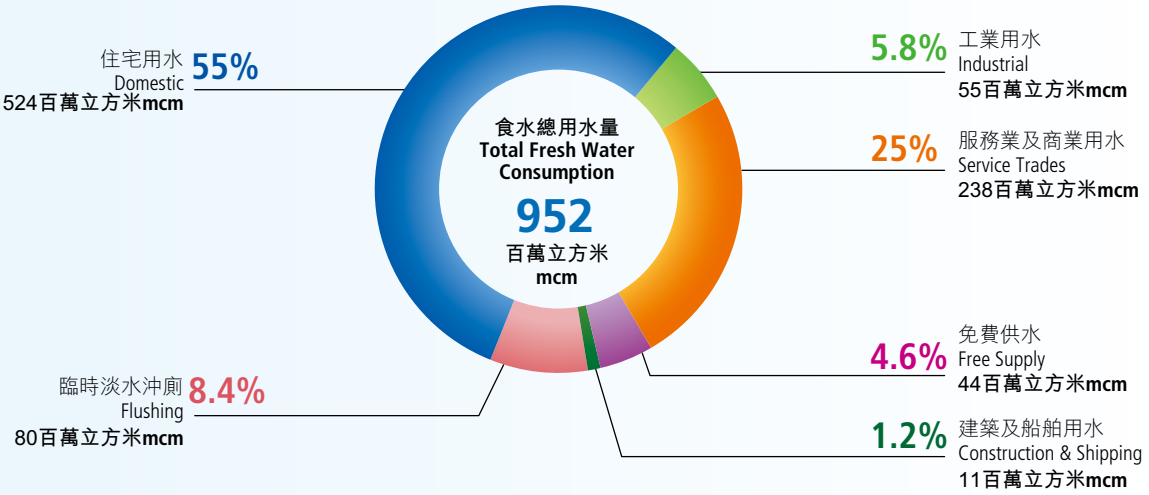
大廈優質食水認可計劃

確保公眾對食水水質的信心，是本署在供水任務上的重要一環。本署供應的食水經嚴格處理，符合國際飲用水水質指引。然而，為確保客戶從住宅、辦公室，以及其他工作和消閒場所得享優質自來水，樓宇業主亦須妥善維修其內部供水系統。

Quality Water Recognition Scheme for Buildings

Public confidence in the quality of drinking water is critical to the success of all aspects of our supply scheme. Hong Kong's treated fresh water, as provided by Water Supplies Department, complies with the international guidelines under which it is produced. However, ensuring that the same quality of water emerges from the taps of homes, offices or other places of work or recreation, places a level of responsibility on others as well. Building owners need to maintain and manage the operation of plumbing systems.

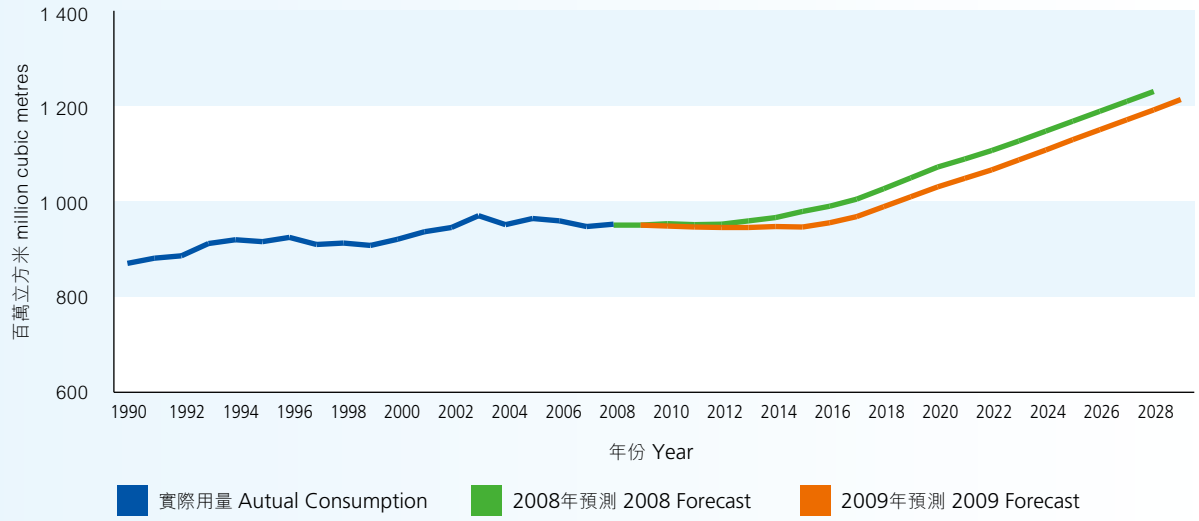
二零零九年按用水類別劃分的食水用水量（百萬立方米）（及佔總量百分比）
Annual Fresh Water Consumption 2009 by Sectors in million cubic metres (mcm) (and percentage of total)



全年食水用水量（按用水類別劃分）
Annual Fresh Water Consumption (by sectors)

	年份 Year				
百萬立方米 million cubic metres	2005	2006	2007	2008	**2009**
住宅用水Domestic	512	513	509	519	524
工業用水Industrial	72	69	64	59	55
服務業及商業用水Service Trades	244	243	242	241	238
免費供水Free Supply	44	43	44	45	44
建築及船舶用水Construction & Shipping	14	13	12	11	11
臨時淡水沖廁Flushing	82	82	80	81	80
食水總用水量 Total Fresh Water Consumption	**968**	**963**	**951**	**956**	**952**

二零零九年至二零二九年食水需求預測
Fresh Water Demand Forecast Projection 2009-2029



為鼓勵業主和樓宇管理公司盡其責任，本署推行了大廈優質食水認可計劃。自二零零二年推行以來，此計劃成功地日益加強了市民對清潔食水的意識。截至二零一零年五月，這計劃已頒發了3 206張證書，受惠的登記客戶數目為987 000。

本署聯同房屋署，開創新猶，推行樓宇孖水缸供水系統。新系統在例行清洗水缸過程中仍能維持供水。

To encourage building owners and property management companies to fully accept their role in the provision of clean water 'at tap', the Department operates a Quality Water Recognition Scheme for Buildings. This scheme was launched in 2002 and is proving a success as a tool in raising awareness about clean water. By May 2010, 3 206 certificates covering 987 000 registered customers have been awarded.

In another initiative, WSD, working with the Housing Authority introduced a twin tank water supply system for buildings. This allows a continuous supply of water to residents even when tanks are being cleaned.

水務署採取多項措施確保食水質量優良。
WSD applies a range of tools to ensure quality water.