東江水供港60周年

60th Anniversary of Dongjiang Water Supply to Hong Kong





Dongjiang River - An Inseparable Bond, Our Blessed Origin

自1965年3月開始,東江水從廣東省輸送到香港,連繫兩地,滿足香港民生所需,是香港供水的命脈,社會飛躍進步的穩固基石。

東江水現時佔香港淡水總用量達七至八成,60年來的無間斷供應;讀700多萬香港市民安居樂業;成就香港展 國高飛。我們期望透過是次展覽,加深市民了解東江水 供港的背景和重要性,充分體會國家給予香港的長期 關懷及支持。 Hong Kong has been receiving Dongjiang water from Guangdong Province since March 1965. Dongjiang water strongly bonds the two regions and is vital to the continuous water supply in Hong Kong, fulfilling the essential needs of the people's livelihood and forming a solid foundation for rapid development of the city.

Dongliang water currently accounts for 70% to 80% of total fresh water consumption in Hong Kong and its uninterrupted supply for 60 years makes the city a better place for some 7 million Hong Kong people to live and work. Through this exhibition, we look forward to enhancing the public's understanding on the background and significance of the Dongliang water supply to Hong Kong, and appreciating the long-term care and strong support to Hong Kong from our country.

旱災襲港 水荒民困



Severe Drought Made Life Hard

香港在1963年全年降雨量為901毫米, 遠少於每年平均2,400毫米 雨量。政府迫不得已在1963年5月開始實施長達渝一年的制水措施。

當時整個社會亦萬眾一心,從個人以至各行各業均自發實行不同節 水方法。然而,不穩定供水仍對社會發展產生重大影響,酷熱天氣 加上缺水導致疾病蔓延(於1963年錄得115宗霍亂個案)、旱災今漁 農業及工商業受到嚴重打擊,影響經濟(當時估計有19個行業減產 或停產,另有20萬名工人遭減薪)。

The annual rainfall in Hong Kong was 901 millimetres in 1963 which was far less than the annual average rainfall of 2,400 millimetres. The Government had to implement water rationing in May 1963 that lasted for more than one year.

From individuals to all trades and professions, the society made concerted efforts to conserve water through various measures. However the unstable water supply had imposed a significant impact on social development. Water shortage under extremely hot weather had led to the spreading of diseases (a total of 115 cases of cholera were recorded in 1963). The economy, including the agricultural and fisheries industries as well as the commercial and industrial sectors had also been severely affected during the drought period (a total of 19 trades had reduced or ceased their production. and 200 000 workers had experienced a pay reduction).

政府採取的節水措施

Water conservation measures adopted by the Government

- 關閉公共球場的浴室及公共游泳池。
- Public swimming pools and bathrooms of public sports stadiums were clo
- 停止向外來船艦提供或出售食水。 The provision or sale of water to vessels from other countries was suspended
- 暫緩慢性疾病外科手術。

Surgical operations for chronic diseases were postponed

- 增設塑膠水管運送海水救火。
- es were laid to convey seawater for fire-fighting purpose.
- 就浪費食水制定條例。
- Regulations were enacted against water wastage.
- 安排14艘油輪從珠江運載淡水到港 14 tankers were arranged to abstract raw water from
- 重開多個水井

the Zhuijang for delivery to Hong Kong. A number of water wells were re-opened.



民間自發的節水措施

Water conservation measures initiated by the public

鄉村地區居民改吃用水量較少的麵團。

additional needs for bathing.

- Rural residents made the switch to wheat buns for main meals which required less water to cook
- 城市的居民則增加食用罐頭食品,減少煮食用水的需求。
- Urban residents consumed more canned food to avoid using water for cooking.
- 一些學校取消體育課,以免增加洗澡的次數。 vsical education lessons were cancelled in some schools to avoid creating
- 盡量不穿白色衣物,因白色不耐髒。
 - es which would easily get dirty.
- 飯後或睡前以吃蘋果代替刷牙。
- People ate apples after meals or before bed instead of brushing teeth
- 有酒樓向每位光顧茶客派發三枚沖茶用的「水籌」。 規定顧客最多可加熱開水三次。

Some restaurants offered each of their customers three pieces of "water token" to restrict the times of refilling service for teapots that each customer could







國家關懷 東江供水



Dongjiang Water Supply, Country's Care

香港在1960年人口迅速增長、經濟逐步起飛,食水供應不足,不單未能滿足市民需求,更甚是窒礙工商業的發展勢頭。 當時政府已經意識到單靠儲存天然雨水並不足夠,因此向廣東省購買淡水,成為增加香港食水供應最便捷的途徑。

In 1960, Hong Kong experienced rapid population growth and significant economic upturn. The insufficient water supply not only failed to meet the public's need, but also hindered the potential for industrial and commercial development. The Government was well aware that Hong Kong could no longer rely on local yield collected from rainwater solely, and the procurement of fresh water from Guangdong Province was the most efficient way to improve water supply in Hong Kong.



960年11月15日,政府和廣東當局簽訂第一份供水協議。

香港政府與廣東省政府於1960年11月15日達成協議,每年從深圳水庫輸入約2,270萬立方米食水。一條直徑48吋(1,200毫米)的輸水營繼而迅速建成,並於同年12月開始輸水到香港。

On Is November 1960, the Governments of Guangdong Province and Hong Kong reached an agreement on importing 22.7 million cubic metres per year of fresh water from Shenzhen Reservoir to Hong Kong, A pipeline with a diameter of 48 inches (1,200 millimetres) was swiftly constructed subsequently for the delivery of water to Hone Kong from December 1960 onwards.



接收深圳水庫供水的大型水管、直徑約48吋。 A large pipeline with a diameter of about 48 inches for the receptio

及至1963年,香港中華總商會及港九工會聯合會(即香港工會聯合會前身) 聯名向香港政府和廣東省政府提出了引東江水到港的建議。兩地政府經歷 多番磋商,終於達成與建東深供水系統的共識,並在同年年底,由時任國 務院總理周恩來親自批准,中央人民政府撥專款興建。香港亦同時興建大 型抽水站、水管和隧道,將東江水分送到香港各區。

In 1963, the Chinese General Chamber of Commerce and the Hong Kong and Kowloon Trades Union Council (the predecessor of the Hong Kong Federation of Trade Unions) jointly proposed to the Governments of Guangdong Province and Hong Kong that Dongjiang water be brought to Hong Kong. The two governments held several rounds of discussions and reached a consensus on the implementation of the Dongjiang-Shenzhen Water Supply Scheme. The Scheme was approved by the then Prime Minister Zhou Enial and granted a special fund by the Central People's Government for its construction works at the end of the year. Meanwhile, large-scale pumping stations, pipelines and tunnels were constructed in Hong Kong to facilitate the distribution of Dongliang water to various districts over the territory.

時任國務院總理周恩來:「要不惜一切代價,保証香港同胞渡過難關」 The then Prime Minister Zhou Enlai said, "At all cost, we ensure that compatriots from Hong Kong overcome this hard time."



港方代表副工務可維水務局局長英觀與馬方代表簽訂第二份東深供水協議。 The representative of Horig Kong, Deputy Director of Public Works curn Head of the Waterworks Office. TO. Morgan, and the representative of Guargison's signed the second agreement on Dongshin-Hong



1964年2月,廣東省政府動用大量人力物力,在東江深圳沿線80多公里,展開了東深 供水工程建設。 In February 1964, the Guangdong Provincial Government deployed substantial manpower



高山低頭 河水倒流



Dongjiang Water Coming over Mountains and against the River Flow



東深供水工程技術設計人員理頭工作 The design professionals of the Dongjiang-Shenzhen Water Supply Scheme were focused at work.

東江距離香港50多公里,要由該處引水到香港,工程相當龐大。 為方便輸水,東深供水工程最終敲定的方案,是將原來由南向北流 入東江的石馬河,改造成逆流的輸水人工運河,東江水先注入雁田 水庫,再經輸水管道流入深圳水庫。這條運河管越六座高山,全長 83公里,經過多級泵站逆流提升,從海拔兩米逐級抬高至46米。

Donglang is more than 50 kilometres away from Hong Kong, It is a challenging project to transport the water from there to Hong Kong, To facilitate transportation, the fransportation, the Transportation, the Shiman Revenue and the Transportation of the Transportation and Transpor

東深供水工程的興建過程曾拍攝成紀錄片,片名《東江之水越山來》便帶出這個攀山逆流輸水的意思。

Construction of the project of Dongjiang-Shenzhen Water Supply Scheme was made into a documentary, with a Chinese title that highlights the transportation of water over mountains and against the flow

東深供水工程自1964年2月20日動工,幾萬工人浩浩蕩蕩前往工地, 與時間閱養,過程中屢屢克服突如其來的挑戰,經歷五次颱風吹襲, 最後國家歷史性地以不足一年完成工程。1965年3月1日下午4時, 東深供水工程下式開始向香港供水。

The project started on 20 February 1964, with tens of thousands of workers working against time. Overcoming numerous unforeseen challenges and getting through the impact of five typhoons, the project was completed in less than a year, marking a historical achievement. At 4 pm on 1 March 1965, the supply of Dongjiang water to Hong Kong commissioned.



東深供水工程職大,高峰期的工人多達二萬人。 The scale of Dongjiang-Shenzhen Water Supply Scheme is large with as many vs 20,000 wasters at a pack posited.

東深供水工程的走線及相關地點的高度橫切面

The route of the Dongjiang-Shenzhen Water Supply Scheme and the elevation cross-section of related locations



三大擴建 一全改造



Three Stages of Expansion and One Major Improvement

東深供水工程初期的對港供水量僅為每年6,820萬立方 米。為滿足不斷增加的用水需求,東深供水系統於70 至90年代期間進行過三次擴建,並在2000年初進行全 面改造,合稱「三擴建一改造」,令每年對港供水量上 限提升至限時的8億2000萬立方米。

廣東省當局對保障東江水質量非常重視。為了確保東江 水的質量不受沿線城市工業起飛所帶來的影響,廣東省 當局特別在基建方面投入大量資源,包括設計、出資及 興建專用輸水管道。 Initially, the annual quantity of water supplied to Hong Kong under the Dongliang-Shenhen Water Supply Scheme was 88 az million cubic metaion order to meet the increasing water demand, the Scheme underwent three stages of expansion from the 1970s to the 1990s and a comprehensive improvement works in the early 2000s (collectively known as the "Three Expansions and One Improvement"), which increased the annual water supply ceiling to Hong Kong to the current level of 820 million cubic metres.

The Guangdong authorities emphasised the importance of safeguarding Dongjiang water quality. To ensure that the Dongjiang water quality would not be affected by the rise of industrial activities in cities near Dongjiang, the Guangdong authorities made substantial infrastructure investment including designing, funding and constructing a dedicated aqueduct.

1974-1978年 東深供水計劃第一期擴建

Dongjiang-Shenzhen Water Supply Scheme



工程包括摄建供水河道、渠道及抽水站。 Works including extension of water supply canals, channels and pumping stations.



Dongjiang-Shenzhen Water Supply Schem



工程包括新建東江抽水站及加高深圳水庫大場。 Works including construction of a new pumping station at Dongjiang and the raising of the Shenzhen Bestervir Dam

1990-1994±

東深供水計劃第三期擴建 Dongjiang-Shenzhen Water Supply Schem



上在出版的识光儿、气冷、海塞、口等、沙漠与地尔沿路打窗门上往、黄麻人上浓度 及天然可强。 Works including upgrading works of pumping stations at Donglang, Shima, Matan, Zhutang and Shalino, short and swanspin on artificial channels and natural rivers.

2000-2003年

果涂供水改造上柱 Improvement works for the Dongjiang-Shenzhen



為減少東江水運送到雷港途中受污染的機會,廣東省政府將東江取水口上移至水質 較佳的地方,並興建由泵站、高架浪標、幾道、水庫和專用適管組成的輸水管系統, 直接將東江原水輸送至深圳水庫。

To reduce the risks of contamination of Dongliang water during delivery to Hong Kong, the Guangdong Provincial Government relocated the intake point of Dongliang water upstream to a location of better water quality. An aquedity system comprising pumping stations, elevated water conduits, tunnels, reservoirs and dedicated aqueducts was also constructed to transfer

源清質優 從不間斷



Ongoing Commitment to Water Quality and Water Security

東江水水質全國最高標準

Highest National Standard of Dongjiang Water Quality

根據粵港雙方的協議,供港東江水水質須符合國家《地表水環境質量標準》(GB3838-2002)第工類水標準,此標準 是集中式生活飲用水地表水源的最高標準。多年來,粵港兩地為保障東江 水質作出了巨大努力。

The Dongjiang Water Supply Agreement signed between Guangdong and Hong Kong requires the quality of Dongjiang water supplied to Hong Kong to comply with the national standards set out for Type II waters in the Environmental Quality Standards for Surface Water ("Galaze-Qouz). This is the highest standard for water abstraction for human consumption. Over the years, Guangdong and Hong Kong have made great efforts to secure the water quality of Dongjiang water.

廣東省制定和執行嚴格保護水資源的法規及措施,包括在 東江水受保護範圍內禁止例如採石、開礦及大規模禽畜養 商等污染性活動,並遷走東江河道附近具污染性的工廠等, 並進行了以下主要的基礎建設,包括:

The Guangdong Provincial Government has formulated and implemented regulations and measures to strictly protect water resources, including prohibition of pollution activities such as quarrying, mining and extensive poultry farming within protection zones, relocating polluting factories in the vicinity, as well as carrying out the following major infrastructure works:

 將輸港東江水在東莞的取水口上移至水質較佳的地點, 並將石馬河攔截,進一步保護東江水水質。

The intake point of Dongjiang water at Dongguan was relocated to an upstream location with better water quality, and the sewage from Shima River was also intercepted to further safeguard Dongjiang water quality.

建造一條從位於取水口的太園泵站到深圳水庫的專用輸水管道,避免東江水沿途受污染。

A dedicated aqueduct from the intake point at Taiyuan Pumping Station to Shenzhen Reservoir was constructed to prevent contamination of Dongjiang water along the way.

 於深圳水庫進水口建設生物硝化站,採用生物接觸氧化 技術降解水中污染物。

A Bio-nitrification plant was set up at the intake point of Shenzhen Reservoir, making use of the biological contact oxidation technology to degrade the contaminants in the water.

 將沙灣河附近的污水攔截並輸往污水處理廠處理,從而 減低深圳水庫在河道排洪時污染物流入的風險。

The sewage from Shawan River was intercepted and delivered to a sewage treatment plant for treatment, in order to reduce the risk of contamination from the discharge of floodwater from Shawan River to Shenzhen Reservoir.



香港方面,水務署在接收東江水的木湖抽水站設有在線水質 監測系統,24小時監測輸港的 東江水水質,實時量度各種不同參數,並自行研發一套生物

感應預警系統,利用斑馬魚探測原水的異常情況,確保可及時採取適當應對措施。

For Hong Kong, the Water Supplies Department has installed a 42-hour online monitoring system at the reception point of Dongliang water at Muk Wu Raw Water Pumping Station. The system serves too monitor the quality of Dongliang water supplied to Hong Kong and measure various parameters in real time. The Water Long Long and measure various parameters in real time. The Water Long land price of the state of the system with Application of zebrafish to detect abnormalities in raw water to neasure that appropriate measures can be taken in a them'y manner.

香港特區政府一直與廣東省政府透過既定機制, 就輸港東江水水質維持緊密聯絡。水務諮詢委員 會亦會每年考察東江水供水系統,了解供港東江 水的情況,並向粵方反映香港市民對東江水水質 的關注。

The HKSAR Government has been maintaining close lision with the Guangdong authorities on the water quality of Dengliang water supplied to Hong Kong through an established mechanism. The Advisory Committee on Water Supplies also visits the Dongliang Water Supply System every year to learn about the situation of Dongliang water supplied to Hong Kong and relay the concerns of Hong Among Dengliang water to Hong and relay the Concerns of Hong Among Dengliang water to the Concerns of Hong Kong people about the quality of Dongliang water to the



:務括調委員會於2024年11月到東江考察 te Advisory Committee on Water Supplies rited Dossiling in Neurophys 2024

保障供水安全

Safeguard Water Security

東江是廣州、深圳、東莞、惠州、河源等地的主要供水水源,同時房負著對香港供水的重要任務,總供水人口達4,000多萬。東江流域 人均水資源量僅為1,100立方米一年,按照國際評價標準屬於歐水地區。

Dongiang is the main water source for Guangzhou. Shenzhen, Dongguan, Huizhou, Heyuan etc. It also shoulders the important task of supplying water to Hong Kong, serving a total population of over 40 million with an average areamal per capita water resources of only 1,100 cubic metres, the Dongjiang River Basin is regarded as an area of water searchy according to international assessment standards.

儘管如此,在東江水供水協議中訂明每年供水量上限為8億2000萬立方米,保證香港能夠獲得穩妥的供水量,足夠令我們即使在百年 一週的極早情況下,仍能維持全日供水。東江水供水協議亦訂明,如有需要,輸港東江水供應可以進一步增加到每年11億立方米,為香港

Nevertheless, the Donglang Water Susply Agreement guarantees an annual supply celling of 820 million cublic metres, which ensures continuous water susply in Hong Kong during the extreme drought of the century. The Orginging Water Equity Agreement also stipulates that, if necessary, the annual supply of Donglang water to Hong Kong can be further increased to 11 billion cubic metres for better securing our water supply.

隨着珠江三角洲水資源配置工程於2024年1月開題。為珠江三角洲東部地區(包括廣州南沙、深圳及東莞)提供新水源以野級對東江水的南 求,接傷者浩濱大書國內整體供外院和優化水資源配置能力。為香港能夠在早情時仍然持續獲得東江水供應提供了更大保障。亦可為香港在緊急的應式下提供應必備用水源。

The commissioning of the Pearl River Delta Water Resources Allocation Project in allevating 2004 provides in one water source seather region of the Pearl River Delta (including National American Company). The represent allevates the demander of Denginging water, enhances the certain water supply security in the Guangdoing-Hong Knory-Nacio Creater Bay, when any an entire design described in the Company of Denging water to Hong Knorg were under drought conditions and serve as an emergency backup water source in Certain greater assurance for continuous supply of Denging water to Hong Knorg were under drought conditions and serve as an emergency backup water source.

靈活創新 彈性驟增



Increasing Resilience through Innovative and Agile Measures

「統包扣減」購水

"Package Deal" Approach

自2006年起,香港以「統包」方式購買東江水,訂明每年供水量上限,保證本港有穩定、具彈性和切合實際需要的東 江水供應,確保即使遭受百年一遇的旱情下供水仍不受影響。此外,香港自2020年起採用「統包扣減」機制,按實 際需要輸入東江水,如本地雨水集水量較高,所需的東江水水量低於每年供水量預設上限時,水價會按實際供水量從 基本水價扣減。這安排今控制存水量更具彈性,避免浪費東江水資源,亦節省運送東江水的能源成本。

Since 2006. Hong Kong has purchased Dongjiang water by "Package Deal" approach which stipulates an annual supply ceiling to guarantee Hong Kong a stable yet flexible supply of Dongiang water supply to meet the actual needs. The approach enables water supply to be maintained even under extreme drought condition with a return period of one in 100 years. In addition, Hong Kong has adopted the "Package Deal Deductible Sum" approach since 2020, mporting Dongjiang water based on actual needs. In years with more local yield and the amount of Dongjiang water required is below the preset annual supply ceiling, a price deduction, according to the actual amount of water supplied, will be made to the annual ceiling water price. This approach provides greater flexibility in the control of water storage level, preventing wastage of Dongjiang water resources and saving pumping costs for water delivery



本港水塘的溢流,主要出現在那些建於十九世紀至二十世 紀中的中小型水塘。由於它們是按當時的用水需求建造, 所以容量較小。大兩期間,當收集的雨水高於水塘的設計 容量便會出現溢流。溢流是水塘運作的一部分,而本港的 水塘在設計上都配備溢流設施,讓過多貯水可以安全地從 水塘的溢流設施排走,避免水塘水位過高而危及水壩頂部 的設施或通道。由於這些水塘不會用於儲存東江水,經水 塘溢流的都是天然雨水,而非輸港東江水。

Overflow mainly occurs in small and medium-sized reservoirs built for low demand between the 19th and mid-20th centuries. During heavy rains, overflow occurs when the collected rainwater exceeds the design capacity of reservoirs. Overflow is a part of reservoir operation. The excess water is safely drained away through the designed overflow facilities of the reservoir to ensure the safety of the facilities or passage on top of the dam. Since these reservoirs are not to be used for storing Dongiang water, the overflow from the reservoirs consists solely of natural rainwater, rather than imported Dongjiang water.

海水化淡 Desalination

海水化淡是政府開拓新水源的策略,提升供水的應變能力,以應對氣候變化的影響。發展海水化淡廠需考慮多方面 因素,包括是否有合適的沿海地點興建海水化淡廠、成本效益等。

Desalination is the Government's strategy to explore new water sources in order to enhance the resilience of water supply in face of climate change Developing a desalination plant requires consideration of various factors, such as availability of suitable coastal locations for desalination plant. cost-effectiveness, etc

將軍澳海水化淡廠已於2023年年底啟用,最高食水產量為每日13萬5千立方米,佔本港食水用量約5%,主要是作為 應對氣候變化導致集水量減少的補充水源。以目前情況而言,淡化海水暫時難以廣泛被採用以取代東江水。

Commissioned in end-2023, the Tseung Kwan O Desalination Plant has a maximum fresh water output capacity of 135,000 cubic metres per day, accounting for around 5% of fresh water consumption in Hong Kong. It is mainly used to supplement the plausible loss of local yield due to climate change. Currently, there are constraints for desalination to be widely adopted as a replace



多惜點滴 未兩綢繆



Water Conservation Preparing for the Worst

節約用水需要我們共同努力。面對水資源有限的潛在危機,水務署早於2008年已推行《全面水資源管理策略》,並進行 定期檢討及更新,一方面為香港開拓多元化而穩定的供水模式,另一方面亦着重控制食水需求增長,多項控制措施包括:

Water conservation requires the joint efforts of the public. To address the potential water crisis, the Water Supplies Department has implemented the "Total Water Management Strategy' since 2008 with regular reviews and updates. The Strategy adopts a two-pronged approach with an emphasis on diversified and reliable water supply and containing the growth of water demand. Various control measures include:

用水效益標籤計劃

参加計劃的產品貼上標籤,向消費者說明其用水效益,方便消費者 作合適的選擇。

Products participating in WELS will be affixed with WELS labels to show the









- 糸列節水措施,包括向餐飲業及酒店業推廣

《用水效益最佳實務指引》、在公共屋邨、私人屋苑、 政府場地和學校安裝節水裝置。

A series of water-saving measures has been formulated, including promotion of the "Best Practice Guidelines" to the catering and hotel industries, and installation of flow controllers in public rental housing estates, private housing estates, government venues and schools.

自動讀錶系統

供讀錶數據、狀態資料和警報提示 提醒用戶注意過高的用水量,有助適





加強公眾教育

Strengthening Public Education

推出多項公眾宣傳活動,包括惜水學堂、惜水大使計劃及慳水運動 等,並設立水知園教育中心,向學生和公眾介紹香港的水資源 並灌輸節約用水的信息。

今天水荒彷彿已經成為歷史,全因東江水從不間斷的供應,潤澤香港60年,支持香港市民安居樂業、經濟蓬勃增長、 社會繁榮安定。在感謝國家長期關顧的同時,我們必須身體力行去節約用水,共同為下一代創造幸福的未來。

With the continuous Dongjiang water supply to Hong Kong for 60 years, water scarcity has become history. Dongjiang water sustains Hong Kong people's livelihoods, supports the rapid economic growth and fosters social stability and prosperity. While expressing our heartfelt gratitude to the Country's long-term and unwavering support, let us commit and participate in water conversation. Together, we can build a brighter future for the next generation.