

Report No. 18

Visit to Dongjiang Water Supply System (1 – 3 November 2016)



Advisory Committee on Water Supplies

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(1 – 3 November 2016)

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SECTION A - INTRODUCTION

Visit to the Dongjiang Water Supply System (東江供水系統) has been conducted annually by the members of the Advisory Committee on Water Supplies (ACWS) and its predecessors, the Advisory Committee on Water Resources and Quality of Water Supplies and Advisory Committee on the Quality of Water Supplies. Through the annual visits, members can be updated on the work in protection of Dongjiang water quality by the Guangdong (GD) Authorities and have the opportunity of direct dialogue with their officials (see details at **Annex 1**) on the Dongjiang water quality. In 2016, a delegation led by the Chairman, Dr CHAN Hon Fai and the Vice-Chairman, Mr LAM Tin Sing, Enoch, with eleven non-official members, three official members and seven other HKSAR Government officials (see details at **Annex 2**) conducted a 3-day visit to the Dongjiang Water Supply System during 1 to 3 November 2016. The itinerary of the visit is appended at **Annex 3**.

SECTION B – THE VISIT

2. On arrival at Heyuan (河源) on the first day (1 November 2016), the delegation began the visit at the Xinfengjiang Reservoir (新豐江水庫) which is also known as Wanlu Lake (萬綠湖). With a water surface area of about 370 square kilometres and a storage capacity of about 13.9 billion cubic metres, the Reservoir is the largest reservoir for regulating the flow in Dongjiang. During a boat ride in the

Reservoir, the delegation had an opportunity to observe on the quality of the water in the Reservoir from a close distance and had a fruitful discussion with the officials including those from the Heyuan Municipal People's Government (HMPG) on the protection and management of water resources in Dongjiang. Noting the actions taken by the HMPG to prevent pollution to the Reservoir, the delegation was impressed by the good quality of the water in the Reservoir.

3. After finishing the visit at the Xinfengjiang Reservoir, the delegation went to Huizhou (惠州) and arrived there in the evening.

4. In the morning of the second day (2 November 2016), the delegation took a 45-minute walk along a section of the Green Way (綠道) at Huizhou, which is built along the bank of Dongjiang, for a close inspection on the water quality of this section of Dongjiang. The delegation noted that Huizhou located at the middle reach of Dongjiang, and they considered that this section of Dongjiang water was in general well protected and there was no noticeable contamination.

5. The delegation then travelled to the Dongjiang River Basin Water Quantity and Quality Monitoring and Control Centre (東江流域水量水質監控中心) managed by the Bureau of Dongjiang River Basin Administration (東江流域管理局). The staff of the centre briefed the delegation that Dongjiang supplies water to about 40 million people in Heyuan, Huizhou, Dongguan, Guangzhou, Shenzhen and other cities of Guangdong Province as well as Hong Kong. To enhance the management and regulation of the water resources in Dongjiang, the GD Authorities developed the System focusing on the management of quantity and quality of Dongjiang water and put it into operation in May 2015. Water regulation plan was formulated in the

System for water quantity regulation. In addition, the System monitors the water quantity and quality of main stream sections, water intake points and sewage discharge points in the river basin and the three major reservoirs in the upstream of Dongjiang (i.e. Fengshuba Reservoir, Xinfengjiang Reservoir and Baipenzhu Reservoir) by collecting water quantity and quality (including pH, turbidity, DO, conductivity etc) data. Moreover, the System could access the existing database of the rainfall and water quality of the river basin and any abnormal condition of the river could be readily identified. Through monitoring closely the real-time situation of water quantity and quality of the Dongjiang Basin, the water supply from Dongjiang can be secured, including that for Hong Kong in terms of quantity and quality. After briefing by the Bureau of Dongjiang River Basin Administration about the System and discussion with their officials, the delegation expressed their appreciation for the efforts made by the GD Authorities in developing such a large scale and comprehensively integrated System.

6. In the afternoon of the second day, the delegation went to Dongguan to visit the Taiyuan Pumping Station (太園泵站) and the Dongshen Water Supply Improvement Works Exhibition Centre (東深供水改造工程展覽館).

7. Taiyuan Pumping Station has a designed capacity of 100 cubic metres per second (m^3/s) and a pump head of 11 metres (m). It is the point where the Dongjiang water is abstracted and then conveyed through a Dedicated Aqueduct to Shenzhen Reservoir before importing to Hong Kong. The delegation were shown the model of the Dongjiang-Shenzhen Water Supply System in the pumping station and briefed on the alignment and operation of the Dedicated Aqueduct. The delegation noted that the intake point of Dongjiang water for supplying to Hong Kong is at about 350 m

upstream of the junction of the Shima River and Dongjiang and the polluted water if any in Shima River is prevented from entering the intake point by means of a fabric dam.

8. At the Dongshen Water Supply Improvement Works Exhibition Centre (東深供水改造工程展覽館), a presentation on the history of the various stages of expansion and improvement of the Dongjiang-Shenzhen Water Supply System was given to the delegation. The delegation was impressed by the scale of the works and the efforts made by the GD Authorities in ensuring adequate supply of Dongjiang water to Hong Kong. The delegation then proceeded to the Jinhu Pumping Station (金湖泵站) which is the fourth and the last pumping station of the Dongjiang-Shenzhen Water Supply System for conveying water to the Shenzhen Reservoir. The Pumping Station is equipped with 8 nos. pumpsets (including 2 nos. standby) with a design capacity of 100 m³/s and a pump head of 25 m. The delegation noted the proper and quality maintenance of the installations of the Dongjiang-Shenzhen Water Supply System which is crucial for maintaining a continuous supply of Dongjiang water to Hong Kong.

9. On the third day (3 November 2016), the delegation visited the site of the Integrated Improvement Works for the Water Environment of Shawan River (沙灣河水環境綜合整治工程) and Shawan River Sewage Interception Works (沙灣河污水截排工程) in Shenzhen which is located at the downstream of the Shawan River (沙灣河) and upstream of the Shenzhen Reservoir (深圳水庫). The Integrated Improvement Works for the Water Environment of Shawan River are intended to enhance the protection against flooding from Shawan River, and improve the water quality of the neighboring and catchment areas of Shawan River so as to protect the water quality of

Shenzhen Reservoir in case of overflow from the river during very severe rainstorms. The integrated improvement works mainly comprise desilting of rivers, laying of sewers and expansion of sewage treatment works. Furthermore, with the completion of the Shawan River Sewage Interception Works, the polluted low flow of Shawan River has been diverted away from the Shenzhen Reservoir to the Luofang Wastewater Treatment Plant (羅芳污水處理廠) for treatment before discharging into the Liantang (蓮塘) River. The interception works can protect the water quality of Shenzhen Reservoir and safeguard the water supply to Shenzhen and Hong Kong.

10. The delegation then visited the Bio-nitrification Plant (生物硝化廠) located at the inlet of Shenzhen Reservoir. The plant receives and treats incoming Dongjiang water by removing the ammonia in the water before it enters the Shenzhen Reservoir. The capacity of the plant is 4 million cubic metres per day. The delegation noted that the Bio-nitrification Plant and Dedicated Aqueduct had significantly improved the quality of Dongjiang water supplied to Hong Kong as well as maintaining it at good quality.

11. Before the end of the trip, the delegation went to the Environmental Water Quality Monitoring Centre of Guangdong Yue Gang Water Supply Co Ltd (粵港供水公司水環境監測中心) established in 1988. Main functions of the Centre include carrying out routine monitoring of the water quality by taking samples from the main stream along the Dongjiang-Shenzhen Water Supply System, conducting the associated analyses and evaluations, inspecting the possible pollution sources and carrying out research works on water quality, so as to ensure the water quality of the Dongjiang-Shenzhen Water Supply System. The Centre can carry out a series of

tests and examinations complying with the required standards for the surface water, drinking water and sewage discharge. The delegation had a fruitful discussion with the staff of the Centre on the monitoring work and was impressed by the highly competent staff. The delegation considered that the Centre played an important role to safeguard the quality of Dongjiang water supplied to Hong Kong.

SECTION C – PRESS CONFERENCE

12. To conclude the visit of the Dongjiang Water Supply System, the Chairman, Dr CHAN Hon Fai with five members, namely Prof WONG Wing Tak, Prof CHENG Man Chung, Daniel, Prof KWAN Kai Cho, Joseph, Ms TONG Po Chun and Ms KWAN Sau Ling held a press conference in the headquarters of WSD upon returning to Hong Kong. The press conference started with a briefing by the Chairman summarizing the observations in the visit with the aid of a short video. Other members also shared their observations in the visit. They were of the view that the quality of Dongjiang water was satisfactory. They also appealed to the public of Hong Kong to conserve the precious water resources.

SECTION D – CONCLUSION

13. The delegation considered the visit very successful and fruitful and they learned about the latest development of the work of the GD Authorities in protecting the Dongjiang water quality. They were thankful to the WSD, the officials of the Department of Water Resources of Guangdong Province (廣東省水利廳) and the executives of the Guangdong Yue Gang Water Supply Co Ltd (廣東粵港供水有限公司) for arranging the visit for them. They appreciated the opportunity to have direct

dialogue with officials of GD Authorities on the quality of Dongjiang Water.

14. The delegation was grateful for the commitment and efforts made by the GD Authorities in maintaining a reliable quantity of Dongjiang water supply to Hong Kong in full compliance with the required water quality standards despite the increasing demand for Dongjiang water in the GD cities to cope with their economic growth.

15. The delegation considered that the visit should continue to be arranged for members of the ACWS in future so that they can keep abreast of the latest development of the work in protecting the quality of Dongjiang water by the GD Authorities.

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ANNEXURE

Annex 1	List of Guangdong Authorities Met
Annex 2	List of Participants
Annex 3	Itinerary

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List of Guangdong Authorities Met

1	廣東省水利廳 Department of Water Resources of Guangdong Province
2	東江流域管理局 Bureau of Dongjiang River Basin Administration
3	河源市政府 Heyuan Municipal People's Government
4	河源市水務局 Heyuan Water Authority
5	河源市環保局 Heyuan Environmental Protection Bureau
6	惠州市水務局 Bureau of Water Resources of Huizhou
7	深圳市水務局 Shenzhen Water Authority
8	粵港供水有限公司 Guangdong Yue Gang Water Supply Company Limited

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List of Participants

姓名 Name	職銜 Title
水務諮詢委員會 ACWS	
1 陳漢輝博士 Dr CHAN Hon Fai	主席 Chairman
2 林天星先生 Mr LAM Tin Sing, Enoch	副主席 Vice-Chairman
3 鄭文聰教授 Prof CHENG Man Chung, Daniel	委員 Member
4 趙寶貽教授 Prof CHIU Pauline	委員 Member
5 關繼祖教授 (HKUST) Prof KWAN Kai Cho, Joseph	委員 Member
6 黃永德教授 Prof WONG Wing Tak	委員 Member
7 黃兆榮博士 Dr. WONG Siu Wing, Eric	委員 Member
8 陳國威先生 Mr. CHAN Kwok Wai, Felix	委員 Member
9 關秀玲女士 Ms KWAN Sau Ling	委員 Member
10 林玉珍女士 Ms LAM Yuk Chun	委員 Member
11 劉乙凡先生 Mr. LAU Yuet Fan, Ivan	委員 Member
12 湯寶珍女士 Ms TONG Po Chun	委員 Member
13 黃碧嬌女士 Ms WONG Pik Kiu	委員 Member
14 李錦鴻先生 Mr. LEE Kam Hung, Edward	委員代表 Member's Representative
15 馮安兒醫生 Dr FUNG On Yee, Connie	委員代表 Member's Representative
16 葉哲奇先生 Mr IP Chit Ki	秘書 Secretary

其他 Others		
17	周世威先生 Mr CHAU Sai Wai	水務署助理署長 Assistant Director, Water Supplies Department
18	連登泰先生 Mr LIN Tang Tai	水務署工程師 Engineer, Water Supplies Department
19	陳錫鎮先生 Mr CHAN Sik Chun, Season	水務署工程師 Engineer, Water Supplies Department
20	羅明珠小姐 Ms LAW Ming Chu, Cecilia	水務署工程師 Engineer, Water Supplies Department
21	朱益輝女士 Ms CHU Yik Fai, Sunny Rachel	水務署水務化驗師 Chemist, Water Supplies Department
22	羅耀業先生 Mr LAW Yiu Yip, Charles	水務署電機工程師 Electrical Engineer, Water Supplies Department
23	葉兆奇先生 Mr IP Siu Ki, Rex	政府新聞處攝影師 Photographer, Information Services Department

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Itinerary

Day 1 (1 November 2016, Tuesday)

- 08:15 Depart at Hung Hom Station
- 12:30 Arrive at Heyuan (河源)
- 12:30 Lunch
- 13:30 Visit Xinfengjiang Reservoir (新豐江水庫)
- 18:00 Arrive at Huizhou (惠州)
- 18:30 Dinner

Day 2 (2 November 2016, Wednesday)

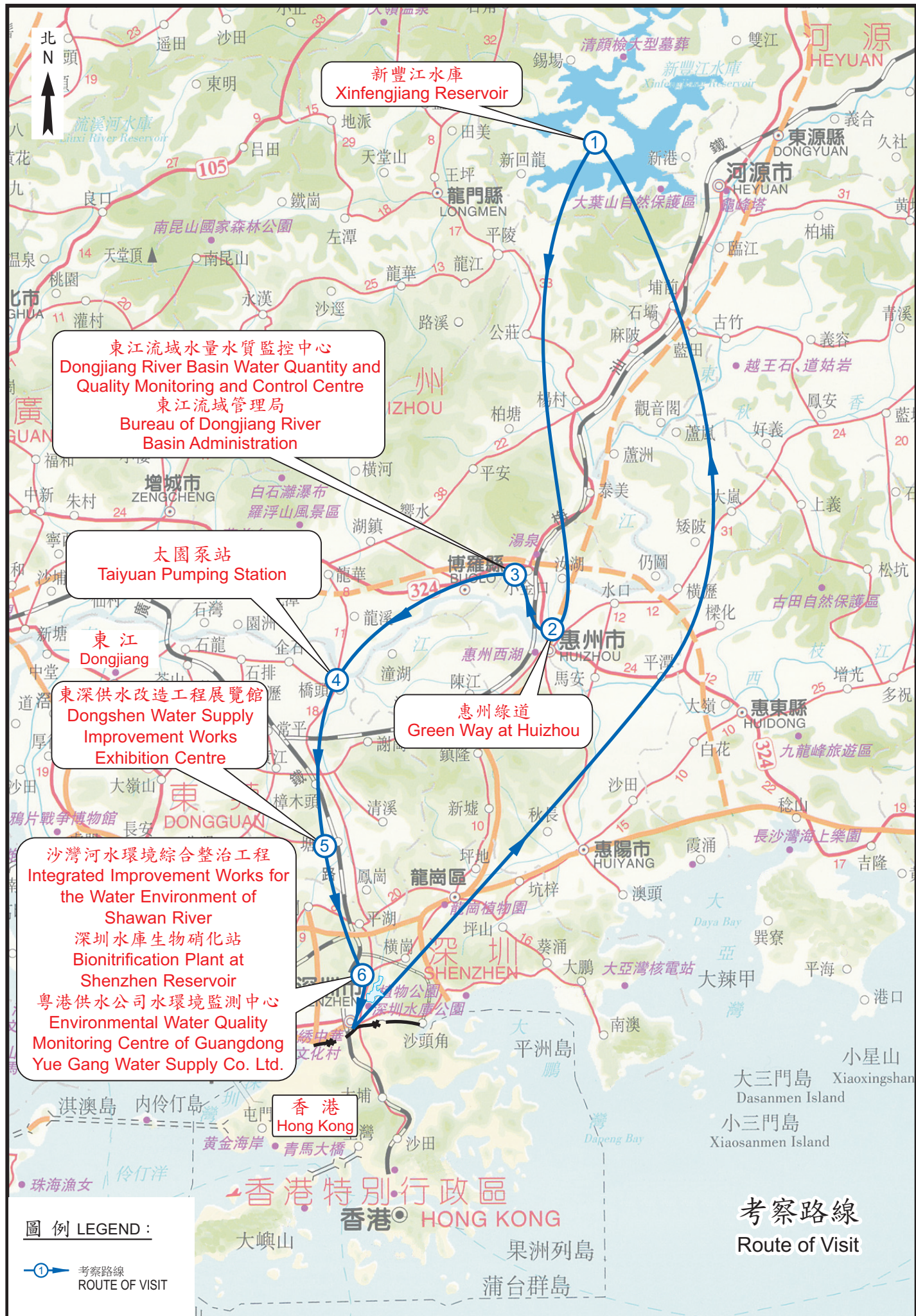
- 09:00 Walk along Green Way (綠道) at Huizhou (惠州)
- 10:15 Visit Dongjiang River Basin Water Quantity and Quality Monitoring and Control Centre (東江流域水量水質監控中心) and discussion with Bureau of Dongjiang River Basin Administration (東江流域管理局)
- 12:30 Lunch
- 13:30 Depart at Huizhou (惠州)
- 14:45 Visit Taiyuan Pumping Station (太園泵站)
- 15:45 Visit Dongshen Water Supply Improvement Works Exhibition Centre (東深供水改造工程展覽館) and Jinhu Pumping Station (金湖泵站)
- 19:15 Arrive at Shenzhen (深圳)
- 19:15 Dinner

Day 3 (3 November 2016, Thursday)

- 09:00 Visit Integrated Improvement Works for the Water Environment of Shawan River (沙灣河水環境綜合整治工程) and Shawan River Sewage Interception Works in Shenzhen (深圳市沙灣河污水截排工程)
- 10:30 Visit Bio-nitrification Plant (生物硝化站) at Shenzhen Reservoir (深圳水庫)
- 11:30 Visit Environmental Water Quality Monitoring Centre of Guangdong Yue Gang Water Supply Co Ltd (粵港供水公司水環境監測中心)
- 12:00 Lunch
- 13:30 Return to Hong Kong via Lo Wu
- 16:00 Convene a press conference at WSD Headquarters, Immigration Tower

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ROUTE OF VISIT



新豐江水庫
Xinfengjiang Reservoir

東江流域水量水質監控中心
Dongjiang River Basin Water Quantity and Quality Monitoring and Control Centre
東江流域管理局
Bureau of Dongjiang River Basin Administration

太園泵站
Taiyuan Pumping Station

東深供水改造工程展覽館
Dongshen Water Supply Improvement Works Exhibition Centre

惠州綠道
Green Way at Huizhou

沙灣河水環境綜合整治工程
Integrated Improvement Works for the Water Environment of Shawan River
深圳水庫生物硝化站
Bionitrification Plant at Shenzhen Reservoir
粵港供水公司水環境監測中心
Environmental Water Quality Monitoring Centre of Guangdong Yue Gang Water Supply Co. Ltd.

香港
Hong Kong

香港特別行政區
香港 HONG KONG

考察路線
Route of Visit

圖例 LEGEND :
① 考察路線
ROUTE OF VISIT

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PHOTOS



Photo 1 ó Discussion between the delegation and the Guangdong/ Heyuan Authorities during the boat ride on Xinfengjiang Reservoir



Photo 2 ó The delegation at boat ride on Xinfengjiang Reservoir

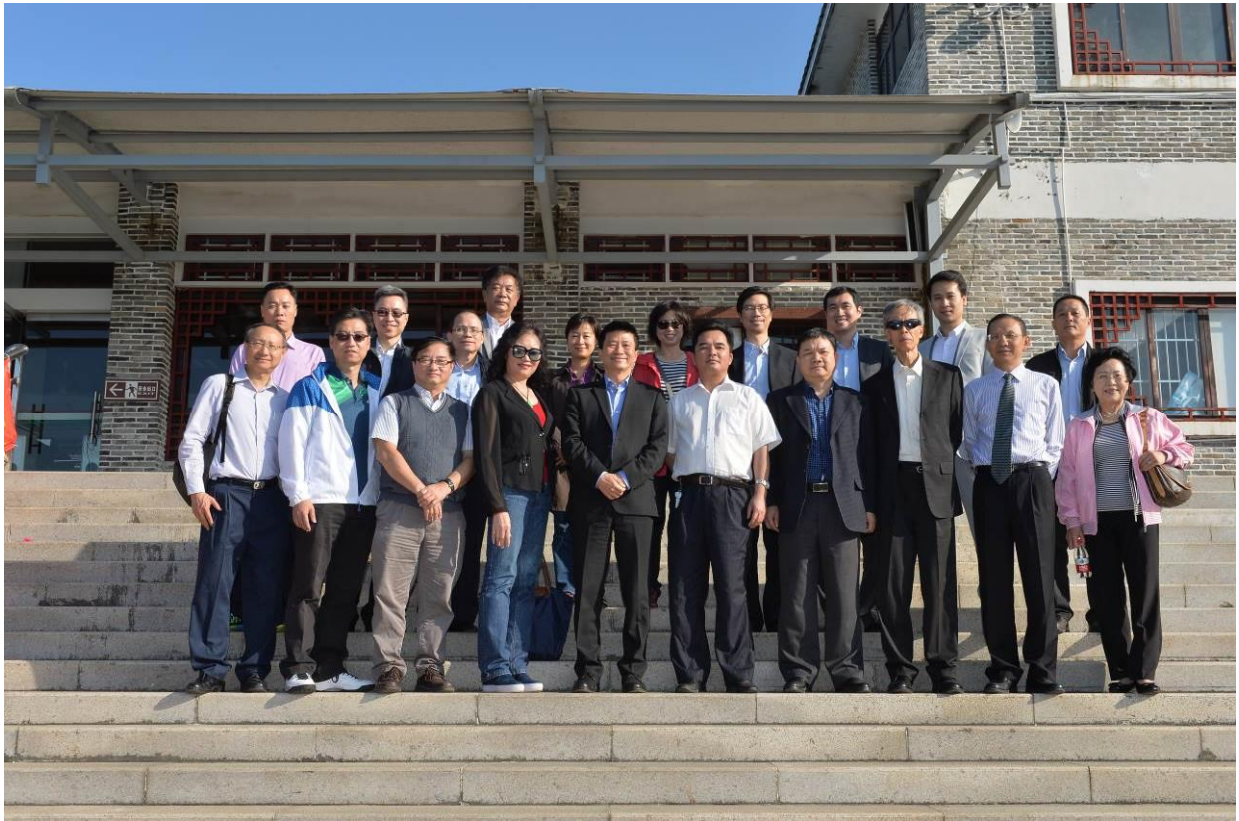


Photo 3 ó The delegation at Xinfengjiang Reservoir



Photo 4 ó The delegation at Green Way, Huizhou



Photo 5 ó The Chairman and Vice-Chairman of ACWS (from left to right) at Green Way, Huizhou



Photo 6 ó The delegation at Green Way, Huizhou



Photo 7 6The Chairman and Vice-Chairman of ACWS (from right to left) at Dongjiang River Basin Water Quantity and Quality Monitoring and Control Centre



Photo 8 6The Chairman and Vice-Chairman of ACWS (from left to right) at Dongjiang River Basin Water Quantity and Quality Monitoring and Control Centre



Photo 9 ó The delegation at Dongjiang River Basin Water Quantity and Quality Monitoring and Control Centre



Photo 10 ó Discussion between the delegation and the Bureau of Dongjiang River Basin Administration

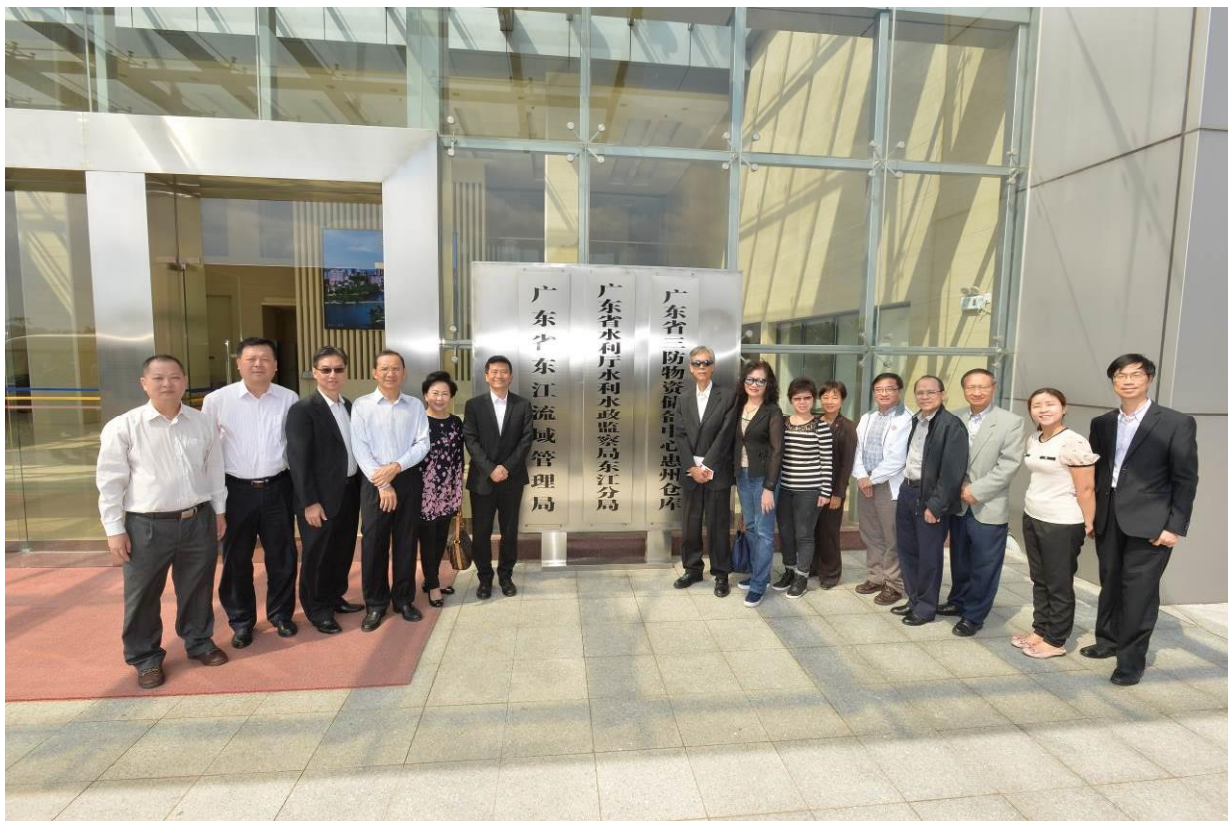


Photo 11 ó The Delegation at Bureau of Dongjiang River Basin Administration



Photo 12 ó The delegation at Taiyuan Pumping Station



Photo 13 óThe Chairman and Vice-Chairman of ACWS (from left to right) at Taiyuan Pumping Station

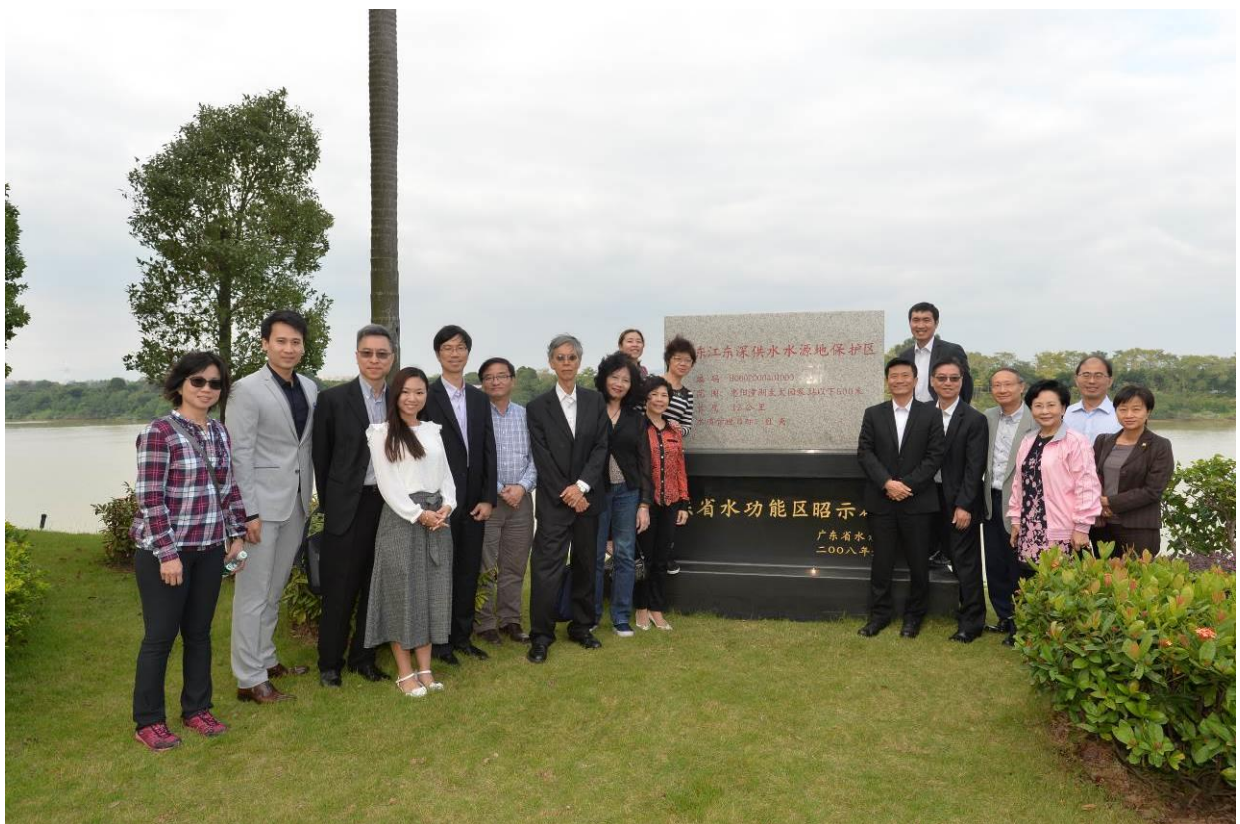


Photo 14 ó The delegation at Taiyuan Pumping Station



Photo 15 ó The delegation at Dongshen Water Supply Improvement Works Exhibition Centre



Photo 16 ó The delegation at Dongshen Water Supply Improvement Works Exhibition Centre



Photo 17 ó The delegation at Dongshen Water Supply Improvement Works Exhibition Centre



Photo 18 ó The Chairman and Vice-Chairman of ACWS (from right to left) at Jinhu Pumping Station



Photo 19 ó The delegation at Jinhu Pumping Station



Photo 19 ó The delegation at Integrated Improvement Works for the Water Environment of Shawan River



Photo 20 ó The delegation at Integrated Improvement Works for the Water Environment of Shawan River



Photo 21 ó The delegation at Shawan River Sewage Interception Works



Photo 22 ó The delegation at Bio-nitrification Plant, Shenzhen Reservoir

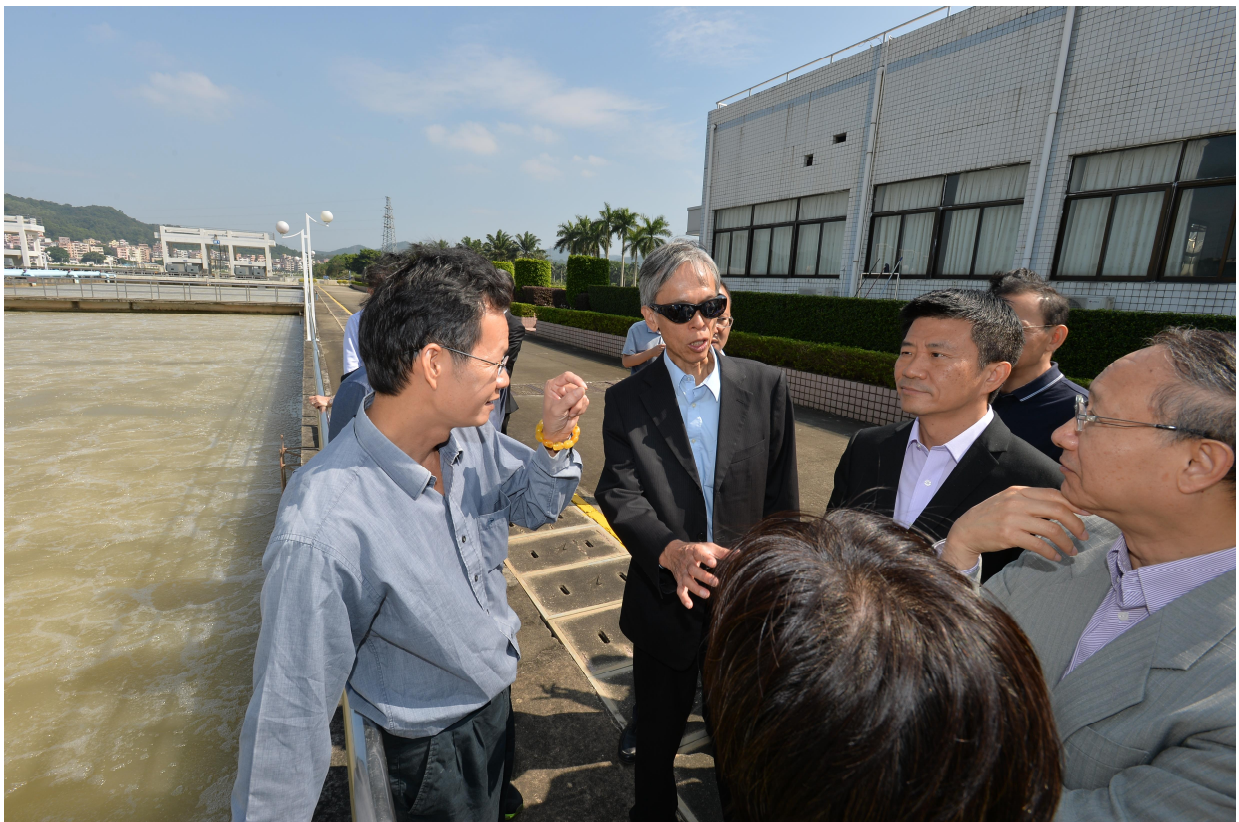


Photo 23 ó The delegation at Bio-nitrification Plant, Shenzhen Reservoir



Photo 24 ó The delegation at the Environmental Water Quality Monitoring Centre of Guangdong Yue Gang Water Supply Co Ltd



Photo 25 ó The delegation at the Environmental Water Quality Monitoring Centre of Guangdong Yue Gang Water Supply Co Ltd



Photo 26 6 The press conference



Photo 27 6 The press conference

