

Advisory Committee on the Quality of Water Supplies
Report No. 6 - Visit to Dongjiang Water Supply System
(11-12 November 2004)

SECTION A - INTRODUCTION

1. The purpose of the 2-day visit on 11 - 12 November 2004 was to observe the effect on the water quality of Dongjiang water after the commissioning of the Dongshen Water Supply Improvement Works, the efforts of the Guangdong side in protecting the quality of Dongjiang water and the drought condition in Guangdong. The list of participants and the itinerary are enclosed in **Annex 1** and **Annex 2** respectively.

SECTION B – FEEDBACK FROM MEMBERS

2. A press conference was held in the Kowloon West Regional Building of the Water Supplies Department at the end of the visit. A short video that highlighted the visit was played followed by an account of the visit given by the Chairman, Mr. FANG Hung, Kenneth and four members, viz. Mr. WONG Kwok Keung, Dr CHAN Hon Fai, Dr CHAN Yongqin, David and Ms LEE Yoke Shum, Sam.

3. At Xinfengjiang, Members noticed that the water quality there was maintained at a high standard and was the best in Guangdong Province. Members appreciated the Guangdong side's effort in protecting Xinfengjiang, such as shutdown of a cement plant and closure of recreational items that might pollute the environment. However, Members noted a drop in the storage of Xinfengjiang and understood from the Guangdong side that the present drought in Guangdong had continued for about three years and was becoming more severe. This year, the total rainfall received so far in Guangdong was only about 1,200 mm, which was much less than the long-term average of some 2,000 mm. The condition was between a 1-in-100 and a 1-in-50 year drought, and was very close to a 1-in-70 year drought.

4. At present, the usable storage of Xinfengjiang had dropped to less than 2,000 million cubic metre (mcm). In order to preserve water for supply to about 30 million population downstream, Members understood that the Guangdong side would strictly control the draw-off from Xinfengjiang to Dongjiang. The water supply function of Xinfengjiang would be accorded the top priority whereas the navigation, suppression of backflow of seawater and power supply function with a lower priority. The Guangdong side also assured that they would reserve water in Xinfengjiang to cater

for another drought in 2005.

5. Members were told that the most severe drought at Guangdong happened in 1963. The rainfall received in 1963 was only about 900 mm and was much less than that in 2004. However, the effect of the drought today was much greater than that in 1963 because the water demand in Guangdong had increased significantly due to urbanization and rapid developments, including industrial and residential developments, and the rapid economic growth. Pollution of some water resources had also aggravated the situation. Notwithstanding this, the Guangdong side emphasized that the provision of drinking water to the citizens, in particular to the people of Hong Kong, was their most important mission. They assured that Dongjiang water supply to Hong Kong was secure and well guaranteed.

6. Members also understood that after commissioning of the closed aqueduct system, the Guangdong side continued and focused their efforts on the protection of Dongjiang at its sources, mainstream and tributaries, in particular at Heyuan and Huizhou. Members had visited the Heyuan Sewage Treatment Works and the Huizhou Meilake Water Purification Centre. The Heyuan Sewage Treatment Works with a total capacity of 80,000 m³/d would be implemented in two phases. The Phase I Works, with a capacity of 40,000 m³/d, would be commissioned by the end of December 2004. The capacity of the existing Huizhou Meilake Water Purification Centre was 100,000 m³/d. After completion of the Phase II Works, the capacity of the Huizhou Meilake Water Purification Centre would be increased to 200,000 m³/d and percentage of sewage treatment would be increased to about 80%. After completion of the above works, there would be a reduction on the pollution loading of Dongjiang water.

7. In Dongguan, Members visited the East Bank Water Quality Monitoring Station and the Taiyuan Pumping Station. They witnessed the construction of the Shima River Sewage Diversion Works near the confluence with Dongjiang. Upon completion of the works by the end of 2004, the dry weather flows from Shima River would be diverted to a sewage treatment works for treatment before discharge into the Pearl River and would not flow into Dongjiang. Cities downstream including Dongguan and Guangzhou would be most benefited. The quality of Dongjiang water supply to Hong Kong would also be better assured, as even the slim chance of polluted water from Shima River flowing upstream to the Dongjiang water intake of Taiyuan Pumping Station would be eliminated.

8. At the Jinghu Dongshen Water Supply Improvement Works Exhibition

Centre, Members had learnt the history of the Dongshen Water Supply Improvement Works. Members appreciated the tremendous effort made by the Guangdong side in protecting the quality of Dongjiang water.

9. In Shenzhen, Members visited the sewage interception works and the Bio-nitrification Plant in the Shenzhen Reservoir. The Shenzhen Reservoir Catchment Area Sewage Interception Works, which was built to prevent sewage discharge into the Shenzhen Reservoir, had already been completed and successfully collected and transferred the sewage to the Luofang Sewage Treatment Works for treatment before discharge to the Shenzhen River. The Guangdong Authorities advised that the pollution of Shenzhen Reservoir was under control and the quality of water supply to Hong Kong was well protected.

10. In the Bio-nitrification Plant, Members noted that the quality of Dongjiang water received in Shenzhen Reservoir had been improved significantly since commissioning of the closed aqueduct in June 2003. The purpose of the Bio-nitrification Plant was to remove the ammonia present in the incoming Dongjiang water. Due to the improvement in quality of water entering the Shenzhen Reservoir, the Guangdong side would operate the Bio-nitrification Plant at a lower aeration rate to maintain the growths of microorganisms and to increase the dissolved oxygen content of water. Members appreciated the effort and success of the Guangdong side in protecting the quality of Dongjiang water.

SECTION C – CONCLUSION

11. Members agreed that the visit was informative and successful. Members were impressed by the continuous effort made by the Guangdong Authorities in combating pollution and protecting the environment and quality of Dongjiang water at its source, mainstream and tributaries as well as the Shenzhen Reservoir. Members appreciated very much the commitment of the Guangdong Authorities in maintaining a continuous water supply to Hong Kong despite the current severe drought condition in Guangdong. More importantly, Members were able to communicate and discuss with the Guangdong officials directly and openly regarding issues concerning the supply and quality of Dongjiang water.