

**The Ecology and Economy of Urban Water Supply:
the history of Hangzhou and the West Lake from the Song to the Ming dynasties as
seen from micro and macro historical perspectives.**

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The project will explore the ecology and economy of urban water supply on a micro historical level under macro historical conditions.

Providing big cities with drinking and service water has long been a vital issue throughout Chinese history. The city of Hangzhou 杭州 located in southeastern China is a highly instructive case with regard to the full range of problems of water supply since the city of Hangzhou that was built on saline soil, mainly relied on a freshwater reservoir west of the city, hence named West Lake (Xihu 西湖), via a canal system.

Despite its peripheral location at the estuary of the Zhe River (Zhejiang 浙江), the city of Hangzhou had already developed into an important traffic junction and transshipment center by the Northern Song Dynasty (960-1127) when it was chosen as capital Lin'an 臨安 of the Southern Song Dynasty (1127-1279). During the Yuan 元-Dynasty (1279-1368) the city of Hangzhou formed a supra-regional trade and transport hub between the Grand Canal and the sea coast and during the Ming 明-Dynasty (1368-1644) it became a center for imperial silk production.

Hitherto, research has regarded Hangzhou as a prosperous metropolis amidst the cultural landscape around the West Lake, covering urban water supply only as a minor issue and mainly examining its supplying freshwater reservoir in its landscape esthetical function.

By contrast, the present research project aims at exploring the technical and hydraulic functioning of the complex urban water supply system as well as the funding and organization of the construction and maintenance of its facilities. The project raises the question of concurrent utilizations of the water as a scarce resource while its quality and quantity depended on alternative uses of the freshwater reservoir and the canals as sites for agriculture and housing and of the canals as traffic routes on the one hand and on the other hand were exposed to climatic variations and the man-made environmental risks of erosion and silting-up.

Due to its prominent political role particularly during the Southern Song Dynasty, almost any source materials on the city including its water supply infrastructure was compiled and handed down in the updated follow-up editions of its local gazetteer. Additionally, recent archeological excavations include some water facilities.

The project will clearly work out the economic and ecological factors of influence behind the water supply issues. Besides that, the analysis will show how the economic valuing of water supply and the environmental impact on the water infrastructure simultaneously reflect the city's changing political role while it will be shown that the achievements during the Song Dynasty were crucial for any further actions as they were undertaken during the Yuan and Ming dynasties.