

NEW MEANING OF “JINGSHI” CONCEPT FOR CHINESE TOWNS

Nowadays, both climate change and growing population cause problems in many Chinese old towns (Yin et al. 2005). We studied such problems in a specific case, the old city of Xiaoyi in the Shanxi province of China. Observations and interviews on site, showed that the most urgent problems caused by climate and demographic changes for the old town are: water shortage, water pollution and lack of green.

The water shortage problem in the urban area is mainly caused by decreasing precipitation. The steady growth of population made this situation even worse (Liu 2009; Wang 2008). Due to a lack of water purification systems and informal settlements in the old towns without sewage treatment systems, much urban water got polluted by domestic waste water. Apart from that, many locals complained about the lack of green in their living environment.

For dealing with these problems we did some ‘backtracking’ about ancient concepts of Chinese cities. We noticed that actually the Chinese word for ‘city’, being ‘jingshi’ (井市) literally translated means ‘source/well and market’. In ancient Chinese cities, the wells provided water for locals and they were always the most natural places in the city. (Wu 1999). So this old concept already points to a close connection of human activity to water and landscape. The layout of old ‘jingshi’ cities showed that sustainably utilized water resources and combined them with tree plantings.

The ‘jingshi’ as a traditional Chinese city planning concept existed for thousands of years. However, in many Chinese cities, these ancient ideas have been forgotten. Therefore we want to reinterpret this old ‘jingshi’ concept and adapt it to the present.

In this study, we characterized the water and green systems of the old ‘jingshi’ model and what it can mean nowadays as a ‘new jingshi model’ on three different scales. On city scale, the town was surrounded by a moat and green spaces. The city moat was connected with a nearby river for fresh water provision and had thus a high water quality. Nowadays, these systems can be revived by urban green public spaces, vegetated city moat/ channels, and ponds.

On neighborhood scale, all courtyard houses were built around wells with a green environment. Wells provided drinking water for locals and at the same time, a place for communication for residents. For the ‘new jingshi’ concept, the ‘well’ can be reinterpreted. It will consist of waterbodies for recycling of domestic grey water in the neighbourhood with helophyte filters. Besides, more green spaces with different

functions will be combined with the helophyte filters.

On courtyard scale, a water retention area (being the height difference between plinth at the doorsteps and courtyard base) and various kinds of trees and plants were all important green and water elements. Within the 'new jingshi model' the interventions include green roofs, water storage (underground cisterns) and reuse systems, and a rainwater garden.

We applied these green and water principles of the 'new jingshi model' in Xiaoyi. In this process, different design alternatives, based on the 'new jingshi model', were provided for each scale. These alternatives were analyzed on various aspects. On city scale, important aspects were: green accessibility, moat water quality, water consumption, aesthetic value and costs. On neighborhood scale, evaluation aspects were: water quality, green accessibility, rainwater collection, usability for communication, and microclimate. On courtyard scale, important aspects were water reuse, rainwater collection, micro climate, social connection/block and daily functions. In general, we found that there are many positive synergies.

The design study indicated that the application of the 'new jingshi model' has great potential for future development for the study area in Xiaoyi. But we also expect the 'new jingshi model' and the sustainability driven planning attitude behind it a suitable design principle for most Chinese old towns in the light of climate change the population pressure.

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