## research highlights

ENVIRONMENTAL HISTORY Beer garden city

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Credit: Lucas Schifres / Getty Images AsiaPac

Tsingtao beer is one of the oldest and most famous beer brands in China. Beyond the history, its creation and brewing symbolizes the various impacts and cultural threads of industrialization and urbanization in an area that was seen as the 'garden city' of China.

Shen Hou at Renmin University has examined the environmental history of Tsingtao beer from 1900 to 1950. Though the city of Qingdao has multiple rivers, the brewery was almost exclusively using groundwater from the Laoshan mountains, expanding well operations numerous times to reduce the need for river water while using upwards of 60,000 tons of water to produce 1,200 tons of beer in 1947. Over time the city, with a booming population and extensive industry, had to draw upon the inland Yellow River, though Tsingtao was still marketed as being brewed from local, and clean, water sources. This image of cleanliness was integral to the promotion of Tsingtao and beer in general, which was thought to be a healthy, hygienic and modern alcoholic drink for Chinese consumers — ideals rooted in how the beer was produced. The beer itself was even altered due to local conditions: the importation of principal ingredients often led to high costs and supply bottlenecks, leading the Japanese owners to introduce rice which has remained a component due to its lighter taste.

However, the image of the 'garden city' and its clean, sterile beer has had to contend with the environmental costs to Qingdao and its coastline. Each ton of beer required massive amounts of water and produced nearly four tons of wastewater, which was sent out to the nearby bay. It also produced piles of spent grains, and air pollution from coal-fired brewing.

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