

Tracing water, Sewing doubt: a forensic investigation using the lens of water in the desert landscape of Xinjiang to reveal

Abstract:

The research will examine the Tarim Basin in Xinjiang, China, through the lens of water to delineate power relations in the region. With the majority of water resources being redirected for agricultural needs, what is apparent is the emphasis on planting highly water-dependent “cash crops” like cotton. Situated at the periphery of a desert, arable land relies entirely on sustained irrigation systems. Despite this water paradox, Xinjiang remains the unchallenged leader in cotton production in China with 86% of all cotton garments having some sort of direct or insidious relationship with the region, whether it was grown, spun or sewn. Dubbed the “World’s Factory”¹ China produces 1/5th of all cotton garments, and this industrial machine continues to be fueled by a large labour workforce. Using a forensic approach, the research will devolve how a coerced Uyghur workforce is fundamentally intertwined into the global supply chain of cotton. Whilst seem distant, these practices touch all of us by means of our clothes. Finally, this method will reveal the obscured network of infrastructure between fields to factories and demonstrate how Xinjiang holds not just one but a number of invisible Cottonopolies. (cotton - polis : cotton cities)

Problem Statement:

The issues which lie at the heart of this research are two: the first is a problem of scale and the second is a problem of valid resources. The sheer scale of Xinjiang presents itself as a problem. Over twice the size of France, the region is vast and presents the question of how best to lift information from the landscape. Applying a lens to filter information is an obvious answer, however, the choice of lens is important. For the sake of this investigation, it was imperative to try to read the landscape prior to popular discourse on the region, so as not to be swayed by media-driven conversations. This lends itself to the second problem; China data regulations. One of the key issues with China is the lack of freedom of speech which affects published information. This causes the validity of sources to be called into question for any data given or gathered must be considered to have passed rigorous censorship standards held by the Chinese National Communist Party (CNCP). Fundamentally, for this research, all discourse should be investigated for its existence does not prove a reality, but further skews it. On top of all these problems lies another. To visit Xinjiang you need a special visa. Regardless of the pandemic, it would not have been accessible to visit, meaning this research relies heavily on creating a concrete formula to map and gather information with intention.

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<https://www.investopedia.com/articles/investing/102214/why-china-worlds-factory.asp#:~:text=The%20%20reasons%20why%20China%20is%20the%20world's%20biggest%20manufacturer&text=In%20addition%20to%20its%20low,duties%2C%20and%20competitive%20currency%20practices.>

Research Questions:

1. How can water delineate power relations and reveal social-political narratives in desert landscapes? Specifically, where is the water going, to whom and why?
2. What are the resources being redirected to engineer the perfect cotton industrial zone at the edge of a desert? What architecture and infrastructure give evidence of this? What is being destroyed vs created?
3. What are the architectural repercussions of this development? How can architecture engage with these issues?
4. What structural network is present to support Xinjiang as a modern Cottonopolis? What can we tell of Xinjiang's global reach in the cotton industry?

Methodology:

As aforementioned, the issues with observing the state of power in Xinjiang are a result of its scale alongside the bureaucratic troubles of securing valid sources. The solution to both issues became an intrinsic part of the research method by first applying water as a lens in which to focus our research. The second tackled the issue of reliability of datasets by using a forensic method to identify real pieces of infrastructure and architecture along the water's course which are lifted from the arrangement of the discourse.

1. Water as a magnifying lens

A lens is an ideal tool to help filter out information to tackle Xinjiang's scale. According to geographer Matthew Gandy, water is a brutal delineator power². In desert conditions, like that of the Tarim Basin, these struggles of power are heightened as competition between different groups puts pressure on finite resources. Situated in an endorheic basin and flanked by mountains, rivers fed by glacier meltwater do not leave the region making it possible to trace the flow from its source to its mouth alongside the infrastructural intervention set up along its way. Thus, the lens allows us to read how the water is being used to re-territorialized the landscape. Applying the filter allows the eye to be drawn to breaks in the ephemeral flow from the glaciers to desert. Infrastructure projects disturb the water's natural course, diverted for agricultural needs, industry and urban growth. The system of dams, reservoirs and canals are all visible from aerial photos in Google maps and Chinese map service Baidu. It poses further questions of ownership and access revealing the bodies who control and are controlled by water. Following the flow of the water and its deviations, we note trends in human intervention specifically in agricultural operations.

2. Forensic architecture

As aforementioned in the problem statement, there are dangers of blindly using discourse from conflicting western vs eastern media sources and data sets from the CNCP's government website or reports. There is a need for a system to fact check. Therefore, this research will use a Forensic approach in order to determine the delineation of powers through water infrastructure in Xinjiang. The

² <https://e3p.jrc.ec.europa.eu/publications/rethinking-urban-metabolism-water-space-and-modern-city>

methodology, developed by British firm Forensic Architects, recognises the biases of sources and seeks to rectify this by cross-reference data sets with multiple accounts, film footage, photographs, GIS maps and Google Earth images. In a form of deep mapping, this system should reveal correlating architecture or infrastructure projects in two or multiple sources which then can be identified through a map. Data sets included infrastructure projects like dams, reservoirs, canals and irrigation channels. These physical entities which deviate from the river's natural course can be tracked and traced to examine the extent of human manipulation. For example, if a news outlet reports of the completion of a dam on the Yarkand River which has no coordinate system, the reference can be cross-checked by tracing the water back into the mountains to find the correlation structures. From there you can trace the entirety of the river and see where their water is being diverted. Almost as if a method of deep mapping, the aim is to use ambiguous data from QGIS and Google Maps to relate to written articles. Once the location of the farms growing cotton are found, the next step will be to pin the respective network of cotton mills, weaving factories, and finishing sites. This then will give a comprehensive picture of the Cottonopolis network hidden in the heart of Xinjiang. A broader picture of how these factories are connected not just nationally but globally can be understood by overlaying infrastructure.

The last issue addresses how these factories are manned. It is impossible to uncover this using the methodology applied above. For this, we must utilize discourse to better understand logistics. The cost of labour is the root of controlling and maintaining a competitive price market. Continuous reports of labour transfers from local townships in Xinjiang show a system supplied with a cheap labour force. This can be understood as coercive labour or more simply the government's ambition to lift people out of poverty. Although reports identify a number of re-education camps alongside factories in Xinjiang, it is typical to have sleeping quarters attached to the factory compound. From aerial photos, these factories alongside labour compounds walled off and surrounded by security may seem dubious to a Western perspective but commonplace in industrialized environments. More concretely, the research will look at the proximity of prison labour to factories which are a more overt component in the labour transfers system.

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