



# Authoritarian Environmentalism and Epistemological Violence: A Southern Green Criminology Analysis of the 2014 Lanzhou Water Crisis and the Belt and Road Initiative Expansion into the Global Water Sector

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## Abstract

This article examines authoritarian states' roles in commodifying freshwater resources in illiberal societies. The authors argue that collusion between global capitalism and national authoritarian interests has affected the legal structure, regulation enforcement, and institutional practices of public–private partnerships in China's municipal water systems, resulting in regulatory failures in drinking water provision. The article also explores the implications of China's state capitalist expansion into the global water utilities market as part of the green Belt and Road Initiative and suggests that this expansion may lead to new patterns of environmental concerns in the Global South. The findings demonstrate that collusion between neoliberal and authoritarian capitalist expansions shapes increasing inequalities and environmental governance standards in the Global South. The authors stress the need to view environmental and public health disasters resulting from water privatization as a transnational crime rather than solely focusing on nation-state regulatory mechanisms that exemplify “metropolitan thinking” in criminology.

**Keywords:** Southern green criminology; water crime; privatization of water; authoritarian environmentalism; green Belt and Road Initiative

## Introduction

The commodification of water resources has been a significant focus of green criminology, particularly regarding privatization, contamination, and water theft (Brisman et al. 2018, 2020; Eman and White 2020; Johnson, South and Walters 2016; White 2019). As the private sector's involvement in water supply management has grown globally, it has been viewed as a manifestation of the neoliberalization of natural resources that can increase water service efficiency and improve water quality in the Global South (Zhang et al. 2016). However, past studies on privatization have highlighted profound difficulties in governance and regulation, leading to growing inequalities and dispossession and resulting in environmental and social harm against underprivileged communities in the Global South (Bakker 2014; Brisman et al. 2018; Eman and White 2020; Goyes 2019; Goyes and South 2019).



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Despite extensive research on water crime in green criminology, most criminological literature has not explored authoritarian states' roles in commodifying freshwater resources in illiberal societies. This article addresses this gap by analyzing the regulatory failures that led to the 2014 Lanzhou water crisis, wherein 3.6 million people were exposed to benzene contamination in tap water for eight days. This study uses a Southern green criminology approach to answer how the collusion between the authoritarian state and neoliberal practices generates environmental conflicts and legitimate environmental harm and how the expansion of authoritarian state capitalist interests—here, through China's Belt and Road Initiative (BRI)—creates new environmental governance hurdles in the Global South. The findings demonstrate that a Southern green criminology approach contributes a more nuanced theorization of North–South relations, examining how geopolitical struggles between neoliberal and state capitalist expansions shape the formation of environmental regulations and water standards. It is shown that the Lanzhou water crisis was a case of state–corporate collusion and that the expansion of authoritarian environmentalism—and its failures—that led to the crisis in the Global South through the BRI constitutes a form of epistemological violence.

### Water Privatization and Green Criminology

The world's rapidly growing population has created an escalating demand for freshwater, especially in the Global South, where most of the population growth is expected to occur in the coming decades (Brisman et al. 2018). Inadequate access to safe and sanitary water has been attributed to over 3% of all human deaths worldwide, with children under the age of five being the most vulnerable (Brisman et al. 2018). International law recognizes the right to water as a fundamental human right. Article 11 of the *International Covenant on Economic, Social, and Cultural Rights* states that nation-states should respect, protect, and fulfill the right to food (and, therefore, water) for all individuals, including protection from infringement by third parties (United Nations General Assembly 1966). Failing to provide safe and clean drinking water, an intentional act presenting potential harm or damage should be considered a water crime and, thus, a suitable subject for green criminology.

Privatizing and commodifying water resources significantly reduces access to safe and clean drinking water. The *International Conference on Water and the Environment*, Dublin, in 1992, marked a shift in the perception of water as an economic good from a public one that constitutes a fundamental human right (Bakker 2014). While water utility privatization—where the government delegates water distribution and management to private companies—was initially considered a solution to inefficient resource access and infrastructure development, it has been criticized as a predatory practice that disproportionately affects governments in the Global South (White 2019). The World Bank's structural adjustment programs and policy networks have created a water market accessible to transnational corporations that benefit from their technological expertise and access to international capital (Ge and Hu 2008).

Additionally, pressuring the Global South to privatize public water systems under the guise of economic and social development often leads to price increases and a decrease in water quality, exacerbating inequality and failing to address issues of access and inefficiency (Herrera Arango, Senent-De Grutos and Molina 2022). Commodification also leads to water grabbing, generating water scarcity for local communities and increased limitations on water access (Bakker 2014; Johnson, South and Walters 2016). The subsequent uneven distribution and access to water resources exacerbates water theft, including illegally acquiring natural water courses and piped or harnessed water (White and Eman 2020). Therefore, the profit motive of transnational water oligarchs initiates water crimes when the commercialization of water resources results in the pollution or depletion of these resources, water theft, manipulation of treatment, and illegal waste management (Brisman et al. 2020).

The commodification of water resources results from the application of neoliberal principles to the sale and distribution of water, leading to the “neoliberalization of nature”—the assertion of private ownership over global commons and significant risks because the fragmented regulatory landscape often results in hazardous contamination and under-provision (Brisman et al. 2018, 2020; Johnson, South and Walters 2016). The focus on private-sector profits leads to diminished state ownership and reduced regulatory capacity through concession contracts, which limits the ability of the public to negotiate, renegotiate, or terminate water privatization (Herrera Arango, Senent- De Grutos and Molina 2022). This lack of accountability facilitates state and corporate collusion, where illegal or inappropriate activities are generated through the mutual interaction between government agencies and private economic institutions, which can be challenging to prosecute due to the complex knowledge–power dynamics behind such harmful behaviors (Whyte 2014; Brisman et al. 2018). Further, with the loss of public control, access to information regarding procedures and operations is also limited. This loss of transparency replaces public oversight with state–corporate collusion, compromising the public's participation in decision-making processes and leading to the deterioration of public welfare and environmental sustainability (Brisman et al. 2018; Herrera Arango, Senent- De Grutos and Molina 2022). These issues are crucial to the field of Southern green criminology, which examines and challenges the global power structures that perpetuate environmental injustices in the Global South (Goyes 2019).

### ***A Southern Perspective on Environmental Harm***

A Southern perspective, scrutinizing the power dynamics ingrained in “periphery-center relations in the realm of knowledge” (Connell 2007:8), is required to fully comprehend the detrimental environmental and social consequences brought about by the commercialization and privatization of water. The Global North–South divide does not hinge primarily on the binary between developed and developing nations but rather on the persistent unequal economic and ecological exchanges shaping the political and economic realities of previously colonized and peripheral societies and on the unequal power relations that connect communities across national boundaries (Carrington, Hogg, and Sozzo 2016; Weis 2019). The international order was first established by colonial conquest and, subsequently, legitimized by the epistemological violence of the North, which utilized a normative benchmark of progress, science, and modernity to justify dominance and exploitation (Goyes and South 2019; van Uhm and Grigore 2021). As a Northern epistemological enterprise rooted in “metropolitan thinking,” criminology has traditionally been limited by its universal theories, which have overlooked the violence and victimization caused by colonial conquest, state-building, and the expansion of the global capitalist system (Carrington, Hogg, and Sozzo 2016; Goyes 2018; Weis 2019). Globalization has further created spaces of insignificance and discontinuities where the concentration of capital and resources allows transnational companies to exploit and disrupt socio-ecological systems worldwide (Goyes and South 2019).

The hierarchical production of knowledge and regulation of natural resources has silenced the environmental and social harm experienced by marginalized communities and suppressed Indigenous knowledge production by favoring European rationality as the dominant approach to governing all environmental and social issues (Goyes 2018, 2019). This epistemological colonialism is widespread in the discourse of development and conservation, which is legitimized by nation-states and international legal systems, further exacerbating power imbalances between the Global North and South (Goyes 2018). Non-European perspectives are marginalized and excluded from decision-making, reinforcing the belief that a rational cost-effectiveness mentality is superior and disregarding alternative interpretations of development and human–nature relations. This narrow ontology prioritizes capital accumulation and anthropocentrism as the sole foundations for environmental governance (Goyes 2019). As a result, environmental laws have often been distorted by the convergence of illicit and legal practices and the securitization of natural resources (Weis 2019). International and domestic legal instruments intended to prevent and regulate environmental harm have become tools of exploitation, benefiting transnational capital and state bureaucracies at the expense of those displaced and dispossessed by the global capitalist system (Carrington, Hogg and Sozzo 2016; Goyes and South 2019). Authoritarian societies, such as China, have also been affected by the ecological discrimination prevalent in the neoliberal world order.

### ***Authoritarian Environmentalism and Regulatory Pluralism***

China’s rapid urbanization and economic growth have exerted enormous pressure on the environment, posing significant challenges to the state’s legitimacy (Mao, Zhang, and Weeks 2021). In response, environmental governance in China has gradually shifted from a top-down approach focused on end-of-pipe treatment to state-led economic structural adjustments aimed at protecting and conserving natural resources (Mao et al. 2022). Concurrently, an authoritarian regulatory pluralism has emerged, incorporating the participation of non-state stakeholders in policy formulation and the use of economic incentives to improve compliance and accountability, replacing the previous top-down enforcement of environmental regulations. In this model, effective environmental controls and legitimacy are achieved through collaboration between state actors and corporations integrated into transnational economic networks, as well as through nongovernmental organization (NGO) participation. However, the Chinese regime often prioritizes economic and environmental policy outcomes over bottom-up public participation and oversight, which is crucial for understanding the complexities of drinking water provision within an authoritarian context (Mao et al. 2020; Mol 2018).

### ***The Privatization of Drinking Water in China***

While water pricing schemes for urban water supplies began in the 1980s, China began widespread marketization of water and public–private partnership (PPP) projects into water infrastructure only after the release of the 1992 *Dublin Statement on Water and Sustainable Development* (Zhong, Mol and Fu 2008). Two national laws were passed to attract foreign investment in public infrastructure and mandated water pricing to include a net profit of 8% to 10% for private-sector investors, which set the foundation for the first wave of foreign investment in China’s water sector model (Liu 2015).

The proliferation of private-sector involvement in China’s water supply was largely due to the influence of international development agencies such as the World Bank and the Asian Development Bank (ADB). Both leveraged infrastructural loans to entice governments in Asia to open the public utility market to private and foreign capital (Liu 2015). While ostensibly focused on poverty alleviation, ADB consistently advocated for marketization, full cost recovery, and the operators’ financial independence as keys to improving the provision of public services. ADB invested USD1.5 billion in Asia’s water sector between 1992 and 1997, with 8% of total investment and loans in China allocated toward urban water, sanitation, and waste management projects, equivalent to USD300 million per year (Ge and Hu 2008). In addition to using development loans to

influence local government decision-making, ADB crafted the preliminary draft of the 1998 *Urban Water Supply Price Management Measures* for the Chinese central government (Ge and Hu 2008). However, the initial wave of PPP in the Chinese water sector encountered similar issues to water privatization projects in other Southern countries, including a lack of disclosure of reform goals and processes, limited public participation in decision-making and monitoring, no corresponding regulatory development, and no engagement with NGO stakeholders (Zhang et al. 2016). Subsequently, China prohibited fixed profit schemes in 2002 and 2004, necessitating costly government buybacks of utility facilities that were contracted to foreign investors in the 1990s (Cosier and Shen 2009; Zhang et al. 2016).

Despite these problems, the Chinese government continued to expand the commercialization of the urban water supply by releasing a series of regulations and guiding documents on the marketization of public utilities in the 2000s. State budget deficits and the rapid speed of urbanization prompted the Chinese central and local governments to rely on foreign and private-sector investment to fund the CNY380 billion budget shortfall to achieve urban water supply and sanitation goals (Ge and Hu 2008). PPP schemes, including concession contracts and equity joint ventures (EJV), were touted as the most efficient approach to attract capital investments as solutions to resolve local governments' financial burdens, which transferred regulatory power from the state to private entities, allowing the state to bypass the risks of investment, infrastructure construction, and public service operation (Zhang et al. 2016; Zhong, Mol and Fu 2008). China became one of three Global South countries, alongside Chile and Colombia, promoting water privatization in the twenty-first century. By 2007, foreign investors participated in 15% to 20% of the urban water supply and 59% of PPP sanitation projects in China. One of the most prominent foreign investors is Veolia, which operated 24 urban water projects in China by 2007, with an accumulated investment of over USD1.3 billion and a service population of over 35 million people, of which 21 million were through full-service concessions (Cosier and Shen 2009; Quan 2023).

Foreign investors often use premium acquisition techniques to win over market shares. Veolia's bidding prices between 1997 and 2007 for projects it eventually operated were between 1.5 to 3.5 times the original asking price (Quan 2023). For example, the Lanzhou municipal water utility operated on a monthly deficit of CNY10 million and held CNY1.1 billion in existing loans before the takeover. Yet, Veolia bid CNY1.7 billion for a 45% ownership of the future EJV with a 30-year concession (Jia 2009; Wang 2008). This price was significantly higher than its international and domestic competitors' CNY450 million and CNY280 million bids (Quan 2023). Veolia's acquisition of Lanzhou's municipal water utility was hailed by state media as an exemplar of state-owned enterprise reform (Ge and Hu 2008: 40; Wang 2008). This overpriced bid was particularly astonishing because even though urban water prices in China increased rapidly during this period, the profitability of PPP water projects in China was severely limited by foreign exchange restrictions of CNY and outdated facilities; only around 40% of these projects had positive net incomes by 2004 (Lee 2010). This perplexing financial picture eventually contributed to the 2014 Lanzhou drinking water crisis.

## Data and Methods

The data for this study includes 112 news articles; 14 government guidelines and reports; 21 institutional, corporate finance, and NGO reports; and 32 written judgments by Chinese courts. The implementation guidelines of PPP in the water sector issued by the central, Gansu provincial, and Lanzhou municipal governments between 1998 and 2016 were scrutinized. These guidelines were systematically categorized based on their respective levels of government and regulatory bureaucracies, and themes of governance concerns pertaining to PPP, joint venture enterprises, fiscal burden, and drinking water provision standards were identified. Emphasis was given to how the authoritarian state interpreted neoliberal principles and how these interpretations shaped the official logic and formal approaches to water utility reform. Public hearing reports from the Lanzhou municipal government, the Gansu Administration for Market Regulation oversight records, and public health emergency circulars from after the contamination occurred were incorporated to ensure these broader themes were relevant in the merger and management of the water utility in Lanzhou.

A comprehensive collection of news articles from national and regional sources in China, such as the *People's Daily*, *Xinhua News Agency*, *Caixin*, and *Lanzhou Chen Bao*, were included, which provided detailed information on asset acquisitions, financing schemes, and worker settlements related to water sector PPPs. These articles were organized into 11 categories, covering aspects such as mergers, pricing, contamination, government responses, enforcement, and public lawsuits to examine rationale and legitimation techniques employed by the state to justify water privatization and mitigate public outcry. The initial findings were triangulated with reports on water privatization in China from the World Bank, ADB, and national and grassroots NGOs, illustrating how PPP models have adapted to China's legal and regulatory landscape.

Further, the study drew from written judgments stemming from water pollution or service coverage lawsuits against water sector EJVs from *China Judgments Online* and the websites of the Lanzhou Chengguan District Court and Gansu Higher People's Court. These documents were instrumental in refining the analysis, revealing how pollution and service issues were interpreted by the courts and regulatory agencies, the legal rationale behind regulation enforcement, and the application of

different laws and regulatory procedures. A list of the most influential Chinese water companies from an industrial information platform of the Chinese water sector (Song 2021) was utilized to explore the global expansion of Chinese water utility companies. The publicly disclosed annual earnings reports of these companies were used to establish a list of their completed and ongoing water infrastructure and provision projects overseas. This data was cross-referenced using the China Global Investment Tracker dataset published by the American Enterprise Institute, alongside insights gained from interviews with three analysts on the BRI in 2022.

The findings were further supported by in-depth interviews with 15 public interest lawyers, journalists, environmental and health experts, and plaintiffs against Veolia in 2015, and 43 environmental activists in Northwestern China who participated in citizen water quality monitoring drives from 2015 to 2017. Additionally, the interviewees included three Gansu provincial and Lanzhou Environmental Protection Bureau cadres, two county-level environmental protection bureau officers, eight administrative staff working in drinking water treatment facilities, and 11 village cadres in exurban areas near Lanzhou. Informed consent was obtained from all interviewees. Six of the interviews were recorded with consent, and consent was received from the remaining informants to take detailed notes during the interviews for later analysis. These interviews provided valuable insights into water utilities' reform policies, implementation hurdles, sanitation and safety compliance concerns, and motives for collective environmental action, thereby validating the secondary data analysis.

Due to the political sensitivity of the research, despite multiple attempts to contact representatives of Veolia China in 2015, 2016, and 2022, no response was received. The lack of interview and archival data from environmental regulators in urban areas of Lanzhou hindered the examination of the regulatory culture contributing to the public health disaster. Additionally, given the recent nature of the BRI, it was not possible to conduct a long-term evaluation of the social and environmental consequences of China's expansion into the global water sector, which will be the subject of future studies.

### **The Lanzhou Drinking Water Crisis**

In April 2014, a scheduled test of Lanzhou's drinking water by Lanzhou Veolia Water (Group) (hereafter, Veolia Lanzhou) revealed that benzene levels in municipal tap water exceeded the national limit. The water supply company discovered elevated levels of benzene pollution in water samples obtained from its distribution ducts. Laboratory analysis of water samples demonstrated that the benzene level was as high as 118 micrograms per liter, reaching 170 micrograms per liter in the ducts, far exceeding the national limit of 10 micrograms per liter (Xu 2014). The ensuing regulatory failures outlined below resulted in a severely delayed and inadequate emergency response, which caused significant environmental and public health harm to over 2.7 million people (Xu 2014).

Veolia Lanzhou performed a scheduled water quality test on March 7 and found benzene levels within national standards. The next scheduled test of Lanzhou's drinking water was supposed to occur in September 2014, which would expose Lanzhou residents to six more months of contaminated water. Fortunately, in mid-March, Gansu province contracted Veolia Lanzhou to collect and test tap water samples from all prefectural cities (Zhang 2014). Test results obtained by Veolia Lanzhou at 5.00 pm on April 10 revealed unsafe benzene levels. However, Veolia Lanzhou did not immediately report the findings to the public or regulators, opting instead to perform four additional tests. On April 11 at 5.00 am, Veolia Lanzhou notified local regulators of the elevated benzene levels. Rather than immediately notifying the public, regulators waited until 11.00 am on April 12 to terminate the water supply from the contaminated duct and issue a city-wide emergency order declaring the tap water unfit for consumption for 24 hours (Xu 2014). The municipal government launched emergency measures to switch to an alternate water source at 4.30 pm after a news agency from the central government reported the incident. A rush to purchase drinking water quickly depleted supplies in the city, creating a shortage that persisted for four days. The municipal government revoked the emergency measure on April 14 (Zhang 2014).

China's *National Drinking Water Quality Standard* requires water quality testing covering 106 indicators to be conducted by water supply companies every six months, while the municipal health department is responsible for daily supervision and monitoring (Ministry of Health of the People's Republic of China 2007). Nevertheless, the state only monitors basic indicators such as the presence of harmful microorganisms and the pH value, leaving the oversight of chemical pollutants to self-testing conducted by corporate suppliers (Liu 2015).

The 2008 *Water Pollution Prevention and Control Law of the People's Republic of China* and the 2010 *Measures for Supervision and Management of Drinking Water Sanitation* stipulate the daily publication of drinking water test results, and when water pollution occurs, water quality issues must be shared with the public immediately, and emergency measures should be activated before the contaminated water leaves the outlet pipe (Ministry of Environmental Protection of the People's Republic of China 2008; Ministry of Housing and Urban-Rural Development of the People's Republic of China 2010). After receiving the report, the local government waited six hours to terminate the water supply, exposing the public to excessive

levels of benzene for 18 hours after the pollution was confirmed (Zhang 2014). In fact, Lanzhou residents had been consuming contaminated water for eight days without any acknowledgment from the corporation or local government (Xu 2014).

### ***The Failure of Regulatory Pluralism***

The causes of this public health disaster originated from corrosion in a major drinking supply duct near PetroChina Lanzhou Petrochemical Company (Lanzhou Petro), the largest petrochemical operator in Western China. Lanzhou Petro was identified as a significant pollution risk during repeated screenings by China's environmental protection apparatus in the 1990s and 2000s (Xu 2014). Relocation costs and fragmented regulatory authority hindered the local government's attempts to relocate the petrochemical plant. In the 2000s, the plant had at least six incidents in which hazardous chemicals from oil spills contaminated groundwater. Despite multiple fines and administrative sanctions from local authorities, Lanzhou Petro did not conduct thorough environmental impact assessments (Xinhua News 2014a). Veolia Lanzhou's supply ducts were in the downgrade flow area of the polluted groundwater, and over several decades, pollutants began slowly seeping into the corroded water supply ducts (Xu 2014). After taking over the facility and the distribution network in 2007, Veolia Lanzhou did not properly maintain the supply ducts originally constructed in 1959, and the impermeable material in the expansion joints of the ducts eventually cracked and caused contamination (Quan 2023). Veolia Lanzhou also failed to follow national regulations that expanded the number of water quality indicators from 35 to 106, 42 of which require mandatory daily monitoring (Zhang 2014).

China's 2010 *Measures for Supervision and Management of Drinking Water Sanitation* stipulates that local governments must guarantee the sanitation and safety of domestic drinking water (Ministry of Housing and Urban-Rural Development 2010 of the People's Republic of China). Moreover, article 338 of the *Criminal Law of the People's Republic of China* (1997) stipulates that those who cause water, air, and soil pollution by dumping hazardous materials, creating heavy losses of public or private property or human casualties, shall be imprisoned for up to seven years and fined. These laws and regulations have established clear legal sanctions to protect the right to water and human health and set minimum standards for the public to monitor the quality and safety of drinking water. The *Emergency Response Plan for Sudden Environmental Pollution Accidents in Lanzhou City* also requires municipal and provincial authorities to submit an initial report and impose emergency measures within two hours of finding environmental pollution accidents (Lanzhou Municipal Government 2006). In clear violation of the national and local regulations, the Lanzhou municipal government took six hours to terminate the supply of contaminated water and 11 hours to implement the contingent water supply plan. Before handing over the water supply facility and network to Veolia Lanzhou, the municipal government invested CNY150 million in replacing aging parts of the supply network and tearing down illegal settlements within 80 square kilometers of the protected drinking water supply area. However, officials refused to clearly elucidate how much of the investment was used to maintain underground pipelines (Jia 2009; Wang 2008). Once the water supply project was transferred to Veolia Lanzhou, a lack of oversight mechanisms contributed to multiple incidents of residents complaining about foul smells in their drinking water (Quan 2023; Xu 2014).

Two months after Veolia Lanzhou resumed tap water supply, the Lanzhou municipal government imposed official sanctions against Veolia and negligent bureaucrats. Eight Lanzhou officials, from the deputy mayor to deputy directors of local health and environmental bureaus, received administrative warnings or intraparty criticism (Xinhua News 2014a). The most severe punishment was the administrative removal of the director of the local construction bureau and the chairperson of Veolia Lanzhou, who later became the director of Lanzhou's Drinking Water Source Project Construction Office. (Interview # 5,8, 12, 23) On September 27, 2014, Veolia Lanzhou released a compensation plan for affected Lanzhou residents, which waived five to 15 days of water fees, equivalent to less than USD3 for each family. No compensation for public health impacts was provided (Interview # 7-9, 16; Li 2016; Xu 2014).

In February 2015, five Lanzhou residents brought a lawsuit against Veolia Lanzhou and argued that consumers of the water supply company did not receive clean water complying with national regulations, and therefore, the water company did not fulfill its contractual obligations. The plaintiffs requested a public apology, the disclosure of tap water quality information, and compensation for costs of bottled water, health checks, and spiritual damages (Li 2016). During this period, a grassroots environmental NGO attempted to conduct public surveys inquiring about Lanzhou residents' perception of the benzene contamination and their attitudes toward water privatization. The NGO also attempted to interview Veolia Lanzhou to build public awareness and discuss water supply oversight and contingency plans (Interview# 01).

However, the local government imposed stringent social and criminal control measures against the grassroots NGO, deleting survey results and halting press conferences initiated by local environmental activists (Interview # 01). In addition, the five plaintiffs lost the lawsuit in local and municipal intermediate courts in 2015 and 2016, respectively (Li 2016). The courts reasoned that because the chairperson of Veolia Lanzhou had apologized to affected residents, it was unnecessary for state regulators to apologize publicly. The plaintiffs' application for water quality information was deemed irrelevant to their application for compensation for damages. The judges found the request for additional compensation unreasonable because the water company had already provided a waiver of the water fee (Li 2016). In December 2016, the Gansu Higher People's Court (2016) determined that Veolia Lanzhou and Lanzhou Petro did not intend to violate Lanzhou's residents' environmental rights

and rejected the plaintiff's appeal for a retrial. The judicial decision contradicted guidelines listed in multiple national environmental laws stipulating that water suppliers must provide clean and safe drinking water, as well as Article 338 of the Criminal Code. The ruling also violated the *International Covenant on Economic, Social and Cultural Rights*, signed by the Chinese central government in 2001. The court's failure to impose appropriate judicial remedies against water suppliers and state actors demonstrates the deficiency of China's authoritarian environmental regulatory model and the collusion between the regulatory apparatus and global capital in the privatization of drinking water.

The resulting scandal surrounding the contamination incident and subsequent NGO-led protests eventually forced the local government to build a new supply duct connecting to a reservoir 75 kilometers away (Xinhua News 2014b). The supply duct, completed in 2020, was paid for by municipal, state, and central government funding totaling USD 819 million, pointing to a failure of the PPP model and the limits of private capital (Gansu Daily 2023). This further demonstrates the illogicality—and danger—of the marketization of water.

### ***State–Corporate Collusion***

The 2014 Lanzhou water crisis exposed multiple failures of the environmental regulatory regime in China. Similar transgressions committed by private-sector water suppliers occurred in numerous other cities before and after the Lanzhou incident (Fu 2007; Ge and Hu 2008). Repeated contamination, lack of regulatory oversight, and few criminal sanctions demonstrated that these incidents were not moments of regulatory rupture but a “regime of permission” (Whyte 2014). The structural entanglement of the state and private water companies allowed for uninterrupted capital accumulation through water privatization, which, in turn, was initiated through international development agencies' structural adjustment loans (Ge and Hu 2008). The marketization of water became a panacea as debt-burdened local governments unloaded personnel and maintenance costs and generated profit from state-owned enterprise reforms. The 30- to 50-year concession contracts allowed private-sector investors to form partnerships with state actors with authoritarian coercive capacity and enabled the private sector to capture the drinking water supply and the justification of exorbitant premium costs for the initial acquisition of water utilities (Wang 2008; Xu 2014). Therefore, the privatization of water utilities in China transformed drinking water from a state-provisioned public good to opportunities for arbitrary profit in a regionally monopolistic market that could generate 12% to 15% returns on investments (Fu 2007; Jia 2009).

The maximization of state–corporate interests came at the expense of public safety and health, especially that of marginalized groups who lacked the financial means to purchase bottled water. Since ADB financed the first private-sector takeover of urban water utilities in China in 1998, urban water prices in China have increased an average of 10% annually (Liu 2015). While price increases were partially driven by ADB's ideology of total cost recovery to curb water consumption, they were primarily the result of state-enforced sequential price hikes spanning two to three years to offset private acquisition costs (Ge and Hu 2008; Quan 2023). Additionally, private-sector investors often reduced the number of operational staff in formerly state-owned enterprises and skimmed on maintenance and replacement costs to increase profit margins (Fu 2007). The drastic reduction of maintenance staff and budgets resulted in a lack of maintenance of the supply ducts and poor monitoring and emergency response mechanisms (Ge and Hu 2008; Xinhua News 2014a).

To achieve the highest revenue from PPP schemes, local governments often tacitly agreed to boost profit margins for private investors, incentivizing operators to increase production costs by steadily raising the salaries and bonuses of high-level administrators. Another way to increase production costs is to contract parts, service providers, and consultants from the same conglomerate (Fu 2007). Private operators also negotiate with state actors to reduce the quantity provided/processed and the quality of water provisioned. At the expense of public interests, local governments even bundle subsidies and other profitable enterprise opportunities into a concession contract and EJV or allow private investors to sell off adjacent land for profit (Fu 2007). For example, without disclosing it to the public, the Lanzhou municipal government transferred the land where the treatment facilities were situated to Veolia in 2007, resulting in a loss of USD121 million. In addition, the PPP deal also stipulated that the water price should be tied to the cost-of-living index, not the production cost of tap water (Jia 2009). Within a year of taking over the facility, Veolia Lanzhou requested a 49% increase due to increased personnel and equipment costs (Wang 2008).

Public notification regarding water privatization in Lanzhou only consisted of a few hundred words posted on the municipal government website. It did not allow the public to voice its objection, nor did it publicly share EJV operating budgets and expenses. The authoritarian government also restricted public and third-party water quality oversight, allowing the private operator to regulate its water quality (Xu 2014). The public's attempts to challenge testing results and voice complaints about water services were criminalized. Activists were labeled disruptors of public order and detained in local jails. These restrictions on public participation in oversight and decision-making eventually led to profound public doubt about the truthfulness, accuracy, and objectivity of the indicators and the governance of urban water supply (Interview # 03,07, 22, 26. 33-37,46-52). Thus, state–corporate collusion in the authoritarian governance model generated severe uncertainty related to health and environmental risks, serving as a form of epistemological violence that threatens the safety of the urban public in China.

## Belt and Road Initiative and The Global Expansion of Chinese Water Conglomerates

The proliferation of PPP schemes in China's water sector has benefited foreign investors and led to active intervention from the Chinese authoritarian state through legal and institutional mechanisms to facilitate the growth of domestic water companies, resulting in enduring and global consequences. Because China's water market has emerged as one of the largest worldwide, water companies that establish a presence in China often ascend to global prominence based on the sheer number of individuals served by their water infrastructure. By 2022, 20 of the world's 50 largest private water operators were based in China (GWI 2022a). This highlights the significant role that China's water companies play in the global water market and underscores the Chinese government's direct influence in shaping water privatization worldwide.

Multinational investors have experienced a decline in the Chinese water market due to heightened entry barriers for large-scale and asset-heavy environmental projects and diminished access to funding from the increased tightening of PPP regulations since 2013 (Yang, Huang and Wang 2021). In 2018, the Chinese government promulgated a series of risk-reduction regulations that prompted banks to limit PPP project loans, necessitating credit-enhancing measures and excluding many less financially capable private investors from the market (Song 2021). Although these foreign investors possess considerable access to global financial resources, they are hindered by their weak relationships with the authoritarian state, which has exposed multinational players to increasing policy and financial risks (Lee 2010; Quan 2023).

Simultaneously, following the 2008 Global Financial Crisis, the Chinese government introduced an extensive economic stimulus program, directing substantial investment toward infrastructure construction that includes water provision and treatment facilities (Quan 2023). These policy initiatives instructed state banks to allocate tens of billions in credit to state-owned enterprises, enabling them to consolidate with previously public water utilities in China or acquire major private entities, thereby solidifying their positions as dominant market players (Zhang et al. 2016). As a result of the new regulations and the repatriation of assets associated with the first wave of PPP projects, the growth of multinational water companies, such as Veolia China and Suez NWS, has consistently trailed behind domestic players in the Chinese water market (Quan 2023; Yang, Huang and Wang 2021). Concurrently, China's traditional water utility market is nearing saturation. By 2019, China's municipal water supply market had achieved a penetration rate of 99% at the prefectural level and 95% at the county-seat level (Song 2021; Yang, Huang and Wang 2021). This high rate led to a deceleration in fixed asset investments for urban water supply infrastructure, with the compound annual growth rate falling from 15% (2008 to 2013) to a mere 2.4% (2014 to 2019) (Yang, Huang and Wang 2021). Aided by favorable loans sponsored by the Chinese state, these predominantly state-owned domestic water conglomerates began to operate like transnational corporations, listing their stocks on overseas exchanges, which contributed to the rapid global expansion of Chinese water companies through the BRI (Shi 2018).

The BRI is a global infrastructure development initiative spearheaded by the Chinese government since 2013. The initiative aims to export overcapacity from the Chinese economy, promote the internationalization of Chinese currency, and construct a unified market structured by Chinese investments (Wang 2022). As of 2022, 147 nations had signed memoranda of understanding with China, providing a combined total of USD962 billion in financial investments and construction contracts (Wang 2022). Beyond its economic objectives, the BRI is also a geopolitical and soft power tool that promotes development strategies aimed at building a "common destiny" between China and the rest of the world (Ministry of Ecology and Environment 2017). Toward this end, the BRI considers its investment in the water sector a form of "green transition" that addresses the infrastructure gap in the Global South (Ministry of Ecology and Environment 2017).

The Asia-Pacific region alone faces a 40% water supply demand deficit and an annual investment shortage of between USD80 billion and USD280 billion (Borgomeo et al. 2022). Armed with support from the Chinese state, Chinese water companies actively search for investment opportunities in water infrastructure through the engineering, procurement, and construction (EPC) contract model. These companies enjoy advantages in large-scale infrastructure construction due to their access to cost-effective supply chains and subsidized capital from Chinese state banks, which have enabled them to aggressively pursue hydroelectric energy and urban/rural water infrastructure projects in surrounding regions (Borgomeo et al. 2022; GWI 2022a). The saturation of the Chinese water market has also prompted a strategic pivot by Chinese water companies toward international expansion that focuses on higher-quality water projects with guaranteed returns and lower debt risks (GWI 2022b; Shi 2018; Song 2021; Xu 2017).

The expansion of Chinese water companies on a global scale has accelerated in recent years. In 2021, newly signed Chinese overseas EPC projects in the water sector amounted to USD16 billion, twice the figure recorded in 2013 (GWI 2022a). Apart from investments through EPC contracts, Chinese water companies used state support to acquire water or waste treatment companies through PPP mergers and acquisitions worldwide (Shi 2018; Xu 2017). Capital Group and Beijing Enterprise Water Group's acquisition of Veolia Portugal in 2013, Australia's TRILITY in 2018, and multiple water and wastewater systems in Singapore, Malaysia, and New Zealand are classic examples. Chinese operators are differentiating their regional business



models by seeking opportunities for growth in capital-light operation and maintenance contracts abroad, with Africa, the Middle East, and Southeast Asia regarded as the highest priorities for expansion (GWI 2022a; Shi 2018).

Leveraging their technical expertise and access to state bank credit, these Chinese water companies are rapidly expanding through mergers or negotiating with governments in the Global South for development rights for local water infrastructure, aiming to achieve an annualized investment margin of more than 8% (GWI 2022a). Even though Chinese investment has contributed to the partial alleviation of the significant infrastructural gap in the Global South, the expansion of Chinese water companies has replicated the shortcomings of Western conglomerates, such as precluding public participation and overlooking the heterogeneity of societies in the Global South, resulting in numerous scandals (Hussain 2023; Peter 2021). Further, although the BRI loans to water sector projects have been promoted as a model of green finance, the profit motive and debt trap inherent in these projects represent a form of greenwashing that further advanced China's economic and geopolitical dominance and simultaneously propelled an authoritarian turn in global environmental governance (Ministry of Ecology and Environment 2017). The expansion of authoritarian environmentalism constitutes another form of epistemological violence that may further exacerbate dispossession and biopolitical control in the Global South.

## Discussion and Conclusion

The failure of regulatory pluralism in the 2014 Lanzhou water crisis highlights the limitations of authoritarian environmentalism. State-corporate collusion was evident as PPPs provided a convenient excuse for the state to outsource externalities. This led to a fragmented regulatory landscape for drinking water, which failed to impose control effectively. Further, the lack of judicial independence in the authoritarian model resulted in criminal selectivity against public oversight. The state employed coercive power to hinder civil society participation in the regulatory process. The regulatory failure in Lanzhou can be attributed to the influence of the neoliberal accumulation logic, which thrives when accountability and oversight are obscured by technicalities related to water treatment, global finance, and high-value acquisitions. These practices were driven by the neoliberal ideologies advocated by international development agencies such as the ADB and transformed the water utilities into spaces of insignificance, creating black sites where capital accumulation intensifies at the expense of public health and away from public scrutiny (Halsey 1999; McClanahan and Linnemann 2018).

The resulting environmental and public harm is a form of transnational collusion supported by a particular form of epistemological violence arising from the intersection of global capitalist interests and authoritarian power. The entry of Chinese state capital into the water supply and treatment systems in the Global South through the BRI may lead to more discontinuous and striated spaces (Goyes 2019; Halsey 1999). This could further strengthen the application of authoritarian environmental knowledge and governance practices, reinforcing Chinese/global capitalist control over water resources and creating new patterns of stratification and resistance.

It is crucial not to view public health disasters, such as the 2014 Lanzhou water crisis, solely as an industrial pollution incident, nor is it useful to regard the pollution of drinking water solely as a transference of environmental harm enabled by deficiencies in environmental regulations in different nation-states. A critical examination of how geopolitical power imbalances have resulted in varying property regimes related to water provisioning, quality, and sanitation standards worldwide will broaden our understanding of how enforcement patterns of environmental regulations form in accordance with the logic of capitalist accumulation and manifest in different political and social contexts. This approach requires abandoning traditional linear thinking of progress and modernization, which is generated by homogenous knowledge domains structured by the accumulation logic. Instead, we must examine the core/periphery dynamics that create de-territorialized spaces where the networked economic flows of the global capitalist system generate externalities and environmental and social harm against underprivileged communities, regardless of the national context. This focus on the relational positions of domination and subordination allows for a closer examination of how the intrusion of the global capital and power/knowledge nexus intersects with existing heterogeneity and stratification in the Global South, creating new regimes of accumulation and permission in different political contexts.

The privatization of water utilities in China and the subsequent expansion of Chinese capital into water markets worldwide demonstrate the hybridity and multiplicity of dominance and subordination caused by variegated forms of capitalist expansion. Aided by its image as the most effective way of addressing the public infrastructure deficit, the BRI represents one of the most prominent challenges to the existing international order. The entrance of Chinese capital into the international water sector may serve as a new form of imperial gaze that generates unique patterns of biopolitics, greenwashing, and environmental security concerns in the Global South. This may lead to different patterns of quasi-colonial domination and subjugation and form a Global Southern subjectivity that transcends the nation-state as the unit of comparative analysis for water crimes. Green criminology must examine the environmental and social harm of water privatization as a borderless and transnational crime, moving away from the "metropolitan thinking" of criminology, which focuses solely on differences in nation-state regulatory mechanisms (Carrington, Hogg and Sozzo 2016). Southern green criminology advances a knowledge project that challenges

the myriad global inequalities shaped by the history of colonial conquests, the spread of neoliberal and other forms of capitalist expansion, and the status quo of international environmental governance standards, all of which will contribute to forming new epistemologies of the South and foundations for global resistance.

This article contributes to a more nuanced understanding of the environmental and public health disasters that arose from the intersection of epistemological violence by global development agencies and the coercive power of an authoritarian regime. It demonstrates an emerging pattern of South-to-South victimization that reveals the heterogeneity of domination and dispossession resulting from China's state capitalist system and authoritarian environmentalism, which have accelerated the global commercialization of water resources. A more nuanced theorization of North–South relations is necessary to examine how geopolitical struggles between neoliberal and state capitalist expansions shape the formation of environmental regulations and standards and affect collective resistance from the Global South.

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