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Wastewater Treatment on Chongming Eco-Island: The Cultural Politics of Hydrosocial Territory-Making

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ABSTRACT: The introduction of rural domestic wastewater treatment (WWT) installations is part of a grand scheme to realise China's 'ecological civilisation' on Chongming in the Yangtze Delta region. Taking a cultural approach to hydrosocial territoriality, this article examines why this seemingly well-intended welfare intervention is rejected by rural islanders. The introduction of WWT does not only imply an upgrading of rural services, but is also seen as a top-down attempt at reshuffling the hydrosocial territories in which Chongming villages are embedded. Villagers perceive the WWT project as a forerunner of the greater threat of urbanisation and displacement of rural livelihoods, and also express a cultural reaction rooted in alternative rural understandings of landownership and engrained traditions related to water, waste, and soils. Village resistance forces local village cadres to intervene as cultural mediators between the villagers and the state. This moves the village cadres, against their own will, into a prominent position in the hydrosocial network. The article reveals how hydrosocial territories emerge from confrontations between top-down governance reshuffling and bottom-up manoeuvring.

KEYWORDS: Hydrosocial territory, cultural politics, eco-island, wastewater treatment, rural Yangtze Delta, China

INTRODUCTION

In the summer of 2016, when the main author first visited the rural water conservancy station (RWCS) of Chongming, China, the section head introduced their work on the island, but did not particularly emphasise wastewater treatment (WWT hereafter) and river restoration. Yet in 2017, after the status of Chongming was changed from a rural county of Shanghai municipality to one of its districts, the main responsibility for wastewater treatment moved up from the township to the district level and was completely restructured. In the three years that followed, WWT infrastructure was rolled out at an impressive speed (Figure 1) and became a heavily debated topic in Chongming's 18 towns, including the author's field site (anonymised as H-town).

The major impetus behind this change was the national 'clean toilets revolution', offering hygienic toilets to urban but also rural inhabitants (Cheng et al., 2018). This policy was part of wider rural revitalisation policies, promoted as a step toward China's development into an 'ecological civilisation'. Consequently, the national 'toilet revolution' was generally considered a beneficial act of welfare provision to underdeveloped rural areas. Yet in Chongming, the project was met with considerable critique, as it was tied to the island's 2005 branding as a world-class 'eco-island' (SHPLRA, 2005). The

Chongming eco-island project was an attempt by the national and Shanghai Municipal Government to use sustainable development to balance the urbanisation pressure exerted on the island (Ma et al., 2018). The eco-island project included the promotion of a green economy, wetland protection, renewable energy programs, modernised water systems, and the construction of ecological demonstration communities, including the now-abandoned but world-renowned Dongtan eco-city project (Huang et al., 2008; Chang and Sheppard, 2013). This eco-island project reshuffled the roles of different actors and policy scales in the water governance network. Embedded in a vision of ecological modernisation, it was characterised by a strong belief in technical fixes to environmental problems (Sze, 2015; Xie et al., 2019).

Progressively, a rural WWT program was integrated into the eco-island planning. In the early *Masterplan of Three Islands of Chongming 2005-2020*, the first policy document presenting Chongming as an eco-island,¹ wastewater treatment facilities were mainly destined for urban settlements. Rural wastewater was only mentioned in passing that it "could be treated with small-scale facilities" (SHPLRA, 2005). In the follow-up *Chongming Ecological Island Construction Outline 2010-2020* (SHDRC, 2010) and the *Twelfth Five-year Plan for Chongming 2011-2015* (Chongming, 2011), rural WWT gained more prominence, with the expressed ambition "to actively push forward rural domestic wastewater treatment projects", but concrete targets were lacking and practical implementation lagged. Initiated in Chongming since 2010, the rural WWT infrastructure coverage by the year of 2015 was only 16% (Chongming, 2016).

However, in June 2016, in line with the ambition of making Chongming into a world-class eco-island, Chongming's status was upgraded from a rural county to a district (an urban administrative category). This change of status was deemed necessary to "accelerate the pace of development of Chongming and promote the equalisation of urban and rural public services (...) it will allow [the government] to speed up the realisation of the Chongming eco-island and improve the city's sustainable development capacity" (SHDRC and SASS, 2017).

Following the change of status to district, WWT governance was reformed and the construction of WWT infrastructure was revamped. The thirteenth five-year plan for the Chongming world-class eco-island (Shanghai, 2016) proposed the explicit target of "100% coverage of rural domestic wastewater treatment by 2020". It specified three treatment types: "Piped connection with urban sewage treatment plants, collective centralised biochemical treatment, or on-site dispersed treatment through standardised septic tanks".² Engineers working on the ground considered the goals too ambitious, both in timing and level of coverage, and warned that an overly hasty implementation could hamper the quality of the project. Still, the program's successful and rapid implementation, both in H-town and on the island overall, did not fail to impress (see Figure 1).

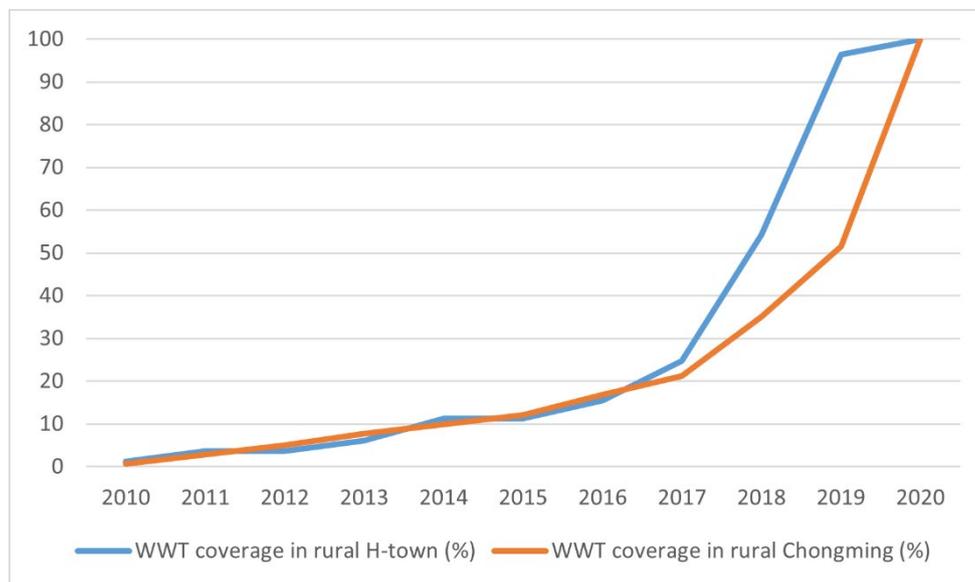
Even though the WWT program provided a 'free' service to villagers, coming with no extra costs for construction or maintenance, it was heavily contested at the village level. While wrapping up the WWT project on the island, an RWCS staff member complained to the lead author in 2020: "These years of WWT implementation have been such misery! For all parties involved (...)" (RWCS R.A.; July, 2020).

Though rarely developing into full-blown protests, such rural contestation is far from unique in the context of China (Chen, 2020). In authoritarian states like China, the legal bargaining power between citizens and governments is extremely skewed toward governments (Cai et al., 2020). However, that does not deprive citizens of all means by which to appeal or resist policy decisions. The multi-scalarity of China's governance system offers citizens specific opportunities for extra-legal bargaining (Lin, 2022).

¹ Chongming district is comprised of three islands: the main island Chongming, and two smaller islands Changxing and Hengsha. In the above-mentioned policy document the main island Chongming is designated as an "eco-island", while the other islands are also incorporated in the planning.

² Modern, prefabricated septic tanks; to be distinguished from traditional brick septic tanks.

Figure 1. Percentage of rural households with WWT facilities per year, in H-town and the entire Chongming district respectively (2010-2020).



Source: interview with RWCS staff, April 2022.

Firstly, China's central policy makers consciously formulate their policy ambitions with a degree of ambiguity (Zhan and Qin, 2017). This allows for flexibility (*biantong*) in policy implementation in a vast and highly diverse country, which in turn encourages local policy innovation and reduces central accountability for local implementation failures (Hu et al., 2018; Tian and Tsai, 2022). Simultaneously, it creates an opening for citizens to contest local governmental practices through what Li (2019) has called 'regime-engaging protest'. Calling out local state actors for deviating from central state policies or ideology provides citizens with leverage for extra-legal local bargaining. Protesting citizens attract attention from upper-level officials, who might feel forced to punish lower-level government actors for it lest the upper-level officials be held accountable themselves (Lin, 2022). The broader the support for a protest, the more it threatens social stability, and so the higher the risks for local governance actors. To mobilise support, protesters present their protest to fellow citizens as 'rightful' (O'Brien and Li, 2006) by linking their claims to socially rooted cultural practices and moral discourses (Hess, 2010; Lin, 2022).

Moreover, protests have a higher chance of success if protesters are able to gain the support of village cadres. Village cadres or members of the village (or villagers') committee are directly elected by and from the villagers and responsible for the self-governance of village matters (Li and O'Brien, 1999). They used to have some financial autonomy, earning an income from running the collective economic organisations of the village (township and village enterprises) and collecting fees from villagers (Zhang, 2003; Kan, 2016). However, since agricultural taxes and fees were abolished in 2004, village cadres are now dependent on transfer payment schemes from the state, and in this way are in the curious position of not formally being part of the state apparatus while in practice being largely absorbed by state bureaucracies. As semi-autonomous governing bodies, they are situated between rural citizens and the local state. While counted on by township (state) cadres for the execution of government tasks, they are also perceived as more trustworthy and responsive by rural citizens in cases of contestations and collision of knowledge and interests (Manion, 2006).

Through ethnographic research, we have investigated the discourses and arguments that villagers have crafted to resist the high-profile WWT project in Chongming and the way village cadres have taken

up their mediating role between villagers and project staff. The lead author conducted fieldwork in two villages (anonymised as H and Q) in H-town, combining participant observation with semi-structured interviews and the analysis of eco-island and water management planning documents during three periods: June/July 2016, February/March 2017, and October/November 2017. Two week-long return visits to key respondents took place in January 2019 and July 2020. The respondents included RWCS officials, village and town cadres, retired cadres, production team leaders, engineering company managers and consultants, and ordinary villagers (approximately ten people in each group). They were recruited through a snowballing method: introduced by RWCS to H-town, the main author met a retired village cadre who hosted her for the rest of the research project. The retired village cadre introduced her to key research participants. In this rural context, where social and kinship relations are important, she was presented as an 'adopted daughter', which gained the trust of the rest of the village committee members and increased the relevance of her research in the eyes of the – mostly male – engineers. Her proximity to the water engineers and the village cadres turned her into a go-between for the villagers, who shared their concerns with her to be transmitted through the hierarchy, although it might also have hampered access and trust with some of the dissenting villagers.

In the following sections, we first propose a sociocultural interpretation of the theoretical notion of hydrosocial territory as a means to disentangle and understand the discourses of contention in our case study. Then, we discuss our empirical results. We first explain how the WWT project changes the formal chain of command in relation to (waste)water management on Chongming. Secondly, we discuss the project's contestation as a defence of rural identity. Digging deeper into the arguments of individual peasant families, we reveal how reactions are rooted in a local culture of waste, tenancy, and peasant (ir)rationality. Finally, we discuss how village cadres draw equally upon culturally rooted norms and values in their attempts to mediate between sceptical villagers on the one hand and project teams and higher-level officials on the other. We end with a conclusion on how, in China, cultural politics shape hydro-social territories.

HYDROSOCIAL TERRITORIES, A SOCIO-CULTURAL INTERPRETATION

A term coined by Boelens et al. (2016: 2), 'hydrosocial territories' are defined as

the contested imaginary and socio-environmental materialisation of a spatially bound multi-scalar network in which humans, water flows, ecological relations, hydraulic infrastructure, financial means, legal-administrative arrangements, and cultural institutions and practices are interactively defined, aligned, and mobilised through epistemological belief systems, political hierarchies, and naturalising discourses.

The introduction of the concept aims to insert a critical political approach to the study of socionatural relations developed around water infrastructures while infusing political ecology with cultural understandings of water governance arrangements. Where the 'hydrosocial' emphasises the intertwining of political, social, and cultural dimensions of "humanised waters" (Boelens, 2014), the concepts of territory and territoriality investigate the spatial strategies of power and control (Sack, 1986) over the socionatural relations which make up a waterscape (Acharya, 2015; Baviskar, 2003, 2007; Budds and Hinojosa, 2012). The concept of hydrosocial territory crucially posits how waterscapes are not just the socio-cultural products of routine everyday practices, but also explicit projects of control and objects of political struggle.

As projects of control, hydrosocial territories are vehicles of hydro-governmentality; networks for the dissemination of mentalities of self-discipline and self-governance of water users and other water-related actors (Bakker, 2012; Meehan, 2013; Hellberg, 2014) which normalise inequalities and power relations. The weaving of these networks across a space of uneven governmental reach produces localised entry points for resistance or cooperation (Boelens, 2014; Rattu and Véron, 2016; Mirhanoglu et al., 2022).

Hydrosocial territories compete with each other over the definition, delineation, and regulation of waterscapes. Defining which elements can come together and which should stay apart; which relations are allowed to materialise and which are to be excluded; who is marginalised by and who benefits from the project; and who assumes which role in the governance of the waterscape, hydrosocial territories trigger support as well as resistance. Their contradictions stimulate actors marginalised by specific projects of control to develop and rally behind counter-territories (Hoogesteger et al., 2016; Romano, 2016; Boelens et al., 2016).

Yet this focus on a politics of relatively coherent (counter-)territories and control (Flaminio et al., 2022) fails to properly highlight and understand the more mundane practices of resistance, embedded in seemingly fragmented, everyday activities which equally contribute to the (re)shaping of hydrosocial territories. These practices attracted attention in the first place from Gramscian and feminist political ecologists and anthropologists (Scott, 1985; Bayat, 2000; Laurie, 2005; O'Reilly, 2006; Truelove, 2011; Loftus, 2012; Tsing, 2015). Such practices should not be understood entirely in terms of strategic actions driven by a well-understood interest in developing a certain mode of water governance. Rather, they are connected to inherited systems of values and norms that include ethics, religion, symbolism, aesthetics, memories, identities, or social positions (Mosse, 1997, 2003; Casciarri and van Aken, 2013). In their discussions of water governance as cultural politics, Boelens (2014) and Bacigalupo (2022) referred to thought systems and traditions as important drivers of everyday water struggles against imposed neoliberal governmentalities.

An understanding of the interrelation between larger projects of territorial control and the embodied micropolitics of quotidian life in the constitution and contestation of water-related subjectivities requires us to further explore the concept of culture as something which relates everyday practices to the institutions that regularise them, but also as something produced by these practices. Cultures are not to be understood as sets of fixed or rigid traditions and institutions stuck to a place that dictate the way local agents think and behave, but as 'moral economies': fluid ensembles of meanings fuelled and perforated by tensions and contradictions (Fassin, 2009). Paying attention to culture as politics means "attending to cultural practices (...) while also tracing how these cultural practices distribute resources among human groups and individuals (...) [how] human communities incorporate water into their understandings and expectations of each other" (Cattelino, 2015). For instance, Boelens (2014) and Boelens et al. (2016) discussed how cultural struggles unfold over the legitimacy of different sets of water rights. In what he calls "water rights in action", he emphasised the fluidity with which such cultural norms and values are mobilised by actors to secure access to water.

It is important to emphasise that in our study, we do not want to situate culture on one side of a political binary. Instead of presenting culture as a rooted, traditional alternative to top-down modern interventions (as has often been implied in accounts of indigenous resistance against large-scale water projects, e.g. Vara Delgado and Zwartveen, 2008; Boelens et al., 2014), we consider cultural practices as engaging with, and thereby compelling modifications to, projects of control. This introduces a particular multitemporal understanding of hydrosocial struggles. Considered as the nexus between everyday practices and systemic institutions, culture becomes an ongoing social production which weaves together pasts and futures through the relational and imaginative constitution of the present (Hastrup, 2009; Hilgers, 2012, 2013; Hirsch and Stewart, 2005). Culture shapes but also emerges from the ongoing material and discursive struggles between different actors. In these struggles, we contend, all actors mobilise and mould cultural conceptions floating between tradition and modernity. In doing so, they interactively shape the hybridised cultural referents of the future. As Hastrup and Rubow have it, "How one interprets the past, engages the present and imagines the future are all intimately linked" (Hastrup and Rubow, 2014: 285). This fluid conception of cultural politics may enrich the discussion of hydrosocial territories in two ways. First, by shifting the focus to the mundane cultural practices of everyday resistance, it rejects a dualist perspective of hydrosocial territories versus counter-territories. Secondly,

it emphasises the incompleteness of hydrosocial territories unfolding through seemingly disparate cultural struggles and points at their diverse and fragmented temporalities.

In this paper, we will discuss how cultural politics take place in the mundane struggles waged around the implementation of wastewater infrastructure on Chongming, Shanghai. Culture is mobilised, rejected, or combined in the argumentations about water-related infrastructures. Cultural conceptions are engaged with by different parties to develop an understanding and evaluation of water infrastructure projects, but also to negotiate behavioural norms which structure the interaction and relations between actors involved. Instead of a binary opposition between modern and traditional cultural frames, we see explicitly hybrid frames being conceived and mobilised in such argumentations. Through these cultural, tactical struggles, actors take, lose, or gain positions in the emergent power mesh. By emphasising this, we position ourselves in opposition to a strand of the water management literature which discusses resistance against state projects as 'unmodern' and based on old traditions.

THE WWT PROGRAM AS A NEW HYDROSOCIAL TERRITORY IN CHONGMING

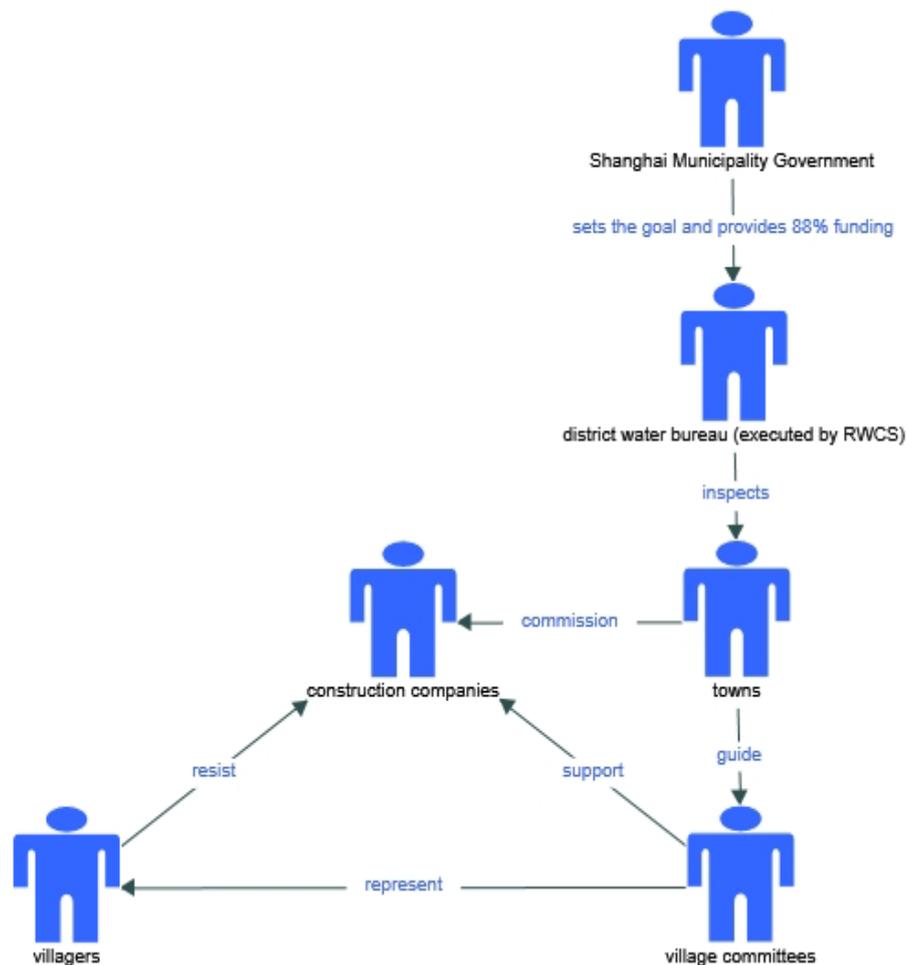
The Chongming WWT program shaped a hydrosocial territory aimed at taming the islands' wastewater production. As explained, it was tightly connected to the national ambition of making Chongming a world-class eco-island which would serve as an example of the country's shift toward an ecological society. As a modernisation project, it expressed the subsumption of rural Chongming under the Shanghai municipal government and related to nationwide rural revitalisation policies intended to realise the 'New Socialist Countryside', such as the Chinese Beautiful Villages (*zhongguo meili xiangcun*) campaign (Gao et al., 2019).

Importantly, the project signified a complete rescaling of WWT on the island. Before, WWT was largely a township-level responsibility. Townships would invest in wastewater treatment in more densely built-up areas, like larger towns. Infrastructure development was contracted out to local construction companies. Hence, WWT on the island presented a scattered geography of diverse networks of infrastructures and actors. In contrast, the new program was to provide an island-wide, centrally planned network of wastewater infrastructure which would redistribute wastewater across Chongming and completely overhaul its treatment and use. To deliver the project, a broad hydrosocial network of state and non-state actors (Hoogesteger et al., 2016) was assembled, which prioritised a set of newly involved actors.

The new WWT programme was a top-down municipal-level project. Funding largely came from Shanghai Municipality (88%), with only 6% covered by the Chongming district government and 6% by the townships. Design and construction costs were covered by the municipal government (90%) and the district (10%), whereas the township was responsible for the compensation for crop loss or damage to buildings during the construction process. The maintenance costs after construction were born by the district (80%) and the township (20%) (Chongming, 2017; interview with township officials, 2017).

New actors emerged on the scene in an operational sense as well (see Figure 2). Whereas the Shanghai Municipal Authority provides most of the funding, the district government had become the dominant actor. The District Bureau of Water Affairs (guided by the corresponding bureau of Shanghai municipality), with its affiliated public institution RWCS (Rural Water Conservancy Station), became the main authority governing the island's wastewater treatment projects (Chongming, 2017). RWCS drew up the plans and conducted "start-to-finish industrial guidance" (inspection) of the townships' project execution (RWCS, R.B., March 2017). It collaborated with the district bureau of finance (who approves the budget) and the district bureaus of agriculture and housing (who need to approve the use of agricultural or housing land for construction). Importantly, the RWCS preselected four national private companies as eligible to execute the project, thus sidelining the candidacies of local construction companies traditionally involved in water management on the island.

Figure 2. Formal relationships between the main actors in the WWT hydrosocial network.



The town and township governments played a secondary role in the WWT program, which also caused some internal reshuffling. The township water stations were in charge of all rural water-related issues, including irrigation, river dredging, flood control, and seasonal water discharge. But in many townships, the construction of WWT facilities had been placed under the responsibility of the Office of Village Planning and Construction, as it was considered infrastructure, related to housing and urbanisation instead of to agriculture. The township, as the official owner of local public infrastructures, was the contracting authority. It chose one of the four preselected national companies and signed the contract. The township government also supervised the construction under the guidance of the district's RWCS. Apart from the four national-level companies specialising in WWT infrastructure development, a range of other private consultancy firms could be contracted by the township or district government for design and planning, supervision, auditing, and maintenance of the infrastructure.

Finally, the 'grassroots' village committees formally played a minor role in the process. As explained earlier, the cadres in the village committee only represented the needs and interests of the village to the different levels of government as "local self-governing organisations guided by but not under the leadership of the township governments as stipulated by the Constitution of the PRC".³ Informally, however, the village cadres were also expected to facilitate the projects in their villages, the success of

³ http://www.npc.gov.cn/npc/flsyywd/xianfa/node_2161.htm (accessed 31 December 2020)

which might determine their career prospects in the administration. Hence, village cadres played an important mediating role, negotiating between the villagers they represent and the companies executing the program, as well as the township and district governments. Their relevance to the program grew when WWT projects were met with growing contestation and resistance from the side of the villagers. This resistance did not emerge as a coherent, unified counter-hydroterritorial project, but developed out of a variety of tensions which related to the WWT hydroterritorialisation and reshuffled the power relations in the hydrosocial network, stimulating a more prominent position for the village committees.

RURAL IDENTITIES AS MOTIVES FOR RESISTANCE

According to the villagers, two motivations dominated the resistance against the WWT project, both shaped by their everyday experiences of rural politics. Villagers emphasised the threat of urbanisation and displacement, rooted in the proximity and administrative control of Shanghai, as well as mistrust in the effectiveness of technical modernisation projects, rooted in earlier experiences with large-scale centrally planned rural programs.

A prime motive for villagers' critiques of and resistance to the WWT projects was their distrust of the overarching eco-island vision. The eco-island program was thought to occasion a loss of local autonomy and was seen as a vanguard of urbanisation from Shanghai. A local engineer expressed a view shared by local villagers and officials:

Originally, the eco-island planning was the domain of the Bureau of Planning and Land Management (now the Bureau of Planning and Natural Resources) in the district of Chongming. But look at it now: the office of eco-island planning has moved to Shanghai and has become an affiliate of the municipal Development and Reform Commission. It is not Chongming's eco-island anymore; neither is it Shanghai's; it's the whole nation's eco-island. It's elevated to a different scale, with different requirements (...) (local engineer E.A., March 2017).

Whereas there was little clarity about the concrete consequences of the eco-island program for local villagers and rural life, the emphasis on the eco-island's 'world-class character' was interpreted as hinting at the elitist direction this project might take. The eco-island masterplan indicated the possible merger of villages. It also emphasised a need to "contain the local rural population below a certain level" to make space for the "world-class eco-island" (SHPLRA, 2005; SHDRC, 2010). In light of earlier development-driven displacements in certain parts of the island, this was read as a direct threat to the rural population and its livelihood. As a newly upgraded district and a longstanding land reserve of Shanghai, Chongming was under strong urbanisation pressure. The national-level eco-island designation only increased the threat that land might be expropriated for development.

During our fieldwork, local people shared mixed feelings about the eco-island discourse. On the one hand, the idea of taking part in this world-class development filled them with pride; on the other, eviction and resettlement were considered a very real threat. The WWT infrastructure was seen as an early warning signal. Whereas the development might bring benefits, there was a real concern that corruption in these 'performance-oriented projects' might lead to socially unjust outcomes. Villagers feared they might bear the costs while external investors would collect the benefits. The fact that the WWT program sidelined local engineering companies in favour of a select number of national-level companies increased these suspicions.

The program was often contrasted with the earlier 'beautiful Chinese villages' campaign, a similarly top-down eco-island-related program funded by the Shanghai government. It involved road-widening and subsidies for housing improvement and was warmly welcomed. However, the benefits of the WWT project were far less clear to Chongming villagers.

First of all, villagers questioned the effectiveness of the WWT infrastructure, which is not only supposed to collect and displace waste through the sewage, but also treat it at treatment stations:

I'm poorly educated, but to me, the treatment station doesn't seem to be treating any water, because I could not see much discharge from the station into the river, except during storms. [...But...] when there is a rainstorm, too much sewage output gathers in the pipes for treatment, so that most of the water is discharged into the river without treatment (villager V.A., November 2017).

Technological failures were shared widely through gossip networks between villages. As more than one villager said, "The people in the neighbouring villages have reported this and that problem after installation, so we are also worried here in our village".

Secondly, villagers feared the future costs related to improved infrastructures. Whereas they did not need to pay for the implementation of WWT facilities, they feared they would be forced to pay for its use afterwards, even if they didn't ask for it: "I am forced to be the beneficiary and have to pay for the operational and maintenance fees afterwards" (villager V.B., March 2017).

On top of that, there was the feeling that the wastewater treatment system would soon be rendered obsolete by further urbanisation from Shanghai. The villagers remembered that this happened to earlier WWT investments in rapidly urbanising parts of the island. "This is the way the Communist Party works. You don't know when the policies will change again" (former township official T.A., March 2017).

In general, villagers considered the project more of a prestige project that would benefit the careers of district- and township-level officials, rather than improve their lives or their environment. Different from the past, when fishing was a key part of economic life, clean rivers are no longer an important livelihood condition. As Chongming is the district with the lowest average income in Shanghai, they saw more urgent issues than a large-scale wastewater-treatment system. "The project does no good to inhabitants but spends lots of money. Why don't they just distribute the project funding evenly to the ordinary people?" (villager V.C., March 2017). The village elders especially were very straightforward in their critique: "The Communist Party is just throwing money around with this people-oriented project" (villager F.A., March 2017).

CULTURES OF WASTE, TENANCY, AND IRRATIONALITY AS MORAL WEAPONS OF THE WEAK

Surprisingly, an often-voiced concern about the WWT infrastructure was that it was causing pollution, rather than eliminating wastewater. This reaction was rooted in alternative interpretations of what constitutes waste, emerging from changing rural livelihoods.

Before the widespread use of chemical fertilisers in the 1990s, there was no such thing as 'wastewater' in the rural areas of the island. In the traditional septic tank, the solid waste and water were separated by sedimentation. After sedimentation, the former was recycled as valuable manure for the fields, while the latter (almost purified water) seeped away in the soil. In the traditional 'house ditch' (*zhaigou*) around farmhouses, the water was recycled further, feeding the fish in the house ditch before infiltration.

Urbanisation and agricultural modernisation disturbed this metabolic process as chemical fertilisers rendered the solid manure from septic tanks useless. Only a handful of older households continue to use manure for their vegetable gardens, but in general, villagers no longer see value in household excrement. Excrement is now considered waste. To get rid of it, one has to pay a faecal suction truck to come collect it. Meanwhile, the modernisation of water provision on the island has replaced traditional wells with tap water, reducing villagers' dependence on local groundwater quality.

What has emerged as a new matter of concern is the stench rising from the new sewage system. Villagers claimed that it is particularly strong in the (temporarily) empty houses of rural-to-urban migrants and at water treatment installations. They questioned the replacement of septic tanks by sewers, because the septic tank system does not cause smells inside the house.

Engineers often blamed villagers themselves for the smell, as they did not install proper U-siphons when connecting the house drain to the sewers. Villagers, on the other hand, argued that the stench is caused because design companies oversize the systems. The sewage system does not receive sufficient

effluent, leading to clogging of the pipes, and the microflora at the oversized water treatment stations die for lack of influx. The commission for the design company is determined by the number of users, and the planning bureaus are expected to aim for 100% coverage. Hence, both are stimulated to maximise the scale of the planned system. Since labour migrants to Shanghai maintain their rural registration (*hukou*), their abandoned rural dwellings are equally equipped with WWT facilities. As a result, in the final project, the capacity of the sewage network and the purification station is larger than necessary.

Echoing the villagers' complaints, some local engineers agreed that a sewage system might not be the best solution on the island:

In principle, the outlet water should be purified already, but the problem lies in how to deal with the faeces. Maybe a centralised collection and processing of faeces would be more effective than installing sewage pipes in villages, because in flat land the pipes tend to get clogged and cause problems (local engineer E.B., March 2017).

Ironically, the WWT system introduced the concept of "domestic wastewater" to Chongming island. Wastewater did not exist in the traditional septic tank system, but nowadays, it became tangible in unwanted places: the WWT project introduced visible and smelly infrastructures (dirty pipes and stations) that brought waste and impurity inside houses and communities, constituting objects of aversion and disgust. As Mary Douglas revealed in her work (2002), pollution is a highly politicised concept which reflects general notions about social order. The state's attempt to address domestic wastewater as an element disconnected from villagers' life-worlds was bound to arouse substantial controversy. Shifting from a local metabolism of water towards a metabolism operating at the urban scale created a rift between everyday experiences and official discourses.

Secondly, villagers' arguments for resistance not only mobilised differences in worldviews, but were based in concrete, hybridised norms and values. Villagers based their actions on a combination of legal and informal rights to resistance, focusing on their primordial claim to their housing plot as well as the collective land.

Individual villagers had little power to influence or resist top-down WWT projects as a whole. But with regards to their private housing plot, power relations were very different. Deng Xiaoping's reform policy granted Chinese rural households long-term use rights over their housing land and the right to reject interventions on this land (Hess, 2010). To legitimise such rejections, they deployed a variety of arguments, some of which were directly connected to their doubts about the project's effects, while others tapped into a *mélange* of longstanding cultural norms, from feng shui to tenancy rights.

At the level of the private courtyard, villagers connected waste to other taboos. Where a new Johkasou tank⁴ was to be installed, it was compared to a gravestone (see Figure 3) which shouldn't be too close to the house. Sometimes, traditional feng shui belief was called upon to resist the location of sewage pipes in particular areas. As they contained wastewater, pipes and stations themselves represented a form of overt pollution. Some households resisted these infrastructures in the *tsing lung* ('green dragon', which represents masculine forces) corner of the house or yard, as the purity of this corner was key. Also, a respect for ancestors was called on to resist the project's intrusion on private land: "The stone laundry sink in my yard was passed down from my great-grandmother. The construction company mustn't damage my ancestor's legacy" (villager V.D., March 2017).

⁴ An all-in-one purification tank technology introduced from Japan.

Figure 3. Johkasou tank after installation in the backyard.



Source: Shanghai People's Radio Station, 2017.

Some villagers rejected the drainage of treated water into the canal beside their home, and some didn't want the pipes containing a neighbour's "dirty water" to run through their yards. Such objections gave the engineering company a difficult time, as houses were built close to each other, and it was almost impossible to connect all houses to the main sewage pipe without passing through private yards. A local engineer complained that "villagers might simply, without compromise, refuse to allow the pipelines to go through or near their house, so that the neighbouring households couldn't be connected either" (local engineer E.C., March 2017).

Others objected to the demolition of private walls and fences, driveways, and especially garden soil for the construction project. Older and more conservative villagers in particular were very conscious about the value of soil quality, and didn't trust the engineering companies to treat their soil with care. One village elder questioned: "When pipes are installed underground, where will the soil go?" (villager F.B., March 2017), while another lamented: "The digging by the construction company is making our land a mess!" (villager F.C., March 2017). This linked, on one hand, to the important role that soil plays in rural culture, and on the other, to the specific geophysical characteristics in Chongming. When land was first reclaimed from the sea, the soils were saline and alkaline, which took generations of hard labour to improve and turn into arable land. Hence, farmers on these estuarine islands were particularly alert to any threats posed to their topsoil.

Therefore, the construction team installing sewage pipes avoided villagers' private yards as much as possible. But even on public land, villagers might object to pipes being constructed too close to the walls around their yards, because this "would damage the foundation and make the walls collapse" (villager V.E., March 2017). However, if the pipelines were placed in the middle of the road, traffic will be blocked, and the costs of road reconstruction would increase (not to mention the protest from other villagers that might emerge against the damage done to the roads). To install sewage pipes, construction teams were very much treading on eggshells.

The construction of treatment stations was not much easier. Negative reactions by nearby residents were frequent, citing soil and surface water pollution and odour pollution as arguments. Planners preferred to site them on land zoned for rural collective construction, often abandoned sites of township and village enterprises (see Kung and Lin, 2007). To allow for the re-purposing of this land and the construction of treatment plants, expropriation by the village collective was legally possible. However, it needed to be confirmed by two thirds of the villagers. Resultantly, individual residents could use their

social network to block the construction of WWT stations. RWCS officials regularly complained about the rejections they received to construction on collective land in Chongming; they emphasised how "it is much easier to implement pipes and plants in a residential community [compared to a rural community]" (RWCS R.A., July 2020).

Finally, to legitimise their resistance, villagers did not only base their actions on their rights to private and communal land, but also on their so-called irrationality. One day, the main author was attending the village committee when the daughter-in-law of a local family (who herself lived in Shanghai with her husband) rushed in and nearly grabbed a retired village cadre by the collar. She started scolding him, saying that he was dishonest, that the construction team did not follow the agreed-upon route for the sewage pipes around their house. The village committee called her *wu* ('unreasonable/crazy'), arguing that the "agreed-upon" route was not even on theirs, but their neighbours' plot. The woman argued that they would still suffer from the smell and would be affected by the look of the septic tank beside their plot. She said if the route on the neighbours' land didn't satisfy her requirements, the family would not allow any construction on their own piece of land either. After a fierce discussion, the village committee gave in to their demand, knowing that they could indeed refuse construction on their own land and fearing that their resistance would block the project.

The resistance of villagers was often dismissively named *wu* by village cadres, as a call to reason. *Wu* could mean 'fierce', but *wu* villagers, village cadres explained, were not to be feared, because they didn't have a good reason for their resistance. "They are not making sense", as one village cadre explained (village cadre C.A., March 2017). Engineers too had the feeling that villagers simply didn't understand the benefits of new technologies. However, villagers frequently used their own "lack of reason" as a weapon, legitimising their fierce resistance. Villagers would start their criticism of the project by saying, "I'm poorly educated, but (...)" With this disclaimer, they did not only emphasise that they lacked specialist knowledge and were only using their common sense. It also allowed them to voice fierce opposition against more powerful actors without retaliation.

Interestingly, the strongest resistance was put up by women in the village. As in the story above, women were often called "irrational" or "unreasonable" by the village cadres. In one case, for instance, they complained: "The old widow in that family is so stubborn that they are driving the construction team to a dead end" (village cadre C.B., March 2017). But women also consciously exploited this prejudice, as their presumed "irrationality" in some way made their resistance more acceptable and less socially disturbing. Even men used the 'irrationality' of women in their family as an excuse for resistance, as one male villager argued: "I have no problem with installing this WWT stuff, but my wife doesn't agree" (villager V.F., March 2017).

In summary, the villagers waged resistance against this welfare project by deploying a hybrid discourse comprised of traditions, Deng's legacy of land tenancy rights, and myths of peasant ignorance and irrationality. This created immense challenges for the projects and opened up manoeuvring spaces for village cadres who were called in for mediation.

BETWEEN A ROCK AND A HARD PLACE: EVERYDAY POLITICS OF MEDIATION

Denouncing the lack of reason of villagers resisting their project, a project manager from a local construction company explained the importance of village cadres' interventions:

First of all, there is variation among villages in overall 'consciousness' (*juewu*) to sacrifice for the public good, which depends on the village committee's communication – that is, the extent of intervention and mediation by the village committee and old village cadres. Why? The villagers don't trust strangers when it comes to compensating them for land use or for solving a neighbourhood grudge (local engineer E.C., March 2017).

He continued to compare Village H with another village where his company had carried out WWT construction work:

[In that village,] their village cadres didn't bother to advocate for this project to the people. Sometimes the conflict between villagers and the construction team was so intense that insurance companies had to be called in. As a result, they have only half of the households covered. But here, three retired village cadres are helping the village. As a result, this village generally has a good awareness level, and the WWT coverage exceeds 90% (local engineer E.C., March 2017).

The quote illustrated well why the village committee, although formally playing a minor role, became a central actor in the project network in many places. Hardly ever engaging in debates with villagers directly due to lack of trust, construction teams turned to the cadres in the village committee, who were expected to explain the rationale of the project and built trust between villagers and the construction company. Yet village cadres considered this kind of promotion a delicate business. They were aware that knowledge of good, functioning technologies needed to be matched with cultural sensitivities to win over villagers for the project. In Chongming, reputation (*mianzi*) and social networks (*guanxi*) were very important and contributed strongly to a person's social capital. A township official in H-town explained the importance of *guanxi* in relation to WWT resistance:

Why do [the villagers] object to the thin pipes running under their yards, but keep silent in face of the annoying pig farm next door? It depends on whether the neighbours are friends or enemies. If they are friends, then they show a lot of tolerance towards the inconvenience caused by their neighbour. On the other side, if they already have grudges towards their neighbours, on top of the public character of the project, they will choose to reject it. See, this is the power of *mianzi* and *guanxi*! (township official T.A., March 2017).

Apart from accepting interventions – or not – based on the *guanxi* with their neighbours, villagers often complained about the lack of respect (*bugei mianzi*, meaning 'showing no respect') from the construction team in their village: "Not that I will stand in the way of their digging my land, but they should at least inform me beforehand..." (villager V.G., March 2017). Establishing a personal relationship before getting to business was considered a sign of mutual respect. When there was a conflict between villagers and construction teams, village cadres may therefore say to the team leaders, "Why not hand out a cigarette and chat with them?" (village cadre C.C., March 2017). For the male-dominated WWT engineers, smoking was an important and very gendered way of bonding and showing respect between themselves and male villagers.

Village cadres themselves also tried to use *mianzi* to get villagers on board with the project. Criticising villagers for their 'feudal' (anti-modern) and individualistic attitudes, village cadres appealed to villagers' civic morality. Sometimes a village cadre tries to persuade villagers by saying, "It is not X's *private* project but for the *collective* good" (village cadre C.D., March 2017). Another cadre argued: "The Communist Party has built the road so well for you, and certainly will fix the road for you later. (Why are you still complaining?)" (village cadre C.E., March 2017). Yet the overall sense among village cadres was that these moral arguments about collective provisions, grounded in Communist philosophy, were no longer having much effect. As one former village cadre summarised, "Nowadays, ordinary people are unreasonable; it's no use for the government to subsidise and provide welfare for them. These wu people will still not care for the collective good" (former village cadre F.C., July 2016).

At the same time, village cadres mostly tried to make sense of resistance instead of looking down on it as wu behaviour. Villagers sometimes blocked the construction project because of personal grudges between neighbours. As one village cadre commented, "Actually there are not so many 'conflicts' except those old and insoluble grudges. Most of the time they just want the village committee to solve their appeals instead of negotiating with their neighbours by themselves, so as not to lose *mianzi* in the negotiation" (village cadre C.F., March 2017).

Failing to convince the villagers through moral arguments, village cadres tried to persuade them by appealing to conformism based on *mianzi*. When people have asked, "Can I choose not to implement WWT?" the village committee would warn them of the consequences of stepping out of line, although

there is no legal consequence: "You have to sign a consent waiver [that you have chosen yourself to be exempted]. And you might regret it when new policies are introduced. After your neighbours all have the facility implemented, don't regret it later and come back to the government. There might be a chance that you spend more for using water in the future [based on the speculation that everybody will need to pay the discharge fee regardless of whether they have WWT installed or not]". Lacking collective organisation and fearing the idea of having to resist state policies on an individual basis, most villagers reacted to such threats with fatalism: "I have no other choice but to accept the implementation because the state policy has to be obeyed" (villager V.B., March 2017).

Where appeals to *mianzi* and conformism didn't work, village cadres used money to get villagers' consent. Whereas the construction companies needed to pay compensation for any damage done to properties, village cadres put in money to convince *wu laobaixing* (irrational people). The village committee paid this compensation for the state project from its own budget. A village cadre complained: "The upper-level government doesn't understand why a 'people-oriented' project needs to pay compensation to people. They should come to the village to have a look" (village cadre C.G., January 2019). Therefore, village cadres also lamented the individualist and materialist culture of the villagers (He, 2003). As a village secretary commented, "Our work nowadays is an exchange of equal interests with people; it's no romance anymore" (village cadre C.C., March 2017).

One village cadre (C.G.) explained how they try to minimise such financial settlements by proceeding swiftly, comparing it to *kuzushi* in Judo (undermining your opponent's balance, for instance by taking advantage of their actions such as pushing when pulled):

When a household resists, we cannot wait very long to address their appeal, because that will cause their neighbour to follow suit. If they want compensation, try to satisfy them as soon as possible, even if out of the village committee's own budget, then dig the station immediately before they regret it! (village cadre C.G., January 2019).

As every change of plans might affect new households, village cadres tried to stick to the plan as much as possible so as not to get caught up in a cascade of complaints. This was confirmed by the engineers: "We try to avoid moving the sites twice, because one objection will be followed by others" (local engineer E.D., March 2017).

Similarly, village cadres knew very well that "as pilot villages, if we screw up, then extension to the other villages in our township will be extremely difficult" (village cadre C.H., March 2017). Alternatively, an engineer commented:

If the WWT facilities run well, people will notice, and households without an installation will also come to ask us when it will be their turn to have them installed (...) This is how peoples' awareness gradually increases during the implementation process, from one village to another (local engineer E.C., March 2017).

Next to the village committee's cultural and social sensitivities and its ability to financially compensate villagers, the village cadres' own '*mianzi*' came in as a crucial asset for the project's success. Older, retired village cadres in particular played an important role. Not only were they free of administrative work and thus had the time to focus on persuasion, but they also knew the villagers better and were more respected than the current cadres – a respect preserved from the role they played in the period before agricultural reform. Many still called them *ganbu* (Communist cadre) to show respect, whereas township and higher-level officials were called *lingdao* (leader) by villagers.

The retired cadre grabbed by the collar and scolded by the woman in the quote above, according to an older colleague, had lost his credibility a long time ago. According to his colleague:

He was accused of embezzling public funds in the collective era. That villagers are acting so rude to the cadre is because he has [reputational] vulnerabilities that can be exploited. For me, I don't fear them at all, because

I don't take any economic benefit from them. If I get called names, I will instantly call them names in return (former village cadre F.D., March 2017).

To win over villagers for the project, village cadres did put their own reputation (mianzi) at risk. Their impartiality in the process was important to maintain legitimacy: given the contentious nature of the WWT project, village cadres needed to move carefully so as not to be perceived as taking sides against the villagers, which could damage their reputation. As an old village cadre explained:

Last year the same company was constructing roads and bridges here for the 'beautiful countryside' project. That was a happy time. We village cadres would play cards with the engineering team during leisure time. This year is different. We don't play cards with them anymore, because people don't like the WWT project; what they do is an offence to the villagers. We need to keep our distance from the engineering team, or it will be harder to persuade the villagers that we don't benefit from this, and we are just doing our job (village cadre C.D., March 2017).

Village cadres did not only avoid being seen together with construction teams; they also often maintained a disengaged attitude with the WWT project itself. They avoided overpromoting it and tried to communicate the concerns of the villagers to engineers and higher-level officials. Finally, they also risked being seen as taking sides in conflicts between villagers. Every time they proposed a change of plan or compensation for one villager, another might accuse them of putting guanxi above justice, or of bending to the loudest complaints: "Why [are they] running from my place instead of his? Because he objects? It feels unfair" (villager V.H., March 2017).

The resourcefulness of village cadres in activating their social capital and navigating local cultural micropolitics had gained them a prominent place in the WWT-governance network. The important role of the village committee and the need to integrate them in the design and policy process was voiced by all partners. As an RWCS official stated: "Therefore, close cooperation between the village committee and the construction team is necessary. Only then are we able to achieve the 'mission impossible' of 100% coverage in Chongming" (RWCS R.A., July 2020).

The village cadres, on the other hand, did not appear too happy with their renewed centrality. Feeling caught between the rock of village pressure and the hard place of project demands, village cadres, when questioned by villagers about the WWT project, would sigh, "So sad". One cadre jokingly made a comment similar to the villagers': "In this case, we'd rather the water bureau share the money with everybody [instead of investing it in the WWT system]" (village cadre T.B., March 2017), whereas another put it more bluntly: "We'd rather the water bureau set the money on fire" (village cadre C.H., March 2017). They described their experiences with the project as 'suffering': "In the end, we have gone through all sorts of ordeals, with complaining to each other as our only outlet" (village cadre C.G., January 2019).

CONCLUSION

Using ethnographic approaches, this paper has examined the cultural politics shaping the hydrosocial territory of wastewater treatment in Chongming. From this analysis, we have derived two important insights which expand the concept of hydrosocial territory.

First, in line with the general literature on hydrosocial territories, we emphasise how the WWT project assembles infrastructural-technical, political, social, and cultural relations. The WWT project is a top-down initiative by state bureaucrats and engineers, with the aim of contributing to the national goal of turning Chongming into an eco-island. Nonetheless, it does not provide a simple techno-governmental fix to an ecological ambition. At the local level, it affects villagers in a myriad of ways, and these effects are mediated by local socio-cultural interpretations. Water, land, and infrastructures are imbued with meaning. Hence, peoples' relationships with water and land not only reflect but also interact with social relations. Apart from the technical challenge of connecting sewer pipes, treatment stations, and household sinks and having wastewater circulate through them, the project faces the possibly larger

challenge of knitting together interests, discourses, and social relations. On the ground, it is met with a resistance that bases itself not on a coherent 'traditional' hydrosocial counter-territory, but results from a coming together of a flurry of practices embedded in the already-hybridised rural culture of Chongming. These cultural politics of resistance are based on a mixture of rural mistrust of modernisation and urbanisation and appeals to traditional referents such as feng shui, mianzi, and guanxi, but also build on an individualist materialism born from Deng's reforms.

Secondly, our paper shows how hydrosocial territories are always in the making, at the crossroads between diverse accounts of pasts, presents, and futures. Not only do the various cultural tactics of villagers connect new challenges and claims to the original infrastructural-political scaffolding of the hydrosocial territory; they also engage new actors and reshuffle the relations between actors, leading to a profoundly hybridised and unstable project.

To stabilise itself and counter or accommodate local resistance, the WWT project cannot rely on technoscientific knowledge alone, but also has to mobilise socio-cultural understandings, agency, and tactics. Local village cadres are the only local source of such socio-cultural know-how and emerge as a crucial go-between for villagers and the network of policy makers and engineers. Village cadres, in their unique hybrid role between villager representative and state agent, skilfully navigate between the cultural referents of both groups. They are called upon to disarm cultural conflicts, and thus moved to a central position in the hydrosocial network. They accept this task with reluctance, well aware of the personal risks they face, i.e. the wrath of both local state officials and fellow villagers.

Instead of replacing one hydrosocial territory with another, the everyday cultural tactics of resistance have led to relative yet permanent instability of the hydrosocial territory. This calls for a further reflection upon their spatio-temporal.⁵ Not only does the hydrosocial network change and expand as new actors move in and out and strategies of control zoom in on different aspects of water, from infrastructural interventions to the governance of water user practices or the negotiation of rights; as a project of control, the Chongming hydrosocial territory also aims to regulate a waterscape that, in the everyday cultural politics we discuss in this paper, constantly shapeshifts from the personal, to the local, to the regional, to the national scale while the moral discourses mobilised in these politics connect it both to nearby and distant pasts, as to a diversity of possible futures.

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