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Left to Live and Die: Resource Security and the Biopolitics of Land Stockpiling in China

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Abstract: Beginning in 2007, the Chinese state used liberalising policy and funding to encourage the expansion of large-scale grain farming. Despite this support, many of the new farms have struggled financially and folded. Drawing on Foucauldian biopolitics and resource security literature, I argue that, with modernised agriculture, the state primarily sought to create not commercial farms, but the redundant farming infrastructure needed to buffer its growing reliance on food imports, abide by global trade regulations, and sustain its urban export manufacturing economy. These balancing efforts harmed commercial farmers: land commodification and policy funding incentivised urban government officials to intervene in rural land-use planning, but low global market aligned grain prices disincentivised them from considering the place-particular viability of their plans for producers. This article contributes to critical agrarian change literature by highlighting how modernist states become beholden to rational scientific techniques and sacrifice rural areas for increasingly vulnerable urban areas.

Keywords: resource security, stockpiling, agrarian change, China, biopower

Introduction

Beginning in 2007, the Chinese state began promoting a nationwide transition to large-scale mechanised grain farming that it broadly referred to as agricultural modernisation (*nongye xiandaihua*). In subsequent years, the state supported this initiative by liberalising the land market, as well as with funding for agricultural land and infrastructure redevelopment projects and subsidies for large-scale farmers themselves. Government officials in the rural township of Ruilin and its overseeing county of Yangchun, Anhui Province, were some of the first to respond to the state's promotions.¹ Using their own capital investment and, later, central government funding, Yangchun and Ruilin officials achieved rapid and expansive results. When Ruilin officials began modernising in 2007, 9,000 rice-growing households farmed all of Ruilin's 2,000 ha of arable land on holdings averaging 6.5 *mu* (0.43 ha). By 2018, 135 large-scale farmers with holdings averaging 200 *mu* (13.3 ha) were leasing 61% of that land to grow rice and wheat. These landscape changes are observable in satellite imagery from Ruilin's Ding village, where land redevelopment projects that began in 2014 quickly turned what had been a patchwork of small plots into a rationalised series of grids (Figure 1).



Figure 1: Agricultural modernisation in Ding village, Ruilin township (source: Google Earth; Image © 2023 CNES/Airbus)

Ruilin's transformation mirrors that of rural areas nationwide: between 2007 and 2017, the percentage of arable land consolidated for industrialised farming in China increased from 5% to 37% (Jiang and Wu 2019). Popular and scholarly analyses frame this change as driven by the state's desire to dismantle the collective economy and open the countryside to capitalist agriculture (Day and Schneider 2018; Schuman 2018). Gone largely unnoticed in these narratives, however, has been the generally dismal economic performance of large-scale farmers themselves, who have struggled financially with high operating costs, low production, and poor returns on that production (Pan 2017; Sun 2017; Zhang 2013). Ruilin's large-scale farmers are no exception. Between 2014 and 2018, 90% of Ruilin large-scale farmers either lost money or broke even, while in 2018 they were leaving 15% of the township's arable land fallow for at least half of the year.

Marxist agrarian change literature asserts that state support of agrarian capital, often accomplished through legislation and policy reforms and the use of force such laws and reforms rationalise, results in capital's unidirectional expansion (Grajales 2013; Marx 1976). Polanyian literature, meanwhile, posits that states regularly intervene to restrict or reverse capital's expansion when it threatens social stability (Chuang and Yasuda 2022; Polanyi 2001). In China, the state did indeed intervene in 2017 when the expansion of large-scale farmers undermined subsistence villagers' livelihoods (T. Liu 2023). But China's large-scale farmers have consistently economically struggled, even in the years immediately following the introduction of the modernisation policy.

In this paper, I draw on Foucauldian and resource security literature to argue that China's commercialised farms have struggled despite state backing because their profitability was not the state's priority with the agricultural modernisation policy. The state promoted and supported large-scale mechanised agriculture to create new domestic investment opportunities in capitalised agriculture, but also to create the infrastructure to buffer potential future disruptions in the global supply chains provisioning China's urban areas. Foucauldian and resource security literature show that modernist states commonly pursue production and protection goals simultaneously in this way. By modernist states, I refer to those that gain

their legitimacy from their ability to use rational scientific techniques to enhance capitalist productivity and optimise life, or what Foucault (2003) calls biopolitics. Contra the above agrarian change theories, modernist states neither support the unmitigated expansion of capitalism nor do they move in episodic production or protection policy cycles. Rather, they use protection and security to facilitate production. Future-oriented investments and protectionist policies such as infrastructure building, social safety nets, and resource reserves promote investment, productivity, and efficiency by managing regularly occurring threats (Marx 1973; Simpson 2019). Apparatuses to reduce the risk of predictable social problems, or what Collier and Lakoff (2015) refer to as “population security”, are thus essential to accumulation.

But this protection-for-production approach has consequences. Modern states' value of development via rational scientific knowledges creates racial, class, and spatial hierarchies. These hierarchies privilege urban areas as centres of capitalist flow (Nally 2011). The creation of population security apparatuses such as reservoirs that enclose rural space to buffer regular urban shortages reflects these hierarchies. But the modernist state's need to enclose the rural to protect the urban only grows with time. Biopolitical states become dependent on the infrastructural systems that safeguard and empower them, but those systems' nature as inter-linked flow accelerators makes them both vulnerable to disruption and vectors of vulnerability. To buffer against such threats to their “vital systems”, modernist states and their urban governments expand control over an increasing amount of rural resources as well as the terrain on which to store them (Collier and Lakoff 2015). These attempts to increase cities' resilience undermine that of rural areas. Urban territorial expansion renders rural governments politically subservient to their urban counterparts and reshapes them to cater to the potential future needs of urban populations (Randle 2022; Saguin 2017).

These dynamics impacted Ruilin farmers. From the early 1990s to 2007, the Chinese state sought to propel its export manufacturing-based economy with population security in the form of collective rural land rights, which provided laid-off factory workers with a fallback in the event of economic downturns.² While this economic model fuelled China's export manufacturing, it also created greater and overlapping dependencies and vulnerabilities. Export manufacturing relied on and precipitated the urban flight of working-age rural labourers as well as urban officials' ability to cheaply expropriate arable land for new urban development, which resulted in effects that threatened China's food security. The 2007/8 global financial crisis created new domestic demand for illiquid investments, but it also exposed the extent of the Chinese state's reliance on the modernist infrastructure of global supply chains to meet the population's food requirements. At the same time, retaining the export manufacturing model obliged the state to comply with global trade requirements regarding import tariffs.

To balance these vulnerable dependencies, the Chinese state liberalised the rural land market and funded land reconstruction. It also implemented an arable land redline policy that sought to protect farmland reserves while allowing continued expansion of urban development through a land offsetting scheme. As state leaders said at the time, they made these moves to create new investment

opportunities for economic elites. But they also sought to retain the import manufacturing status quo by buffering future supply chain disruptions (CCP Central Committee 2008). Seen in this way, the 2017 image on the right side of Figure 1 depicts not only commercialised farms, but also an arable land stockpile. By stockpiles, I refer to the redundant “reservoir[s] of frozen time” that help to retain the flow of markets and vital system functioning by building confidence and discouraging threats (Folkers 2019:494).

These moves by the state generated the political and economic incentives needed to create the grain production bases the state desired. But they also rendered commercial farming an afterthought for urban and rural officials. The state’s need to allow staple crop imports under WTO trade regulations kept domestic demand for large-scale farmers’ grain low and reduced government officials’ economic incentives to consider the interests of or to support large-scale farmers. In turn, politically and economically incentivised by the central government’s reforms, urban officials pushed the rural governments they oversee to consolidate and modernise their arable land areas regardless of those areas’ ecological suitability for year-long large-scale farming. The result was a new but redundant and neglected class of large-scale producers who, in the words of one official in my field site of Ruilin township, have been “left to live and die” (Doll 2022; Jiang and Wu 2019; Pan 2017). Challenging popular and scholarly conceptions of state- and capital-led large-scale land acquisition and development (Borras et al. 2011; Kaye 2012), this paper builds on and contributes to studies of agrarian transitions and the causes of stalled, struggling, and failed agrarian capitalist enterprises (Chung 2024; Fairbairn 2020). It does so by highlighting how biopolitical governance creates development traps in the form of compounding dependencies and vulnerabilities, which result in state-led land and resource acquisitions (Africa Press Agency 2009; Barnes 2022; Financial Express 2023; Hall 2020).

This paper is based on 12 months of ethnographic fieldwork in the central-eastern township of Ruilin, Anhui Province (Figure 2). Fieldwork was conducted in 2014, 2017, and 2018. Fieldwork consisted of participant observation, sketch mapping, and 220 formal and informal interviews conducted in Mandarin Chinese with large-scale and subsistence farmers, village, township, and county government officials, input suppliers, and grain processors. Interviews in 2014 were conducted with one or two PhD candidates from Central China University of Science and Technology, while 40% of interviews in 2017 and 2018 were conducted with a research assistant. I elaborate on my arguments and contributions over five sections. First, I consider the concepts of biopolitics and resource security and their implications. I then show how the embrace of biopower has influenced the Chinese Communist Party (CCP)-led state’s development model, resource use, and governance. Next, I explore how biopolitics shaped the behaviour of Yangchun and Ruilin officials. In the fourth section, I assess the ensuing impact on large-scale farmers’ practices and livelihoods. I conclude by considering the relevance of these findings for agrarian change literature. I suggest that, under circumstances of growing threats to their vital systems, states are increasingly forced and able to waste rural resources and labour across classes to ensure the future security of urban areas.



Figure 2: Map of Anhui Province, People's Republic of China

Complementarity and Contradictions in Biopolitical Governance and Resource Security

In the late 1970s, the Chinese central government faced what it considered a legitimacy crisis. The chaotic Cultural Revolution (1966–1976), economic stagnation, widespread poverty, and Mao's passing had, in the state's view, undermined its grounding ideology of class struggle. In response, it sought to assert the right to rule via its ability to improve the population's material condition (F. Chen 1995).

To this end, the Chinese state embraced scientific rationalism and market capitalism as its governing principles. In the 1980s and 1990s, it instituted a series of liberalising reforms. Via fiscal and administrative decentralisation and agricultural de-collectivisation, the state made each government unit and rural household responsible for meeting its own budget. It altered the quantitative system used in evaluating and managing government officials to prioritise metrics related to GDP growth. Later, the state eased restrictions on the *hukou* (household registration)

system to allow rural-to-urban migration. Further, the state eased restrictions on the urban land market and foreign direct investment (FDI), and reduced protectionist trade policies as part of its 2001 entry into the WTO (Fan 2008; Tsui and Wang 2004; Whiting 2001; Xie et al. 2002).

But the Chinese state also retained and altered protectionist and administrative features of the socialist economy. Among them, the state preserved collective rural land ownership and limited rural land transfers to members of the same collective. It also retained the administrative hierarchy of units, which had been used to administer the command economy by dividing the country's territory within six-tiers beginning with provincial-level cities and ending with townships. The *hukou* system categorised the population by their position within this hierarchy as determined by their mother's natal unit, as well as by using this spatial position to assign households a status as either agricultural or non-agricultural. The reformed *hukou* system continued to tie households' social security benefits to their natal administrative regions (Chan 2010). In addition, while it streamlined governance, the state also invested heavily in rail systems, highways, shipping ports, and airports (Z. Li 2017).

The Chinese state has long referred to this hybrid liberal-socialist development model as a unique blend of "capitalism with Chinese characteristics" required by China's conditions and historical moment (Deng 1985). Scholars and development experts, meanwhile, have often criticised the Chinese state for retaining what they see as barriers to broader economic growth (Pei 2006; Prosterman et al. 2009). Seen from another perspective, however, the post-Mao CCP-led state was a variation of what Collier and Lakoff (2015) refer to as a biopolitical population security state. Foucault defines biopower in contrast to the sovereign power of pre-modernist states. Sovereign power seeks to ensure the survival of the state. The sovereign state is given and exercises over its subjects "the right of the sword ... to take life and let live" (Foucault 2003:240–241). The expansion of mercantilism, urbanisation, and the alignment of state power with national capitalistic wealth produced, and was produced by, modernist states. Modernist states gain and maintain legitimacy through their ability to apply rational science-based governing techniques and technologies to enhance and secure economic productivity, population health, and military strength (Foucault 2003).

To this end, modernist states intervened to pragmatically optimise and regulate the circulation, exchange, and the productive force of goods and people (Collier and Lakoff 2015). Modernist states used individualising technologies such as administration to increase efficiency by separating, aligning, serialising, and surveilling the body "to exploit it and render it docile and cooperative" (Brenner 1994:690). They also used what would become the social sciences to create population level regulatory and security mechanisms to reduce risk and "optimize a state of life" (Foucault 2003:246). This latter work is based on analysing historical data to identify predictable social problems such as poverty, endemic disease, droughts, floods, and crime. States then designed population security apparatuses such as sewage systems, levees, reservoirs, transportation infrastructures, and antibiotic drugs to manage these problems (Collier and Lakoff 2015).

However, Foucauldian and resource security literature shows that while biopolitics provides states with measures of political and economic stability, it is also premised on and reproduces self-destructive contradictions. First, the biopolitical state “improves” and enriches some groups and spaces at the cost of the harm and waste of others. The application of rational science to create technologies and techniques that optimise extraction, production, and efficiency produces overproduction, dispossession, redundant labour, and resource contamination. These outcomes disproportionately impact rural spaces and unskilled labour populations (T. M. Li 2010; Schneider 2017). Second, modernist population security apparatuses produce new forms of risk. By the 20th century, “collective life had become dependent upon interlinked systems such as transportation, electricity, and water”, which were vulnerable to disruption with potentially catastrophic results (Collier and Lakoff 2015:21).

Biopolitical states respond to these problems in two ways. First, they rationalise harms using biopower’s self-justifying logics. Biopolitical states frame their rational science-based and health and wealth-optimising governance techniques as advancing natural, evolutionistic, and apolitical processes. Thus, to the extent that those techniques result in the concentration of benefits to some races, classes, or spaces at the expense of others, or result in the suffering and death of the excluded, the state and those who compose it can rationalise these outcomes as inevitable, outside of their ability to change, and/or necessary for the advancement of the species. The result is an inherently hierarchical and self-reproducing state that privileges and protects the holders of power and rational scientific knowledge (Ferguson 1994; T. M. Li 2007; Nally 2011). Through this logic the biopolitical state is endowed by the population not with the power to take life or let live, but “to make live and to let die” (Foucault 2003:241). Letting die includes “every form of indirect murder: the fact of exposing someone to death, increasing the risk of death for some people, or, quite simply, political death, expulsion, rejection, and so on” (Foucault 2003:256).

Second, modernist states respond to the threats to their resilience created by their own population security measures with vital systems security. As states become reliant upon population security and modernist infrastructures for their vital system functioning, they need new and speculative measures to buffer against and maintain the functioning of those infrastructures. Given the often-unprecedented nature of the resulting threats to urban areas dependent on vulnerable modernist technologies, vital systems security uses disaster modelling to create vast, passive, and ongoing security apparatuses. These often take the form of redundant or decentralised infrastructures such as stockpiles, vital industrial facilities, communications networks, and standby production lines (Collier and Lakoff 2015).

However, vital systems security itself creates and rationalises new forms of self-destructive harm and waste. To secure the territory needed for vital systems infrastructures such as aquifers, flood control reservoirs, and stockpiles, states enfold rural areas into the political domains of hierarchically superior urban governments, where these areas often become redundant and politically subservient urban appendages. In this sense, far from purely anticipatory or neutral, vital

systems security techniques are an instrument with the indirect effect of broadening state authority over rural areas (Ferguson 1994; Folkers 2019; Scott 2017). Under these circumstances, rural spaces are no longer managed with the primary aim of effectively serving or sustaining their inhabitants or ecologies (Randle 2022; Saguin 2017).

As I show in the following section, the Chinese state's embrace of biopolitical production-via-security governance powered its development. But it also created new dependencies and vulnerabilities requiring, and rationalising, the state's expanding control over rural areas.

Biopolitical Governance and Resource Security in China

The post-Mao state's retention of protectionist policies and socialist era administrative structures helped it to regulate and maximise the flow of capital by enhancing security, oversight, and efficiency. The state's continued use of the administrative hierarchy and cadre management systems allowed it to impose top-down pressures on and offer incentives to individual officials. Forced by fiscal decentralisation and the cadre management system to become entrepreneurial, rural officials and villagers in the 1980s developed township and village enterprises (TVEs), which became key drivers of economic growth (Oi 1999). By continuing to tie villagers' social security benefits to their natal villages, the *hukou* system provided the urban governments hosting migrant workers with a pool of artificially discounted and temporary labourers. Urban governments in those cities in turn took advantage of that cheap labour and newly available leases on urban land to attract manufacturing FDI (Xie et al. 2002).

Meanwhile, infrastructure investments allowed the state to increase the efficiency of resource and population flows and provide vital services and goods. The construction of dams, reservoirs, and levees, along with the unreformed rural land structure, allowed the state to buffer predictable ecological and economic disturbances such as floods, droughts, and economic downturns (Z. Li 2017). These security investments and structures gave investors the confidence needed to take financial risks. Such investors included, and continue to include, foreign corporations and domestic businessmen. They also included migrant labourers. By providing small-scale farmers with a fallback in the event of mass layoffs, the unreformed collective land ownership system propelled rural-to-urban migration (Chan and Wei 2019; Fan 2008).

However, the state's policies and administrative structures disproportionately benefitted urban elites and cities at the expense of rural people and landscapes. Within the unreformed spatial hierarchy, fiscal and administrative decentralisation and agricultural de-collectivisation cut off the flow of resources to rural governments. But decentralisation and de-collectivisation also transferred funds from rural areas to urban areas by retaining upper-level governments' ability to both requisition funds and to transfer down costly policy implementation tasks. Liberalising policies and infrastructural investments privileged urban areas as centres of export manufacturing. In the context of widening urban-rural inequality, the booming urban economy further pulled rural labour to the cities. The *hukou*

system furthered the transfer of wealth from rural to urban areas by artificially discounting rural labour. The result was the self-reproducing creation of a rural underclass (Chan 2009; Yan 2003).

Propelled by the collective land social safety net, the land development boom that began in the 1990s added to China's urban-rural inequality and produced new vulnerabilities. Seeking to increase its fiscal capacity, in 1995 the Chinese state altered its tax laws to take control of enterprise aligned profits. In return, it provided rural governments with control over fees related to the conversion of land from farmland to industrial use status. For cash-strapped rural governments depending on revenue from small-scale TVEs, this change in the context of low state-mandated land compensation requirements and skyrocketing land market values encouraged rural land expropriation. Furthermore, in the work of expropriation, the state's collective land ownership structure proved invaluable for rural officials. Rather than having to negotiate with each individual household, officials merely needed the approval of two-thirds of each village collective. To this end, officials relied on a variety of methods to persuade and coerce villagers' approval, including ideological re-education, using differing compensation levels to sow division among villagers, and threats (Chuang 2014; Trappel 2016). This resulted in the rapid loss of national arable land shares. Between 1997 and 2008, China lost 6.2% of its arable land to urban development (Bloomberg 2017). Furthermore, the ensuing expansion of industry into peri-urban areas increased the contamination levels of remaining arable land (He 2014).

The post-Mao state's modernist infrastructures also increased the state's vulnerability. China's 2001 WTO admission relieved some of the pressure on its domestic food system by expanding access to foreign food supplies. By 2004 China had become a net importer of agricultural products, including rice, wheat, corn, and soybeans, and between 2000 and 2020 the country's food self-sufficiency ratio decreased from 93.6% to 65.8% (Z. Z. Liu 2023). However, the 2007/8 global financial crisis exposed China's reliance on the interconnected global trade system. By spurring international commodities investment, the financial crisis caused a surge in global food prices. This in turn sparked a land rush among governments, investment firms, and enterprises seeking to ensure national food supplies and to profit from increased food demand (Borras et al. 2011; McMichael 2012). For the Chinese state, the loss of arable land and the condition of the rural economy in the context of rising global uncertainties had created a dire threat to food security. As Premier Wen Jiabao stated in 2008:

[A]gricultural infrastructure and technical equipment are backward, arable land has been greatly reduced, population, resources and environmental constraints have been strengthened, the impact of climate change has intensified, natural disasters have occurred frequently, the contradiction between international food supply and demand has been prominent, and the pressure to ensure national food security and balance the supply and demand of major agricultural products has increased. (CCP Central Committee 2008)

In response, Wen announced that the state would subsidise a new class of large-scale farmer, and fund farmland consolidation and agricultural infrastructure

development, particularly in grain producing areas. With these steps, the state aimed to “effectively stabilize the grain planting area” and “comprehensively improve and secure grain production and supply” (Wen 2008). To facilitate the consolidation of arable land, the state encouraged governments to create regularised transfer markets. To protect national arable land shares from expropriation and development, Wen also announced a national arable land redline policy (CCP Central Committee 2008). This required the state to maintain a minimum of 1.8 billion *mu* (120 million ha) of arable land. But by stipulating that governments must compensate for lost arable land by freeing up equal shares of arable land within their jurisdictions, the state’s policy allowed overseeing governments to maintain lucrative land development practices (Ye 2015).

However, Wen’s goal with these reforms was not to solve the problem of the state’s overreliance on vulnerable grain imports by replacing imports with domestically produced grain, which would violate the global trade agreements needed to maintain its export manufacturing economy. Rather, the state sought to create a domestic system able to compliment and compensate for a disruption to those imports. Agricultural modernisation was necessary in part because China “must be fully prepared to respond to changes in the international environment and improve our ability to prevent risks”, including the risk of rising international grain prices (Wen 2008). To this end, the state must “enhance the overall grain production capacity and become more able to ensure adequate supplies” (Wen 2008). The state must strengthen its “agricultural foundation” because China must “prepare for danger in times of peace” (CCP Central Committee 2008).

To this end, the state broadly continued to abide by WTO rules regarding grain import tariffs and maintained the collective land rights that allowed rural land to function as a safety net for rural migrants.³ It also moved to increase urban oversight over, and spark urban investment in, rural areas. In addition to the redline policy, the state worked to limit the power of what it called “rogue” rural officials to engage in illegal land taking. It did so by shifting oversight of township and county government budgets as well as cadre appointments to county and municipal governments, respectively. Further, the state eliminated the agricultural tax in 2006. In its place, the state offered direct transfers and awards for rural infrastructure and social services reconstruction projects, including agricultural modernisation. By reducing rural governments’ locally generated tax revenue and replacing it with top-down payments, these reforms tied rural governments’ fiscal survival to their ability to directly satisfy central and municipal government demands. By tethering urban land development, a major source of municipal government revenue, to rural governments’ land-use policies, the redline policy compounded rural governments’ fealty to municipalities. Almost overnight, municipal governments took an active role in rural governance (Fock and Wong 2008; Zhao 2007).

As the following analysis of Ruilin shows, the state’s reforms resulted in the rapid expansion of arable land modernisation and protection. But within its administrative systems and in the absence of strong domestic demand for grain, they did so largely by incentivising officials to pursue these projects within the narrow confines of their own survival and self-interest, rather than in consideration of large-scale farmers’ interests.

Population Security Transitions and Agricultural Modernisation in Ruilin Township

The liberalising economic reforms the state began in the 1980s created significant problems for people like Fang Jingui. Yangchun county's deputy head, Fang was responsible under China's decentralised administrative system for meeting his own government's fiscal requirements as well as ensuring the effective operations of the township and village governments under the county's purview. For Fang, agricultural townships like Ruilin were little more than financial albatrosses. Too remote to act as cost effective sites of industry, Ruilin's government was dependent on the agricultural tax for 30% of its annual revenue (Fang, Jingui. Interview by the author. Ruilin Township, 20 June 2014).

Thus, for Fang and the Yangchun government the central government's elimination of the agricultural tax in 2006 was a disaster. Desperate for a way to make up for the lost revenue from Ruilin, Fang and his subordinates scanned state policy and media reports for solutions. Central leaders had long advocated for the creation of professional cooperatives and vertical integration agribusinesses to offer agricultural producers upstream and downstream services. But in 2006 and 2007 those leaders for the first time called, albeit vaguely, for rural governments to consolidate, scale-up, and mechanise agricultural production itself (Sun 2017). Fang gambled that if Yangchun county proactively initiated such reforms in Ruilin, its leaders might be rewarded financially and professionally for their innovative development and environmental conservation work. Recognition for this work might additionally distract supervisors' attention from or counterbalance the county's heavily polluting but financially critical industries (Fang, Jingui. Interview by the author. Ruilin Township, 21 July 2014).

To this end, Yangchun county officials coordinated with Ruilin officials on a preliminary site to undertake a modernised agriculture initiative. They settled on an area in the township's centre that included Lin, Wang, and Mei villages and that was considered to have the township's most fertile farmland. Coordinating with an urban planning firm in the municipal capital, they created a land use development scheme. Fang was foremost concerned with how his superiors would define successful development work. For Fang, "the bigger, the better": the bigger the farms and land parcels, the more likely the county's initiatives were to please upper-level governments (Fang, Jingui. Interview by the author. Ruilin Township, 21 July 2014).

The government's system for assessing agricultural projects further encouraged Fang and other officials to prize the quantity of modernised area over the quality of farm production conditions. This system relied on quantitative data on accomplishments, as well as visual inspections. However, self-reporting requirements for data and brief, superficial, and predictable inspections allowed rural officials to hide production shortcomings (Gong and Zhang 2017).

Township and village officials found that about 20% of Lin, Wang, and Mei villagers were willing to lease their land. For the remainder, they used ideological re-education, trickery, pressure, and coercion to achieve near complete leasing rights. Officials lacked only an individual willing to undertake the responsibility and risk of becoming the initiative's first *dahu* ("large household", but denoting

state-subsidised large-scale farmers). They settled on Zheng Feiyu, a local businessman and head of a state authorised agricultural cooperative. Once again, they did not prioritise agricultural production. Zheng had no farming experience. Officials chose him because his existing financial commitments in the township made him less likely to renege on his lease. When he expressed reluctance, officials threatened Zheng with penalties and fines, and sought to entice him by offering support with his land rent as well as future rewards and agricultural collective status, which entitled him to further central government awards and tax breaks. In exchange, Zheng agreed to conspire with rural officials in their work to stage for inspectors the appearance of high functioning modernised farms. County Deputy Head Fang's gamble paid off: when the central government began offering direct project funding and awards in for agricultural modernisation in 2008, Yangchun county was one of the first recipients (Sun 2017).

Pressure on the county to rapidly expand the scale of agricultural modernisation increased in 2008 following the state's issuance of the red line policy. Yangchun county officials began receiving requests to free up arable land shares from municipal government officials eager to undertake lucrative land development projects. Land consolidation and development work achieved this task by providing officials with the justification to eliminate irrigation ponds, groves, gardens, and villagers' homes. For Yangchun officials, satisfying municipal officials meant not only meeting their budgets, but receiving nominations for provincial and national awards as well as promotions. Yangchun county redoubled its modernisation efforts in Ruilin, including by offering financial incentives to attract new large-scale farmers. It determined that those farming over 100 *mu* (6.6 ha) were eligible to receive 80 yuan per *mu* in government subsidies, up to 100,000 yuan in low-interest loans from the county rural credit union, and the subsidised coverage of 50% of their insurance.

Demand for farmland leasing increased dramatically after members of the region's economic elite observed the benefits Zheng Feiyu received, as well as following the 2008 rise in food prices and state guaranteed grain prices and the decline in profits from the productive economy (Figure 3; McMichael 2012). Ultimately, Ruilin township rewarded only one-third of initial land contracting bids. Consistent with their belief that larger farmers would better satisfy higher level leaders, county and township officials prioritised investors wanting to transfer over 1,000 *mu* (66.6 ha). Officials settled on a standard rent of 400 *jin* (200 kg) of rice/*mu* on five-year leases and 500 yuan/*mu* as a security deposit. This meant that prospective farmers needed to provide at least RMB 1 million upfront in total in rent and security deposits, outlays that excluded the vast majority of Ruilin residents.⁴ Rather, of the 13 initial Ruilin large-scale farmers or partners in large-scale farming operations, only two were Ruilin locals, and at least seven were business owners or managers.

Under increasing pressure from the municipal government to "free up" more land for redline trading and urban development, Yangchun county officials in 2011 began issuing annual land consolidation quotas to township officials throughout the county and included them in officials' performance evaluations. Ruilin officials, meanwhile, not only passed those targets down to village officials,

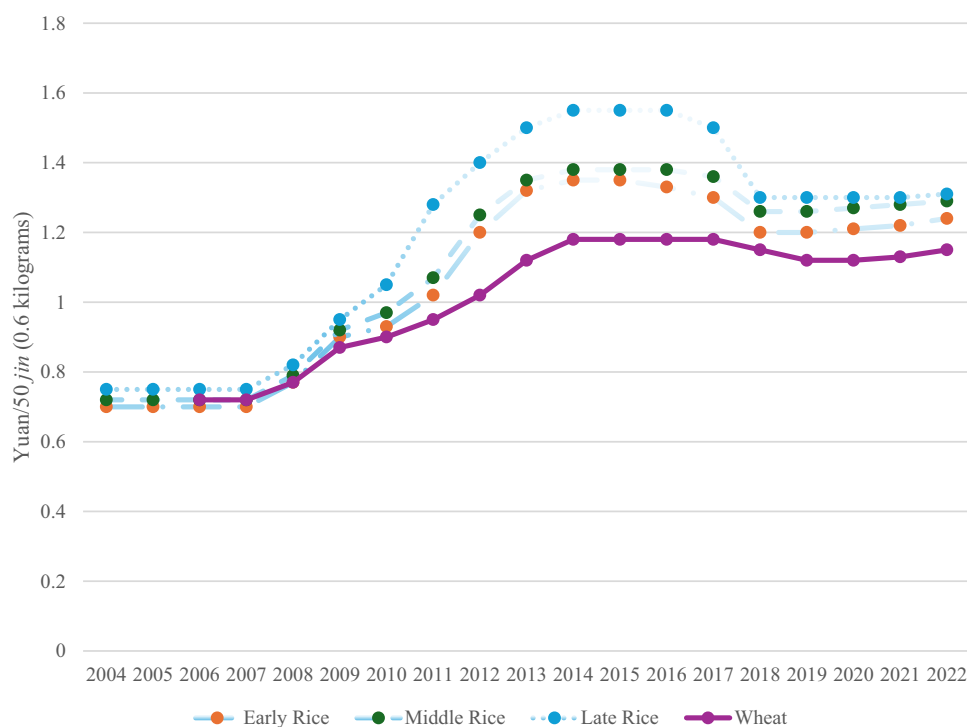


Figure 3: China rice and wheat minimum support prices, 2004–2022 (sources: Dongguan Securities; Hubei Provincial Development and Reform Commission)

but increased them to please county officials. As Table 1 shows, under these conditions, township officials in Ruilin and throughout the county exceeded county land transfer targets. As a result, by 2014, only seven years after beginning agricultural modernisation work, Ruilin officials had consolidated and redeveloped 60% of the township's arable land. 67 large-scale farmers were leasing 53% of Ruilin's arable land and 80% of its consolidated land.

Table 1: Land transfer tasks and completion in Yangchun county, 2008–2013 (sources: Sun, 2017; Yangchun County Government Work Report, 2008–2013)

Year	Transferred land quota assigned: Yangchun county government	Transferred land area: Yangchun county (amount above quota)	Transferred land area: Ruilin township (amount above quota)
2008	/	/	2,807
2009	/	/	7492
2010	/	5,736	939
2011	6,000	12,000 (6,000)	967
2012	5,000	7,000 (2,000)	2,770
2013	5,000	/	8,171 (3,171)

Units: *mu*.

National and provincial level governments rewarded Ruilin and Yangchun officials for their achievements in expanding modernised infrastructure. In 2012, Ruilin was named a provincial level agricultural modernisation demonstration zone, which provided it with priority funding status. Yangchun county was by then funding over half of Ruilin's budget. But Ruilin's value as a distraction and show-piece in provincial and national level competitions for funding and promotions more than compensated for the county's investment. As the next section shows, however, the land development push brought on by the state's incentives and pressures provided rural officials with few comparable incentives to consider large-scale farming's viability in Ruilin, resulting in broad scale, if rationalisable, waste.

Large-Scale Farmers and the Biopolitics of Agrarian Change in Ruilin

When I first met Qian Guofa in 2014, he showed me around his new farming equipment and offices, posing for photos in front of his company's sign and next to branded sacks of rice. Qian had leased 800 *mu* (53 ha) in 2012 in the village of Fanxing and established a company producing what he referred to as high-quality varieties of rice and wheat. Qian co-owned a construction firm in the municipal capital, but after seeing an advertisement posted by the county government he invested in agriculture. The year prior, Qian had taken a net loss of 100 yuan⁵ per *mu* on the land he used for rice and wheat farming and had a net income of only 10 yuan per *mu* on the land he used for early and late season rice. But he remained optimistic. "The long-term outlook for grain is very good", Qian told me then; "The government knows this and that is why it is supporting ventures like mine". He had hired a village production team leader (*duizhang*) to help him with managing a team of agricultural workers, all of whom were current or former small-scale subsistence farmers (Qian, Guofa. Interview by the author. Ruilin Township, 25 March 2014).

When I returned to Fanxing in 2018, however, Qian and his company were gone. I located the production team leader who once worked as Qian's manager, who told me Qian had returned to the city the year prior. "He thought he could turn a quick profit", he told me; "He didn't understand a thing about farming". But, the team leader told me, that was not Qian's only mistake: "He trusted the officials. He believed them when they said he could make a quick profit and thought they would help him when he encountered problems. He was wrong" (Lv, Gong. Interview by the author. Ruilin Township, 13 February 2018).

Qian's story is a common one among the "mega-*dahu*" that predominated in the earlier phases of Ruilin's agricultural modernisation drive. Most, like the first land contracting bidders in 2008, were municipal or county area business owners or managers looking to diversify their investments in the aftermath of the financial crisis. Many devoted parts or all their land to growing a single cash crop, only to see their investments fail as consumer tastes changed or the market became saturated. Many also believed that they were too politically important to fail, and the central or lower-level governments would provide them with financial assistance

to sustain their operations. Economic failure and turnover among the mega-*dahu* in the early years was high. Among those who began leasing between 2009 and 2011, only 20% renewed their leases, and 30% abandoned their leases early. As they struggled and departed, the mega *dahu* followed sections or the entirety of their fields, leaving vacant land that had been small-scale farmers' homes and the productive source of their livelihoods. These outcomes occurred despite some rural government support, including extension services and trainings by agricultural scientists.

But the production team leader's statement also speaks to the problem of government officials among Ruilin's large-scale farmers. Along with their efforts to maximise the scale of production, Yangchun and Ruilin officials worked to recruit mega-*dahu* like Qian by telling them that they could viably follow the model of Ruilin's small-scale subsistence farmers and double crop early and late varieties of rice. However, Ruilin's climate allows for only a two-week window, usually falling during the year's most intense July heat, to complete the harvesting of early rice and the planting of late rice. Notoriously arduous even for small-scale subsistence farmers with 1% of Qian's land area, mega *dahu* quickly found this transition impossible. Natural disasters exposed a related problem. Further, *dahu* struggled to respond to events such as flooding in time to save their crops. Labour supervision at such scales exacerbated these issues. Mega *dahu* drew on current and former small-scale subsistence farmers over 50 years old as seasonal workers. Managers, however, struggled to supervise workers at such scales. With little oversight or personal or financial investment in the *dahu*'s success, labourers simply dumped rather than spread buckets of seeds, fertilisers, and pesticides. By officials' own admission, the trainings by agricultural scientists were often abstract and irrelevant, and most *dahu* attended only for the free lunch provided. When in addition to these issues grain prices began to plateau in 2014 and fall in 2017 (Figure 3), instances of lease breaking or farm abandonment among Ruilin's mega *dahu* like Qian Guofa increased.

By 2012 the problems experienced by Ruilin *dahu* had become observable nationwide (Jiang and Wu 2019; Pan 2017). In response, the state began promoting what they called "family farms" (*jiating nongchang*). Intended as a smaller-scale form of large-scale producer, family farms would, in the state's vision, address the problems plaguing mega *dahu* through their adaptability. In addition, the lower barriers to entry provided by the family farm would draw on a greater number of resident farmers theoretically more experienced in and inclined to view farming as a long-term investment (X. Chen 2013). In Ruilin, officials responded by prioritising family farms in recruiting, including by requiring lower security deposits for land transfer contracts to farmers on scales between 100 and 500 *mu* (6.6–33 ha). From 2012 to 2014, the number of *dahu* at 100–199 *mu* scales doubled. Nonetheless, businessmen from the city, county, and town continued to dominate the scale of modernised farming, holding 72.2% of the leased land.

However, Ruilin "family farm" *dahu* continued to encounter many of the same problems as those of the mega-*dahu*, while new problems emerged. Recruited by Yangchun and Ruilin officials on the promise of ready production conditions,

steady incomes, and government support, family farmers consistently discovered the opposite: their fields lacked basic infrastructure. Further, Ruilin's climate and the high costs of management and labour rendered profitable large-scale year-round grain farming arduous if not impossible. Due to the challenge of quickly responding to issues across a broad territory, large-scale farmers of all kinds were substantially more prone to losses from droughts and floods than small-scale subsistence farmers.⁶ As a result of these factors, *dahu* produced 20–50% less grain per *mu* than small-scale farmers. Farmers received low economic returns for what they could grow, particularly after the national government reduced its minimum support prices for grain in 2017, 2018, and 2019 (Figure 3). Ruilin township officials estimated in 2018 that in the previous four years only a handful of *dahu* were profitable and the majority had lost money over the previous three years. From 2016 to 2018, the number of *dahu* in Ruilin declined from 133 to 87 (34%). By the summer of 2018 the township government had for a year failed to recruit *dahu* to lease newly consolidated land.

Ruilin officials acknowledged the *dahu*'s struggles. Like the production team leader, many blamed the *dahu*'s shortsightedness, greed, and impatience. But many also suggested the *dahu*'s struggles and the land waste that ensued do not matter. As Ruilin's vice township head told me:

Some of the *dahu* feel we have lied to them and abandoned them. That is their view. My view is that many expected an easy way to make money and are unhappy when that did not happen. If you look you see that some enterprising *dahu* have succeeded. The *dahu* complaining do not acknowledge this or the support we have given them. We must make new farmland and develop farmland. This is the county's request for us. In this work we have succeeded. Of course, we want the *dahu* to succeed, but we have little influence in this matter. (Wang, Jie. Interview by the author. Ruilin Township, 20 July 2018)

Seen through a Foucauldian lens, the vice head employs individualising and masculinising logics to absolve himself of responsibility for and to rationalise the *dahu*'s financial losses and land waste: failed *dahu* are themselves to blame for being less productive and efficient than their peers; the loss of land and financial capital is a justifiable and acceptable cost for achieving the broader infrastructural goals of modernisation and land protection; finally, in this work the vice head and his colleagues are only functionaries with limited power to change the state's development direction.

Ruilin's head of agricultural extension, however, blamed the central government's policy, the effects of which show the state is interested in creating the conditions to produce grain as demand requires but is all too willing to sacrifice farmers when they do not:

The central government talks a lot about agriculture, but it doesn't care about farmers. It only cares about infrastructure. The problem is that there is no financial incentive to care about farmers. The central government spends a lot of money, but it doesn't bother to see the impact. The money instead flows to the construction bosses. Everyone ignores this matter, and *dahu* are left to live and die. (Yang, Xiyu. Interview by the author. Ruilin Township, 4 April 2014)

Conclusion

Why did large-scale farmers consistently financially struggle, including in the years immediately following the state's liberalising reforms? The Foucauldian biopolitics and resource security lens presented here offers insight. Modernist states, which gain their legitimacy from their use of rational scientific techniques to enhance capitalist productivity and optimise life, pursue production and protection goals simultaneously. States invest in and maintain infrastructures, social safety nets, and resource reserves to regulate and secure flows of capital, goods, and people. But these techniques succeed at the cost of creating new and greater vulnerabilities due to their interconnectedness and vector producing rationality. Dependent on such techniques for their functioning, modernist states create more elaborate apparatuses to buffer them. Rural communities and ecologies often disproportionately bear the burden, as states assert control over and govern those rural spaces in relationship to the needs of future urban populations.

This lens shares with Polanyian agrarian change literature a focus on the state and a long temporal horizon. But it also fundamentally differs. From a Foucauldian and resource security perspective, the modernist state is not in control of capital or its own development (T. Liu 2023), albeit unevenly (T. M. Li 2010). Rather, it is beholden to and weakened by the rational scientific knowledges and techniques that inform its development. In China, the state maintained the rural collective land system to act as a safety net and promote rural-to-urban migration. It also invested in transport infrastructure and entered the WTO. These interconnected techniques powered its export manufacturing economy. But as the state grew dependent on export manufacturing, these techniques also constrained its options. The departure of rural labour and the land development boom facilitated by the collective land system eroded China's food security, while the state's reliance on WTO partnerships limited its ability to shift to a domestic agricultural production model.

In response, the state sought to build the agricultural infrastructure needed to buffer its self-made vulnerabilities and to sustain the economic status quo. It shifted governance of rural areas to cities. It created incentives for urban officials to manage rural land and for rural officials to reshape their land according to their view of national state visions. At the same time, it broadly continued to abide by WTO tariff regulations. In this context, urban and rural officials discounted the suitability of large-scale farming in their areas or rural officials' capacity or willingness to support large-scale farmers. The result was yet more resource waste via redundancy. Ruilin *dahu*, tasked with producing grain the demand for which existed largely in an imagined future, on land often unsuitable for full-time farming, and with little state support, economically struggled and abandoned their land. But as reflected in the vice township head's statement above and the central government's plans to expand agricultural modernisation throughout the country (Xinhua 2018), the state, despite *dahu* struggles and waste, considers agricultural modernisation not a failure but a success.

Echoing work on land financialisation (Clapp and Isakson 2018), this paper's findings suggest that under conditions of growing threats to vital systems, states, investors, and other powerful interests may increasingly seek to own and manage

rural land not as a productive asset, but to use as a safeguard against or source of profit from future urban shortages. As that work and this article show, treating land as a nonproductive asset or stockpile has present effects. In Ruilin, farmers neither developed in Marxist linearity nor in Polanyian cycles. Rather, farmers were, like the land around them, frozen in time, sacrificed by the modernist state to sustain itself against perils of its own making.

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Endnotes

¹ All names of places in Anhui Province and personal names are pseudonyms.

² Chinese state legislation designates all rural land the property of village collectives, who grant member households usufructuary rights on 30-year contracts. While members cannot sell this land, they may transfer, subcontract, lease, or exchange their contracted usufructuary rights (National People's Congress 1999, 2002).

³ WTO rules require member states to open their annual percentages of their grain markets to imports at low tariff rates and procurement for public stockpiling to be at current market prices, while government procurement at fixed prices is counted toward a country's overall limits on trade-distorting support. However, an interim agreement exempts self-identifying developing country members (Glauber and Lester 2021; Glauber and Sinha 2021).

⁴ Based on 2013 government minimum late rice support prices.

⁵ US\$1 = RMB 6.15 in 2013.

⁶ For example, a 2014 fungus outbreak affected 51.4% of *dahu* land, but only 35.9% of Ruilin *small-scale* farmers' land. Similarly, severe weather in 2013 caused lodging (the weakening and collapse of stems) across 69.4% of *dahu* early rice land, but only 35.7% of small-scale farmers' land (Sun 2017:185).

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