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„Towards a new waste regime in China?
Tracing the Chinese state's political project on waste governance reform"

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ABSTRACT:

For over three decades, China functioned as the world's most prominent "garbage dump", benefiting from the extraction of secondary materials while simultaneously grappling with the environmental and social repercussions associated with foreign waste imports. Concurrently, the substantial amount of waste generated at home and challenges within the domestic municipal solid waste management system exacerbated the waste crisis. In response, since 2017, the Chinese central government has issued a series of policies aimed at curbing the inflow of imported waste and overhauling the domestic municipal solid waste management system. This PhD dissertation focuses on these two-pronged waste policies, treating them as essential constituents of China's ongoing political project of waste governance reform.

Employing a historical materialist policy analysis framework, this research illuminates how imported waste became predominantly constructed as a pollution- and injustice-laden object in mainstream discourse. In particular, the thesis argues that the *"yanglaji" (foreign trash)* discourse and the Party-state's mass-line governance rhetoric contributed significantly to the hegemonic perception of foreign waste in China. The crackdown on waste imports seamlessly dovetailed with domestic reforms aimed at increasing the efficiency of converting waste materials into resources and formalising the recycling industry. By scrutinising policy experiments in household waste classification and recycling, the thesis uncovers conflicting interests, contestations and power struggles among key actor groups, highlighting the state's strategic selectivities favouring techno-managerial fixes. Finally, nesting the overall waste governance reform project in the political-economic context of Xi's China, the thesis adeptly illustrates the intricate linkages between waste governance reform and Xi's vision of "Ecological Civilization" along with the shift towards a "New Normal" growth strategy. In this context, it contends that the waste industry has emerged as a conduit for propagating new business models and catalysing digital innovation while promoting eco-visions in China. The thesis concludes with a brief discussion and scrutiny of the extent to which the national political project could propel a transformation towards a more sustainable waste governance paradigm in China.

***Keywords**: waste crisis, reform, waste governance, waste regime, historical materialist policy analysis, waste import bans, household waste classification, "informal" recycling sector, Ecological Civilization, New Normal*

ZUSAMMENFASSUNG:

Seit über drei Jahrzehnten fungierte China als weltweit prominenteste "Mülldeponie", die von der Extraktion sekundärer Materialien profitierte, gleichzeitig jedoch mit den Umwelt- und sozialen Auswirkungen im Zusammenhang mit dem Import ausländischer Abfälle zu kämpfen hatte. Gleichzeitig verschärfte die erhebliche Menge an im Inland erzeugtem Abfall und die Herausforderungen im heimischen System zur Verwaltung fester kommunaler Abfälle die Abfallkrise. Als Reaktion darauf hat die chinesische Zentralregierung seit 2017 eine Reihe von Politiken erlassen, die darauf abzielen, den Zustrom von importiertem Abfall zu begrenzen und das heimische System zur Verwaltung fester kommunaler Abfälle zu reformieren. Diese Dissertation konzentriert sich auf diese zweigleisigen Abfallpolitiken und betrachtet sie als wesentliche Bestandteile des laufenden politischen Projekts der Abfallregierung in China.

Unter Verwendung eines historisch-materialistischen Politikanalyse-Frameworks beleuchtet diese Forschung, wie importierter Abfall in der mainstream-Diskussion hauptsächlich als ein mit Umweltverschmutzung und Ungerechtigkeit beladenes Objekt konstruiert wurde. Insbesondere argumentiert die Arbeit, dass die Diskussion über "yanglaji" (ausländischer Müll) und die Massenlinie-Regierungsrhetorik der Partei erheblich zur hegemonialen Wahrnehmung von ausländischem Abfall in China beigetragen haben. Das Vorgehen gegen den Abfallimport schloss nahtlos an inländische Reformen an, die darauf abzielten, die Effizienz bei der Umwandlung von Abfallmaterialien in Ressourcen zu erhöhen und die Recyclingindustrie zu formalisieren. Durch die Prüfung von Politikexperimenten zur Klassifizierung und zum Recycling von Haushaltsabfällen deckt die Arbeit widersprüchliche Interessen, Auseinandersetzungen und Machtkämpfe zwischen Schlüsselakteursgruppen auf und hebt die strategischen Auswahlmöglichkeiten des Staates zugunsten von technisch-managerialen Lösungen hervor. Schließlich wird das Gesamtprojekt zur Abfallregierung in den politisch-wirtschaftlichen Kontext von Xi's China eingebettet, wodurch die komplexen Verknüpfungen zwischen der Abfallregierung und Xis Vision von "Ökologischer Zivilisation" sowie dem Übergang zu einer "Neuen Normalität" im Wachstumsansatz verdeutlicht werden. In diesem Zusammenhang wird argumentiert, dass die Abfallindustrie als Vermittler für die Verbreitung neuer Geschäftsmodelle und die Förderung ökologischer Visionen sowie die Förderung von digitaler Innovation auftritt. Die Arbeit schließt mit einer kurzen Diskussion und Prüfung des Ausmaßes, in dem das nationale politische Projekt eine Transformation zu einem nachhaltigeren Paradigma der Abfallregierung in China vorantreiben könnte.

Schlüsselwörter: *Abfallkrise, Reform, Abfallregierung, Abfallregime, historisch-materialistische Politikanalyse, Verbot des Abfallimports, Klassifizierung von Haushaltsabfällen, "informeller" Recyclingsektor, Ökologische Zivilisation, Neue Normalität*

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This PhD journey has been a long and challenging one, and I want to take a moment to reflect on these hurdles. First and foremost, the unforeseen challenges brought about by the COVID-19 pandemic had a significant impact on my research. While travel restrictions, uncertainties and health concerns greatly disrupted my planned empirical field research in China, the pandemic itself posed daunting obstacles to the entire waste reform project, which for a while completely receded into the background of political and social lives in China. Amidst these difficulties, I found alternative research avenues and adapted my approach to meet the evolving circumstances. Furthermore, I would like to recognise the challenges I encountered as a full-time working professional pursuing a PhD. The demands of balancing a career, family, and academia have not been easy, but the support and understanding of my employers and family made it possible for me to embark on this academic journey while maintaining my professional commitments.

All in all, completing this project has been a profoundly enriching personal experience. I have grown as a researcher and an individual, and I owe much of that growth to the support and inspiration I have received from all of you. As I embark on new chapters in my life, I carry with me the knowledge and passion for environmental governance and political ecology, and perhaps more importantly, the capacity for critical thinking, an unceasing curiosity about the world, and a commitment to continuous learning that I have developed throughout this journey.

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List of abbreviations

AQSIQ - General Administration of Quality Supervision, Inspection and Quarantine

CCP – Chinese Communist Party

CE – Circular economy

CEPL – Circular Economy Promotion Law

CLGCDR - Central Leading Group for Comprehensively Deepening Reforms

EC – Ecological Civilisation

ENGO – Environmental Non-governmental Organisation

EPB – Environmental Protection Bureau

EU – European Union

FoN – Friends of Nature

GAC – General Administration of Customs

GFO – Green Fence Operation

GONGO – Government-organised Non-governmental Organization

HMPA – Historical Materialist Policy Analysis

IoT – Internet of Things

MEE – Ministry of Ecology and Environment

MEP – Ministry of Environmental Protection

MIIT - Ministry of Industry and Information Technology

MOA - Ministry of Agriculture

MOC – Ministry of Construction

MOHURD - Ministry of Housing and Urban-Rural Development

MOFCOM – Ministry of Commerce

NDRC - National Development and Reform Commission

NPC – National People's Congress

MSW – Municipal solid waste

PRC - People's Republic of China

SEPA - State Environmental Protection Administration

SRA – Strategic relational approach

SWL – Solid Waste Law

UMLEB - Urban Management and Law Enforcement Bureau

WEEE - Waste Electrical and Electronic Equipment

WTO – World Trade Organisation

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Chapter 1. Introduction

1.1 Theorising the matter of waste

Waste, or trash, or discard, is perhaps the most banal and ubiquitous object the modern world has seen, and it has become an increasingly salient subject of academic studies and political debates. An array of literature has been written about waste by scholars of various fields spanning as varied as urban studies, history, cultural studies, geography, environmental studies, economics and so on (Schulz, 2018, p.9). While there is hardly a universally coherent definition of waste, the most dominant thesis is that waste is "something that is discarded by someone" (Drackner, 2005, p.176), or a "matter out of place" and a threat to order (Douglas, 2005, p.36); it has abject implication of useless-ness and valueless-ness (Cooper, 2010), and is often associated with pollution and uncleanness, as something that the society in which it appears wants to get rid of it in a positive effort to organise the environment (O'Brien, 1999). Waste typically becomes a more serious problem with the evolvement of modernity in a society (Scanlan & Clark, 2013), which gives rise to mass production and mass consumption and, ultimately, more negatively, a "throwaway society" (Featherstone, 1991; O'Brien, 1999) that celebrates excess and a culture of disposability (Clapp, 2002; Slade, 2006). As waste becomes more prevalent, its representation of dirtiness and pollution gets more prominent, making it increasingly seen as a threat to public hygiene and health or, more generally, a risk to society (Landsberger, 2019, p.13). Such waste problems have become particularly pronounced in urban centres as a result of concentrated population (mainly due to migration patterns) as well as the lack of space for proper waste treatment and disposal.

Accordingly, waste research has paid predominant attention to the issue of waste management, that is, to manage, mitigate or solve social and environmental problems associated with waste (Schulz, 2018, p.7). Here, an overwhelming stream of waste literature focuses on "end of pipe" topics such as the technicalities of waste disposal and composition of waste streams, and more recently there is a growing body of literature focusing on value recovery from waste materials including the concept of "urban mining" both in developing and developed countries (e.g. Devahi et al., 2022; Pathak & Ranjan Rout, 2021; Van Eygen et al., 2016; Wen et al., 2015; Xavier et al., 2023). Another central strand of scholarship takes up the distribution of risks, including environmental justice movements resulting from waste management arrangements such as waste movement from the rich to the poor and the siting of waste disposal facilities

in urban peripheries (e.g. (Pellow, 2004, 2007). It is worth noting that many of these studies focus on consumer waste due to its heterogeneous and often single-stream characteristics, which is often seen as more problematic than industrial waste, despite the latter's much bigger volume and hazardousness and the risk it poses to the environment and society (O'Brien, 1999; Yates, 2011). Overall, by and large, waste research has mainly focused on the disposal or treatment side of waste relations after the waste has been produced, and occasionally, it has also called into question certain societies' throw-away culture at the consumer's level (Crocker & Chiveralls, 2018; Ekstrom, 2015; Gregson et al., 2007). However, it has rarely challenged the production side of waste relations as a means to eliminate or reduce waste. In other words, waste scholars seldom place the analytic focus on the prevailing mode of production that tends to lead to overproduction and overconsumption while generating enormous pollutant industrial waste. By accentuating the harmful impact of consumers' wasting behaviour or waste disposal practices while simultaneously obfuscating that of production, mainstream waste research has shifted attention away from corporations but placed the burden of waste management on government authorities and consumers (Lepawsky, 2012). Although it has to be noted that in recent years some attention has been directed to problems at the production side and business ethics, notably criticisms against the tech industry's "planned obsolescence" pattern (Edson, 2020; Guiltinan, 2009; Kinokuni et al., 2019; Pope, 2017; Slade, 2009).

Although waste has primarily been theorised as a problematic object intricately linked to modernity, it is also seen as something symbolically positive (Scanlan & Clark, 2013). On the one hand, the generation of a humongous quantity of waste is a symbol of modernity which represents material privilege, wealth, productivity and efficiency (Duman, 2013; Varul, 2006). On the other hand, waste is described as "a legitimating precondition of capitalist modernisation" (Cooper, 2010, p.21) in that waste management often requires a certain level of technological and governance capacity and as such "modern" governments tend to control or "tame" waste more effectively than "backward" ones (Duman, 2013). Also importantly, although denounced as "useless" objects, waste could carry different values and meanings for different social groups (Moore, 2012), as "one person's trash maybe someone else's treasure" (Reno, 2009), or sometimes one person's waste can even serve as another's livelihood (Drackner, 2005). Certain social actors, particularly marginalised groups in developing countries have managed to extract economic values from the waste discarded by others through trade, transportation and changes in material properties (Reno, 2009, 2016). Indeed, waste has

created a vast, increasingly transnational economic sector that provides cheap secondary materials to booming global manufacturing industries and direct income to corporations, local authorities and individual waste workers alike. In this sense, the emergence of consumer society has also transformed waste into useful resources or valuable commodities, enclosing it in the process of reproduction, re-commodification and a new round of consumption. As such, waste is not merely a by-product of production and consumption; instead, it has itself acquired a consumption value (O'Brien, 1999, p.277) and become an inalienable part of production in that it is also a "manufactured part of the world of goods involving labour, exchange, licensing, regulation and profiteering" (ibid. p.282).

The opposing values and meanings of waste held by different social groups thus open avenues of contestation about its final (dis)placement and valorisation. Some social sciences and humanities scholars started to see waste beyond the dichotomy of its material features but "as a more general phenomenon that is deeply rooted in social relations, economic opportunities and cultural contexts" (Schulz, 2018, p.7). A notable example is Zsusza Gille (2007), who offers a waste theory as a hybridity of socio-material construction. She argues that "materials are not 'born' to be waste" but "transformed into waste by identifiable material and social processes" (p.18), and hence the focus of waste study must shift from "waste as certain kind of material to the activities from which it emerges" (ibid.). According to Gille, waste has three dimensions that need to be taken into consideration, namely a spatial one that is indicative of how waste is valorised, a temporal one that suggests that waste is a process and changes with time, and a material one that highlights waste has particular characteristics that produce effects on the world (ibid. p.19). Waste, in Gille's view, is hence "far from being just an epiphenomenon" but "plays a central role in the constitution, enactment and transformation of social relations" (Schulz, 2018, p.8). Based on this understanding of waste, she broadens the scope of waste research by introducing the concept of "waste regimes," which weaves together material, socio-political, economic, and environmental factors within a single lens (more in Chapter 3 which traces the metamorphosis of the waste regime in contemporary China).

This dissertation adopts a multifaceted view of waste, encapsulating its dual-materiality and multiple social relations in the analysis. Taken together, the contradictory material features of waste as a source of valuable material and simultaneously as an environmental and social nuisance have precisely given rise to the multi-scalar economic, political and social tensions and conflicts under investigation.

The empirical study takes China as a locus of analysis as China is perhaps the best embodiment of the complex material and social construction of waste and waste issues. In a nutshell, as a country with the world's biggest population (at the time of writing) and a rapid urbanisation rate, China has been the largest producer of municipal solid waste (MSW) since 2005 (World Bank Group, 2019). Therefore, by nature, it faces one of the biggest challenges in controlling and "taming" WSM (waste as a problem). In the meantime, it has been the global manufacturing powerhouse with a massive demand for cheap raw materials, resulting in a booming recycled material sector which has absorbed an influx of recyclable waste from all over the world (waste as a resource). All in all, waste in China has created both economic and material values but also environmental and social nuisances, and waste relations in China are interwoven with political, social, economic, technological and cultural relations at multiple levels across the globe, highlighting the multi-scalar nature of waste issues.

1.2 The research context: The world's biggest waste importer said "No More!" What is China's new plan to address its waste crisis?

China has long been dubbed the "world's wastebasket," for it has been importing a humongous amount of solid waste worldwide in the past 30 years or so. Between 1992 and 2016, China imported approximately 45% of the world's total waste exports, and that share would amount to 70% if Hong Kong was included, which was a prominent transhipment port for waste destined for mainland China (Parker, 2018). Taking the example of plastic waste, before 2017, mainland China was the world's single largest importer, taking in about 55.7% of global exports. In particular, the USA, Japan and seven European countries (Germany, the United Kingdom, Belgium, Spain, Italy, France, and the Netherlands) were the major plastic waste exporters to China, exporting 77.9%, 87.6%, and 57.5% respectively (Wen et al., 2021). Arguably, imports of these recyclables helped feed the country's insatiable appetite for raw materials, which were desperately needed by its booming manufacturing industry. While the transnational waste trade brought recycling businesses both in China and exporting countries exorbitant profits, it also created profound environmental and social challenges: On the one hand, the contaminated portion of imported waste could not be easily recycled and hence eventually got dumped in China's already strained landfills. On the other hand, waste processing activities were ill-regulated in China, and pollution and hazard induced by waste recycling activities were disproportionally dumped on underdeveloped communities which had become the haven for small-scale, ill-equipped recycling workshops. And the burden was mostly shouldered by rural waste workers who eked out

a living in highly precarious working conditions. In light of waves of scandals associated with importing mixed-quality foreign waste, Chinese authorities launched a series of clampdown campaigns. One of the prominent examples was the high-profile "Green Fence Operation" in 2013, which sought to block the importation of illegal and low-quality waste by imposing stringent inspections of container ships.

Although such campaign-style policy acts were effective in the short run, they did not manage to challenge the prevailing waste trade patterns, which quickly resumed once the campaign's enforcement pressure subsided. However, in July 2017, a policy announcement issued by China's State Council was set to subvert the predominant waste import-export practices the world had been so accustomed to for the past 30 years or so. The state policy stated that "*the import of solid waste posing a grave danger to the environment and triggering strong response from the public will have been fully banned*" (General Office of the State Council, 2017). Accordingly, China's then Ministry of Environmental Protection notified the WTO that starting from 2018, China would first forbid the import of four major classes of solid waste, including post-consumer plastic scraps, vanadium slag, unsorted waste paper and waste textile materials (WTO, 2017). This partial ban was generally interpreted as the signal of a more comprehensive waste import reform. It caused great turmoil in the international waste trade system and triggered a heated debate globally, catapulting the issue of solid waste management back to the centre of public and political attention in many developed nations that had primarily relied on China to take care of their waste recycling and disposal duties. For a few consecutive months, China's policy rupture in regulating waste imports grabbed the headlines of international media, giving rise to a renewed sense of waste crisis globally. Although there had been media reports and public discussions within China about the adverse impacts of foreign waste since the 2010s, such a radical policy shift was intriguing. In particular, I was drawn to understand how the environmental and social concerns associated with foreign waste culminated in a draconian ban on it and why the shift took place at this time. Was it simply because certain categories of foreign waste now posed "*a grave danger to the environment"* and incurred *"strong public response"* as articulated by the State Council, or were there more profound reasons behind the ban?

As such, when I first embarked on the waste research topic in mid-2017, I was focusing on investigating this outward-oriented policy innovation of China. But a few months later, it quickly came to my realisation that within China, state media and social media alike, as well as the public, were more preoccupied with heated discussions around reforming the municipal solid waste (MSW) management system, and in

particular variegated household waste separation and recycling pilot schemes. As my investigation quickly revealed, in fact, concomitant to the issuance of the foreign waste ban by the state agency of environmental protection, another two state agencies (i.e. the National Development and Reform Committee and the Ministry of Housing and Urban-Rural Development) developed a national plan for building a better MSW system within China. Among others, the plan called upon 46 major municipalities to pilot mandatory separation of post-consumer waste in all public entities, enterprises, and suitable residential communities before rolling out across the nation. In addition, it called for a better post-consumer waste recycling system with the support of leading standardised, specialised enterprises to ensure a "clean and efficient utilisation of secondary resources" (General Office of the State Council of China, 2017). Concurring with the national plan, a wave of novel MSW management solutions touting to establish an integrated system of waste separation and waste recycling (*liangwang ronghe)* created incredible hype among the public, as well as among local governments, private investors and venture capitalists who invested substantially in a diverse range of experimental schemes.

Both the foreign waste bans (the scope of the 2017 partial ban continued widening in the subsequent years) and the domestic MSW reform of China have reinvigorated academic endeavour in the waste field. Most literature on the first front focused on the impacts of the bans, especially that of the plastic waste import ban. An extensive array of scholarship examines how the bans have transformed international waste trade and the economic geography of global resource recovery (e.g. Brooks et al., 2018; Gregson & Crang, 2019; Li et al., 2021; Shi et al., 2021; Tran et al., 2021; Ying, 2019). Researchers have also explored the positive prospects the bans would bring, including mitigating environmental impacts both within China and globally (e.g. Guo et al., 2023; Qu et al., 2019; Wen et al., 2021; Yoshida, 2022) and catalysing transition in waste management systems in traditional exporting countries (e.g. Heiges & O'Neill, 2022). However, scholars also cautioned about the negative impacts associated with China's import bans, in particular in driving up domestic production of primary raw materials such as copper and virgin plastics, which leads to increased emissions (e.g. S. Liu et al., 2021; Minter, 2020; Ryter et al., 2021), as well as environmental consequences in other countries and regions resulted from waste diversion (e.g. Sasaki, 2021). And studies on the second front predominantly focused on post-consumer waste classification and recycling schemes, and perhaps unsurprisingly, while the waste bans received equal attention from domestic and foreign scholars alike, the topic of MSW reform was mainly picked up

by Chinese researchers. The main theses of these studies encompassed technical-managerial perspectives of various types of schemes and business models (e.g. Gu et al., 2021; Steuer & Li, 2022; Tong et al., 2018; Wan et al., 2020), and mechanisms and factors influencing household waste sorting behaviour (e.g. Cudjoe et al., 2020; Q. Liu et al., 2022; Meng et al., 2019, p. 20; Peng et al., 2021; Tian et al., 2019; S. Wang et al., 2020; Z. Wang et al., 2018). Many case studies of household waste sorting practices have been conducted in pilot localities (e.g. (Ma et al., 2018; H. Wang & Jiang, 2020; Xi, 2020; Xiao et al., 2017; Xu et al., 2017), with some focusing on different categories of waste in particular food waste (e.g. Chen et al., 2021; Deng et al., 2022; Li et al., 2021; Yuan et al., 2016).

While these and other topics have generated interesting insights both concerning China's latest waste import regulations and domestic MSW management policies, they seldom delved into the underlying conflicts, including institutional constraints, power relations and material interests underpinning the new policy developments. Additionally, most research has treated the two fronts of policy movement separately, and very scant literature has examined the two fronts as an integral move, with only a few rare exceptions (e.g. O'Neill, 2019; Song et al., 2023). My research aims to address these gaps. It became apparent to me that the almost simultaneous issuance of the two sets of waste policies pieced together a complete picture; that is, the Chinese state seemed to have a new plan to tackle its waste crisis, this time by instituting at least two prongs of policy instruments, one aimed at controlling foreign waste inflows into China, the other pointing at domestic MSW management problems and in particular household waste separation and recycling. While these two lines of action were not new per se, the measures and the scale and magnitude employed this time appeared unprecedented. Therefore, I expanded my original research scope (on foreign waste only) to investigate China's overall political project of instituting a waste governance reform through a two-pronged policy strategy. My primary interest in this research is to unravel the making of the new waste policies regulating foreign waste and domestic MSW management in China. In particular, I aim to examine how multiple actors were engaged in this political project, how domains were redrawn, how contestations and power struggles arose among state and non-state actors as the policy-making processes unfolded, and how consensus was built whilst conflicts were addressed. By so doing, I believe that my research can complement existing waste scholarship by providing a more comprehensive and nuanced understanding of the social-economic and political complexities surrounding the new

waste governance reform in China as embodied in the making and implementation of new waste policies.

1.3 Research questions and methods

The Chinese central state proclaimed the new waste governance reform to address China's waste crisis by increasing the domestic waste resourcification[1] rate while reducing the adverse environmental and social effects of waste collection, processing and disposal. Therefore, this research aims to investigate the potential and limits of the set of new state-led policy initiatives to transform China's waste governance paradigm and ultimately address the country's waste crisis. In line with this objective, the main question I ask in this research is:

> *What are the rationales, strategies and power dynamics embedded in the slurry of waste policies issued by the Chinese state since 2017, and how far could these policies and their specifications deliver the results as hoped and have a transformational impact on the current waste governance in China?*

Under this overarching question, I will pose a set of sub-questions:

The first group of questions examines the nature of the current waste regime in China and the political and material relations which created it. Specific questions asked include:

- How has the waste regime in China evolved over time since the founding of the PRC and before the policy turn in 2017? Who were the critical actors in the domains of the state, the private sector and the civil society that were closely involved in the waste dealings in each regime, and what were their political, economic and social stakes?
- How did a sketch of the prevailing waste regime look like in China in terms of waste production, consumption, circulation and waste handling?
- In how far were the global and national political, and economic structures and processes, in particular the social relations of production and consumption (e.g. patterns of trade, production, finance and consumption) responsible for China's current waste regime and waste crisis?

The second group of questions turns to policy analysis, focusing on two policy development fronts: foreign waste import bans and household waste separation and recycling policies. They examine the causes of the current waste crisis as defined by the state policies and the strategies deployed by the state to make these problem framings hegemonic. Specific questions asked include:

- How were certain factors and practices identified and diagnosed as the source of China's waste crisis? What strategies did the state use to construct and frame the problems it identified as a dominant narrative?
- In the case of foreign waste, China had been importing a staggering amount of recyclable waste from all over the world for over three decades, using it as a cheaper, valuable secondary material. How did these same imported recyclables become increasingly antagonised in the mainstream discourse, constructed and defined as a major problem to

[1] Waste resourcification is a process that transforms waste materials into valuable resources or product.

China's waste management system? How were scientific, political and social discourse included/excluded by different actors in their problem (re-)framings?

- Concerning domestic MSW management, two factors have been identified as the fundamental causes that resulted in the current inefficient and environmentally damaging MSW management predicament: one was citizens' lack of awareness and willingness to sort waste in households, which greatly complexed recycling and treatment at the end, and the other was the tenacious informal recycling networks believed to be inefficient and unhygienic. The question is, how was the diagnosis consolidated and made into somewhat "common sense" in the political and social spheres?

Building upon the crisis source identification or problem definitions, the third group of questions continues the policy analysis by examining the solution-finding process, the political-economic struggles and power dynamics among different actors. Specific questions asked include:

- Who were the critical state and non-state actors involved in the policy fields, and which interest did they represent? Whether and how did alliances emerge and unfold?
- What was the relation between these actors and their specific roles in the policy-making process? How did the state-market-civil society nexus (re)configure?
- What kind of conflicting and collaborative discursive, political and material strategies were employed by key actors at different political levels?
- What were the main struggles and conflicts between China and major waste exporting countries, and between informal waste workers and formal waste recycling industries? How did tensions and power dynamics play out among different interest groups during the solution-finding process? What strategic selectivities of the state manifested in various decision-making processes?

The fourth set of questions turns to investigating the historical material context of these policy developments and asks why the Chinese central state launched the new policy endeavour at this specific point in time. Specific questions asked include:

- Why has the Chinese government, particularly the central government, shown such a resolution to tackle the waste crisis in the past few years under the Xi administration? Besides environmental considerations, how did national political and economic deliberations feed into these policy shifts?
- Regarding foreign waste: Why has the Chinese central government issued a series of import bans on foreign waste in the face of stark objections from waste-exporting countries and discord from the domestic recycling industry?
- Regarding the domestic MSW problem: Why have many local governments followed similar top-down, campaign-style waste separation strategies despite previous failures? Moreover, why have techno-managerial solutions, in particular those bolstered by "smart" systems, risen and remained favoured by governments and investors alike despite the fall of many so-called "internet+" companies (e.g. as demonstrated in the fate of the once bustling smart bike-sharing schemes)? Why were policy efforts doubled down to suppress informal recycling plants and workshops despite their contribution to the circular economy and notwithstanding the risks of increased production cost and labour displacement?

The fifth set of questions attempts to explore the significance and impacts of China's political project of waste reform. Specific questions asked include:

- What were the implications of China's new waste policies? To what extent have the policies influenced business-as-usual practices both internationally and domestically?

- What emancipating potential did these policy initiatives hold to transform the current waste governance to be more sustainable? Furthermore, what are the major constraints that hinder the realisation of that potential?

To answer the above research questions, the methods of enquiry in this research are chiefly qualitative, although analysis is occasionally aided by quantitative evidence. Qualitative analysis data is drawn from primary sources, augmented with secondary data and insights drawn from an extensive literature study. Overall, in this research, I draw upon multiple sources of evidence via documents, interviews, and non-participant observations as a means of "data triangulation" (Denzin, 2009, p.291), aiming to achieve "convergence and corroboration" (Bowen, 2009, p.28). Below, I detail out the sources for secondary and primary data and the method I use for data analysis.

Secondary data: The documents used for systematic evaluation in this study are collected closely corresponding to the research questions and take various forms. They include policy documents (hard policies such as laws, notices, local regulations and decrees; and soft policies such as implementation plans, guidelines and manuals); minutes of ministries' press conferences, press releases and video clips; public announcements issued by competent authorities, industry reports, mainstream media reportages (articles and transcribed video clips), brochures, background papers and other publications issued by industrial associations, NGOs and international organisations such as the Basel Convention, etc. In addition, when first-hand data is limited to explicate on specific aspects of the research questions, for example, the historical evolvement of China's waste regime and the informal waste sector, I refer to an extensive array of scholarly literature for insight. Most of the documents as mentioned above are available online and, therefore, retrieved in electronic forms for analysis. These documents serve as invaluable materials as they provide contextual data, background information, technical knowledge as well as historical insight. The policy documents and media reports provide a means of tracking changes and development pertaining to the issue of waste management. For example, by closely comparing the revised *Law on Prevention and Control of Environmental Pollution Caused by Solid Waste* with the previous ones, I am able to identify changes in the allocation of responsibilities as well as discourse development in solid waste, and by examining news reports, I manage to get some insights as to how local experiments of new waste sorting schemes have been unfolding and evolving over time. In addition, documents are used to verify findings or corroborate evidence from other sources to achieve "convergence of information" (Bowen, 2009). I systematically use data from documents to check interview data, and vice versa; as a result, the two data collection methods become

reciprocal as document analysis prompts new interview questions, and interviewing provides imperatives to examine more documents.

Primary data of this research is collected by conducting interviews and observations. Through the method of questioning and other verbal and non-verbal forms of communication, an interview aims to provide the source for constructing a comprehensive empirical foundation and generate authentic, elaborate and detailed primary material. In addition, face-to-face interviews enable an in-depth look into the "subjectivity, voice and lived experiences of the interviewed persons" (Rapley, 2004, p.15). For this research, a total of four formal, in-depth interviews are conducted with key informants who have been closely involved in the new waste governance reform. According to Payne & Payne (2004), key informants are people "whose social positions in a research setting give them specialist knowledge about other people, processes or happenings that is more extensive, detailed or privileged than ordinary people, and who are therefore precious sources of information to a researcher" (p.134). Prior to the conduction of the interviews, I identify a list of key informants and shortlist frequently appearing names in the relevant literature, who are then approached and recruited. These are either insiders working in a specific governmental proxy entity or experts with specialised knowledge of or/and first-hand experience with a specific organisation, industry or topic related to the research questions. In general, these experts represent three domains, namely the public sector (government institutions affiliated with state ministries), the private sector (recycling industrial associations and the formal recycling sector) and the civil society (policy experts from the academic field or think tanks). The interviews take several rounds spanning from December 2017 to November 2019. Regrettably, my plan of conducting more interviews with more stakeholders faced enormous challenges due to the strict COVID restrictions imposed by the Chinese government, which lasted almost three and half years. Each of the in-depth interviews has a duration of between 60 - 90 minutes and is conducted in a semi-structured way. All interviews are handled anonymously and confidentially in compliance with scientific standards.

In addition to interviewing, I employ non-participant observation as a supplement method to collect primary data particularly when investigating the changing household waste management practices. Non-participant observation is best suited to "study actual behaviour patterns of research subjects functioning in the social and physical settings which are, so to speak, their 'natural habitats'" (Barner-Barry, 1986, pp. 139-140), and it offers a more "nuanced and dynamic" appreciation of such situations and practices

that cannot be as easily captured by other methods such as interviewing (F. Liu & Maitlis, 2010). To get a detailed account and a dense description of individuals' waste sorting behaviour in a "natural setting" as well as different actors' practices along the waste management chain, I conducted observational research in the city of Hangzhou in south-eastern China, which is designated to be one of the 46 pilot cities to implement new household waste sorting schemes and is where a focused case study is conducted. In particular, I visit waste collecting points in communities to observe how waste infrastructures are organised and how residents perform the newly assigned everyday garbage sorting task. In addition, I engage in informal conservations with on-site volunteers facilitating these experimental schemes to understand their perception of how the new waste sorting scheme is being carried out in residential communities. Overall, the field visits, including observation and casual conversations, enable an in-depth, rich and localised analysis of China's new household waste management project at a micro-level.

Data analysis method: To make sense of the data collected via document analysis, interviews and observations, I apply the qualitative content analysis method to all three data sets. Defined as a research method for "the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p.1278), content analysis is arguably one of the most extensively employed analytical tools in qualitative research. It focuses on the interpretation, understanding and meaning of texts, or in the words of Zhang & Wildermuth (2009), it aims to achieve "an integrated view of texts and their specific contexts" (p.1). Data based on human experiences in qualitative research are often "complex, multifaceted and often carry meaning on multiple levels" (Erlingsson & Brysiewicz, 2017, p.93); a text is thereby assumed to imply more than one single meaning. Content analysis comprises descriptions of manifest content and interpretations of latent content. In general, through the researcher's careful examination, and constant inference-drawing between data, comparison and interpretation, manifest content is coded into categories in content analysis and latent content is continuously searched and formulated as themes - this is a process of continuous abstraction of data at each stage of the analysis.

The methodological approach of content analysis can be inductive (data-driven or text-driven), deductive (concept-driven) and abductive (combined) (Krippendorff, 2012). As the purpose of the study is not theory/model testing but rather explorative, and there is not enough former knowledge to systematically account for the phenomenon at

hand, which is constantly evolving, this study takes an inductive content analysis approach. In specific, following an inductive procedure described by scholars (e.g. Elo & Kyngäs, 2008; Erlingsson & Brysiewicz, 2017; Zhang & Wildermuth, 2009), the study takes the following concrete steps in data analysis:

- Prepare the data: I transform the three data sets collected into written text. Primary materials obtained from formal interviews are transcribed into text, fieldnotes taken from observation and informal talks are typed out and presented in a text format, and documents in all forms including news articles, policy notes, publications, etc., are all organised into texts for easy reference. The analytic procedure of the text is an iterative process which "entails finding, selecting, appraising (making sense of) and synthesising data contained in documents" (Bowen, 2009, p.28). The process yields data that can be organised into major categories and themes for further interpretation and meaning-making.
- Define meaning units and formulate codes: Keeping the research aim and questions in focus, I divide the whole text into meaning units, which are then condensed further with the central meaning remaining intact. Minichiello and colleagues (1992) suggest that when seeking a coding unit, the researcher should primarily look for the expression of an idea. An instance of a meaning unit could be expressed in a chunk of text of any size, e.g. a single word, a phrase, a sentence or a paragraph. The condensed meaning units are then formulated into codes, which help the researcher reflect on the data in a clearer and connected way. At this analysis stage, I still keep very close to the manifest content in the data with minimal interpretation.
- Develop categories and themes: A category consists of codes that appear to deal with the same/similar issue or topic or "manifest content visible in the data with limited interpretation on the part of the researcher" (Erlingsson & Brysiewicz, 2017, p. 96). Subsequently, each code is synthesised and clustered into a unified category. In my research, these category codes are compared across interview transcripts, observational data and data from documents to create a consistent account. After categories are presented, I analyse latent content, searching for the underlying meaning of the text or the interpretations of the "red thread" between the lines in the text (Graneheim & Lundman, 2004). Mishler (1991) calls the analysis of latent content a "co-creation" of the researcher and the text. At this stage, I advance the process of abstracting data by grouping two or more

categories into several themes, which are further synthesised into an overarching theme.

- Analyse the results and draw conclusions from the coded data: In the final step, the empirical and generalised findings are systematically organised, interpreted and discussed.

It is worth mentioning that content analysis, like all qualitative analysis, is a flexible and reflective process of working and reworking the data. Erlingsson & Brysiewicz (2017) describe this process as a "balancing task of keeping a firm grip on one's assumptions, opinions, and personal beliefs, and not letting them unconsciously steer your analysis process while simultaneously, and knowingly, utilising one's pre-understanding to facilitate a deeper understanding of the data" (p.95). Therefore, throughout the process, I try to be vigilant and maintain an awareness of how my previous knowledge and understanding could influence the analysis.

1.4 Structure of the thesis

The remainder of the thesis is structured as follows in close alignment with the objective of the research and the logic of the research questions:

Chapter 2 lays down the theoretical foundation of the research by conceptualising the state in China and introducing the historical materialist policy analysis framework. To start with, I juxtapose three mainstream accounts concerning the Chinese state, namely the "authoritarian state", the "developmental state", and the "state - civil society" thesis, which respectively approach the state from political, economic and social perspectives. Despite their richness, I argue that these approaches on their own only capture one aspect of the state, and they all reduce the Chinese state to a formal juridico-political apparatus or a monolithic actor operating as an agent of the ruling class and in the name of "national interest". As a primary contender to these reductionist approaches, I introduce critical state theories with the ontological tenet on historical materialism, including Gramsci's concept of "integral state" and hegemony, Poulantzas' notion of the state as a social relation, and Jessop's strategic-relational approach to the state. These theses all point to a perception of the state as a "power-based" social relation, a central site of contestation, and a "strategic field" where multiple dimensions of conflicts and struggles with relation to social (re-)production are mapped out, and competing interests and consensus are negotiated. To operationalise the HM state theories for the purpose of policy analysis, I then introduce the historical-materialist policy analysis (HMPA) framework, which aims to examine the contested

processes in public policy-making, and in particular, the competing strategies and interests and conflicts among different social forces, as well as the dynamic political-economic context and social relations in which particular policies are embedded that form the "corridor" of policies and policy-making.

Chapter 3 primarily attempts to answer the first group of research questions as outlined above and starts to deal with the empirical research at hand by mapping out the changing contour of the waste regime in the PRC from its founding in 1949 to the policy-turning point in 2017. Primarily descriptive, this chapter provides an overview of how the waste regime, encompassing the examination of waste composition, people-waste relations, waste actors, waste discourse, and the state's approach to waste management, has changed drastically from the socialist Mao-era to the post-reform era, coinciding the shifting macro social and political-economic conditions in three periodisations of the history of PRC. It reveals that conditioned by different economic and socio-political structures of the nation, the generation and materiality of waste, waste discourse and wasting practices, and the dominant modes of collecting, circulating, processing and disposing of waste have undergone significant changes, so did the politics of waste and the social relations embedded in it. The chapter also presents how a waste crisis looked like in China around the year 2017 (marks a policy turning point) and the particular set of challenges the country faced, which the new waste governance reform and its policies attempted to tackle. In addition, presenting the baseline paves the way for comparing the old waste regime and the post-2017 waste regime and enables the discussion of whether the new policy initiatives have a transformational impact on China's waste governance (brief discussion in Chapter 7).

Building upon the historical mapping of China's waste regime in Chapter 3, and deploying a historical materialist policy analysis framework, Chapters 4 and 5 will address the second and third sets of research questions by examining the contested processes in policy-making and elucidating on the role of the Chinese state, in particular its problem framings, strategies and power resources in pushing forward the political project of waste governance reform in China. Focusing on two sets of inseparable policies tackling respectively imported foreign waste and domestically generated municipal solid waste, the two chapters expose in-depth the contestations in policy-making, including the definitions of the waste crisis, the tensions unfolded between different actor groups, the conflicting and converging interests and strategies different social forces put forward, and the structural and strategic selectivities the state demonstrated.

Chapter 4 deals with the outward prong of the political project focusing on erecting a new regulatory regime for foreign waste inflows, of which China has been the biggest receiver since the 1990s. Notwithstanding that discarded objects flow from "developed" to "developing" countries has been famously denounced by environmental injustice thesis, waste undeniably has certain material value for reproduction. Globally, millions have extracted economic benefit from the transboundary waste flow, and waste has constituted a livelihood for many. Therefore, the conflict around the transboundary waste flow inherently stems from the selective prioritisation of the competing discourse about waste as a resource or as a risk. As my HMPA process analysis exposes, China's outright ban on imported waste was not developed in a historical vacuum nor purely based on scientific judgement; rather, the policy-making was a conflict-ridden process with selective problem framings of different actors with different interests, permeated with power dynamics and socioecological inequalities at different levels. In particular, in reconstructing the main conflict corridors between the Chinese central state and major waste exporting countries, as well as among domestic actor groups who had different opinions regarding a rupture change in waste imports, I reveal how the Chinese state primarily deployed discursive and organisational strategies to assert its opinions over the material interests of some key stakeholders. In this process, I also highlight the state's filter mechanism and the asymmetric power relations among different state agencies, waste businesses, scientific experts and NGOs in the political process of problem definition, knowledge production and solution finding.

Chapter 5 turns the analysis to the inward prong of the political project, focusing on investigating the most recent policy development on regulating source separation and recycling of urban post-consumer waste, which constitutes the resurgent national campaign to reform the domestic MSW management system. The two prongs of policy undertakings are intricately linked with the joint goal of increasing domestic waste management capacity and recycling efficiency. By combining a rich in-situ case study of household waste separation in a pilot city with broad policy documents analysis, I attempt to uncover the main actors involved in re-negotiating the policy space of post-consumer waste separation and recycling, the state's various strategies and power resources deployed in policy experimentations and the contestations embedded therein. I analyse in detail how grass-roots semi-state apparatus and non-state actors, including private companies, NGOs and technological agents, were mobilised and co-opted into an alliance to execute the pilot projects. In this process, I bring to the fore new conflicts and power struggles taking place especially between official state administrations and

semi-state auxiliaries, between state-endorsed recycling companies and the informal recycling sector, and between residents as passive surveillance objects and state managers as technological system monitors. From analysing the laboratory experiment at a close distance, I argue that local government's pure techno-managerial approach to MSW management, and the clear strategic selectivities in institutionalising household waste segregation and formalising the recycling sector as well as the resulting arrangements, created new profit-seeking entrepreneurship, new administrative practices and new types of economic mechanisms. These developments gave rise to new inequalities, conflicts, power imbalances, competitions and contested social relations.

Chapter 6 addresses the fourth set of research questions regarding the "why" of the latest waste governance reform (i.e. why at this specific moment and in such a specific form) by situating the whole project and the related policy conflicts in the broader political-economic context of the time. I expound the historical material and ideological conditions that gave rise to the "why" and argue that the new waste governance reform is integral to an updated context in Xi's China, partly characterised by a hegemonic vision of "Ecological Civilisation construction" and a different economic development model of "New Normal". In general, a new waste governance paradigm with modern technologies and proper wasting practices of citizens with high *"suzhi"* is intricately linked to the CCP's perceived new ruling legitimacy, underpinned by its capacity to provide people with a better quality of life, including a better living and ecological environment beyond pure economic growth. The updated governing ideology in the Xi era, conditioned by changed social contradictions in this specific historical material context, contributed to a specific set of problem definitions, knowledge production and solution finding for China's waste crisis. In particular, the central leadership's vision of Eco-civilisation and a "New Normal" with quality growth defined imported waste as primarily an environmental conflict which needs to be banned. In addition, guided by this vision, the MSW challenges are primarily to be addressed by techno-managerial solutions, including phasing out the informal waste recycling sector and implementing household waste separation schemes supported by institutional interventions and technological systems.

Chapter 7 offers some concluding remarks on the overall dissertation. It first reflects on the multi-scalar nature of China's waste crisis and the interconnectedness of waste policies at various scales. It argues that waste and the dealings with it encompass a complex intersection of biophysical, economic-political and social processes and relations in modern societies, and from transboundary waste movement to MSW

management and individuals' consumption and wasting practices, waste evokes uneven socio-ecological patterning choreographed by unequal power relations at different scales. As such, the production and impact of China's waste crisis is multi-scalar: the country's foreign waste policies were closely intertwined with domestic waste challenges and societal and economic changes; and vice versa, domestic waste policies were connected to foreign waste inflows and international political economic transitions. The chapter then recapitulates the critical findings in the empirical chapters by highlighting the actors and powers that contributed to policy changes, and the contestations, strategies and power relations in crisis diagnosis and solution finding, and revisits the historical political-economic context of these specific waste policies. Finally, the chapter concludes the dissertation by analysing the hitherto impacts of the new waste policy interventions both at home and internationally. Based on these indicative impacts it then attempts to examine the emancipatory potential of the new waste reform to challenge and change the given socio-environmental ordering that gave rise to China's waste crisis and eventually lead a positive transformation in China's waste regime. The final section particularly accentuates the bottlenecks and challenges observed in the ongoing waste governance reform and cautions against policy inertia and immanent contradictions in the policy logics, which may hinder the new state-choreographed political project from achieving a transformational effect or even put it at the risk of being yet another campaign-like policy fad.

Chapter 2. Conceptualising the state in contemporary China and historical materialist policy analysis

To rightfully conceptualise the state in present China is a task more than complex due to the evolving peculiarities of its political landscape in contemporary history. After transitioning from a Soviet-style socialist society in the 1970s, China in the post-Mao era has no precedence to draw from any other countries in the world. Officially still categorised as a socialist country, it has groped a unique and much-hailed path of "socialism with Chinese characteristics". And these "Chinese characteristics" are manifested in each and every aspect of life inside the country. Perhaps one of the most astonishing characteristics is its pragmatic application of the capitalist mode of production to the socialist political system. For a long time since the founding of the People's Republic of China (PRC) in 1949, the relationship between a market economy and a socialist political system, which constituted the linchpin of the "left" or "right" movement, was a subject of fierce debate. The market economy, diametrically opposed to a central-command economy canonically practised in socialist countries, was considered synonymous with capitalism; hence, the operation of it was seen as the operation of capitalism. However, in the late 1970s, after experiencing decades of setbacks following a Soviet model, Deng Xiaoping, a brave Marxist and arguably the most crucial reformist in China's modern history, liberated the thinking on the market economy. In his famous Southern Tour speech in 1992 which signalled the communist party's full commitment to economic reforms, he stressed that:

> "*The proportion of planning to market forces is not the essential difference between socialism and capitalism. A planned economy is not equivalent to socialism because there is planning under capitalism, too; a market economy is not capitalism because there are markets under socialism, too. Planning and market forces are both means of controlling economic activity.*" (Deng, 1992).

In 1994, Deng further elucidated his view on the relationship between the capitalist mode of production and socialist modernisation:

> "*Learning some good things from capitalist countries, including methods of operations and management, is not equivalent to implementing capitalism. This is socialism exploiting such methods to develop productive forces. By treating it as a method, it will have no impact on socialism as a whole and is not a return to capitalism.*" (Deng, 1994, cited in: Du, 2013, p.50).

As such, Deng adroitly took advantage of the capitalist "method" for socialist development, breaking free from the rigid Soviet model and paving the way for China's audacious experiment with a different socialist model in the years to come.

Another crucial characteristic of the Chinese political current is the longstanding Party-state form which aggregates preponderant elite power in all aspects. The Chinese Communist Party (CCP) is by design, the only ruling party in China, and any attempts to challenge its political power have mostly been and will be suppressed. The CCP sits atop the Leninist political system, and it controls appointments to all coercive state apparatuses both at the central and local levels, including governments, legislative bodies and the army, which ensures that its policy priorities are enacted into laws and regulations (Dickson, 2021, P. 12). In a sense, government policies primarily reflect the CCP's political agendas (see chapters 3, 4 and 5 how waste policy priorities have changed over time in China). Overall, while the Chinese economy has demonstrated impressive growth since the economic reforms and open-door policy, political reform has not achieved as much progress. The party has absolute primacy in that there are few checks and balances nor opposition from the government and legislative policies. To oversimplify the division of labour between the three main political entities: The CCP makes the critical decisions on personnel and policy, the legislature ratifies and codifies them, and the government implements them (ibid). Economically, the CCP constitutes a dominant fraction of China's re-emerged capitalist class after the economic reform. The so-called "red capitalists" or the "cadre-capitalist class" occupies the most strategic and arguably the most profitable economic sectors in the country (Dickson, 2008; McNally & Wright, 2010; So, 2003; van der Pijl, 2012). Socially, the CCP has permeated people's everyday lives; social independence and autonomy are far from the norm, and trade unions and social organisations including academic groups are not autonomous from the CCP or its authorised bodies which provide political leadership and supervision. The sustained economic growth experienced by the country in the last three decades, overall domestic social stability and peaceful external environment provided the CCP with relatively solid regime legitimacy within the Chinese society. Although its dominant role has receded since the opening-up policy, observers argue that there is a return to dominance in Xi's administration, especially after the 19th CCP National Congress in 2017 in which he stated that "government, military, society, and schools - north, south, east, and west - the party is the leader of all." (Dickson, 2021, p.12). In particular, discussions and speculations have proliferated as to what kind of country China may emerge under President Xi's leadership following his consolidation of power at the 19th National Congress.

Building upon the main characteristics of the Party-state, some fundamental questions continue to re-ignite the debate around Chinese politics: Can China sustain

high rates of economic growth without pressing forward with political reforms? To take a step back, is a continued high rate growth rate possible that China is a much bigger economy? (The overall speculation around this question tends to be downbeat in the very recent years). Can the CCP maintain its regime legitimacy with the rise of a much more prosperous middle class? Will "democracy" prevail eventually following political experiments with democratic elections at the village level? Will a full-fledged civil society emerge as an essential actor in political governance alongside formal state institutions due to deepened economic reforms and a higher degree of globalisation? The answers to these questions are far from clear, partly because the situation China faces today is unprecedented, and hence, there are no existing models we can readily refer to. However, in more significant part, the opaqueness results from a limited understanding of what holds the contemporary Chinese state together (Perry, 2007, p.1-2) and the relations between the state, party, capital and society which allow the political and social systems to function as they do. Acknowledging the theoretical challenge, in this chapter, I will first try to outline some mainstream scholarly accounts in the field of political science to understand the Party-state in the post-Mao era. Subsequently, I will propose an alternative theoretical approach to the state and introduce a policy study conceptual framework inspired by it before briefly elucidating how it will effectively guide my empirical research focusing on analysing waste policies.

2.1 Mainstream framings of the state in contemporary China

The Chinese state in the post-Mao era has been variably conceptualised by China scholars. Hui (2017) identified three primary forms of the Chinese state in the existing literature, namely the "neo-authoritarian state", "developmental state," and "corporatist state" (p.67). Borrowing from her categorisation and expanding the "corporatist state" to the broader discussion around the "state-civil society" nexus which has been gaining increasing prominence in scholarly debate, in what follows I will provide a brief sketch of the three mainstream framings, respectively conceptualising the Chinese state primarily with a political, economic and social lens. This review shall disclose that although each thesis captures part of the characteristics of the Chinese state at specific historical conjunctures, they are inherently static and reductionist on their own and, hence inadequate to grasp the full scale and true dynamics of the Party-state in China.

2.1.1 The state from the political perspective: The "neo-authoritarian state" thesis

For many China observers, if the socialist state in the Mao era could be characterised as "totalitarian"[2] or "authoritarian" (see e.g. Tsou, 1986; Wong & Chan, 2002), the economic reforms and subsequent political modifications in the 1980s prompted a **"neo-authoritarian"** regime in China. The rise of "neo-authoritarianism" in China as a school of thought took place at a time when the social conditions could be characterised as "expectant and hopeful, but also as uncertain, fluctuant, and unsettled" (Petracca & Xiong, 1990, p.1101). Drawing inspiration from the successful experience of the fast-growing countries of East Asia where governments practised "tutelary democracy" (Shils, 1960), many influential Chinese and Western scholars alike opted for the neo-authoritarian model - although with a profusion of variants including "neo-authoritarianism" (Wu, 1989), "fragmented authoritarianism" (Lieberthal & Oksenberg, 1988), "transformative authoritarianism" (Xiao, 1989), "elitism" (Chang, 1989), etc.

Petracca & Xiong (1990) elucidate the characteristics of "neo-authoritarianism": in the economic sphere, national leaders must be committed to modernisation and advance market-oriented reforms; in politics, there should be a robust and efficient bureaucracy and military for the sake of political stability; in terms of ideology, traditional culture should be promoted as the foundation of national spirit; and most importantly, the practice of neo-authoritarianism is oriented to foster capitalism and scientific development and adopt an open-door policy. Predicated on these developments, it was expected that "a middle class would emerge in China capable of securing and maintaining the foundations for democratic governance" (p.1106). Sautman (1992) confirms that in the 1980s, the "neo-authoritarianism" school appealed to a broad section of Chinese political thinkers and economists and even infiltrated the upper echelons of the communist party (p.72). Comparing with the rival thesis at the time, i.e. the "democratic" faction which sought a regime that repudiated socialism, Sautman argues that "the relative prosperity, stability and the longevity of the regime continue to provide an argument favouring those inclined toward a neo-authoritarian solution in China" (p.102).

Entering the 21st century, new variations of the "neo-authoritarian" model sprouted. For example, countering regime theorists who hold that authoritarian systems are inherently fragile and hence bound to fall (e.g. Przeworski, 1991; Huntington, 1993),

[2] Scholars hold different opinions with regard to China's political form during the Maoist era, while some are convinced it was totalitarian (Tsou, 1986), others such as Shue (1988) and Walder (1986) argue that the term "totalitarianism" is not accurate as it is oblivious of the fact that Mao's polity created extensive room for social involvement.

Nathan (2003) contends that the Chinese authoritarian system has proven resilient as there is much evidence to suggest that "the regime as a whole continues to enjoy high levels of acceptance" (p.13). He attributes this "authoritarian resilience" to the Chinese state's capacity to adapt to changing economic and socio-political conditions through "institutionalisation". Among others, the CCP institutionalised the elite succession process to overcome factional conflicts, and it developed a series of "input institutions" that allow people to convey their concerns and make them believe that "they have some influence on policy decisions and personnel choices at the local level" (p.14). Similarly, concurring with the "institutionalism" current, Shambaugh (2008) concedes that despite the CCP as an institution has been challenged due to globalisation and domestic issues such as increasing social stratification and inequality, it is proving to be a reasonably solid and resilient institution capable of adaptation and reform. This resilience enables it to maintain political stability as well as to drive economic advancement. In Perry's (2007) observation, in moving from Maoist Communism to post-Mao authoritarianism, the CCP leadership has managed to fashion a durable brand of "revolutionary authoritarianism" capable of withstanding challenges such as social unrest. "Revolutionary authoritarianism", in his view, "demands active engagement by society, in a manner authorised by the state" (p.21). Within this system, people are channelled to express their voices "so long as they play by the official rules of the game" (p.21). Perry is hence sceptical of accounts suggesting "state withdrawal" or a growing awareness of rights-based citizenship in contemporary China. Instead, he argues that people's invocation of such language as "rights" only conforms to the state's hegemonic framing, manifesting "rules consciousness" rather than "rights consciousness" (p.21).

Other scholars have taken a "populist" approach to China's "neo-authoritarianism." The CCP has since the Mao era canonised the "plain-living" motif, emphasising that it represents the interests of the vast majority of society instead of the elite class (Gallagher, 2005, p. 26). The mass-line-inspired political mobilisation, collectivisation and provision of social services were revitalised, especially in the Hu-Wen leadership (2002-2012), prompting some to coin the term "populist authoritarian" or "authoritarian populism" (Dickson, 2005; Gallagher, 2005; Tang, 2016). The symbolic mobilisation of resonance and support from the "left-behind" populace, in addition to the increasing attention given to public opinion (e.g. the rise of "popular nationalism"), attests to the CCP leadership's continuous efforts to seek a broad and solid foundation for its regime legitimacy, notwithstanding retaining tight control over society.

Landry's (2008) research illustrates how the CCP's promotion mechanisms for local cadres have allowed it to incentivise officials for local economic development without weakening its political control. He convincingly demonstrates how decentralisation and authoritarianism can work together, perpetuating an unusual "decentralised authoritarian" regime. Similarly, Martha (2009) revitalises the "fragmented authoritarianism" framework proposed by Lieberthal and Oksenberg (1988), arguing that the process of policy-making in China has become increasingly pluralised, which creates room for certain "policy entrepreneurs", including peripheral officials, NGOs and the media to wriggle their way into the process to pursue their policy goals and even help shape policy outcomes within structural constraints. By the same token, Lee & Zhang (2013) show how the CCP maintains domination and preserves stability by "depoliticising state-society confrontation" and providing social actors with permissive room for political leverage, material concession and "symbolic rewards from the state" in exchange of their subordination (p.1503-1504). This "non-zero-sum" form of state domination, as they term it, is "bargained authoritarianism".

Howell and Pringle (2019) characterise China under Xi Jinping's leadership as an "encapsulating authoritarian" as opposed to an "open authoritarian" during the previous Hu-Wen administration. This "encapsulating authoritarian" first and foremost places a focus on the overall strengthening of the CCP control. Although it does not exclude reform, it deploys a mixture of controlling and enabling instruments to ensure that the CCP retains innovation and experiments and that civic interventions are constrained and regulated (p.241). The same trend has been observed by Fuchs and colleagues (2019) in their study of the labour movement while reflecting on their own experience of doing research in China. They maintain that the governing approach employed by Xi has been more coercive and repressive than that of the previous administration, ushering in a new form of "coercive authoritarianism" which is manifested in several ways, including tightening controls over civil society organisations (p.133). Shirk (2018) takes it further: countering Nathan's (20103) suggestion that China has achieved "authoritarian resilience" via institutionalisation, she argues that after decades of institutionalised collective leadership, Xi's new era signals a "return to personalistic rule" (p.23), or a reversion to strongman politics.

On the issue of democracy, probably much to the disappointment of the "neo-authoritarian" scholars and structural theorists who assumed a causal relationship between the rise of the economic elite and democratisation (White, 1994), China's new capitalist class seems to express more interest in political stability than in political

reform. Pearson's (1998) analysis shows that China's new capitalist class has not emerged as a solid independent force in spite of its relative autonomy and often liberal political beliefs. Instead, the state's efforts to co-opt this group and use non-democratic means to navigate the rough-and-tumble business environment have denied it "the historical political significance many would wish for it" (p.268). Similarly, Chen (2002) observes that the capitalist class, which benefited from China's partially reformed authoritarian system, is incentivised to preserve the status quo rather than challenge it. Hence, he believes China's new bourgeoisie is "hardly proponents of true economic liberalism, let alone democracy" (p.412). Tsai (2005) also concludes that class formation in China has not occurred among private entrepreneurs and that the absence of a common basis for identity and interaction challenges the hypothesis that China's new capitalists might engage in collective action to demand democracy (p.1145).

By the same token, Dickson (2003, 2008) holds that despite some outliers, on the whole, China's capitalist class "have generally been ambivalent about the need for and benefits of democratisation, preferring the authoritarian regime in which they have thrived to the uncertainty inherent in a new and untried political system" (2008, p.13). In Pei's (2006) observation, successful entrepreneurs in China have learned how to make the current system work for them; hence, these economic winners may support further economic reform but not political change. She asserts that the resulting lack of democratic reforms, compounded with widespread collusive corruption and deteriorating governance, would lead the country to a "trapped transition" instead of evolving towards a whole market economy. In other words, bound to the Party-state through a web of policies and institutions, China's rising capital class or the state workers seem to have little interest in actively pressing for political democratisation (Dickson, 2003), and scholars fear that it is even less so since Xi's rise to power in 2012.

To conclude, the above account reveals a heterogeneous "neo-authoritarianism" experienced by China. To use Howell and Pringle's (2019) term, it depicts the variegated "shades of authoritarianism". Despite the different "shades", they all possess the common features of "neo-authoritarianism" described above by Petracca & Xiong (1990), albeit the advent of "democratic governance" cannot be assured yet in view of the current political system. The different "shades" also reveal that the general thesis of "neo-authoritarianism" is inherently state-centred, paying primary analytic attention to the political system, the domination of the Party-state regime, the power of the CCP to steer and control society, and its ability to act independently from social forces. As such, this school of thought tends to conflate the Chinese state with the ruling CCP, treating

them as a unitary actor free-standing from society, and it is rather oblivious to power dynamics within the state. In addition, the state–society relationship in this approach has become secondary, if not marginalised, and the non–state forces are treated as mere subordinates which have receded into the background of the analysis (Hui, 2018, p.12). An exclusive focus on the political system also overlooks social, economic and historical factors critical to shaping state dynamics.

2.1.2 The state from the economic perspective: The "developmental state" thesis

A rich body of literature depicts China as a **"developmental state"**, a concept that emerged in the early 1980s to account for the rapid economic growth in capitalist East Asia. This thesis contrasts the dominant neo-liberal account by highlighting the role of the state in organising and facilitating economic development (Howell, 2006). The state, in this view, "leads and coordinates a set of strategies and institutions that act to produce particular developmental outcomes" (Sum, 2013, p. 74). It is widely used to account for the success of development outcomes of countries such as Japan, which could be attributed mainly to an interventionist state joining forces with the private sector in the national industrial transformation and developmental projects (Johnson, 1999). In other words, a developmental state stands for a "seamless web of political, bureaucratic and moneyed influence that structures economic life" (Woo-Cumings, 1999, p.16). But it is noteworthy to mention that an essential characteristic of a developmental state is while the state is intimately linked with the private sector and social groups, it also preserves a certain distance for the renegotiation of goals and policies when corporate interests collide with national development - this is what Evans called "embedded autonomy" (Evans, 1995). This school of thought is mainly inspired by institutional economics and the Weberian view of the state which emphasises the vital role of bureaucracy and meritocracy in maintaining state functioning (Sum, 2013, p.74). It also mirrors Habermas' view of the state in which the state is not an instrument, but the domination inscribed in the state is devoted to the belief in legitimised rule, i.e. on the output of state actions and functional role of the state, for example, economic development.

The developmental state approach is vital to understanding development in developing countries. Hence, many scholars uphold this thesis when it comes to accounting for China's stunning economic development in the last four decades. Among them, White (1984) developed the concept of a "socialist developmental state" for the case of China to differ from the "capitalist developmental states" of the Four Asian Tigers. White & Wade (1988) maintain that in contrast to Taiwan and South Korea which

were exemplars of the "guided capitalist market", China, in particular in the early years of economic reform, could be portrayed as an example par excellence of a "socialist guided market". Similarly, Gallagher (2005) calls China's economic model "state-led capitalist developmentalism" to acknowledge the distinctiveness of China's developmental path. Other scholars such as Baek (2005) emphasise the Chinese state's dominant control over the financial sector and the significance of state-owned enterprises, arguing that China has followed the same developmental model pursued by other East Asian countries regardless of its unique political form. Yao (2010) goes so far as to argue that the Chinese government is a "neutral government" due to its pure "developmental orientation" which is not swayed by any particular interest group. The Chinese state's "disinterested approach", he contends, enables it to adopt selective policies conducive to the country's overall economic growth, which is the primary justification for maintaining its political legitimacy. According to him, a "neutral government" is a crucial characteristic of the Chinese path particularly after the economic reforms (p.16). Sum (2013) calls for a rethinking of the "developmental state" by applying a Cultural Political Economy (CPE) approach. Taking the case of how the Chinese leadership responded to the 2007 financial crisis, she vividly illustrates the intertwining relationship between neoliberalism and developmentalism in the work of the Chinese state and the contestation and unbalanced power dynamics therein. She hence suggests the term "neoliberal developmentalism" as a way to transcend the state-market dichotomy.

While these studies from the "developmental state" perspective focus on the central state level, other researchers (e.g. Bernstein & Lü, 2000; Blecher, 1991; Blecher & Shue, 1996; Howell, 1993; Oi, 1992, 1995) have pushed the boundaries of discussion to the local level. Drawing upon detailed studies at the regional, municipal and county levels, these scholars use the term "developmental state" to describe the commitment of political leaders at the local level to deploy "local resources and their administrative discretion in pursuit of local economic growth", even when it sometimes means to break "the developmental constraints posed by politically and ideologically driven economic policies emanating from the centre" (Blecher & Shue, 1996, p. 1).

In examining the role of the local state *vis-à-vis* the central state in economic development, these scholars also introduced new terms. For example, Blecher (1991) uses the term "entrepreneurial state" to elucidate the profit-seeking behaviour of local government officials who failed to act interest-free when exercising political power for local economic development. Oi (1992, 1995) put forward the terms "local state

corporatism" and "decentralised developmental state" to depict the central-local tensions. She argues that the national fiscal reforms in the 1980s provided great incentives for local officials to push for economic and industrial development as the new fiscal system allowed local governments only to submit a portion of their revenues to upper levels and retain the remainder. This, however, rendered economic enterprises in some local territories "a diversified business corporation" for local governments (Oi, 1992, p.100-101). In Qi's accounts, and similar to Blecher's, against the backdrop of a thriving market economy, strong local officialdom often deviated from central will in the attempt to maximise local interests, rendering a weakened central state and its diminished profile of power in local lives. These accounts provide a more nuanced view of the Chinese state, which has hitherto been presented as a homogeneous, aggregated concept. In addition, a profusion of concepts including the "market facilitating state" (Howell, 1993), "dual developmental state" (Xia, 2000), "rent-seeking state" (Wedeman, 2003), "diffuse developmental state" (McNally & Chu, 2006) and so on have been developed to illuminate the economic behaviour of local governments after the economic reforms.

To sum up, the variegated terms introduced above constitute the diverse and sometimes competing aspects of the "developmental state" thesis. They share a similar ground in conceptualising the Chinese state in that they all focus principally on the role of the state – either central or local - in the economic sphere. These heterogenous accounts not only highlight the economic behaviours of the state both at the central and local levels and the diverse effects of rivalrism during economic marketisation but also point to the deeper problems of fragmentation and pluralisation of state forms and state power – these constitute a significant difference from the first current of "neo-authoritarian state". In addition to being criticised for its exclusive focus on economic development, the "developmental state" thesis often restricts the explanation factor of developmental performance to domestic ones, such as the capacity of a government, hence running the risk of "methodological nationalism' (de Medeiros, 2011, p. 43). In terms of state-society relations, the state in this current is conceptualised as standing above society and separated from social forces including capital. It acts as a paternalistic agent defending the national interest through governing and disciplining the market and guiding entrepreneurs to create economic growth (Sum, 2013, p.75). As such, state-society relations are reduced to "state-capital relations" and further to "government-business relations" (Chang, 2013). In the case of China, the "developmental state" thesis also falls short of addressing an important question

regarding how the Chinese party-state has mediated conflicting social relations to push through economic reform (Hui, 2019,p.16). Moreover, critics contend that it is increasingly untenable to perceive China as a "developmental state" due to rapid economic and institutional change and intensifying global competition. Howell (2006), for one, is convinced that the "developmental state" thesis is no longer applicable to China as the country lies between the categories of "predatory" and "developmental", "displaying elements of efficiency and inefficiency, of control and chaos, of relative autonomy and clientelism, of neo-liberalism and neo-corporatism" (p.274).

2.1.3 Examining the state-society nexus: Corporatism and bottom-up civil society organisations

The relationship between the state and society in China has perpetuated political and academic discussions. With the further advancement in economic reforms and decentralisation in state power (although it has to be noted that while local governments enjoy a certain degree of fiscal freedom and autonomy over policy development and implementation, it would be erroneous to assume that they have become independent of the centre), over the years an increasing strand of literature has attempted to conceptualise the Chinese state by focusing on the state's relationship with society. Much of this discussion of state-society relations has been viewed through the lens of civil society organisation, which is primarily featured by two variants, namely state-led "corporatism" and voluntarily organised "civil society" (Alpermann, 2010, p.124; Shieh, 2009, p.22). To be sure, scholars acknowledge that there exists a wide range of thinking and political preferences concerning the concept of "civil society" itself, and the disparate features may be present in varying degrees at any given point in time (Dickson, 2008, p.15). For example, the book of Brook & Frolic (1997) presents a multiplicity in the concept of civil society in China, exposing different theoretical stances and ideological positions, which "cautioned us against either celebrating the Western narrative of democratic development or proclaiming Chinese exceptionality" (p.4).

China after the economic reforms and opening-up seems to present a striking paradox of a "powerful" and "powerless" state: on the one hand, the Party-state still maintains authoritative domination in the political arena; on the other hand, there is a broad acknowledgement of the limitations of the state-administered economy, as well as of the importance to give autonomy and interests to social units. As a result, the CCP gradually retreated from social life and loosened its grip over enterprises and sectoral associations, which were no longer subservient to the Party-state or operated only for

the state's interest. In this climax, various civil organisations started to emerge in the 1980s, starting from the organising of professional, industrial, and commercial associations (Dickson, 2004). As documented by Unger and Chan (1995, 2008), all of the early sectoral associations in China were established on the government's initiative and in a top-down approach (changed since 2000), promoting scholars to call them "government-organised non-governmental organisations" (GONGOs). Hence, early corpus focused predominantly on these top-down GONGOs, or even quasi-administrative units purposed to assist the state in managing the complex and rapidly changing economy and society. In addition, all civil organisations must have a Party- or government-linked sponsor, called "formal supervisory agency", to get registered (remained so till the 2016 Charity Law[3]). These characteristics in the establishment and operation of civil associations in China are exemplary of "state corporatism" (Chan, 1993; Frolic, 1997; Unger, 1996; Unger & Chan, 1995; Wu, 2002).

According to Schmitter (1974), "corporatism" can be defined as:

> "a system of interest representation in which the constituent units are organised into a limited number of singular, compulsory, non-competitive, hierarchically ordered and functionally differentiated categories, recognised or licensed (if not created) by the state and granted a deliberate representational monopoly within their respective categories in exchange for observing certain controls on their selection of leaders and articulation of demands and supports." (p.96)

As such, corporatism describes a state-society relation in which the state recognises only one sectoral social unit to represent the interest of that sector and serve the link between the state and social sectors. These functionally differentiated, self-governing social units work to maximise their own "sectoral interest", and in this process, they gain certain material advantages which allow them to share power with the Party-state over industrial production and revenue (Lee, 1991; Wong & Chan, 2002; Saich, 2004). Hence, some deem the relationship between sectoral associations and the CCP as "one of partnership" (Wong & Chan, 2002, p.236). But their monopolistic status to represent respective social sectoral interests is bestowed by the state (ibid., p.234); in other words, these associations represent a "government strategy" and are created as "an adjunct to state power" (Frolic, 1997, p.48). Lee (1991) argues that although ostensibly social associations were asked to represent interest within their respective economic sectors, in many instances, the interests of new social associations were "given" by the state before they even had the chance to "articulate their needs or represent themselves" (Lee, 1991, p.155). As such, he maintains that the Chinese state places

[3] The 2016 Charity Law allows "charitable organizations" (*cishan zuzhi*) to register directly under the Ministry of Civil Affairs without having to find a supervisory agency if they fulfill all other legal requirements. However, the Law's definition of "charitable organisations" is vague and disputable (see Spires, 2017, p.54)

more focus on “interest licensing” than on “interest representing”, rendering the role of such civil organisations passive and subsidiary. This pattern of social evolution as characterised is in contrast with the type of “societal corporatism” or “liberal corporatism” practised in countries such as Japan or Australia (Lee, 1991; Unger & Chan, 1995).

Departing from the “corporatism” thesis, another strand of literature on state-society relations highlights the role of voluntarily organised, grass-roots NGOs in fostering economic, social as well as political changes. In the early 1990s, especially after the Tiananmen event, many scholars (e.g. Bonnin & Chevrier, 1991; Chamberlain, 1993; Gold, 1990; Nathan, 1990; White, 1993; White et al., 1996) started to perceive the emerging socio-economic forces in the country as part of “civil society” (in the western liberal sense) in the process of formation. In general, bottom-up civil society actors in China can be distinguished between operating in a “politicised” realm or a more “apolitical” or “market” realm (Foley & Edwards, 1996; White et al., 1996): the political dynamic of civil society entails “resistance to state control...with implicit or explicit political agendas”, and a market dynamic is primarily concerned with affairs such as economic development and environmental protection and less interested in challenging the political system itself (White et al., 1996, p.7). In other words, whereas the political realm poses a direct threat to state domination, the apolitical “noncritical” realm creates a more complementary relationship between the state and civil forces (ibid, p.7-9), making the state responsive to public opinions and even cooperate with NGOs in this realm (Dickson, 2021).

At the turn of the 21st century, scholars were hopeful of the further development of civil society in China. At this time, societal actors were given more room to operate, influencing policy-making and implementation. Howell (2006) underscores this exciting progress by demonstrating the emergence of relatively autonomous, grass-roots organisations focusing on marginalised social groups as opposed to those GONGOs in the earlier days, as well as the increasing social space given to the operation of such independent organisations (p.143). In particular, the Hu-Wen administration (2002-2012) marked the “prime period of civil society expansion” in China (Howell & Pringle, 2019, p.234), during which the leadership encouraged citizens as well as civil organisations to participate in public affairs, and tolerated even critical forms of civil society as long as it served the overall function of the regime. As a result, civil society in this era enjoyed a certain degree of autonomy and diversification while performing a functional role, which “bestowed a unique dynamism yet precarious balance” to the Party-state

(Froissart, 2018, p.365). The phenomenon of a booming civil society in this era was described by Teets (2013) as the rise of “consultative authoritarianism” or “responsive authoritarianism” in Heurlin’s (2016) words.

However, it must be noted neither the Western conceptions of civil society nor corporatism could fully account for the state-civil society relationship in China. In fact, the Party-state in China does not uniformly support or suppress civil society; hence, an overemphasis on antagonistic relations between the state and society in China would be erroneous. Kang and Han (2008) propose an “indigenous” model, namely the “graduated control” theory (*fenlei guanzhu*) to elucidate how the Party-state interacts with civil society in China. The theory, which in the meantime has been refined by Wu and Chan (2012), is used to describe the government’s differentiated approach to supervising different types of civil organisations. It argues that depending on the scale, funding sources (domestic- or foreign-funded), capacity to deliver public goods, operational field (sensitive or non-sensitive), the groups they represent, and the potential to threaten or disrupt the CCP’s rule, civil organisations are subjected to fragmented degrees of Party-state control. This observation has been echoed by Western scholars who argue that the state has taken mixed stances towards different types of civil organisations in different political climates (Dickson, 2021; Lu & Steinhardt, 2020), and “such a simultaneous softening and hardening may help to make better sense of some contradictory developments in China’s state-NGO relations” (Lu & Steinhardt, 2020, p.108).

Also, despite the positive advancement of bottom-up, relatively “autonomous” NGOs, civil society in China presents a somewhat aberrant phenomenon. Most scholars working on the issue found cooperative or even symbiotic relations and blurred boundaries between state and civil society organisations, and most NGOs do not take the form of mobilisation *against* the Party-state. In contrast, civil society is connected with the state through various ties and mobilisation is carried out to gain the state’s recognition, patronage and efficacy (Solinger, 1992; Ho, 2007; Alpenmann, 2010). As such, civil society in China aims to strengthen rather than weaken the authoritarian state (Hsu, 2020, p.6). He Baogang (1997) thus terms the notion of “semi-civil society” to describe the dubious position of social organisations in China. How to account for this anomaly? Dickson (2008) brings Chinese pragmatism into view, arguing that in China, most individuals and groups do not seek autonomy but rather “closer embeddedness” with the state, as they recognise that to be autonomous is “to be ‘outside the system’ and therefore powerless” (p.18). Hence, they’d instead seek to be “integrated into the current political system in order to pursue their interests better and maximise their

leverage" (ibid.). This partially independent version of "civil society" seeking embedded autonomy is conspicuously different from the classic Western "civil society" as summarised by Shi (2004): "independence and autonomy; immunity from excessive state interference; self-consciousness and insubordinate values; the presence of a strong and economically powerful middle class; alienation from the state's belief system or ideology; and rationality and civility" (p.226). Although in the decades following the economic reforms, some important social values as mentioned above have gained strength in China, "the primacy of the state" remains a somewhat celebrated notion in today's China (Shi, 2004, p.227). The Chinese account hence calls attention to the dynamism of "civil society" when it is applied in heterogeneous empirical settings.

Entering the Xi era, some China observers contend that the current administration has taken a more coercive approach to the governance of the state-society relationship, exemplified by the constraining of several civil society organisations and political activists. Furthermore, the CCP consolidated its control over NGOs by promulgating new regulations or legal measures such as the 2016 "Charity Law" and 2017 "Foreign NGO Law" (Jacobs & Buckley, 2015; Lam, 2020; Saich, 2016). Some scholars therefore fear that the Xi administration has considerably reduced space for civil society's activities, obstructed foreign NGOs, and fostered only organisations that complement and confirm the Party's rule, suggesting that the CCP wants to guide social life in every aspect while deterring social organisations from monitoring the Party-state and advancing social changes (Froissart, 2018, p.366).

Notwithstanding the increased level of Party control, others have also noted countertrends. Froissart (2018) for example, argues that while in the short term the CCP constraints would suppress the further development of civil society, in the mid-and long run, civil society actors could devise new strategies or build informal networks (such as registering as businesses or social enterprises) to circumvent or even subvert the new conditions. The empirical analysis of Fu and Distelhorst (2018) revealed that although there is less room for contentious participation under Xi, the institutions that enabled grassroots participation have not decayed, and grassroots activities aimed at changing government behaviour through official channels, i.e. the so-called "institutionalised public participation" has persisted vigorously. Hsu (2020) concurs that it is premature to conclude that the various restrictions prevent Chinese citizens from organising and mobilising. Using the political ideology of *suzhi* ("civil quality" in English – more in chapter 5), she demonstrates that the Chinese state is even incentivised to support certain forms of citizen mobilisation - as the "*suzhi*" ideology legitimates citizens' anger

and demands while constituting one of CCP's narratives for political legitimacy in the modern era. In addition, various research suggests that contrary to the preposition of civil society in retreat, there has been an increase in networking and collaboration among grass-roots NGOs, and even a trend of forming NGO alliances to collectively advance a specific agenda, in particular in the area of environmental protection (Dai & Spires, 2018; Li et al., 2016; Hu, et. at., 2016; Peng & Wu, 2018; Shieh & Deng, 2011; Wells-Dang, 2012). Among the exemplary cases is the continuous operation and expansion of the China Zero Waste Alliance which was established in 2011 (Lu & Steinhardt, 2022).

In summary, civil society has experienced continual and profound transformations in contemporary China, charting a unique way forward under the new administration. To be sure, the state wants to be at the helm of civil society development and operation, but to which extent it wishes to exert its control over social organisations is empirically transient. In general, the CCP is more willing to work with civil actors on issues such as environmental protection, education and other social welfare topics, albeit selectively in terms of issue topics and groups. When political leaders find a particular form of civil society useful, they would permit or even foster it, allowing it to thrive and enjoy a certain degree of autonomy as long as it is relatively tamed and supportive of the overall goals and policies of the Party-state. In contrast, the state would mostly suppress civil activities in the "critical realm" (Hsu & Hasmath, 2014; Knup, 1997; Dickson, 2021). Dickson (2008) accentuates the state's selectivity in this regard, noting that the CCP leadership, being well aware of the power of civil society and the challenges it may pose for continued party rule, acts pre-emptively in terms of selecting what types of social organisations can exist and limiting what activities they can engage in to avoid the occurrence of "colour revolution" (p.14).

The "state–society" thesis has made substantial contributions to account for the state in China, however, it harbours several deficiencies. To start with, in the "corporatism" account, civil society seems to be primarily composed of enterprises and social organisations that predominantly represent sectoral economic interests. As such, the question of power in "corporatism" is often restrained to economic interests. The scope of society and power discussion in this model is far too narrow. Hence, it inherently falls short of accounting for the relations between the state and those social actors outside the corporatism structure and economic interests. Furthermore, corporatism foregrounds the state's intervention and domination over social organisations. In this view, the state, in the process of relegating interest representation to certain

organisations and helping organise the relations between different sectoral organisations, generally serves as “a grand arbiter or mediator... the guardian of the common good, of a national interest that supersedes the parochial interest of each sector” (Unger & Chan, 1995, p.30). This view of the state as an independent actor above sectoral interests and with the ability to mediate those interests is problematic. In reality, the Chinese state is not detached from these social and economic relations.

In addition, despite the diverse forms and nature of civil organisations in China, the civil society approach in general tends to perceive the Chinese state as a monolithic entity synonymous with the umbrella name “the Party”. In other words, this approach generally does not differentiate between the state and the Party, between state agencies and ministries, different administrative levels and local regions; as a result, it fails to capture the possibly contingent, fragmented processes and sometimes competing practices of the “state” when dealing with civil society. Also importantly, the “civil society” thesis in China implies the interaction and power dynamic between the state and society as rather unidirectional, in the sense that the state dominates civil society. In the accounts of the scholars mentioned, the fate of civil society seems to be largely at the mercy of the Party-state, whose disposition towards it is ever-changing. As such, the state-civil society relation in this account can be featured as ambiguous, paradoxical and unpredictable at best. In response to the state’s differentiated attitudes, civil society flourishes, evades, adjusts or diminishes. This perception ignores the often two-way flow between the state and civil society, thereby falling short of accounting for the complex multiplicity of state-society relations.

To take a step back, even the suitability of the “civil society” concept to the Chinese context has sparked fierce debate. Some critics argue that the Western concept of “civil society” and its attendant public sphere is inextricably connected to the emergence of the bourgeoisie and is, therefore, unfit for China (Wakeman, 1993, p.112). Wang Shaoguang (2013), in his article titled “‘Civil society’ is a crude neoliberal myth”, adamantly rebukes the concept’s ambiguity and its overly exaggerated achievements, discrediting civil society as an ill-defined concept fabricated by neo-liberalism, which has attracted unwarranted attention in China. Similarly, Hu Angang, a renowned professor at Tsinghua University, denounces “civil society” as a Western theory and proposes the term “people’s society” as China’s “innovative” alternative (Hu, 2013). According to Hu, contrary to the Western conception of “civil society” which focuses on individuals’ rights and interests and seeks autonomy from the state, “people’s society” prioritises the collective over the individual and highlights the unified, synergetic

relationship between the government and the masses instead of the tensions between them. The aim of “people’s society”, Hu claims, is to build a harmonious society which is a modern society with Chinese characteristics under the aegis of the CCP (ibid., para.4; self-translation). Although this concept has been bitterly mocked in the academic circle within China (see, e.g. Han, 2013; Rao, 2013), it has, self-explanatorily, found favour with the CCP and gained many followers.

In conclusion, above I have outlined some mainstream frameworks attempting to conceptualise the Chinese state from economic, political and social perspectives. To be sure, these accounts are by no means exhaustive in terms of conceptual approaches to the state in China. Also, as expounded within each sub-section, it has become apparent that while each thesis presents its unique merits, they also harbour deficiencies, and collectively, they share two common shortcomings. Firstly, a conspicuous lacuna emerges in their treatment of the conceptualization of the “state” itself. Notably, in their assumptions, the Chinese state is generally reduced to a monolithic, free-standing actor, bereft of its intricate entanglement with the social fabrics, or social embeddedness. Secondly, in these approaches, there exists a pronounced gap in providing a profound explanation and nuanced understanding of the state’s activities in the social, political, and ideological domains, and most importantly, the inadequacy in delineating the connection between the state’s economic, social, political and ideological roles (Hui, 2017). While these frameworks might excel in highlighting the evolving characteristics of one aspect of the Chinese state, they fall short of adequately capturing the intricate interrelationships between political current, economic-materialist constituents, ideological spheres and the dynamic development of civil society. Moreover, they often falter to explicate the complex dynamics between the state at the central and local levels, as well as the subtleties and hegemonic capacity of the ruling party in different temporal conditions. In order to attain a more nuanced understanding of the Chinese state, it becomes evident that an alternative theoretical framework is imperative. This framework should be founded on the premise that the Chinese state is not a monolithic actor but rather a dynamic entity that exhibits “polymorphous, assuming multiple, complex forms and behaviours across time and space” (Hui, 2017, p. 275). In response to O'Brien's call for a more comprehensive exploration of the state (O'Brien, 2003), the subsequent section will introduce an alternative state framework, one that is anticipated to offer greater sophistication and yield a more fruitful comprehension of the Chinese state in its entirety and complexity.

2.2 Historical-materialist approaches to the state

The previous section reveals that mainstream accounts that appeared within the scholarly community have by and large perceived the state in contemporary China as a monolithic actor dominated by or synonymous with the CCP. The state in this sense functions like a Leninist state wherein it primarily serves as an instrument for political legitimation or an umpire coordinating demands and interests between different social groups. Likewise, most conventional approaches to the analysis of the state in traditional capitalist societies have also taken the state as a given, and viewed the state as a formal juridico-political apparatus, a neutral existence, operating as an agent of the "society as a whole" and in the name of a more or less unified and definable "national interest" (Brand et al., 2008, p.33). Such accounts have by and large fallen short of addressing the internal complexity of the state. Rejecting the reductionist approaches, an influential intellectual force has emerged over the last decades under the overarching term of "critical state theories", which has greatly reinvigorated the theoretical endeavour in the state debate.

The critical state theories drew much of their inspiration from Marx and Engels, who themselves regrettably did not formulate a systematic view of the state and politics but helped lay down a critical foundation by underlining the class character of the state in their works (Codato & Perissinotto, 2002). Despite sharing some common ground, the critical state theories are heterogeneous in their approach to the state and sometimes hold somewhat contradictory positions. Therefore, this theoretical arena has been abuzz with discussions, and perhaps one of the most featured debates was the exchanges between Ralph Miliband (1969) and Nicolas Poulantzas (1968) on the dichotomy of "instrumentalism" and "structuralism" (see, e.g. Barrow, 2002; Jessop, 2012). It is however not my intention here to unfold all of the critical theoretical traditions in the analysis of the state (others have done so, e.g. Jessop, 1990, 2016a); instead, in this chapter, I will only focus on outlining some of the prominent historical-materialist approaches which in my view are the most relevant to my empirical investigation. These include Gramsci's notions of "integral state" and hegemony, Poulantzas' understanding of the state as a social relation, and Jessop's strategic-relational approach drawing upon inputs from Gramsci and Poulantzas.

2.2.1 The "integral state", hegemony and the state as a social relation

The renowned Italian Marxist Antonio Gramsci, who made his intellectual contributions to political theory mostly imprisoned under Mussolini's Fascist regime,

proposed an “extended” concept of the state by including the underpinnings of the political structure in civil society. The state from Gramsci’s perspective is an “integral state”, that is, a congregation of “political society + civil society”, or in other words, “hegemony armoured by the protection of coercion” (Gramsci, 1971, cited in Jessop, 2016a, p.15). Accordingly, state power is equally conferred on civil society and political society. Civil society, in Gramsci’s definition, is the site where hegemony or consent is created; it is composed of “private organisms” (e.g. press, education system and economic sectors) which contribute to the formation of social and political consciousness (the “material core” and ideology in a broad sense). In contrast, political society is constituted of public institutions (e.g. government, political parties and military) that exercise “direct dominion” (Bates, 1975, p.353) and armour hegemony with coercion. Gramsci’s concept of state hence rejects the traditional Marxist views in which the state is simply an instrument for class domination and political structures are mere reflections of the economic base (Hobsbawm, 1977, p.208).

The notion of “hegemony” and the construction of the relationship between the dominant class and civil society is key to understanding Gramsci's concept of the state. Gramsci views hegemony as a combination of coercion and consent, in that the ruling class sustains its superiority not simply through the coercive machinery of the state (i.e. political society) but also through actively seeking the consent of the governed in civil society, which in the case of China is done mainly via creating economic growth, employment and consumption opportunities. In his own words, hegemony entails:

> “not only a unison of economic and political aims, but also intellectual and moral unity…the development and expansion of the [dominant] group are conceived of, and presented, as being the motor force of a universal expansion…In other words, the dominant group is coordinated concretely with the general interests of the subordinate groups (Gramsci, 1971, p.406).

As such, for Gramsci, hegemony includes both the “intellectual-moral” and “economic-political” dimensions. The “ethical” state part emphasises the power of ideological leadership, which holds that to maintain the hegemony of the historic power bloc, the ruling class needs to actively turn “popular-democratic” struggles into an ideology that can align the subordinate class with the dominant class. This strategy is what Gramsci calls “passive revolution” (Gramsci, 1999, p.560) by the ruling class to maintain dominance while preventing violence or revolutionary upheavals (e.g. the greening of capitalism today). The “economic-political” part underlines the universalisation of the particular interests of the dominant group, as hegemony only comes into existence “when a dominant class is able to link its interest with those of the

subordinate classes in the pursuit of a social order that reproduces its own dominant position" (Gramsci, 1971, p.1191). The universalisation of interests often requires the dominant class to make some material compromise or concession to the subordinate groups, albeit these sacrifices should not undermine the fundamental interests of the dominant class.

Gramsci notes that "though hegemony is ethical-political, it must also be economic" (Gramsci, 1971, p.161), highlighting that economic-material basis is synchronic to hegemony as organising the consent of the subordinate masses. Thus, the generalisation of the dominant classes' interests cannot be achieved simply by ideological inculcation but by "concretely" realising the interests - in the form of material content - of the subordinate masses (ibid., p.182). Gramsci bestows "organic intellectuals" with a significant role in finding compromises and consent between the ruling and the ruled (Gramsci, 1999, p.144). "Organic intellectuals" often emerge from within a historic bloc and work within and across ethico-juridical, scientific and cultural institutions, as well as for political parties and other representative organisations (Jessop, 2016a, p.73). To Gramsci, it is the duty of these intellectuals to undertake the tasks of mediating competing interests and framing the interest of the dominant class in such a way that can be accepted as the shared interest of society. As such, they may be involved in producing and reproducing hegemony, sub-hegemonies, or counter-hegemonies (ibid.).

In a nutshell, for Gramsci, the state is a specific form of political dominance and an institutional ensemble based on a variable mix of coercion and consent. The ruling class sustains its dominance not only through the exercise of coercive apparatus which bring society into conformity and compliance with the requirements of a specific mode of production, but more importantly, it does so through the mobilisation and reproduction of "active consent" (Jessop, 2012). Hegemony as an integral state form hence is a result of a configuration of various forces including the core structures of production and political institutions, as well as intellectual and moral leadership.

In the further elaborations of the neo-Gramscians who take the approach to the arena of International Relations, these forces are explicitly referred to as *material capabilities, ideas and institutions* (Cox, 1981, p.136), which combined form the foundational structure of a hegemonic order. Although Gramsci suggests that hegemony necessarily has a material basis, he also insists that there is a reciprocal relationship between the material, political and ideological forces, contrasting the orthodox Marxist view that economic base determines the juridico-political superstructure and forms of ideology.

Also importantly, the Gramscian approach to the state characterises hegemony as a contingent and contested process which requires continuous negotiations between the dominant group and other social groups (Levy & Egan, 2003). It is therefore vital to study hegemony as a process, paying particular attention to its dynamics and the potential transformation of hegemony brought out by social conflicts.

It flows from the above that the notion of power in Gramsci's conception of hegemony is relational, non-state-centred and non-static. Hegemony denotes a consensual order in which the state is only seen as the organ of one particular group, and the form of state power is undefined. As further illustrated by Cox (1981), hegemony derived from Gramsci is:

> "a structure of dominance, leaving open the question of whether the dominant power is a state, or groups of states, or some combination of state and private power, which is sustained by broadly-based consent through acceptance of an ideology and of institutions consistent with this structure." (p.153, fn.27)

Consequently, this perspective rejects a one-dimensional or zero-sum notion of power but views power as arising from the ensemble of relations of production and ideologies. State power is shaped by its links to the economic system and civil society and is the result of "consciously planned struggle" (Gill & Law, 1989), which gives full play to strategies pertaining to the material as well as the normative dimensions. As such, the Gramscian approach implies that a proper understanding of state power lies in "a thorough reading of the alignments and matrices of the key elements or forces that animate or oppose a given socio-political and economic order" (Okereke et al., 2009,p.26).

Moreover, with regard to state institutions and apparatus, Gramsci focuses on examining their social bases instead of viewing them as purely technical instruments of the government. He particularly highlights the centrality of private institutions and organisations, as well as the formation of political alliances between the state and non-state institutions. In a nutshell, hegemony is mediated by particular economic, political and societal forces "through a complex ensemble of institutions, organisations, and forces operating within, oriented towards, or located at a distance from the state in its narrow sense" (Jessop, 2012, p. 6).

Another notable Marxist state scholar is the Greek political theorist Nicos Poulantzas who, as mentioned earlier, is famous for his debate with Miliband over the dichotomy between "instrumentalism" and "structuralism", Poulantzas' later work rejected the prevailing mainstream accounts which upheld a polarised view of the state but engaged

a more sophisticated understanding of the state in that he proposed to view the state as a social relation and a specific institutional and discursive ensemble (Poulantzas, 1978). Building on Marx's insight that capital is not a thing but a social relation (i.e. continued reproduction of the material and institutional forms of the capital relation shape the dynamics of capital accumulation and economic class struggle), Poulantzas in his book "State, power and socialism" insists on the "institutional materiality" (Poulantzas, 2000, p.49) of the state and depicts the modern form of the state as the material condensation of class relations. The state in his conception is understood as:

> "... a relationship of forces, or more precisely the material condensation of such a relationship among classes and class fractions, such as this is expressed within the State in a necessarily specific form...By grasping the State as the condensation of a relationship, we avoid the impasses of that eternal counter-position of the State as a Thing-instrument and the State as a Subject" (ibid., p.128-129).

The state in this view is neither the "instrument" of the ruling class nor a neutral and rational authority dedicated to solving problems or seeking "national" interest. The entry point of this concept is that the state is relatively autonomous from the dominant class - although this does not mean that the state is neutral or classless and is institutionally separated from the rest of society. The state as the material condensation of societal relations, in the words of Brand and colleagues (2011), means that it "condenses various societal contradictions and conflicts – especially class relations and class conflicts and makes them processable" (p.157). Social forces and their political and social struggles, as well as the relations of forces are constitutive of capitalist societies. At the same time, the state is constitutive of different social relations, especially of the (re-)production and class relations as well as of ideology. As such, the state is an institutional ensemble and a strategic terrain where conflicts and compromises occur, reflecting power relations and relations of forces in the broader political economy (Demirović, 2011). Therefore, Poulantzas maintains that "we must also grasp [the state] as a strategic field and process of intersecting power networks" (2000, p.136).

In sustaining the dominant classes' superiority in the strategic field, Poulantzas follows Gramsci's idea of hegemony and argues that the dominant class uses repressive state apparatuses to maintain political order, but ideological apparatuses to inculcate its ideologies and achieve class hegemony (Poulantzas, 1968, 1978). In addition, echoing Gramsci's viewpoint that hegemony as organising consent is rooted in economic materiality, Poulantzas also highlights the essential material aspect of the state:

> "...in working for class hegemony, the state acts within an unstable equilibrium of comprises between the dominant classes and the dominated. The state therefore continually adopts

> material measures which are of positive significance for the popular masses, even though these measures represent so many concessions imposed by the struggle of the subordinate classes." (Poulantzas, 2000, p.31).

As such, Poulantzas brings the economic-material structures to the fore and stresses that the state "manifests a material framework which is irreducible to political or ideological domination" (Hui,2017, p.50).

Moreover, Poulantzas notes that the state's institutional materiality is "a historical product of a multiplicity of class practices and struggles" (Bratsis, 2002, p.258), and its relative autonomy and distance from other social forces are always a contingent outcome of social struggles between the dominant classes and the dominated. Consequently, the state as a specific material condensation of social relations is not fixed but undergoing constant changes; in other words, this specific form of condensation must be "permanently reproduced through struggles and the contested functioning of capitalist social structures and, more generally, production relations" (Brand et al., 2011, p.157). As such, Poulantzas' conception of the state and class presents a state theory that neither reifies nor ossifies the state.

2.2.2 The "strategic-relational" approach to the state

Building on the critical state theories of Gramsci and Poulantzas as well as the regulation theory and Foucault's concept of power as a complex network of relations (Lynch, 2010), Bob Jessop formulates a strategic-relational approach (SRA) to the state in which the state is seen as a social relation which evolves according to the permanent interdependence with the complexities of society and has different strategic effects (Jessop, 1990, 2008, 2012, 2016a). The SRA - as the notion indicates - sees the state as both relational and strategic, and the key to understanding the state lies in the analysis of social forces and their relations, as well as their strategies and political and social struggles. For the first part, the state is relational because its structures, apparatuses and policies are historically contingent and undergoing a dynamic process of evolution, and they have specific conjunctures (Kelly, 1999, p.110). As a result, the capitalist state has inbuilt structural biases, leading to "a system whose structure and modus operandi are more open to some types of political strategy than others" (Jessop 1990, p. 260). However, whether these biases are actualised and how they are manifested depends on the changing balance of forces as well as their strategies and tactics (Jessop, 2016a, p. 54). This leads to the second part of the notion, which highlights the role of strategic concepts in analysing state apparatuses and state power. The SRA postulates that the state is strategic insofar as the state has differential effects on various political and

economic strategies in a way that some of them are inevitably privileged over others, and state institutions, capacities, and resources are more accessible to some political forces and more tractable for some purposes than others (Jessop 1990, p. 260). This reveals the state's "strategic selectivity", which is understood as follows:

> "The ways in which the state considered as a social ensemble has a specific, differential impact on the ability of various political forces to pursue particular interests and strategies in specific spatio-temporal contexts through their access to and/or control over given state capacities – capacities that always depend for their effectiveness on links to forces and powers that exist and operate beyond the state's formal boundaries." (Jessop, 2002, p.40)

Jessop further accentuates that the state's strategic selectivity is neither a prior given nor necessarily class selective; rather, this selectivity is contingent, and it can only become visible through social and political conflicts as a result of "the interplay between state priorities and socio-political contestation within and beyond state institutions" (Jessop, 1990, cited in Ioris, 2012, p.128). The SRA also makes clear that the state per se does not exercise state power as it is merely an institutional ensemble. Instead, state power is reified in the power of the social forces which operate within and through the state. To be more specific, it is the interaction of specific social forces and their political and economic strategies that result in the exercise of state power. The interaction of social forces is in turn conditioned by the specific institutional structures and procedures of the state apparatus, which are embedded in the wider political system and societal relations at specific time and space (Jessop, 2016a, p.57). Consequently, the SRA focuses on studying the state's forms, functions, and effects in a shifting manner (ibid.).

Following Gramsci, Jessop argues domination as a "hegemonic project" which is a "national-popular" programme dependent upon not only "ideological imaginaries" but also "economic power and control of the state apparatus" (Mulvad, 2019, p. 453). In other words, the realisation of a hegemonic project is achieved by the union of three key elements, namely *"state projects", "accumulation strategies" and "hegemonic visions"* (Jessop,1988, 2002, 2016). Jessop argues that as there exist various social and political contradictions, as well as internal conflicts and rivalries among the state's diverse apparatuses, the state as an institutional ensemble with organisational power needs to show a certain amount of unity to avoid the potential destabilisation of the existing hegemonic relations. A key mechanism to demonstrate the state's capacity to act as a unified political force in intervening and regulating social and economic life is developing **state projects**. In Jessops' own words, a state project denotes

> "the political imaginaries, projects, and practices that (1) define and regulate the boundaries of the state system vis-à-vis the wider society and (2) seek to provide the state apparatus with sufficient substantive internal operational unity for it to be able to perform its inherited or redefined 'socially accepted' tasks" (2016a, p.84).

In this sense, state projects are oriented to (re-)producing the institutional unity of the state via creating policy paradigms that frame policy orientations and decisions. They have a critical role in the state's polity building as they seek to unify the activities of different state apparatuses in specific policy fields. In other words, a state project provides "a coherent template or framework within which individual agents and organs of the state can coordinate and judiciously combine policy and practices...to pursue a (more or less illusory) national interest..." (ibid. p.85). However, just as national interest is illusory, Jessop contends that the state's institutional unity is likewise illusory as state managers always compete to articulate and impose different state projects, as a result of which, there will never be a point when a state project is so hegemonic that state managers of all areas follow without displaying any dissent. Hence, ironically, the concept of state project "presupposes the improbability of a unified state system"(ibid, p. 86). Suppose an overall consensus is discernible in a state project, it is due to "strategic coordination enabled through the selectivity of the state system", as well as "through parallel power networks that cross-cut and unify the state's formal structures and connect them to civil society" (ibid. p.57).

The term **"accumulation strategy"** defines a specific economic growth pattern or model together with its associated extra-economic social conditions and the range of strategies and government policies conducive to its realisation (Jessop, 1983, p.91; Jessop et al., 1988, p.158;). Within the political constraints, several competing accumulation strategies are typically pursued by the dominant class and other social fractions. Consequently, these different social fractions, representing various production interests, are engaged in a "battle" to ensure their strategies are nurtured politically and given socio-economic endowments (Mulvad, 2015, p.206).

The success of an accumulation strategy, as argued by Jessop (1983), lies in its ability to integrate the circuit of capital and construct an imagined "general economic interest" that aligns the dominant class with the marginalised fractions. In other words, a successful accumulation strategy should lead to the formation of economic hegemony. Drawing upon Gramsci's interpretation of state power as "hegemony armoured by coercion", Jessop proposes to view the reproduction of capital as "economic hegemony armoured by economic domination" (Jessop, 1983, p.93). In this relation, the hegemony of an accumulation strategy may best be secured when backed up by some form of

economic domination while gaining the general acceptance of the subordinate economic classes. As such, a hegemonic accumulation strategy must avoid being "arbitrary, rationalistic, and willed" but should be oriented to advancing other classes' immediate interests while securing the dominant fraction's long-term interests.

Complementary to state projects which focus on policy and polity-building, and to accumulation strategies which elaborate on the state's economic activities, the concept of **"hegemonic visions"** depicts the ideological imaginaries of the state. Hegemonic visions serve as mobilising discourses to justify particular modes of state intervention, seeking to reconcile the particular and the universal with the aid of "political, intellectual and moral vision of the public interest" (Jessop, 2016a, p. 86). They are intrinsically connected with state projects insofar as they are expressed through specific state projects and offer general guidelines for implementing state policies. The articulation of "public interest" - although "illusory", is of utmost importance in formulating hegemonic visions. Jessop emphasises that the analytic focus should be on how selective the articulation of public interest is, in the sense that it privileges certain "material and ideal interests, identities, spaces, temporalities and so on over others…" (ibid.).

The emphasis on hegemonic visions corresponds to the "cultural turn" advocated by Jessop and Sum, which underscores the role of actors' subjectivities, identities, and selective economic imaginaries in analysing hegemony (e.g. Sum, 2009; Sum & Jessop, 2001, 2013). The "cultural political economy" approach, as proposed by them, stresses the strategic cultural-discursive moments in the (re)making and (re)production of social relations while retaining a materialist basis (Mulvad, 2019, p.452). As such, the role of hegemonic visions is underlined in maintaining the unity of the state apparatus as a complex institutional ensemble:

> "Consensus on a hegemonic project[4] can limit conflicts within and among the various branches of the state apparatus and provide an ideological and material base for their relative unity and cohesion in reproducing the system of political domination". (Jessop, 1999, p. 210)

In other words, without hegemonic visions, the unity of the state is at risk of collapsing as politicians and state managers may only seek to unify the state around its narrow political function of reproducing the state apparatus itself (Jessop, 2016a, p. 87).

Overall, the above concepts demonstrate the specific articulations of elements in the state's wider juridico-political, economic, and social imaginaries. The success of such

[4]In his earlier work, Jessop refers to "hegemonic visions" as "hegemonic projects".

projects, strategies and visions, in Jessop's view, depends on their "complementarities with the deeper structure and logics of a given social formation"; or in other words, they may succeed if they can "address the major structural constraints associated with the dominant institutional orders and with the prevailing balance of force" (Jessop, 2016a, p.59). Synthesising Jessop's works, Mulvad (2015) compiles a three-dimensional framework to elucidate the analysis of hegemonic projects. To fully understand a hegemonic project, he argues, one must analyse it as an attempt to (1) disseminate a specific set of social philosophical values (referring to "hegemonic visions"); (2) devise an economic strategy for national survival in a specific historical conjuncture of the capitalist world system (referring to "accumulation strategies"); and (3) reorganise the mode of functioning of the state apparatus accordingly through the formulation of specific governmental rationality (referring to "state projects") (p.453). Since the state consists of different state apparatuses that "organise the specific relations between the ruling classes" (Demirović, 2011, p. 43), state agencies representing the different functions of the state on different scales tend to endorse different visions, economic strategies and policies. This further indicates that the stabilisation of societal conditions through hegemonic projects is a process of contestations and struggles, and that hegemony as an ideal-typical state can only be partially and temporarily realised (Mulvad, 2019, p.454).

In summary, the critical state theories as outlined above all point to a perception of the state not as a homogeneous or neutral actor but as a "power-based social relation" which has its specific materiality in a given temporal dimension (Brand & Görg, 2013, p. 226). This historical-materialist approach suggests that the state's structures and actions can only be analysed by considering the social context, social forces and their practices in a historically contingent manner. It is particularly crucial to note that the state's materiality is full of conflicts and contradictions. Hence, it is a central site of contestation or a "strategic field" where multiple dimensions of conflicts and struggles in relation to social (re-)production are mapped out, and the competing interests of different social forces are sought after and negotiated. In the meantime, it is pivotal to acknowledge that the state is also the terrain on which compromises are made by the dominant forces, consensus and social cohesion are produced between conflicting social forces, and power blocs are (re-)organised through the means of "force, laws and regulations, discourses and legitimacy, and material and immaterial resources" (Brand, 2013, p.432), all of which are strategic elements necessary to construct hegemony.

Marxist state theories have long gained significant attention in the political discussion of China. There have been countless scholarly works deploying Marxism in understanding the economic and socio-political landscape of China, such as the CCP's governance system of political meritocracy (Bell, 2015), economic systems including state capitalism (Liu, 1986; Li, 2008; Pearson et al., 2023), state and class relations (Chan & Hui, 2017), state and national identity (Li, 2014), urban transformation (Yeh et al., 2015), and many more. This is not surprising since Marxism was the CCP's ideological foundation, and it continues to be the official state ideology in China despite the remarkable transformation of the economic and social systems since the opening-up in 1978. In particular, there is a renewed commitment to Marxism under President Xi's administration, which extols the contribution of "Marxism adapted to the Chinese context" to the PRC's glorious development since its founding in 1949. More importantly, Marxism in Xi's China stresses the necessity of relying on state Marxism to guide the direction of realising the "China Dream," or the nation's "great rejuvenation" (Cheek & Ownby, 2018). These "orthodox" Marxist accounts however share a similarly reductionist view of the state as the "developmental" or "authoritarism" thesis insofar as they also perceive the Chinese state as a monolith actor acting on the interest of the ruling class (although the proletariat instead of the capitalist class).

Admittedly, when it comes to critical HM state approaches as elaborated above, they are rather "Eurocentric" (Jessop, 2016, p.2) as they were developed mainly by scholars from the global North and have been primarily applied to account for capitalist state in the centre. However, in general, these state approaches can transcend the varied types of capitalism and class structures and hence be fruitfully applied to analysing other forms of state, including the state in China - so long as the domestic conditions can be taken into careful account (Brand et al., 2008, p.38-39). Hence, in recent years, various conceptual and empirical works integrating Gramsci's hegemony concept and Poulantzas' perception of the state as a social relation have also emerged among China scholars. Notably, this array of literature includes Mulvad's examination of hegemonic projects of capitalism in China (2015) and Xiism (2019), Hui's work on hegemonic transformation in labour relations (2018), Sum's CPE approach to the knowledge brands phenomenon in the Zhujiang Delta (2010), national imaginaries of "BRIC" (2013) and the makings of subaltern subjects in China (2017). Following their footsteps, this research perceives the state in China as a social relation with historical dynamics rather than a "neutral government" (Yao, 2010) or a servant of the ruling class. It acknowledges that the Chinese state, like any other state, is an amalgam of complex forces, and the

process of decision-making as well as policy formulation and implementation is not a neat, smooth one. Any un-reflected conceptualisations of the Chinese state and their implications are overly simplified and cannot adequately explain the contested and conflict-ridden reality on the ground. Indeed, many scholars failed to tackle the politico-economic intricacies of waste politics in China primarily because of the oversimplification of the politicised role of the state and the dynamics of policy-making.

2.3 The historical-materialist policy analysis framework

The different perceptions of the state as illustrated above define that the concept of policy inherently differs in these theoretical assumptions. In the mainstream ones where the Chinese state is viewed as a monolithic actor representing "national interest" or operating as the instrument of the ruling class, policies are reduced to mere top-down, unidirectional political tools of the ruling class to solve certain societal problems. Whereas in the HM state theories which see the state as a "strategic field" and acknowledge the contested power relations within the state, the notion of policy automatically assumes the "historical materiality of capitalist social relations". It embeds the "latent interest of social forces" (Brand et al., 2022, p.284); hence, the processes of policy-making and implementation are fraught with contradictions and power struggles. This view of policy is aligned with the overarching thesis of this empirical study, which approaches the new waste policies enacted in China as conflicts-ridden and a result of the state's various strategic selectivities. In this relation, the primary objective of the research is to analyse the political and social conflicts, problematisation, knowledge claims, interest representation and legitimation in the processes of formulating these new waste policies as well as the broader economic-political context in which all of these take place. To this end, a policy analysis framework operationalising the HM state theories, i.e. "historical-materialist policy analysis" (HMPA) developed by Ulrich Brand (2013), is conducive.

Within the broad genre of materialist state theories, HMPA distances itself from the more structuralist state approaches which tend to have a "functionalistic" view of policies, i.e. perceiving policies as mere outcomes of politics and polities or as instruments of the polity to stabilise class domination and facilitate capital accumulation (Brand, 2013, p.425). For HMPA, policies have their own relatively autonomous dynamics, and their making, implementation and evaluation through the state is contested. As a result, the HMPA framework takes policy analysis "beyond mere policies" (ibid. p.427), and its interest is not so much in the functions or effectiveness of

policies but more “in their power-shaped and contested structures” (Brand et al., 2022, p.281). In a nutshell, HMPA puts its analytic focus on examining how social forces, including capital and classes, and their power relations, which have been condensed into the material structures of the state over time, shape policies as well as the process of policy-making. And in this process, it underscores the tensions and competing and contradictory interests embedded in specific policies as well as the contested process (ibid., p.279). It also asks to situate policies in the dynamic, historically developed political-economic structural contexts as “struggles and compromises of the past are inscribed into the state as an institutional practice, as the political orientation of state officials, and as laws” (Brand, 2013, p.432). Echoing Jessop’s elaboration on “state projects”, HMPA also acknowledges the tensions among political institutions due to the sectoralisation of the state, and it is crucial to examine the different institutionalised polities that produced specific policies (Brand et al., 2022, p.279).

Furthermore, as illustrated by the above HM state theories, it is critical to underline that the state has different filter mechanisms in the processes of material condensation and hegemony (re-)construction. For HMPA, hegemony as a relatively durable power constellation forms the “corridor” of policies and policy-making (ibid., p.280), and it is essential to emphasise that concrete forms of hegemony determine which discourses and practices could inform the dominant narratives/framings for problematisation and, whether and how they get to shape and create particular policies. This process inherently embeds the state’s asymmetric selectivities. Here Jessop’s concept of “strategic selectivities” as outlined in the preceding section is insightful. Departing from this initial conception, Jessop and Sum (e.g. 2001, 2013a) in their CPE approach further developed four interrelated modes of selectivity which would benefit HMPA: (1) *structural selectivity* which is grounded in the contested reproduction of basic social forms and gives rise to structures favouring certain interests, identities, agents, strategies and temporal-spatial horizons over other; (2) *discursive selectivity* which is connected to the contested production of sense and meaning, and brings about semiotic resources that frame and constrain possible imaginaries, discourses, identities and feelings; (3) *technological selectivity* in a Foucauldian sense which engages knowledge technologies and dispositives that shape choices and capacities to act; and (4) *agential selectivity* which is grounded in the uneven capacities of social agents (including their capacities to exploit the other three selectivities) to “make a difference” in particular conjunctures (Jessop & Sum, 2013a, p. 218-291).

Complementing the above, Leubolt (2014) formulated another dimension of the state's selectivity which he terms "repressive selectivities". As an attempt to bring "the amour of coercion" back Gramsci's hegemony (p. 314), he calls for a more explicit account of the state's violence or coercive power in HMPA. Vadrot and Brand (2013) further developed the concept of "epistemic selectivities", which describe "the mechanisms inscribed within political institutions which privilege particular forms of knowledge, problem perceptions, and narratives over others" (ibid., p. 207). This concept helps explicate how certain institutionalised scientific and expert knowledge gets to define "what needs to be governed" and underpin strategic actions. This, in turn, further consolidates the hegemonic patterns in which only certain forms of knowledge are considered the legitimate supporting arguments for specific policies. This view corresponds to the conceptualisation of the state as a "knowledge apparatus" with a long trajectory of experience and knowledge production, during which certain forms of knowledge are more prominently inscribed into particular apparatuses than others (Griesser, 2010). Brand (2013) argues the state's capacity to identify societal problems and "translate" them into policies is derived from "constantly producing and evaluating knowledge through knowledge apparatuses" (p.435). Hence, HMPA also focuses on examining the state's "translation" mechanisms, during which the concrete and contested practices of knowledge production and their impact on policy-making are revealed. In this process, HMPA also highlights the actions and strategies taken by the "organic intellectuals", who play a vital role in informing, producing or disseminating knowledge.

2.3.1 The operationalisation of the HMPA framework

For the operationalisation of the HMPA framework, Brand (2013) accentuates a focus on the below concrete issues: the structure of the specific policy field and its historical transformation; the making and implementation of policies and their influence on various social relations; the concrete actors and their strategic actions; the stabilisation or shaping of the relationships of actors; the concrete conflicts embedded in the specific policy field; or the semiotic and discursive aspects of policies which focus on examining the origin of policy ideas, which actors promote which ideas, whose ideas are selected to be legitimate and how they enter policy discourses, how certain ideas become hegemonic and how counter-hegemonic ideas come into being...(p.437-438). Building on the above core elements, Buckel et al.(2014) and Kannankulam & Georgi (2012, 2014) outlined a three-step process to deploy HMPA in empirical studies. According to them, HMPA investigations can be concretely constructed into *context, actor and process*

analysis. It is important to note that these steps do not necessarily represent a linear sequence; rather, they should be understood as the main elements of an essentially circular, iterative research process, and each of the three steps can be the entry point for analysis. It is to this hands-on guideline of doing HMPA I now turn:

1. Context analysis: For HMPA analysis, the "context" is where specific socio-historical discourses and institutional practices of a policy field are investigated (Hajer, 2008), and it forms the "corridors" of viable and reasonable actions, frameworks, thinking and policy-making (Buckel et al., 2014). The central task of this step is to reconstruct a specific empirical conflict in which certain groups of social and political forces compete with each other to materialise their interests. This involves a two-pronged examination: a theoretical investigation into the social forms, societal structures, dispositifs and their articulation, and an empirical mapping of the social, economic and political processes and institutions relevant to the investigated conflict. Concretely, this step first identifies the specific problems which are at the heart of the investigated conflict and to which different social and political forces have reacted; and second, it situates these problems in their broader historical context, elucidating the dominant historical and material conditions that gave rise to the problems. In so doing, this step primarily aims to reveal the "form-determined" institutional pathways, which pre-structure the strategic reactions of different actors and, to some extent, predetermine their unequal starting positions in the process of policy-making, implementation and evaluation. (Kannankulam & Georgi, 2014, p.63)

2. Actor analysis: After mapping out the context of the investigated conflict, the next step is to identify the main actors engaged in this specific conflict and analyse their specific capacities, objectives and rationales as historically structured. The notion of "actors" is heterogeneous, including institutional actors strongly linked to state apparatuses, as well as non-institutional, social actors, groups and civil organisations. The authors recommend three concrete sub-steps: The first sub-step asks to identify the rival strategies pursued in the investigated conflict, focusing on exposing the protagonists of certain strategies, as well as their "speakers", problem narratives, demands, goals and political projects. In this process of "strategy analysis", the specific "knowledge" or "culture" that underlines the aims and discourses of the actors will also be disclosed. (ibid., p.63). The second sub-step is to conceptually group the above-identified actors and their strategies into different "hegemony projects", a concept used by Kannankulam & Georgi (e.g. 2012, 2014) to distinguish from "hegemonic projects". Hegemony projects describe projects which aggregate the actions, practices,

tactics and strategies of a multiplicity of actors in a given empirical conflict, and which aspire to obtain hegemony but have not yet succeeded (Kannankulam & Georgi, 2014, p.64). The tactics and strategies within one hegemony project are not necessarily homogeneous but share a distinct common direction. “Organic intellectuals” play a unique role in bringing congruence to a hegemony project which is composed of diverse parts, and they rationalise the aims, interests and compromises of the project into “political narratives” which form the basis of “political projects”. “Political projects” are defined as “specific, concrete political initiatives offering solutions to urgent social, economic and political problems” (Bieling & Steinhilber, 2000, p.106; own translation). Kannankulam & Georgi (2012) argue that for a hegemony project to transform itself into a hegemonic project, it must succeed in “positioning a number of specific and limited ‘political projects’ in such a way that they become the politico-strategic ‘terrain’ on which a hegemonic project can be consolidated” (p.35; own translation).

The third sub-step within the actor analysis assesses the position of the identified hegemony projects in the societal relationships of forces. This can be manifested in the various power resources possessed by the actors involved in these hegemony projects. Along the lines of Gramsci’s hegemony concept, Kannankulam & Georgi (2014) suggest that power resources can include: organisational resources which entail the capacity to mobilise bureaucracies, networks, money or force; systemic resources which refer to the capacity to make economic decisions that have systemic consequences; and discursive, ideological and symbolic resources which reflect the actors’ capacity to “articulate situation statements, aims and strategies in a way that is acceptable to other actors or the broader parts of society” (p.65). In addition, following Poulantzas and Jessop, the authors stress that power resources are also closely linked to institutional or strategic-structural selectivities, in the sense that the position of actors or hegemony projects is structured by the degree to which their strategies are complementary with the existing selectivities inscribed in economic, political and social institutions (ibid.).

3. Process analysis: This step aims to reconstruct the dynamic process in which the investigated conflict has evolved chronically through different phases and against the background of its broader historical context (Kannankulam & Georgi, 2014, p.67). Hence, concretely, the first sub-step is to map out a periodisation of the policy history by identifying the most critical events and decision-making points in the policy process (Brand et al., 2022, p.291). Furthermore, presenting the state as an institutional terrain and a strategic battlefield, this step focuses on excavating the processes of struggles fought between different actors and their political projects, as well as the contending

institutional structures in policies and policy-making. The concept of strategic selectivities is particularly instructive here as it allows reconstruction of the strategies taken by different actors in a specific policy field and "the dominant structuring of the context in which policy evolves" (ibid.). In process analysis, it is also essential to pay attention to the evolutionary development of policy ideas, and the role of non-state actors and organisations in disseminating policy ideas and concepts (ibid.). In short, process analysis effectively connects the first two steps in HMPA, for it conceptually ties together the significance of the strategic actions and tactics of different actors, the specific articulations of the "form-determined" conditions identified in the context analysis, and the position of varying hegemony projects in the social relationship of forces. (Kannankulam & Georgi, 2014, p.67).

In addition to the above-outlined process of doing HMPA, Brand and colleagues (2022) recently put forward some methodological implications for the further operationalisation of HMPA. As the analytic focus of HMPA is on manifesting the often latent social conflicts, they suggest that HMPA can apply the "retroduction" (or "abduction") approach as a method of data analysis. Retroduction is defined as a "continuous, spiral movement between the abstract and the concrete, between theoretical and empirical work, involving both an interpretative and a causal dimension of explanation" (Belfrage & Hauf, 2017, p.260), and it consists of both inductive and deductive moments. This approach could comprehensively excavate the latent social meanings embedded in specific policies and policy-making and turn them into manifested meanings by moving between theoretical concepts and empirical materials collected through interviews, document analysis or discourse analysis (Brand et al., 2022, p.286).

2.4 Empirical implications of the conceptual framework

Drawing upon the tenets of HM critical state theories, this empirical research will treat the Chinese state as a "strategic terrain" where heterogeneous actors with divergent interests, norms and values convene on the particular issue corridor of waste governance. Through the analytical lens of the HMPA framework, I will unravel the rationales, strategies, and power dynamics inherent in the slurry of new waste policies issued by the central government in recent years, focusing on two specific policy development fronts, namely foreign waste import bans and household waste separation and recycling. Furthermore, I will analyse whether the new policy deliverables will enable a transformation in the current waste governance regime in China (main research question). In particular, my empirical analysis will focus on the contested process of

constructing certain waste and waste practices as problematic in the mainstream discourse. Responding to the second set of research questions, here the HMPA approach is particularly useful to address such questions as “how were scientific, political and social discourse included/excluded by different actors in their problem (re-)framings”, “whose versions of problematisation count”, and “what forms of knowledge/expertise get to shape policies”. In the process, the state’s epistemic and discursive selectivities are brought to light.

Based on the problem definition, HMPA approach is deployed to analyse the political-economic struggles and power dynamics among different actors in the policy-making process as part of solution to address the problems defined. Responding to the third set of research questions, the analysis will address questions such as “whose interests are prioritised and whose are marginalised in the formulation and implementation of specific waste policies”, “what compromises have been made in the process of interest generalisation”, “whose rationalities are behind the alleged national or public interest”, “how did tensions and power dynamics play out among different interest groups”, and “what strategic selectivities the state manifested in various decision-making processes?” At this stage, the research will put an analytical focus not only on the CCP-governed institutional structures and regulation of waste matters, but also on the close engagement of civil society actors such as experts, intellectuals, traditional and emerging waste management enterprises, industrial associations, environmental NGOs and media, as well as the public which is cordially invited and sometimes mandated to participate in the waste management reform.

The focus is on explicating the competing interests and power struggles embedded in the contested process of waste policy-making, and how different actors represent and compete for their interests, norms and values through deploying various strategies. These tensions arise not only between domestic and “foreign” interest groups, but also take place among the various actor groups as outlined above, as well as between different factions of state institutions which represent different functions of the state and different sectoral interests. It will examine the various power resources (organisational, systemic, and discursive, ideological and symbolic) possessed by the actors involved, and analyse the capacity of different actor groups to build alliances with state personnel and political apparatuses, and align their strategies with the overall accumulation strategy and hegemonic vision.

In this process, it will also analyse to what extent actors' resource power are conditioned by the state's various selectivities. The state in this sense is not just a mediator between different interests; rather, it is prepared to ignore or, if necessary, suppress the voices and interests of certain actors or alliances, and de-legitimatise certain forms of problem framings and policy expertise. The state's selectivities in the waste reform, for example, are manifested in its priority to mainstream a technocratic paradigm nationwide, in its preference for a centralised and regulable waste recycling system over the informal, scattered recycling networks, in its intention to further cultivate a symbiotic relation between local governments and "formal" private capital, etc. Finally, the "contextual analysis" within HMPA will be deployed to investigate the historical material context of these policy developments. It will address the research question of why the Chinese central state launched the new policy endeavour at this specific point in time by elucidating how national political and economic deliberations under the Xi administration feed into waste policy shifts.

All of these aspects will be thoroughly examined in the empirical chapters 4, 5, and 6. But before delving into the HMPA of the new waste policies, the upcoming Chapter will first present the historical material context in which waste issues including waste materiality, discourse and politics have emerged and evolved in China since 1949, taking a waste regime approach. The outlining of the shifting contour of the waste regime in China will not only illuminate the continuous reshaping of the nexus among waste, capital, environmental and social relations throughout history, but also set the scene against which the new waste policies are situated and present the political and material relations that have given rise to specific waste challenges which the new waste policies aimed to address.

Chapter 3. The vicissitude of the waste regime in the People's Republic of China: A historical overview

This chapter exposes a historical-materialist analysis of the shifting waste regime in contemporary China. As introduced in the introduction chapter, the term "waste regime" was coined by Zsuzsa Gille (2007) in her book titled "*From the cult of waste to the trash heap of history: The politics of waste in socialist and postsocialist Hungary*", in which she used it to theorise the waste-society relations and make sense of the different waste management paradigms in the nation's waste history. According to Gille, a waste regime can differ from each other in three dimensions, namely the production, representation and politics of waste. In her own words:

> "What happens to be unique in different time periods and different societies are the types of wastes produced (their material composition); the key sources of waste production and the dominant mode of waste circulation and metamorphosis; the socially and culturally determined ways of misperceiving waste's materiality; the ways in which, as a result, waste tends to "bite back"; the cultural, political and moral inclination to resolve waste's liminality; and finally, key struggles around waste (in the sphere of production or in the sphere of distribution)." (Gille, 2007, p.34)

In a nutshell, a waste regime describes the key features of how a society generates and defines its waste, as well as a specific set of social institutions that "regulate the production and distribution of waste in empirically tangible ways" (Gille, 2010, p.1056). Moreover, a waste regime is shaped by specific economic and social structures and evolving national policies, and therefore, it has to be studied dynamically as it unfolds (ibid.).

It is important to note here that this dissertation deploys a novel conceptual approach which synthesises the waste regime theory and the HMPA framework as expounded in Chapter 2. To be sure, the two concepts are substantively different and exhibit divergent emphases in terms of their respective investigation focus. A waste regime in general examines the entire waste system, with a focus on the materiality, production, societal perception and distribution of waste. In contrast, HMPA primarily functions as a policy analysis approach, focusing on the broader socio-economic and historical structures that shape specific policies (in this case waste policies) and the contestations that arise in policy-making and implementation. Despite their inherent divergence in empirical focus and conceptual targets, the two approaches share some crucial core tenets. To start with, both underscore the material dimension and economic-political structures surrounding the subject matter under investigation. While HMPA stresses that policies - in this case - waste-related policies and policymaking processes are shaped by social forces and material structures, in a similar vein, the waste regime concept also

emphasises the intricate interplay between waste and society while highlighting how social institutions and fabrics “regulate” the circulation, perception and consequences of waste. Furthermore, akin to HMPA which draws particular attention to the tensions and contradictions, power dynamics and contested structures within policies and policymaking processes, the waste regime concept also sheds light on power dynamics and struggles around waste issues. Additionally, both approaches recognise the changing temporality of the issue and give due importance to its historical context and evolving dynamism. As such, the two approaches converge on critical assumptions while maintaining their unique areas of focus and analytical strengths.

It is important to underscore that for this empirical research, the two subject areas of investigation are interlinked insofar as waste policies respond to and are influenced by specific attributes of a waste regime, and conversely, a waste regime is partially conditioned by waste policies over time. More importantly, integrating these two approaches serves complimentary purposes for the overarching empirical analysis of the research. While the primary objective of the dissertation, as outlined in the Introduction chapter, is to unveil conflicts and power dynamics inherent in the making and implementation of the recent waste policies and subsequently offer explanations for them – a task which the HMPA lens offers greater analytical prowess - it is imperative to first set the scene for the HMPA analysis and establish the contextual backdrop against which the new waste policies are situated. This is precisely the strength of the waste regime concept, which can provide a comprehensive depiction of the materiality, production and management of waste, alongside an examination of the pertinent state institutions and policies attempting to “regulate” waste and the material and social structures underpinning the waste-society relations at different historical conjunctures. Hence, before turning to the HMPA of the new waste policies (the focus of the forthcoming chapters), in this chapter, I will first employ the waste regime concept to provide a detailed account of the historical waste landscapes in the People’s Republic of China (PRC). In particular, I will focus on depicting the materiality of waste and the “tangible ways” in which waste was produced, perceived and managed empirically in a changing context, thereby presenting the dynamic trajectory of waste regime development in China.

Since its founding in 1949, the PRC has undergone remarkable socio-political and economic transformations, and concurrently, the generation and materiality of waste, the discourse on waste and the dominant modes of collecting, circulating and processing

waste have all changed drastically. Drawing upon the work of Goldstein (2006), which periodised the century-long recycling history in Beijing from 1911 to 2006 into three eras (republican, socialist and postreform eras), I diced the waste history of PRC (founded in 1949 into three periods based on their distinct political-economic features. The first period, known as the **socialist Mao era (1949-1978),** was characterised by a highly centralised political structure and a strictly state-planned economy. The second era, commonly known as the **reform era (1979-late 1990s)**, was marked by the opening-up economic reform and concomitant political experiments that shaped the development path of modern China (Lim, 2019; White, 1991). The third periodisation is the ongoing **post-reform era** that commenced in 2000, characterised by unparalleled growth and expansion. During this time, China has deepened its reform in the political and economic spheres and experienced further integration into the world market in the era of globalization (Lin & Wang, 2008).

This article will set 2017 as the closing year of this historical review as it was momentous in the annals of modern China and the Communist Party and PRC's waste history. At a macro level, it marked the commencement of President Xi's second term and saw his political thinking enshrined into the Party's constitution, which would have far-reaching impacts on the nation's political and social fabric for the years to come. On a specific level, 2017 was a pivotal year in China's waste management history, marked by the introduction of a set of new waste regulations, including a sweeping waste import ban and various policy instruments aimed at tackling domestic waste management problems. These new waste policies were set to trigger rupturing shifts in current waste production and management practices globally, signalling the advent of a new era in waste management. Further analysis of these developments will be discussed in the subsequent empirical chapters.

The remainder of the chapter is organised into three sections, which will chronologically outline the shifting contour of China's waste regime in the aforementioned three historical periods. In each section, I will start with a sketch of the macro material and socio-political context in which a particular waste regime was situated. I will then give a brief account of the generation and composition of waste[5] against the historical backdrop of that era, as well as the predominant perception of waste and people's daily engagement with waste. Subsequently, I will proceed to examine the involvement and roles of key actor groups in waste management, including

[5] The term "waste" is rather broad and consists of heterogeneous types of waste such as wastewater, solid waste, waste air, hazardous waste, etc. This dissertation will primarily focus on municipal solid waste, i.e. everyday items discarded by the public (excluding industrial waste, agricultural waste, medical waste, radioactive waste and sewage sludge).

the state and its institutions, the private business sector and civil society actors in each historical waste regime, and shed light on the power dynamics manifested in the (non-)interactions among the actor groups. At the end of the chapter, I will summarise the notable characteristics of each waste regime with the help of an illustrative table. This chapter draws upon diverse sources of information, including academic publications, policy documents, official statistics, and grey literature comprising government working papers, organisational reports, historical materials, news reports, factsheets, and more. Its primary objective is to provide a historical backdrop to the new waste regime, offering a descriptive account. The chapter sets the stage for the forthcoming in-depth empirical analysis that will unfold in the next three chapters.

3.1 Waste regime in the socialist era (1949-1978): Material scarcity, "stewardship of objects" and a state-led recycling system

3.1.1 Material life and waste generation in Mao's China

The period from the founding of the PRC in 1949 to the opening-up reform in 1978 is typically referred to as the "Mao era". In this era, China was a closed socialist country with a predominantly agrarian economy and a poor level of industrialization. As both agricultural and industrial productivity was low, domestic products were limited both in quantity and variety, and synchronically, the closed-door policy resulting from the Cold War meant that foreign goods were rare. Material was hence scarce throughout most of this era. Whilst millions of people struggled daily with hunger, consuming industrial products was more than a luxury. Bicycle, radio, watch and sewing machine were the four typical luxurious industrial products desired by many at that time but often unaffordable (Davey, 2012).

Characteristic of socialism at this time, the limited goods available were rationed by a highly centralised administrative-political structure: In cities, workshops (*Danwei*) consisted of state-owned enterprises, and public organisations provided members with all essential goods and services, including food, clothing, education, housing and medical services. Whereas in villages, people's communes (*Renmin gongshe),* a prototype originated in 1958 that collectivised all the means of production and centralised decision-making in rural China, provided basic necessities to peasants and their households (Ahn, 1975; Chang, 2003). Consumer products were further constrained by policies that grossly directed resources toward primary industrial production while labelling consumption as "bourgeois and even counter-revolutionary" (Goldstein, 2006, f.n.7, p.299).

In a word, due to low national productivity, meagre household income, a carefully planned state distribution system and an ideology discouraging individual consumption, the society in the socialist Mao era was largely devoid of consumer culture. Consequently, the amount of waste as the by-product of consumption was very limited in this era. Official data on the production and composition of waste in this era at the national level is unavailable as the central government only started to establish the national database for municipal solid waste management in 1979 and rural waste in 2000 (Nelles et al., 2017). But the example of Beijing offers a glimpse into the waste world of this time: In the nearly three decades from 1950 to 1979, municipal solid waste (MSW) production in the capital city experienced a petty increase from 1500 to 3000 tons per day, and the waste stream primarily consisted of coal ash (coal was the main source for heating and cooking in Beijing) mixed with organic waste, whereas synthetic waste such as plastics was barely seen (Landsberger, 2019; Liebman, 2019).

The material scarcity was compounded by a strong "stewardship of objects" (Strasser, 2000) that many Chinese maintained at the time. A culture of repair and reuse of everyday goods and materials was deeply engrained in society. However, it has to be distinguished that this habit was not necessarily formed due to environmental considerations (as in our modern-day parlance); instead, it was out of poverty and an ethos of frugality (Dikötter, 2006; Liebman, 2019). With this "stewardship of objects", people were conscientious about their treatment of possessions, and consequently, the notion of waste as being utterly "useless" was not prevalent in times past. People regarded their cast-offs as items with the potential for reuse or as secondary resources that could be repurposed in making other goods. As such, the word for waste was typically "*feijiu wuzi*", meaning discarded old materials. In resemblance to Gille's account of Hungary in the Soviet period, China in the Mao era also developed a "cult" of waste, i.e. a regime mentality that valued reuse and recycling, in which "planners and workers alike hailed all garbage as 'free' material to be mobilised for the fulfilment of the plan" (Gille, 2010, p.1056). There was a general sense that "nothing went to waste" (Goldstein, 2006), and re-utilising goods and materials even became a patriotic social norm in the Mao era when the country faced widespread resource shortages (Landsberger, 2019).

Under this ethos, people exploited the materiality of goods to the maximum extent possible: packaging materials - mainly made of paper and cloth at this time, were mostly reused by households; broken objects were not tossed away immediately but repaired and reused as the first option, and when they were beyond repair, they would be

disassembled and the recovered materials were either used for some other purposes or sold to recycling depots as valuable resources; and organic waste was either used directly as fodder for livestock or composted and turned into fertiliser (Goldstein, 2006; Liebmann, 2019)... All in all, discarded materials had a long afterlife since they were often reused or processed for reproduction, and as such, their treatment constituted a minimal problem for the ruling government or society.

3.1.2 A centrally controlled waste collection and recycling system

In this socialist era, while the production and distribution of goods and services were strictly planned by the state, the business of waste collection, recovery and recycling was likewise centrally controlled. Like Hungary in the Soviet period, the Chinese state in this era implemented “a vast infrastructure that registered, collected, redistributed, and ordered the reuse of both production and consumer waste” (Gille, 2010, p.1056). In the PRC, as early as the 1950s, the central government institutionalised waste management and divided MSW into two overarching categories: "industrial” and “household”. The onus of collecting and treating industrial waste was on each municipality’s Material and Equipment Station (*Wuziju*), which was subordinated to the then Ministry of Industry (Zhong, 2010, p. 20). Recyclable industrial waste, primarily scrap metals, was collected by the *Wuziju* employees directly from state-owned factories for re-manufacturing. For the collection and resourcification of recyclable household waste (focus of the analysis), the municipal Supply and Marketing Cooperatives *(Gongxiaoshe*) affiliated with the then Ministry of Commerce were in charge (J. Wang et al., 2008; Zhong, 2010). Before the founding of the PRC, across the nation, the job was carried out by an active informal recycling network consisting of rag-pickers, waste collectors, pawn shops and old goods trade markets, which once represented a primary mode of economic and material life of the old times (Dong, 2003). With the forming of a new socialist China, even the waste recovery and recycling sector was brought into alignment with the national ideology. In this context, the Ministry of Commerce created a new official state-owned system for waste recycling under *Gongxiaoshe*. Still, interestingly, instead of recruiting new workers, *Gongxiaoshe* primarily relied upon the informal recycling networks active in the pre-PRC time, which it assimilated and transformed into an administrative system comprised of bureaucratic offices, workshops and state-owned companies (Dong, 2003; Goldstein, 2006).

Hence, in practice, most of Gongxiaoshe’s workforce on this front comprised former waste pickers and dealers. That is to say, although now wearing a different hat of “public servants”, essentially, even in the centrally controlled system, it was the same

group of people taking care of recyclables at various nods of the waste valorisation chain. In the name of *Gongxiaoshe,* these waste workers set up small recycling stations or redemption depots (*feipin huishoubu*) in each neighbourhood, where public offices, nonindustrial work units and residents could drop off the recyclables they gathered. The elders in my informal talks recalled that in the Mao era, going to the collection depot was almost part of an ordinary household's weekly routine, which gave them a few cents through selling discards such as paper, tiny bits of metal, rubber and glasses which they could no longer use. This small monetary reward people received was a valuable treat in an impoverished society. After "purchasing" discarded products and materials from residents or work units, the stationary collection depots would try to repair or refurbish the discards for reuse. If the discards could not be repaired, they were transported in bulk to larger district centres and regional recovery stations. From there, they would eventually be sent to state-owned factories where they would be disassembled and repurposed into unrecognisable "new" products. In this sense, industrial recycling has already emerged in this era (Goldstein, 2006; Li, 2002; S. Yang & Furedy, 1993).

In the early 1950s, municipal health bureaus were formed to remove municipal solid waste that could not be easily repurposed or recycled. This type of waste, comprised primarily of organic matter and energy byproducts such as coal ash, created hygiene concerns due to the presence of vermin, insects, and pests in residential neighbourhoods. The bureaus were hence tasked with removing this waste to safeguard the public's well-being (Ji, 2020; Landsberger, 2019; State Council, n.d.). However, it has to be noted that in this era, there were hardly any garbage disposal sites such as landfills, composting plants or incineration plants in the modern sense. Non-recyclable waste was merely transported to open fields in suburban or rural areas to fill earth pits and swales or to pile up on farmlands as fertiliser since it was primarily organic (Mao, 1977). The environmental and health consequences of such haphazard waste disposal were barely called to attention in this era, mainly because the amount of non-recyclable, non-biodegradable waste generated was insignificant. As such, waste discourse in this era hardly evoked social imaginaries concerning environmental pollution; rather, as the below section would reveal, waste and wasting had more political implications.

3.1.3 The ideological power in waste and waste practices

Waste re-utilisation and resourcification in this era were closely tied to thriftiness, and such practices were directly mobilised by the Communist Party. The significance of frugality to the building-up of a modern socialist China was emphasised in Mao's 1957 iconic text "*On the correct handling of conflicts among the people*", in which he wrote:

> "We must see to it that all our cadres and people constantly bear in mind that ours is a large socialist country but an economically backward and poor one and that this is a huge conflict. Making China prosperous and strong requires several decades of hard struggle, which means, among other things, pursuing the policy of building up our country through diligence and thrift, that is, to practice a strict economy and fight wasting (*lixing jieyue, fondue langfei*)." (Mao, 1977).

According to the Maoist discourse, the behaviour of wasting (or, in other words, squandering) was associated with corruption, extravagance and capitalism and, as such, was a cause for class struggle. On the contrary, practising thriftiness by reusing waste materials to the fullest extent possible was not only perceived as a personal virtue but also a pivotal contribution to constructing the new PRC. In this context, ordinary people's daily practices concerning waste carried an ideological connotation, which contrasted starkly with the contemporary political-economic imaginary of waste management. In a society primarily ruled by the socialist ideology, the Communist Party in this era feverishly promoted "collectivisation" in that every citizen was an indispensable "screw" in the "machine" of the socialist experiment. Various socialist campaigns promoted abstaining from wasting and participating in waste material recycling as patriotic, contributing to the broad development agenda of the newly founded socialist China. Individuals were hence steered to think that their small act of material conservation and recycling was directly connected to the collective picture of the nation-state leaping forward towards advanced industrialisation.

This socio-political imaginary of waste recycling was epitomised during the heyday of socialist movements. A canonical example was the Great Leap Forward (GLF) in the 1950s and 60s, during which the central government initiated a nationwide campaign called "Increase production and practice thriftiness" (*Zengchan Jieyue)*. With the prominent slogan "Turning trash into treasure" (*bianfei weibao*), the campaign put waste recovery and recycling at the centre of the nation's aspiration towards full-scale industrialisation, which was the paramount economic objective of socialist China in the 1950s (Muramatsu, 1955). As one senior communist official wrote in his note in 1960: "*The backbone of the campaign is to make good use of scrap materials. The use of waste scraps manifests thriftiness most effectively, and it is an essential condition for expanding production…industrial scraps are a precious asset of the country."* (Xu, 2014, p.350; self-translation).

In addition to recycling industrial scraps, the campaign vigorously mobilised citizens to contribute their household recyclable materials such as glass containers, animal skin and hair for reproduction, and broken pots and pans as the feedstock for backyard steel furnaces to boost the nation's domestic industrial production output. The various discards brought to waste redemption centres by individuals were also used to extract secondary raw materials and resources. The same communist official documented that

A poster during the campaign that reads: "Repair the brokengoodsand utilize waste to unleash the potential of *Zengchan Jieyue*" (bottom), and "We must conserve tomake revolution" (on the machine) Source: Baidu Baike.

by 1965, the country used scraps to produce "*2.8 million iron farm tools, 1.5 million iron pots, over 7,000 tons of non-ferrous metal…Beijing extracted Potassium Ferrocyanide, protein slurry, carbon black and other chemical raw materials from discarded animal skin and hair…all these are precious raw materials urgently needed for national construction. It is prideful to collect waste for the sake of revolution. We must be ambitious to turn waste into socialist wealth and high-end products.*" (Xu, 2014, p. 431; self-translation).

In a nutshell, during the socialist era in China, recycling waste was considered a revolutionary duty. This was due to the critical need for raw materials and resources to support the nation's industrial base, and recycling was seen as a way for citizens to contribute to industrialisation (Steuer, 2017; H. Zhang & Wen, 2014). Hence, citizens were encouraged to support the nation's grand ambition through their everyday practices, and "every bit of material one delivered [to the collection depots] became another valuable drop in the collective sea of Chinese industry". As such, there existed "a powerful ideological homology" between recycling and the goals of the nation-state (Goldstein, 2006, p.273). In other words, socialist nationalist ideology successfully linked

every individual's waste practices to national commitment, proletariat class consciousness, and anti-capitalist ideology (Goldstein 2006, p. 273-4; Gille 2010, p.1056). Moreover, the power of socialist ideology in defining individuals' ideas and shaping their practices of material conservation and waste recycling manifested a "revolutionary romanticism of the relationship between people and state, as well as people and nature" (Pan, 2018, p. 201).

3.2 Waste regime in the reform era (1979 - late 1990s): Consumerism & disposability, waste business, and the rise of environmentalism

3.2.1 The rise of consumerism and waste generation

The economic reform and opening-up policies initiated by Mao's successor Deng Xiaoping in 1978/9 were among the most resounding hallmarks in the PRC history. These policies completely overhauled the country's political-economic landscape, propelling many systemic shifts, including the enormous expansion of markets for consumer goods, changes in land uses and loosened government restrictions on internal migration. At the later stage, this new era also witnessed the advent of narratives such as environmental protection and sustainable development. Concurrent with new developments on these social-political and economic fronts, the matter of waste also experienced a significant shift. Indeed, the post-1978 reform era saw a remarkable transformation in waste production, discourse and practices in China, and waste movement across national borders.

Firstly, the opening-up policy enabled the country to access foreign goods, investments, technologies, and markets, directly contributing to China's rapid industrialisation. Coinciding with the rise of globalisation and the strategic change of Western countries moving away from manufacturing towards service economies, an opened-up China with millions of surplus cheap labourers grabbed the opportunity to develop the manufacturing industry. For the ensuing two decades or so, China would rise as the world's largest manufacturing hub, producing huge bulks of cheap, low-tech and low-value products for the global population. Secondly, the central distribution system was dissolved in this new era, giving people the freedom to purchase foodstuffs and other commodities as long as they could afford them. In addition, thanks to increased economic activities and industrial productivity, domestic consumer spending power was steadily gaining traction. In response, factories started to churn out consumer goods in unprecedented abundance, rendering the emergence of a consumer society that has been growing since the late 1980s.

Against this historical background, people were encouraged to consume more products (Goldstein, 2006), in contrast to the early socialist era where the whole nation was mobilised to practice thriftiness. With the rise of consumerism, the once prevalent "stewardship of objects" began to fall out of fashion to be replaced by a culture of "disposability", that is, throwing away objects often and without concern (Hawkins, 2019; Lucas, 2002), or "forgetting the materiality of objects after we have derived our pleasure from them" (Goldstein, 2006, p.297). As a result, public discourse around waste changed gradually, from referring to waste primarily as *"feijiu wuzi"* (discarded old materials), which brought tangible monetary reward in the old socialist era, to increasingly labelling it as "*laji*" (trash), a mere by-product of production and consumption with no material value. And importantly, waste recycling was no longer associated with patriotism and nation-building; instead, consumption was a new way of demonstrating patriotism and fuelling the nation's economic growth (Landsberger, 2019, p.17).

With waste's material and political value diminishing, its quantity, however, experienced incredible growth in the post-1978 reform era. According to data published by the National Bureau of Statistics, in the two decades from 1979 to 1999, MSW generation in China increased from 25 million tons to approximately 120 million tons. Per capita waste generation grew steadily (slightly fluctuating) from around 0.5 kg/day to 0.8 kg/day (National Bureau of Statistics, n/a; H. Wang & Nie, 2001; X. Wei et al., 2018). Waste streams overflowed exceedingly in the urban areas as rapid demographic and economic shifts cultivated a quick and "convenient" consumption habit. In addition, thanks to advancements in chemistry, many types of synthetic materials were invented and became favourable feedstock for manufacturing. As a result, waste streams became more complex, requiring technically more advanced methods to deal with them. Among the most widely used synthetic materials were resins, commonly referred to as "plastic". As demand for lightweight, easily transportable commodities soared, plastic became the perfect material for meeting such consumption needs thanks to its versatile characteristics. As such, novel forms of waste, primarily non-biodegradable and generated from single usage, began to increase, reshaping the composition of MSW nationwide. Studies conducted in big cities unanimously revealed that in this reform era, cans, plastics, paper and other packaging materials made up the central part of the MSW stream (Goldstein, 2006; Landsberger, 2019; J.-B. Wei et al., 1997). Taking the example of Wuhan (the capital city of Hubei in central China), the below chart shows a sharp surge in these waste materials in the decade of 1984-1994.

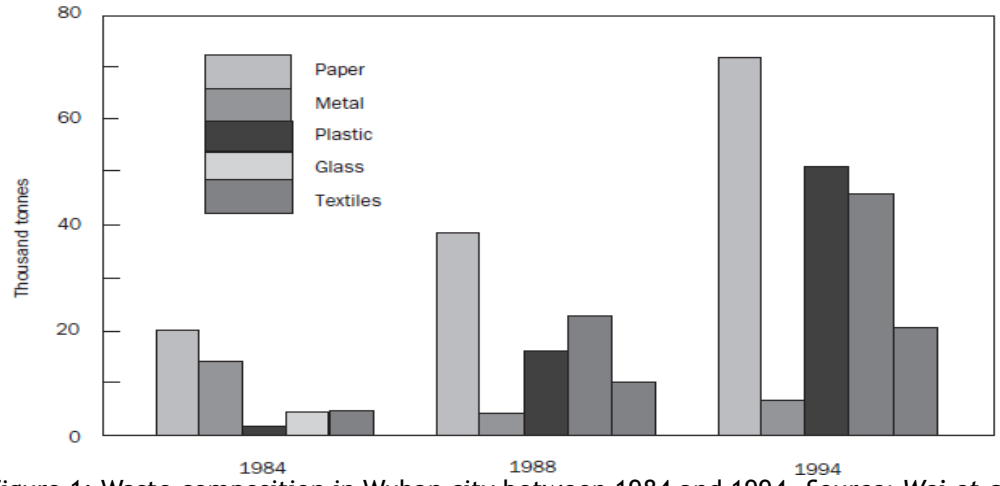

Figure 1: Waste composition in Wuhan city between 1984 and 1994. *Source: Wei et al., 1997.*

3.2.2 The return of the "informal" recycling sector and the state's waste disposal paradigm

Despite losing much value in public discourse, recyclable waste still had significant material value, especially for the nation's rising manufacturing industry. However, the centralised recycling system effective in the Mao era gradually lost its grip in the face of the overwhelming amount of waste generation. For most of this era, while the state from the central to the local level was focusing on reforming the overall economic structure and driving critical economic sectors, the trivial matter of "household waste recycling and resourcification" fell off the priority agenda, creating a vacuum which private waste collectors would fill. As a socialist market economy replaced the hard-core state-planned economic system, many aspects of the economy became rapidly privatised, and resources and services were marketised. Along with these new developments, the formal recycling system run by G*ongxiaoshe* gradually faded. On the one hand, as land and labour were monetised, with time, it became clear that the official collection networks and redemption depots were too costly to maintain. Hence, local governments reduced them to a minimum to reallocate labour and space for more productive and profitable economic activities such as real estate investment (Goldstein, 2006; Li, 2002; H. Zhang & Wen, 2014). On the other hand, despite households' continued efforts to recycle, the increasing availability of materials and income made it less attractive to travel to redemption depots for a minimal reward. In addition, recycling depots became more scarce (Landsberger, 2019), and the official recycling centres were not equipped to handle novel types of waste such as plastics. Consequently, the former waste recycling system organised by *Gongxiaoshe* was abandoned with time.

The demise of the official recycling system, coupled with the state's negligence on household waste recycling, presented a golden opportunity for the re-emergence of the private waste networks, which were assimilated in the Mao era. In the wave of

privatising the overall economy, waste recycling and resourcification also became part of the experiment. In the very early years of the reform, the central government already installed relevant policy instruments to give official support to the private trading of waste materials. In 1985, a regulation titled “Provisional regulation on urban-rural individual businesses engaged in discarded material resources” was jointly issued by the then Ministry of Commerce (MOFCOM), Ministry of Public Security (MPS) and State Administration for Industry and Commerce (SAIC). The policy document instructed local governments to provide business licences and other supporting mechanisms for private persons to engage in the recycling economy. It also stipulated that private waste collectors should obtain permits from respective municipal departments and pay taxes accordingly, and that they were allowed to recycle most of the discarded materials from households and township and village enterprises (TVEs) except “metals for production purposes” (Ministry of Public Security et al., 1985). Another policy document, “Notice on strengthening the management of resource recycling”, was issued in 1991 to regulate the trade of recyclables (excluding “productive” metals) via establishing a market-oriented and transparent pricing system. It also stressed that the state would continue to provide favourable taxation policies for recycling enterprises, praising them for contributing to “comprehensive resource utilisation” (State Council, 1991).

The supportive policy environment, in tandem with the resignation of the formal recycling institutions as well as the country’s rapid urbanisation process, contributed to the booming of the private waste recycling sector. From 1978 to 2000, thanks to loosened restrictions on internal migration and de-collectivisation in agriculture, China’s urbanisation rate increased from 17.9% to 36.2%, bringing approximately 27.3 million of rural population to cities (National Bureau of Statistics of China, n.d.), especially to those along the coastline. Not all of these rural migrants were employed in a formal sector, that was, either in a government entity or a registered enterprise; instead, many eked out a living from economising recyclables such as discarded plastic bottles, paper, aluminium cans, etc. - waste that would otherwise be cleared off by the municipal sanitation bureaus (Li, 2002; Linzner & Salhofer, 2014; H. Zhang & Wen, 2014).

For the decades following the 1980s, urban dwellers would be more than accustomed to the scene in which armies of waste pickers combing refuse bins on the streets, in apartment complexes and shopping malls in an attempt to find recyclable goods and materials. Many would also go to residential compounds, peddling on their signature three-wheel carts and hawking their service to purchase household recyclables. This “doorstep” service provided by individual waste collectors further exacerbated the

extinction of official collection depots. It also consequently changed citizens' waste recycling practices, in that people could now store up newspapers, cardboard, plastic bottles, aluminium cans and iron scraps and wait for the waste hawkers to drive through the residential compound and buy the recyclables from their homes (Goldstein, 2006). In this sense, migrant workers made history not only in the country's celebrated chapter of urbanisation and industrial development but also in reshaping the nation's waste recycling regime.

Typically, individual waste workers were engaged in collecting and pre-processing (sorting, cleaning, bulking, refurbishing and primary material extraction) of recyclable waste. With time, they built up a specialised and highly effective system with a clear division of labour. Three particular groups could be discerned: waste pickers (sometimes derogatorily referred to as "garbage scavengers"; they collected waste from residential and commercial areas), waste merchants (waste pickers would sell collected recyclables to them; they usually had a collection depot on the urban outskirts), and middlemen (they collected special types of recyclables from waste merchants and sold them to factories that extracted secondary materials from waste) (Steuer, 2017, p. 201). The waste workers along this trade supply chain made differentiated economic returns from their hard labour, with those engaged in the downstream reaping the most.

This spontaneously organised waste trading network has been famously dubbed "the informal recycling sector"[6] (Wilson et al., 2015) in Western literature, as most of the waste workers neither had business licences to collect and trade recyclables nor were they taxed or regulated by the government. Although regulations were in place asking individual waste workers to obtain permits and pay taxes, in reality, most individuals working in the sector did not bother to abide by the bureaucratic procedures, and local governments often acquiesced with them as the sector not only created income for millions of surplus rural labour but also helped reduce municipal budget expenditures for waste management (Li, 2002). This relatively large margin of latitude conceded by local governments to the informal sector, as Steuer (2017) argues, "corresponds to the moderately liberal *zeitgeist* in Chinese politics at the outset of reforms" (p.71). The exact number of informal waste workers in this era was opaque. Still, according to a World Bank report, at the turn of the 21st century, around 2 million individuals were

[6] This nomenclature has been mostly used unchallenged in waste literature, although one of the experts I interviewed argued that it was an improper terminology, for "informal" could only exist as an antagonising force to the "formal", whereas in reality, a formal waste recycling sector did not exist in China in this era, hence the inaptness of the term. While partly agree with this sentiment, I could not find a better term to describe this grass-root waste management system. Therefore, I will still use the term "informal" for convenience's sake.

engaged in waste collection and recycling activities, twice as many people as those employed by municipal sanitation bureaus (Hoornweg et al., 2005).

In parallel to rising domestic waste generation, since the 1980s, all types of recyclables from all over the world have begun to flood into China thanks to the opening-up policy. Typically, waste flowed from high-income to low-income countries with low labour costs and lax environmental regulations. China in the reform era with a booming manufacturing sector in dire demand for cheap raw materials, seemed to be the ideal destination for foreign waste. State-owned recycling companies maintained their monopoly over imported metal scraps (e.g. iron and copper) where big money was to be made (Goldstein, 2006) while leaving other materials such as waste paper, plastic, fibre, and electrical and electronic equipment to the informal sector. Gradually, with the billowing amount of foreign waste being imported, the informal recycling network in China expanded drastically (more in the next chapter).

All in all, during this era of economic reform and opening-up, the informal waste recycling sector returned to the historical stage at an auspicious time. With the acquiescence of the national and local governments and the convivial cooperation of the public, it managed to permeate the entire waste recycling value chain, establishing a near-monopoly in the collection, transportation, pre-processing and value-extraction of both domestic and foreign recyclable waste. However, they generally stayed away from recycling productive metal scraps as the Chinese government had tightly controlled this. According to the 1994 “Measures for the Public Security Administration of the scrap metal industry” (Ministry of Public Security, 1994), enterprises wishing to capitalise on metal scraps for industrial production purposes had to get prior approval from the local public security agency before applying for a special licence from the municipal industry and commerce bureau. The objective was for the public security agencies to supervise the industry better and combat criminal activities, given the economic significance of these scraps. Hence, the recycling of such waste materials had been mainly controlled by state-owned companies or those with a strong tie with municipal bureaucrats.

The booming informal waste recycling system dovetailed with the government’s formal waste management paradigm, exclusively characterised by waste removal and end-of-pipe treatment. As waste quantity continued to increase in this era, sanitation problems caused by waste began to loom large, especially in urban settlements. The waste issue began to enter the political orbit as a sanitation nuisance, and a series of national policies were formulated to tackle this emerging challenge. Notably, in 1979, China promulgated its inceptive Environmental Protection Law, featuring - albeit briefly

- the topic of MSW management in a legal framework for the first time in PRC history. In 1983, the Central Environmental Protection Administration issued the first set of technical requirements for waste disposal during the second National Environmental Protection Conference. In 1987, the first sanitary landfill (*Hangzhou Tianziling*) was constructed. The following year, the then Ministry of Construction (MoC), the designated central authority responsible for municipal waste collection & disposal, issued technical specifications for sanitary landfills (Nelles, et al., 2017). In 1992, a regulation titled the "Ordinance on city appearance and environmental sanitary management" was jointly formulated by several ministries, offering some principles to guide local governments to take measures to "prevent waste from tainting city appearance" (State Council, 1992). The following year, the MoC issued a set of directives to regulate the collection, transfer and treatment of municipal solid waste (MoC, 1993, p.19).

In 1995, a national law dedicated to regulating solid waste management (both domestic and imported) was enacted (The National People's Congress, 1995). The so-called "Law on the prevention and control of environmental pollution caused by solid waste"[7] (Solid Waste Law in short) was considered a remarkable milestone in China's waste management history as it was the foremost comprehensive legal instrument to govern solid waste in China. Moreover, as stated in the Law, preventing and controlling waste-induced environmental pollution was directly tied with the development of "socialist modernisation" – a political slogan popular throughout the post-1978 reform era (Boer, 2021), highlighting an unprecedented significance of waste management on the central political agenda.

In compliance with the regulations and guidelines formulated by the central state agencies, municipal and district governments set up dedicated sanitation bureaus that oversaw a formal system for MSW collection and removal. The official waste collection system varied significantly between and within municipalities, from rudimentary collection systems in rural areas to "ring the bell and collect"[8] or "refuse chute" systems in high-rising apartment blocks in cities (Chung & Poon, 2001). Notably, although in many cities, residents had to pay a minor garbage collection fee (Xiao et al., 2017), these systems were offered by municipal governments as a public service, primarily aiming to remove waste away from households, that is, to put trash "out of sight, out of mind" (Clapp & Princen, 2003). While local governments began to construct modern waste

[7] The following chapters will make reference to the Law and its revisions frequently.

[8] "Ring bell and collect" is a system where the collection crew ring bells to remind householders to bring their household trash down to the ground level for removal.

treatment and disposal facilities in this era, MSW collected by sanitation bureaus mostly ended up in open dumps, with some in small sanitary landfills (Nelles et al., 2017). Overall, it was estimated that at the turn of the 21st century, out of the municipal waste collected via the official channels, over 89% was landfilled (sanitary or not), some 3% was incinerated, less than 7% was composted, and a negligible portion was recycled (Huang et al., 2006; Wu & Dong, 2001). As such, the official waste management paradigm had shifted from *recycling waste resources for industrial production* in the preceding material-scarce socialist era, to *end-of-pipe waste disposal for sanitation purposes* in the waste regime of the reform era.

3.2.3 The advent of environmental discourse and ENGOs

In the later years of this era, exacerbated by overpopulation and hyperactive economic development, various environmental problems such as water and air pollution, drought, desertification and deforestation began to surge in China. As waste resulting from mass consumption of disposable goods was reaching an unprecedented scale in China, environmental problems about waste also started to draw wide attention. Citizens gradually became aware of the consequences of uncontrolled waste as it visibly spilt out from dustbins, littered streets and waterways, and created unbearable stench in the neighbourhoods. Newspapers and magazines started to feature municipal waste issues, highlighting such discourse as waste was polluting the environment and harming human health (Dan Hoornweg et al., 2005). In the meantime, after the Rio Declaration on the Environment and Development in 1992, of which China was a dedicated torchbearer, the international catchphrase "sustainable development" became an administrative buzzword in China and was inserted as the guiding national development strategy in the ninth Five-Year Plan[9] (1996-2000) (Lu, 2000).

Against this domestic and international backdrop, the central government developed a strategic political focus on environmental issues. It began reframing the waste management problem by bestowing it an environmental dimension. The enactment of the 1995 Solid Waste Law with the primary objective of controlling and managing environmental pollution resulting from waste mismanagement was particularly illustrative. The Law also designated the State Department of Environmental Protection and its subordinate bureaus at the local administrative level as the chief apparatuses overseeing environmental issues associated with domestic and foreign waste. However, it would soon reveal that the waste management issue traversed the domains of

[9] The Five-Year Plans are national development initiatives essential to the socialist economy of China as they map out the social and economic development strategies and set forth the country's path in the coming five years.

different state agencies and evoked contradictory interests between and within the central and local governments (more analysis in the ensuing chapters). In a nutshell, this regulatory instrument signalled the changing discourse on waste in this era, which had gradually evolved from waste as *a sanitation nuisance* to waste as *a source of environmental concern*.

The shift in waste discourse suggested that environmental narratives began gaining significant weight in China's waste politics. In the face of rising environmental concerns and international influence, in the later years of this era, civil society actors represented by environmental non-governmental organisations (ENGOs) started to engage in waste management, although with a very feeble voice. Before the 1980s, the non-governmental sector essentially did not exist in China. Still, in the 1990s, the central government slowly opened space for civil society to engage in certain areas, especially those pertaining to environmental protection (C. Hsu, 2010). Some scholars (e.g. Howell, 1996; Jia, 2005, p. 200) maintained that even as late as 1996, China had almost no NGOs working in social welfare, development or environmental protection. However, there were some exceptions, most notably “Friends of Nature”(FoN) and “Global Village of Beijing”. The former was registered in China in 1994, making it the first ENGO in the country, and the latter was founded in 1996 and, since then, has been a good partner of national environmental protection agencies (Landsberger, 2019). “Global Village of Beijing” at the very outset of its foundation experimented with several waste-sorting projects on the community/village level, and it managed to submit waste-sorting proposals to district and municipal governments in 1996 (You, 2019).

In this era, ENGOs were primarily dedicated to raising the media profile and public attention to environmental issues instead of being directly involved in the policy realm (Goldstein, 2006; Landsberger, 2019). Although their voice was feeble and their impact almost negligible initially, their emergence in the late 1990s was significant in opening a new chapter for environmental governance, including waste governance in China. Time would soon reveal that this newcomer would flourish in the coming era, reshaping the discourse of many topics and profoundly impacting the decision-making process of multiple environmental issues. In the domain of waste management, this nascent group of actors with unique discursive, organisational and political resources would gain an unparalleled position. The ENGOs group would form an intricate triangular relationship with two pre-existing forces, namely the government and the private sector, and making sense of this relationship would remain an ever-fresh academic endeavour in the field of waste politics in China.

3.3 Waste regime in the era of globalised neoliberalism (2000 – 2017): Intensified waste environmental conflicts and the "circular economy"

3.3.1 Waste as a crisis in the 21st century

This era would witness an unprecedented increase in domestic waste production and foreign waste imports. The appalling waste quantity, compounded with mixed waste stream, low waste recycling rate, land shortage and secondary pollution caused by substandard disposal methods, created an increasingly pressing predicament for Chinese municipalities. Consequently, waste governance was pushed to the forefront of the political and social arena. In this process, public discourse of waste evolved from being associated with environmental problems (in the last era) to being given an increasing sense of urgency, presented as an environmental and governance challenges due to the reasons to be elaborated in this section. The crisis discourse propelled the Chinese government to seriously re-consider the ways of dealing with the rubbish its 1.4 billion citizens generated as well as the waste imported from all over the world, leading to a series of waste-related policy actions starting in 2017 (the focus of following empirical chapters).

3.3.1.1 Alarming amount of waste generation in the new era

Entering a new century marked by further scientific and technological advancement and a hegemonic trend of neoliberal globalisation (O'Hara, 2005), mankind witnessed an astonishing surge in the production and consumption of goods. As one of the fastest-growing economies in the world, China scored remarkable economic achievements, especially following its accession to the WTO in 2001, which was celebrated as a milestone in China's reform and opening-up chapter. In 2010, after enjoying a near-double-digit growth for over three decades, China surpassed Japan as the world's second-largest economy behind the USA (Barboza, 2010), and it has since maintained the position despite some slow-down in recent years. Since 2008, China and the USA have been alternating the role of the world's largest trader measured by the sum of exports and imports of merchandise trade (World Trade Organisation, 2019).

This "development miracle", as many called it (So & Chu, 2015), significantly improved the living standard of millions in the country and further accelerated the urbanisation rate. Between 1979 and 2009, China's urban population grew from around 180 million to 622 million (Chan, 2013). As the nation became more prosperous and rapidly industrialised, the consumption culture and "throw-away" habit became much more prevalent, especially in cities where people tended to consume more pre-packaged and convenience foods, resulting in a colossal amount of waste generated. Disposed

municipal garbage in China rose from 67.67 million tons in 1990 to a whopping 215.21 million tons in 2017 (Wong, 2019), and per capita waste generation increased from 0.8 kg/day in 1999 to 1.17 kg/day in 2016 (Wei et al., 2018). A World Bank report predicted that by 2030, China would likely produce twice as much MSW as the USA, the world's largest waste producer before 2004 (Hoornweg & Bhada-Tata, 2012). The composition of MSW varied from city to city, depending on the overall consumption habits, the level of industrial development, etc. According to a study, the MSW stream processed by waste sanitation bureaus in 20 big Chinese cities was dominated by food waste (over 50%) and plastic waste (13%) (N. Yang et al., 2018).

Adding to the dreadful domestic waste situation was the mammoth amount of foreign waste China was receiving. Globally, as the privileged population in the global North and emerging economies continued to enjoy a so-called "imperial mode of living" (Brand & Wissen, 2013), more and more waste has been produced and moved across national boundaries. Since the late 1980s, China has been the single largest waste importer for decades, and the foreign waste China imported accounted for 10 - 13% of the total amount of solid waste in its territory (UN News, 2018, p. 201). As such, in addition to becoming the world's manufacturing powerhouse, China earned itself the title of "the world's garbage dump" (Freytas-Tamura, 2018). Although imported waste was intended to be recycled scraps only, a considerable portion was mixed with non-recyclable waste, and some was contaminated by hazardous waste or living sources. The non-recyclable part of the imported foreign waste stream constituted an extra burden to the increasingly strained domestic waste management system (more analysis in Chapter 4 on imported waste).

3.3.1.2. Environmental concerns of the prevalent waste disposal methods

In addition to the mammoth waste generation, what gave rise to a waste crisis was the predominant way of treating the MSW waste stream, which was featured by the "end-of-pipe disposal" paradigm as carried out in the last era. Three primary disposal methods characterised this paradigm: landfill, incineration and compost. According to national statistics (Ministry of Housing and Urban-Rural Development, 2017), landfills remained the most dominant treatment method of all the MSW collected by official channels. However, the percentage of landfilled waste continued to drop nationwide, from 89.3% in 2001 to 57% in 2017. In contrast, incineration gained more impetus since the early 2000 thanks to large-scale government subsidies, rising from 3.7% in 2001 to 40% in 2017. Composting as an alternative for bio-waste was quite popular at the turn of 2000, accounting for almost 7% of total waste treated by municipalities in 2001, but due

to the characteristics of mixed waste streams, technical inadequacy and economic unviability, it decreased to 1.4% in 2009 and became more or less abandoned by many municipalities after 2010 and therefore unaccounted in official statistics (Ministry of Housing and Urban-Rural Development, 2017; X. Wei et al., 2018; D. Q. Zhang et al., 2010).

Social and environmental conflicts associated with the official waste disposal paradigm quickly intensified in the new era, particularly in urban areas with a growing population and drastic urban expansion. While during the first decade of this era, most Chinese cities had already constructed big-scale sanitary landfills (Nelles et al., 2017), the rapid increase in MSW generation quickly filled the dumps, making even the largest landfills run out of capacity decades ahead of the scheduled time (Harrabin & Edgington, 2019; Yan, 2020, p. 201). Hence, numerous informal dumpsites emerged to take in the refuse that the official infrastructure could not manage. The situation was bleak in metropolitans such as Beijing. In 2008, environmental documentary director Wang Jiuliang[10] made a film titled "Beijing besieged by waste", in which he mapped out over 500 illegal dumpsites around the city, forming what he ironically named "Beijing's 7th ring road"[11]. Beijing was not alone. In fact, according to China's Ministry of Housing and Construction, over one-third of Chinese cities were besieged by garbage as of 2013 (China Youth Daily, 2013). This waste crisis was a result of a thriving "consumer society" and the inextricably linked "throwaway society", compounded with the long-standing "end-of-pipe disposal" paradigm whose main objective was to remove garbage away from the sight of urban dwellers.

But even with official sanitary landfills and incineration disposal methods, various environmental and human health-related risks were associated. Negative consequences of dumping in landfills included but were not limited to contamination of soil, groundwater and surface water as a result of leachate, emission of landfill gas mainly consisted of methane and carbon dioxide (two major contributors to climate change), landscape disruption, loss and pollution of habitats and displacement of fauna (Danthurebandara et al., 2013). In addition, as a large portion of the waste dumped in the natural environment was not decomposable, it accumulated to be gigantic waste mountains over time, seriously pushing the boundary of nature's sink capacity. Taking the example of plastic waste, although it can be broken down into smaller particles

[10] The same director made the high-profile documentary "Plastic China" in 2016, which many speculated was an important policy input to China's ban on plastic waste import in 2017. More analysis on this in the following chapter.

[11] Beijing's urban layout features a series of concentric ring roads, often referred to as "rings," which encircle the city center. When Wang shot the documentary, the city had six main "ring roads", and by terming dumpsites as the "Beijing's 7th ring road", it vividly demonstrated that waste had literally encircled or besieged the city.

through photo-degradation with time, it is almost indestructible. Scientific research estimated that depending on the product's properties and environmental conditions, the decomposition time for plastic varied from 20 years for plastic bags to 450 years for plastic bottles and around 600 years for fishing lines (Wright et al., 2018).

Moreover, the harm from landfills and open dumping was not confined to the land. Waste dumped in terrestrial environments could easily travel to the ocean and accumulate in the marine environment, affecting marine lives and human health. In the case of plastic waste, although the exact quantity of plastic debris existing in the marine environment is unknown, a report issued by the Ellen MacArthur Foundation (2016) estimated that every year at least 8 million tons of plastic waste enter the ocean from the land, and *"in a business-as-usual scenario, the ocean is expected to contain one tonne of plastic for every three tonnes of fish by 2025, and by 2050, more plastics than fish [by weight]"* (p.17). In China, there was an average of 24kg of floating waste per 1,000 square metres of surface seawater in 2018, some 88.7% of which was plastic. Plastic also dominated the debris found below the surface, including on the seabed (Ministry of Ecology and Environment, 2018). Hence, scientists warned that as the world's topmost producer of plastic waste, China's impact on the plastic levels in the ocean would be "a definite cause of concern and is developing multiple economic, environmental and biological complications" (C. Wang, 2018).

Compared with landfills, incineration was considered a more advanced disposal method as it could "destroy" waste matters while converting waste into energy in the process. Hence, it has been the most popular disposal solution in developed countries with relatively high technological and investment capacities. In China, the waste incineration industry started in the 1990s (C. Zhang, 2014), but it only began to gain momentum after 2006 thanks to substantial government subsidies and significant investment from the private sector through BOT (build-operate-transfer) projects (Chen, 2019, p. 721). From 2002 to 2017, the treatment capacity of incineration in China saw a continuous, sharp increase, from less than 4% to 40% (Wei et al., 2018; MOHURD, 2017).

Despite being touted as environmentally friendly, incineration has led to various undesirable environmental and social consequences in China. First, burning waste could emit toxic pollutants such as dioxins, acid gases and heavy metals, as well as greenhouse gas emissions that cause climate change (Biermann et al., 2010). Although in a modern incinerator, these hazardous gases could be captured by emission control technologies, in reality, many incineration facilities in China were not equipped with adequate technologies and capacities. Even when facilities were installed with pollution control

systems, many operated without the required filtering equipment, as these were costly to use and maintain (Balkan, 2012; Zhang, 2014, p. 201). To make it worse, incineration plant operators regularly added coal - sometimes as high as 70% (the permitted threshold was 20%) - to burn waste, defeating the purpose of "burning waste for energy". Also, the mixed waste stream in China was predominantly composed of organic waste, which made it difficult for the incinerator to reach the required temperature for destroying hazardous substances such as dioxin and mercury, thereby causing heavy pollution during and after the burning process (ibid.)

As such, due to substandard equipment, technological barriers, slack operations and the unique composition of Chinese MSW, combined with loose regulations and a lack of information disclosure, waste incineration in China had a dirty underside in spite of its green facade (ibid.). In fear of potential environmental and health hazards, communities vigorously opposed waste incineration facilities sited (or to be sited) in their vicinity, prompting a big wave of the NIMBY (Not in My Backyard) phenomenon in China. High-profile protests in cities such as Beijing, Hangzhou and Zhaoqing sparked widespread emulation, and public opposition constituted a major obstacle to siting new facilities (Johnson, 2013; Landsberger, 2019; C. Wang, 2020). Unfortunately, the NYMBY phenomenon invariably pushed incineration plants to be located further out and close to low-income communities. Consequently, environmental burdens were disproportionally shifted to the already socially- and economically- disadvantaged groups, creating environmental injustice and other social problems (see Chapters 4 and 5 for global and local environmental injustice and conflicts concerning waste issues).

It is worth noting that the above-quoted figures regarding waste generation, composition and treatment by no means reflect an accurate or complete picture; rather, just like statistics in China in general, they are fragmentary and incomplete (Linzner & Salhofer, 2014; Wallace, 2016). The most glaring omission in official data is that they do not count the quantities of recyclable waste that have already been taken out of the MSW stream by the informal waste workers, making it impossible to record the actual amounts of waste generated in a municipality. In addition, most of these quoted figures are only based on the situation in some 660 cities, excluding the entire rural population of China (Landsberger, 2019). While this population is continuously declining due to rapid urbanisation, the fact that it is unaccounted for altogether in such calculations is untenable (Dorn et al., 2012). Other times, data can be manipulated when local administrations or officials attempt to paint a rosy picture to gain favour on their performance evaluation (Liu et al., 2012; Lo, 2015; Wallace, 2016). Also, the

information-gathering structures in some places are outdated and fragmented, and some methods leave out important relevant variables, all of which raise questions about the reliability of official data (ibid.). Therefore, these data are, at best, indicative.

3.3.1.3 Informal recycling sector thriving in limbo

In the new era, official recycling systems retreated further from the waste industry, whereas the independent, informal recycling sector continued to dominate the MSW recycling businesses. By definition, informal waste reclaimers fell out of the official orbit as they had no inherent reason or obligation to keep records, and official performance data did not cover this system. It is hence strenuous, if not impossible, to estimate the actual number of informal waste workers in China and the contribution of informal activities to diverting recyclable materials away from waste being disposed of. However, studies have provided some insight into this sector. For instance, the research conducted by Linzner and Lange (2014) based on data compilation and triangulation estimated that approximately 0.2% – 2.5% of China's total urban population (around 600 million), equivalent to 1.2–15 million people, was involved in informal waste collection and recycling activities in the 2010s. According to this upper-limits calculation, the informal recycling activities of these people reached approximately 17–38% (by weight) of the total MSW generated in urban China (ibid.). All in all, although the actual numbers would remain obscure, it is doubtless that over the last three decades or so, the informal recycling sector prevented millions of tons of recyclable waste from entering landfills, open dumps or incinerators, thereby contributing tremendously to a more sustainable MSW management.

Until now, it seems that the formal disposal paradigm and the informal recycling domain have enjoyed a harmonious co-existence. However, entering the new century, the position of the informal sector became increasingly precarious. In 2004, the Solid Waste Law was revised to advance a streamlined system of treating solid waste and support the development of waste industries. Articles 38 and 39 explicitly stated that although the sanitation bureaus at the local government level should organise and arrange waste collection, they may also outsource these tasks via tender to qualified private entities on conditions set forth by the provincial government (The Central People's Government of China, 2004). The primary prerequisite was that the bidder needed to possess an official license for waste management, which meant only registered private companies, including those state-owned, were considered "qualified" as the informal waste workers did not have an operation license. Hence, the updated law was an apparent gesture of the central government agency towards building a

formal, industrialised waste management system, which had profound implications for the hitherto booming informal waste sector.

In particular, in recent years, as Chinese cities continued to modernise, and national political discourses such as "Ecological Civilisation" and "Beautiful China" became more and more grounded (more analysis in Chapter 6), policymakers and experts doubled down on efforts to formalise the MSW recycling system. Various proposals were formulated to encourage municipal sanitation departments to take over recycling programmes or to foster big, modern recycling enterprises with fiscal support (Chen, 2019). In particular, starting from 2015, thanks to preferential policy programmes, new forms of recycling and resoursification companies (*zaishengziyuan gongsi)* riding on concepts such as "Internet Plus" have mushroomed. Ironically, most of the newly registered waste recycling enterprises have been heavily dependent on the work of the informal waste sector, especially in the collection and primary sorting (see more analysis in Chapter 5).

However, few policy initiatives considered the need and possibility to incorporate informal recycling networks. Notwithstanding its contribution to waste recycling and reducing municipal expenditures on waste collection and disposal (Steuer et al., 2018), the informal recycling sector was increasingly constructed in the government's pro-environmental discourse as a "pollution profession" (Chung & Poon, 2001; J. Wang et al., 2008; Yuan et al., 2006), and its prevalence an impediment to achieving an efficient integrated waste management system in China (J. Wang et al., 2008; Zhuang et al., 2008). In the face of a hostile policy environment, informal recycling markets were removed further away from cities to remote outskirts. This phenomenon, together with moving waste out of urban centres to peripheries, is illustrative of what Shapiro (2012) called the "displacement of environmental hazard" at play in MSW management. Despite facing coercive measures, informal recycling networks proved to be rather resistant - for one thing, they could evade regulators and relocate to other places flexibly, and for another, over the past few decades, they have become highly specialised and efficient, which made them almost irreplaceable by any formal systems (Steuer et al., 2018; Tong & Tao, 2016; Zhong, 2010).

Although informal recycling to some extent encouraged waste separation at source in this era, household waste classification was still an uncommon practice in China (more analysis in Chapter 5). Selling recyclables for many was no longer worth the effort, considering the extra time needed to separate waste, the extra space required to hoard waste, and the very meagre economic reward it entailed. Although the central

government started pilot projects in different cities to promote household waste separation in early 2000, the waste classification rate was low even in the pilot cities. In the years between 2000 and 2008, the average rate was below 15%, with half of them only achieving a lamentable 5% (Peng et al., 2018). Overall, household waste classification was still in its infancy across the nation. After nearly two decades of intermittent experiments with household waste sorting, experts conceded that domestic waste classification in China had not achieved any substantial breakthrough even at the end of 2017 (China Association of Circular Economy, 2019).

3.3.2 The "circular economy" rhetoric in China

The daunting amount of waste generated from home and imported from overseas, compounded with intensifying conflicts and concerns from the dominant waste disposal paradigm, gave rise to an extended environmental framing for the waste subject beyond the sanitation aspect as in the previous era. The Chinese government was propelled to search for a befitting solution in the face of exacerbating environmental challenges induced by waste and waste management. One prominent rhetoric in this era was the Circular Economy (CE) conception, which gained global attention among scholars and policy-makers in the 1990s. CE was first raised to counter the traditional economic development model, which treated the environment as a waste reservoir. It proposed to create a circular relationship between the economy and the environment, which embeds a closed loop of material flows (Pearce & Turner, 1990). Although the CE notion has been criticised owing to its kaleidoscopic definitions by different stakeholders (Kirchherr et al., 2017), the core in the different understandings of CE remains more or less unvaried, that is, the 3R (Reduce, Reuse and Recycle) principles. Reduce means "to use things with care to reduce the amount of waste generated.", Reuse involves "the repeated use of items or parts of items which still have usable aspects," and Recycle means "the use of waste itself as resources" (Government of Japan, n.d.; Su et al., 2013).

This "3R waste hierarchy" paradigm has been endorsed widely by governments and scientists worldwide as an emerging framing around waste and resource management (Blomsma & Brennan, 2017), with Germany and Japan being some of the pioneers. Germany enacted the "Closed substance cycle and waste management act" as early as 1996, providing a closed-cycle waste management to reduce waste and ensure environmentally friendly waste disposal (Hester & Harrison, 2013). Japan developed a comprehensive legal framework for moving towards a recycling-based society and promulgated the "Basic law for establishing a recycling-based society" in 2002 (Morioka

et al., 2005). The adoption of the CE policies resulted in integrated waste management in these countries, effectively reducing waste, preventing waste-associated environmental deterioration and helping conserve scarce resources (Gallaud & Laperche, 2016). As such, the CE concept offered high hopes to operationalise the concept of sustainable development internationally, which was starting to lose momentum mainly due to its nebulousness (Bruyninckx et al., 2012). Although recent studies suggest that, in reality, a sustainable social metabolism with improved circularity of materials and resources remains far out of sight as a large portion of materials has been used to generate energy that could not be reused or recycled. In addition, societal material stocks have been growing globally, and expansion continued even in the industrialised regions with high stock levels despite having relatively higher recycling rates (Haas et al., 2015; Wiedenhofer et al., 2021). But this is a separate topic.

At the turn of the 21st century, China faced a lack of resources resulting from a growing population, booming industrial development, and insufficient use of recycled materials. Meanwhile, given the increasing prominence of the "environmental protection" discourse globally, the country was eager to devise a national strategy to tackle the tensions between pollution, resource depletion, and economic growth. The CE discourse, which had gained international popularity by then, especially in the industrialised world, seemed to offer a promising alternative framework. As such, the Chinese government also embarked on its own CE journey in the early 2000s, with the CE discourse creating a lot of political heat at the national-state level (Bleischwitz et al., 2022). To start with, under the CE's guideline, the aforementioned 1995 Solid Waste Law was amended in 2004 to introduce the 3R principles in solid waste management explicitly. Corresponding to "Reduce", the amended Law required not only a reduction in the amount of waste but also in its hazardousness; in terms of "Reuse", a new article was added to explicitly encourage work units and individuals to purchase and use renewable and reusable products (Article 7); and in response to "Recycle", Article 42 was added to stimulate that "urban household waste shall be gradually classified in different categories for collection and transportation, and efforts shall be made to have it rationally re-utilized", as well as Article 45 that emphasised recycled materials from household waste "shall not be used for the manufacture of products that may cause harm to human health" (The Central People's Government of China, 2004).

Going beyond waste management, in 2005, the Chinese State Council issued a national guideline titled "Opinions on accelerating the development of the circular economy", which was widely regarded as the first official policy document promoting CE

development in China (Geng & Doberstein, 2008; McDowall et al., 2017). In the subsequent year, the CE was included as a crucial national target in the 11th Five-Year Plan (2006-2010). In 2008, the CE discourse was enshrined as a national law, the Circular Economy Promotion Law (CEPL), providing the first legal framework for enacting CE strategies in China. The CEPL placed a strong emphasis on waste management (20 out of 58 articles referred to the topic), although revealingly, out of the 20 articles addressing solid waste issues in the CEPL, 19 were dedicated to dealing with industrial waste. These articles stipulated some overarching measurements for reducing, reusing and recycling materials, emphasised the promotion and management of 3R activities in the industrial sector, and encouraged local governments to set up incentive measures such as reducing value-added tax for enterprises adopting an integrated and circular use of resources, and spelt out legal liabilities of administrative offices and enterprises for industrial waste management. Only one article touched upon household waste management (Article 41), which encouraged local governments to 1) make a comprehensive plan for building facilities for classified collection and recycling of urban and rural household waste, 2) establish and improve the system for classified collection and recycling, and 3) raise the recycling rate of household waste (The Central People's Government of China, 2008). But the rest of the articles in the CEPL focused on establishing cleaner production systems, increasing the efficiency of resource utilisation (including water, land, energy and raw materials), industrial upgrading, etc., prompting some to argue that the law was more analogous to an industrial policy (Mathews & Tan, 2011).

In parallel to the issuance of the CEPL, dedicated administrative departments of circular economy development were set up at the national level under the State Council as well as at the local government level, providing institutional support to the promotion of the CE discourse nationwide (The Central People's Government of China, 2008). Thereafter, the CE rhetoric gained more traction in policy development as it was hailed by the central government as a holistic approach to balancing environmental protection and industrial development. The 12th Five-Year Plan (2011–2015), issued in 2011, for the first time set national targets for reusing industrial solid waste and increasing resource use productivity. In 2013, the State Council issued the national CE development strategy and proposed short-term action plans for creating circular industrial, agricultural, and service-industrial systems. It also proposed promoting a recycling economy by implementing demonstration projects, pledging to build 100 CE demonstration cities/counties and 1,000 CE demonstration enterprises/industrial parks. However, the deadline for this effort was not set (The State Council, 2013). The 13th Five-Year Plan

(2016–2020) further validated the importance of the CE both as a national policy and as a fundamental pillar of the Chinese economy, and it extended the reuse, recycling and productivity targets (Pesce et al., 2020).

Notably, various state ministries have been involved in CE policy-making in China, giving the CE different and shifting meanings. While the concept was initially brought in by the state environmental agency in the 1990s to primarily address environmental concerns, starting in 2004, the authority over the CE promotion agenda was shifted to the National Development and Reform Committee (NDRC),[12] which was the dominant player in China's macroeconomic planning and management. In addition, the Ministry of Industry and Information Technology (MIIT) was responsible for resource efficiency and recovery. Under NDRC and MIIT, the CE agenda was regarded less as an environmental discourse but more as a comprehensive industrial development policy, which indicated that "circular activities follow economic purposes" (Bleischwitz et al., 2022, p.4) and economic concerns once again overriding environmental concerns (Steuer, 2018, p.176).

As such, many scholars argued that China's CE concept resonated with the idea of industrial ecology (Blomsma & Brennan, 2017; Geissdoerfer et al., 2017; Geng & Doberstein, 2008; Pesce et al., 2020; Qing et al., 2011; Schulz & Lora-Wainwright, 2019; Yuan et al., 2006). In other words, unlike the initial German and Japanese concept, the institutional CE framework in China was not restricted to the predominant focus on waste management but anchored around a much broader "resource efficiency" theme which could penetrate every aspect of economic activities (Blomsma & Brennan, 2017). In addition to waste management, resource and energy efficiency, land management, soil protection, and integrated water management were all considered vital components of China's CE strategy. In fact, the CE understanding in China was even broader than industrial ecology as the CEPL clearly stated, the Chinese perception of the CE was *"a generic term for the reducing, reusing and recycling activities conducted in the process of production, circulation, and consumption"* (The Central People's Government of China, 2008). As such, CE-related policy initiatives and experiments in China covered a range of economic, environmental and social aspects[13] (Bleischwitz et al., 2022; McDowall et al., 2017).

In a nutshell, China initially adopted CE's 3R principles from Japan and several European countries in waste management but gradually broadened the CE concept by

[12] More on the role of NDRC and its reconstructing in Chapter 5.

[13] For a more recent and comprehensive analysis of the CE understanding in China, including its relation with China's climate goal of achieving carbon neutrality by 2060, see Bleischwitz et al., 2022.

incorporating industrial ecology and other dimensions. CE policies were subsequently developed to cover various economic activities at micro-, meso- and macro-levels, including firms, eco-industrial parks, and eco-cities/regions (Geng and Doberstein, 2008; Su et al., 2013). As a result, the Chinese CE rhetoric was "in the first instance an economic concept aiming to generate a win-win situation, in which the economy has to adapt to the limitations of its environmental context" (Steuer, 2018, p.139). Despite progressive CE policy development, China's progress in shifting towards a CE has been hampered mainly by implementation gaps and coordination challenges arising through regional and sectoral differences (Bleischwitz et al., 2022; Ghisellini et al., 2016). These challenges were endemic to multi-level policies in China, typically developed and implemented following a top-down approach (Geng et al., 2013; Hong and Gasparatos, 2020; Zhao, 2020).

Concerning waste management, the broadness and vagueness of the CE concept in the policies resulted in few concrete actions. As most of the CE policies and regulations focused on the industrial system or even broader scales, they offered scant detail on applying CE in waste management. Even the specifically revised Solid Waste Law in 2004 provided little technicality nor targets vis-à-vis creating a circular waste management paradigm, albeit its accentuation on the discourse of the CE and the 3R principles. Notably, the adoption of the CE in waste management kindled a surge in incineration plants as a disposal solution while also generating energy needed for continued economic development and growth (Landsberger, 2019). As indicated above, incineration saw a ten-fold increase in waste treatment capacity throughout this era. However, burning waste broke the desired closed loop as the potentially reusable resources in the mixed waste stream virtually disappeared, making it impossible to reuse or recycle. In this sense, incineration created an oxymoron in the very concept of the CE.

In the later years of this waste regime, the Chinese central government initiated other pilot projects to manifest their aspiration to operationalise the CE in waste management. Such efforts included but were not limited to promoting household waste classification in pilot cities, encouraging state-owned or private companies (with subsidies and favourable policies) to build up industrialised waste recycling systems, regulating the informal recycling sector, integrating scattered waste recycling hubs into so-called "circular economy industrial parks" and shutting down those that failed to meet environmental standards. However, these central-driven CE-inspired waste management initiatives did not resonate on the ground, especially in an era where

economic growth was still considered the yardstick of political performance (more analysis on central-local state tension in Chapter 5).

3.3.3 A deepening engagement of civil society

In the policy field of waste management, a plethora of civil society actors rose in this era, and they played a remarkably significant role in the production, circulation and consumption of an environmental discourse on waste. This host of civil society actors included an expanded network of ENGOs, mass media, grass-roots environmentalists, and the fast-growing Chinese middle class. Together, they pushed the issue of waste management to the forefront of environmental politics, increasingly drawing public and political attention to the issue of waste and its relation with the environment and society.

As foretold, ENGOs, which debuted in the 1990s, continued to flourish in the 21st century. It was estimated that as of 2015, there were over 7000 registered environmental groups in China, countless unregistered student groups and grass-roots environmentalists (France-Presse, 2015). The growth of this civil sector could be primarily attributed to rising environmental and social conflicts resulting from decades of double-digit economic success, which pushed the Chinese government to embrace cross-sector collaboration (Ewoh & Rollins, 2011). In addition, the Hu-Wen administration (2002-2012), which governed China in the first decade of the 21st century, created a favourable institutional environment for citizens' participation in public affairs. While emphasising the building of the rule of law, this administration embraced "citizens' participation" (although in a limited format and limited areas), especially that of NGOs as a governance technique (Froissart, 2018).

Against this backdrop, ENGOs grew in numbers and managed to wield considerable significance over a wide range of environmental topics. In the field of waste management, they have made milestone progress, particularly since 2009, when grassroots resistance mobilised by ENGOs against landfills and incinerators began to emerge across the country. Significant ENGOs such as Friends of Nature, Green Beagle, and Global Village started to target waste as a focal area and put waste recycling and reduction on their top agendas (Kao, 2011; Landsberger, 2019). Thus, 2009 was often hailed as "Year One of the Garbage Era" (*Laji yuannian*) for the Chinese ENGOs (Kao, 2011). In addition to civil education and mobilisation, ENGOs started identifying niches of a strong need for environmental services and found new collaboration opportunities with government apparatuses.

Having extensively introduced the development of civil society in China in Chapter 2, it is noteworthy here to elaborate a bit on the general landscape of Chinese ENGOs in this era, much of which still holds today. The most prominent and influential ENGOs, such as the All-China Environment Federation, China Association of Environmental Protection Industry and China Resource Recycling Association, were organised directly or indirectly by governmental agencies, hence the name "GO-ENGOs". These ENGOs worked closely with state apparatuses, particularly the Ministry of Environmental Protection, on various issues including waste management. This was a mutually beneficial relationship in which the GO-ENGOS propagated their message and raised the prominence of environmental problems in government circles through their prestigious networks. The state agencies relied on them to gather information, conduct surveys, and build a bridge for dialogue with the public. Often, their operations were funded by the central or local governments. Due to their ambivalent relationship with government agencies, GO-ENGOs have been criticised for playing only a very limited, if not compromised, role in being a watchdog of environmental policies and voicing tensions between governments, market actors and the public (J. Y. J. Hsu & Hasmath, 2014).

Besides GO-ENGOs, many civic NGOs, student environmental groups and branches of international ENGOs have also thrived on Chinese soil in this era. These were founded and run entirely by private citizens, specific industries or international organisations (Tang & Zhan, 2008). Although they were more independent and grassroots-oriented, in reality, most ENGOs in China, just like other NGOs, have been careful to avoid antagonist positions against the stance of government authorities (Ho, 2001). Hence, it was also common for civic ENGOs to build alliances and avail services to government agencies as this "embeddedness" was in both sides' interest (Dickson, 2008; C. Hsu, 2010).

Although most civic ENGOs did not limit their scope of interest to one specific topic, since 2011, groups dedicated to waste issues such as "China Zero Waste Alliance" (2011), Shanghai Aifen Environmental Protection Service Centre (2012) and the Friends of Nature Foundation (2013) have mushroomed (Zhao, 2016), p.42). Most of these private-founded ENGOs were registered in metropolitans (e.g. Beijing, Guangzhou and Shanghai) and predominantly committed to tackling waste problems in urban areas. According to a 2015 report produced by China Zero Waste Alliance & Heyi Institute (2015) on the development of ENGOs in the policy arena of waste and waste management (2015), Chinese ENGOs have diversified their functions in the waste field, from awareness raising, education and promoting waste reduction and classification at the community-

level, to conducting dedicated research and facilitating policy elaboration and debate, and to keeping a check on waste management systems such as waste incineration plants and landfills and demanding transparent information sharing (ibid.). The subdivision of functions to some extent marked improved expertise and professionalism of Chinese ENGOs. Overall, although diversified in their size, mission, degree of autonomy and influence, it was evident that in this new era, ENGOs played an increasingly important role in waste governance in China. They successfully expanded the political-social space within which they could operate by constructing persuasive discourses and providing contract services to central and local government entities.

In addition to ENGOs, Chinese mass media had an essential role in the “production, circulation and consumption” of environmental discourses (Sum, 2019). It is certainly not feasible to provide an exhaustive list of news reports, magazine articles and visual programs Chinese media produced on the issue of waste here. Still, for illustration purposes, I highlight a filmmaker named Wang Jiuliang and his two documentaries that elicited strong public awareness of and political response to waste problems in China. The first film, “Beijing besieged by waste” (mentioned above), exposed the garbage dumps encircling China’s capital. The film shocked the public and the central and Beijing authorities alike with distressing scenes of waste workers and sheep grazing through the piles of garbage and trucks rampantly pouring down litter to open waste dumps. It drew attention to the mass of waste generated by citizens and alerted the nation to the failure of the current waste management system. After the documentary's release in 2010, it was said that the Beijing government cleaned up more than 80% of these open garbage dumps. Hence, the film was considered a milestone in civil society’s meaningful engagement in China’s waste environmental agenda (Zhao, 2017).

The other documentary, "Plastic China” (referred to in the next chapter), has since its release in 2016 gained great popularity at home and abroad. This time Wang brought domestic and international attention to the social and environmental impacts of the global waste trade, particularly recycled plastics. To many observers, the film was particularly significant as it prompted Chinese officials to take a series of actions against the influx of foreign waste, among which was the announcement of the waste import ban in 2017 (the focus of analysis in the next chapter). Although it was unclear whether the authority’s import ban directly resulted from this film, it could be inferred that at least the film served as “a justification for the outright ban on waste imports” (Schulz, 2019, p.2). Manifested by these two documentaries, media forces on the whole arguably played a decisive catalyst role in disseminating information and keeping the public and

authorities alerted on waste issues, which further urged both central and local governments to clean up domestic waste as well as to tackle the inundation of foreign waste.

Public awareness over the environmental issues related to waste, not limited to the discernible sanitation problems, also rose in this era, and so was their desire to participate in environmental affairs. Inspired and at times instigated by the ENGOs, environmental activists or media reports, the Chinese public, especially the newly emerged middle class who were increasingly seeking a better living quality, took to the street for the first time in many decades to protest for the cause of "environmental justice". Neighbourhoods protested against air and water pollution, crumbling landfills and new siting of waste incineration plants (Bondes, 2019; Johnson et al., 2018; Thibaut, 2011).

In response to widespread protests over a range of environmental issues, in 2015, the central government issued a new law on environmental protection that assigned the role of "watchdog" to civil society groups and bestowed them the right to initiate legal proceedings against companies and local governments violating the environmental law (Chinadialogue, 2016). In 2016, the Chinese Supreme Court also granted ENGOs more power to use legal means to defend environmental justice. This series of policy actions demonstrated that the central government surrendered some political space to civil society actors in the combat against environmental problems. In how far a young civil society in China will open up, develop and influence environmental politics is being keenly watched and analysed by both domestic and international observers.

3.4 Summary: Shifting waste practices and relations from 1949 to 2017

Above, I have outlined the changing dynamics of the waste regime in the history of the PRC, coinciding with the nation's distinct socio-political and economic transformation. We have witnessed that under different national structures, the generation and materiality of waste, wasting practices, the public and state discourse around waste, and the dominant mode of collecting, circulating, processing and disposing of waste have undergone significant changes, so have the major actors involved in waste management and the politics of and social relations embedded in waste. Table 1 summarises the main features of the waste regime in the different eras examined thus far.

Table 1: Summary of major characteristics of China's three historical waste regimes

Key features	Waste regime in the socialist era (1949-1978)	Waste regime in the reform era (1979-late 1990s)	Waste regime in the era of globalised neoliberalism (2000-2017)
Material-political context and state's accumulation strategy	Material poverty in a closed socialist political-economy; Lack of a consumption culture; Ideological focus on "collectivisation"; The party-state strives to build a new socialist China with a high level of industrialisation.	Material abundance thanks to the opening-up policy; Experiment with a market-economy; Rapid urbanisation; Emergence of consumerism; Party-state aims to build a modern socialist economy based on export-led manufacturing and domestic consumption;	China's accession to WTO attests to a deepened globalisation; Global manufacturing hub and largest goods trader; Urbanisation intensifies; Consumerism proliferates, and the "imperial mode of living" catches on; The circular economy discourse was brought in to address economic-environmental tension
Waste production & composition	Waste as the by-product of consumption is limited; municipal waste stream mainly composed of organic waste	Waste starts to overflow; Waste streams more complex with more synthetic materials(e.g.plastics) proliferate; The influx of foreign waste	Domestic waste increases at an immeasurable scale; China has become the world's garbage dump, receiving more than half of global waste exports; More waste from industrial products (plastic, paper, aluminium, WEEE...);
People's waste practices	Strong "stewardship of objects"; repair and reuse as common practices; Avidly sell scrap materials to recycling depots for some meagre profit; recycling is tied to socialist China's endeavour towards industrialisation	Disposability culture; Enthusiasm to bring recyclable waste to redemption depots started to wear off; Get used to door-step collecting services offered by non-contractual individual waste collectors.	Prevalent "throw-away" habits; Become aware of environmental problems associated with waste; Limited participation in household waste classification; Some sell scraps to individual waste collectors or new recycling companies
Dominant waste discourse	Waste materials are valuable resources for reuse and reproduction	Waste is mainly a sanitation nuisance; Emergence of environmental-related waste discourse under the "sustainable development" rhetoric;	Waste is dominantly featured as an environmental issue, with environmental discourse focusing on the problems of current waste disposal methods.
Main waste-related policies	n/a	Regulation on individual businesses in discarded materials (1985) Notice on the management of renewable resources recycling (1991) Solid Waste Law (1995)	Revised Solid Waste Law (2004) Circular Economy Promotion Law (2009) [although more like an industrial policy]
Key actors in waste management	government institutions in waste recycling; No private sector nor civil society engaged	Government institutions in end-of-pipe disposal a booming informal waste recycling and processing sector nascent ENGOS	government institutions mainly in disposal; Government-endorsed formal waste collection and recycling companies emerge; Informal waste recycling sector thrives in limbo; Civil society develops further

Official waste management paradigm	A centralised system for recycling As to non-recyclable waste, in the early days, there was no waste collection system; in the 1950s, health bureaus (Ministry of Health) offered waste collection and removal services and transported to suburban or rural areas for open dumping; no modern waste treatment facilities were available.	Municipal sanitation bureaus (Ministry of Construction) offer waste collection and removal services; End-of-pipe waste disposal for sanitation purposes (open dumps and landfills)	Municipal sanitation bureaus (Ministry of Construction) offer waste collection and removal services; Largely end-of-pipe waste disposal (landfills and incineration), but 3R principles emerged as an attempt to tackle the waste crisis.
Waste recycling dynamic	centralised recycling system, which absorbed pre-PRC private waste workers Industrial waste recycling falls into the domain of municipal Material and Equipment Stations (*wuzjiju*), and household waste recycling falls into the domain of local Supply and Marketing Cooperatives network (*gongxiaoshe*) which set up waste redemption depots in each neighbourhood; State workers collect recyclable waste materials and transform them into new industrial products	Waste resourcification low on the official agenda; State-owned companies control the resourcification of main industrial waste which has higher economic value; The demise of authorised redemption depots gives way to the private sector; The government provides a favourable policy environment for the privatisation of recyclable waste collecting and trading activities; The informal waste recycling sector dominates with the tactic approval from the government;	The informal recycling sector still dominates, but the government attempts to foster formal companies to lead in waste collection and recycling activities; Administrative policies clamp on the up-til-now booming informal waste recycling and processing sector; Pilots in household waste classification schemes; State tightens import of foreign recyclable waste.

To recapitulate, the waste regime in **the socialist Mao era** concurred with Gille's account of a "metallic regime" in Hungary (1948-1974), in which waste generation was in general low due to material scarcity while state bureaus (namely *wuziju* and *gongxiaoshe*) maintained a centralised recycling system. In this relation, it is noteworthy to stress that the newly founded PRC was one of the first governments in the world to institute waste goods recycling on a nationally administered basis (Dong, 2003). At an individual level, people reused goods whenever possible, and when not possible, they avidly used the recycling depots set up by the government bureaus at different administrative levels. For people of this era, waste was perceived as a helpful resource that could be sold for a small amount of money or requisitioned by the state in extraordinary times, and for the Party-state, waste meant secondary materials needed for industrial production.

Corresponding to the nation's accumulation strategy of achieving primary industrialisation, particularly unique to this era was that ordinary people's everyday waste practices were seriously politicised, in which recycling was hailed as a patriotic or even a revolutionary duty, directly connected to the nation-state's grand ambition of industrialisation. Waste relationship in this regime was thus rather unidimensional, involving only a few central and municipal state agencies and the general populace. Like every other dimension of the political-economic life in the socialist society, the collection, circulation, removal, recycling and processing of both industrial and household waste were solely controlled by the state and its apparatuses. As the pre-PRC informal waste workers were assimilated into a bureaucratic network, no private sector nor civil society actors were involved in waste business and dealings. It is also important to note that while the socialist experience of waste and recycling embodied powerful socio-economic and political-ideological implications, waste discourse in this era had little bearing on the notion of "environmentalism", which would rise to dominate waste discussions in the decades to follow.

In the post-1978 reform era till the turn of the 21st century, China's reform and opening-up brought about staggering economic growth and stunning acceleration in industrial productivity. Material abundance quickly nourished a culture of consumption and disposability, resulting in waste generation at an immeasurable scale. With national economic and political reforms in full swing at the time, the Party and governments at the central and local levels had much weightier priorities than dealing with waste. The official recycling system effective in the Mao era became obsolete, making way for the return of individual waste workers who were active in the pre-PRC period. Ridding on the tides of China's experiment of marketisation, rapid urbanisation and the booming import-export trades, which brought in an abundant flow of foreign scraps, this so-called "informal" waste recycling sector quickly established a firm foothold in the recycling business in China and even beyond.

As waste piled up, coinciding with the catchphrase of "sustainable development" prevalent internationally, the environmental discourse on waste started to rise in China. The central government began to feature waste management on its political agenda, issuing several policy documents, including a dedicated national law on solid waste management in 1995. The Law threw some diffused light upon the guiding principles of waste management in the new regime, namely reduction, reuse, recycling and safe disposal, but it did not specify any measures nor targets, rendering these principles, especially the first three, merely aspirational. As a result, in reality, local bureaus in

charge of waste management were mainly busy disposing of waste (predominantly in open dumps or sanitary landfills). In general, both the central and local governments in this era adopted an “end-of-pipe waste disposal” strategy, with the primary aim of putting waste “out of sight” to address the apparent sanitation problems caused by municipal waste. Also notably, towards the end of this era, as environmental discourse started to draw more attention from the public and mass media, a new social force representing civil society, namely environmental NGOs, debuted in China, setting the stage for the state-market-civil society nexus in waste governance. Although merely skimmed the surface of the water in this era, this new group of actors would gain more prominence in the ensuing era.

Entering the 21st century, the waste problem seems to have gotten out of control in China in the new century. Fuelled by globalisation, a growing population, mass production, superfluous goods and the prevalent consumerism and disposability culture, China saw a steady, monstrous increase in domestic waste production and the influx of foreign recyclable waste. While the official strategy continued with the “end-of-pipe-disposal” paradigm, which mainly relied on landfills and partly on incineration, with time, waste management became a public crisis as cities became increasingly “besieged” by waste and the associated environmental and social issues aroused enormous public dissent. Following some Western countries’ experiments, China’s environmental agency quickly adopted a “circular economy” strategy to address the increasing tension between economic growth and environmental protection.

The CE discourse took a central role in the political agenda and, for a while, served as a major rhetoric guiding policy prescriptions for addressing environmental challenges. The central government formulated several policy instruments to operationalise the rhetoric, including revising the 1995 Solid Waste Law and promulgating the CE Promotion Law. However, due to their broadness and elusiveness, and perhaps more importantly, because the CE strategy later served as an all-encompassing industrial policy undergird by economic interests instead of environmental concerns, these policy instruments did not generate substantive influence. On the specific front of waste management, in this era, the central government started to tighten up waste import regulations and inspections, and many local governments did experiment with various initiatives to respond to central calls to manage municipal solid waste in a more “circular” way. While these policy exercises and others helped improve resource efficiency, increase the recycling rate and reduce pollution caused by waste and waste processing activities, they fell short of delivering China out of its waste management predicament. The

national CE strategy also saw local government attempts to formalise the recycling industry, which, however, did not perceive the active recycling sector as part of the CE solution; instead, policies and enforcement departments tried to crack down and force out the informal waste sector, but this actor group proved its resilience time and again.

Although many of the CE-inspired waste management experiments did not bear long-term fruit, they marked a positive development that pushed the waste issue to the forefront of political and public attention in this waste regime. Another positive sign in this era was that as the Party-state increasingly featured environmentalism as part of its reforms, it opened up more space for civil society to engage in environmental issues. As such, a host of civil society actors flourished, including ENGOs, media, subject experts and opinion leaders. With environmental awareness and environmental discourse on the rise, their participation and collaboration with government apparatuses (mainly in the form of offering environmental services) drastically changed the dynamic of waste management in China.

In summary, despite the notable advancements in waste governance in the 21st century, the Chinese state faced a multifaceted set of complex and persistent waste management challenges when the third waste regime ended (in an artificial sense in 2016). To start with, the expansion of the CE focus from waste hierarchy to the broader production systems inadvertently gave away a central predicament in this waste regime, that is, the tension between the imperative for unceasing industrial and urban development and environmental repercussions stemming from waste and inadequate waste management practices. Consequently, a primary challenge confronting a new waste policy regime entailed preserving the focus of waste governance reform without subjugating this core objective to the pursuit of economic development. In addition to this fundamental challenge, the material tensions imposed by waste grew increasingly acute. The continuous surge in consumerism and the emergence of new production and consumption modes fuelled by e-commerce precipitated a sustained upswing in post-consumer waste generation in this regime. Furthermore, this era was characterized predominantly by the “end-of-pipe disposal” paradigm, with prevalent inadequate MSW treatment methods and technologies causing grave environmental concerns including secondary pollution. Also importantly, the recycling efficiency of MSW remained low, and despite governments’ efforts within the CE framework to foster a formal recycling system and encourage household-end waste sorting, these experimental schemes by and large became merely policy fads. This cycle was both instigated by and contributed to the resilient dominance of the informal recycling sector in the recycling business.

Collectively, these tensions underscored the heightened prominence of waste as a formidable governance challenge for the CCP. The prevailing sense of waste crisis has not dwindled but intensified in China as the year 2017 approached, especially when propelled by a progressively pronounced environmental discourse that assumed a central role in regime legitimacy and resonated prominently on both domestic and global agendas (elaborated more in Chapter 6).

It was in the backdrop of this challenging waste management milieu that in 2017 the Chinese central government started to intensify efforts to reform the waste regime. This resolute political commitment was marked mainly by the introduction of two distinct sets of new waste policies, one aimed at grappling with the inflow of foreign waste and the other dealing with domestically generated municipal solid waste. Treating the new waste reform as one state-led political project and the two sets of policies as the outward and inward prongs of the project, in the following empirical chapters, I will examine how this political project has unfolded, expounding the contested processes in the making of the two sets of policies while focusing on bringing to light the contradictory problematisation, varied actor constellations and interest representations, latent conflicts, strategies, discourse and articulation, and the state's various strategic and structural selectivities in the processes of policy-making and hegemony production.

Chapter 4. Making waste import ban a hegemony project: Rhetorics, consensus, and institutional restructuring

Following the previous chapter illustrating the vicissitudes of the waste regime in contemporary China, this chapter and the subsequent one will investigate the construction of a new waste regime which bears the hope to address the daunting waste crisis faced by China. Marked by a surge in new waste policies and regulations especially since early 2017, the Chinese central government guided by the CCP central leadership has been resolutely attempting to steer a new path for waste governance in China via "deepening waste reform", which is what I call in this thesis a state-led political project concerning waste governance. At the forefront of the waste governance reform endeavour were two inseparable sub-projects tackling imported foreign waste and domestically generated solid waste respectively, which underline the interconnectedness of waste politics across the international, national and local scales. While some policy instruments and processes represent a rupture in China's waste politics, others carry a high degree of continuity from the last waste regime. This chapter focuses on the making of a new regulatory regime tackling foreign waste inflows (i.e. the outward prong of the political project), and the ensuing chapter will analyse a set of new policies aimed at better managing the intensified domestic waste challenges (i.e. the inward prong of the political project).

Guided by the process analysis approach within the historical materialist policy analysis (HMPA) framework as introduced in Chapter 2, in this chapter, I will primarily trace the contested and power-shaped process in which the Chinese central government, congruent with the CCP leadership, progressively made the phase-out of imported waste a hegemony project through a series of restrictive programmes and policies that culminated in an all-out ban on foreign waste flow into the Chinese territory. Most notably, in the process analysis I will introduce the main actors and interests related to this contested policy subject, and reconstruct some key disputes taking place from the international to the national level in the lead-up to the outright ban. In outlining in particular the contours of the conflicts between the Chinese central state and some major waste exporting countries, as well as among domestic actors vis-à-vis a ruptural change in waste imports, I will sketch out the key debates surrounding the risk v.s. resource dimensions of imported waste, and highlight unequal power relations among state ministries, waste businesses, scientific experts, NGOs, etc. I will also elaborate on the tensions along the structural dimensions of the governance processes, including

vertical tensions between local and central states and horizontal dynamics among state apparatuses.

The contentiousness of imported waste as a policy subject can be largely attributed to the complex materiality of the matter of waste. At the heart of the conflict was the competing discourse on the term "imported waste" (resource or trash) and the act of transporting waste to China (trade or dumping). The development of this policy issue was a result of a coalescence of economic, political and social changes both at national and international levels, which were related to the interests of the scrap industries, nation-states, local governments, the livelihoods of waste workers, the environment and the public. The contested opinions on banning waste imports altogether represented several mainstream standpoints underpinned by selective scientific knowledge, discourse and rhetorics, each fraught with intricate environmental, economic and social concerns and interests. The process analysis will expose that China's outright ban on imported waste was not developed in a historical vacuum or purely based on scientific judgement, nor was a consensus reached uncontroversially and unanimously. Instead, the making of the hegemony project was a progressive and conflict-ridden process, shaped by power dynamics between states, regulators, businesses and other normative stakeholders, and permeated with material and socioecological inequalities at international and national levels.

The chapter is organised as follows: Section 1 presents a succinct literature review on the North–South waste trade, with one strand of literature foregrounding the "resource" feature of waste and arguing that waste trade is an inherent component of the global economy, and the other guided by the environmental justice paradigm underscoring the unjust distribution of social and environmental burdens between waste importers and exporters. Another important body of waste literature discusses the topic from the perspective of international regimes, highlighting the role of international organisations, treaties and laws in global waste governance. Section 2 moves the locus of analysis to China, which since the 1990s has been simultaneously dubbed the world's biggest "dumping ground" and the most successful waste "entrepreneur". These two contradictory titles precisely mirror the competing paradigms in waste literature concerning the North-South waste movement.

Section 3 is dedicated to an HMPA process analysis of making a state-led hegemony project aimed at clamping down on and eventually banning all types of foreign waste. I first provide some background information about faltered policy initiatives crafted by the central government in the early years of the 21st century (sub-section 3.1), before

tracing the making of the hegemony project in the era of Xi Jinping (sub-section 3.2) which was featured by increasingly tightened grips on foreign waste imports. In mapping out the competing narratives between traditional waste exporters and Chinese state apparatuses representing China as a unity on the international stage, I focus on analysing the discursive strategies deployed by both sides. In particular, I sketch out how the Chinese state consolidated a hegemonic social imaginary of foreign waste in China by mainstreaming the "*yanglaji*" discourse as a risk framing of imported waste and the "people-centred" governance rhetoric as a purpose framing, thereby paving the way for the legitimisation of a restrictive regulatory regime. The section continues to depict the climax of the development of this regulatory regime (sub-section 3.3), which gave rise to the enshrinement of an outright ban on all types of foreign waste into the national law. Here, I explicate the public consultation process in law-making (a formality) staged by the central government to construct a domestic consensus about banning waste imports, and throw a spotlight on the divergent opinions and problem framings among different domestic actors and interest groups.

In section 4.4, I comb through the critical points of the analysis and discuss how the idea of fully banning imported waste was made into a hegemony project of the Chinese central state. The discussion will bring to the fore the different dimensions of conflicts and power contestations in the policy-making process, which reveals the central state's various selectivities cutting through discursive (opinion/expertise representation), organisational and material dimensions. The first dimension (section 4.4.1) focuses on analysing the failed alliances of the actors in opposition. I contend that due to asymmetric power resources, these actors have been unequally involved in the political process of problem definition, knowledge production and solution finding, and a lack of unified interests prevented them from forging a counter-hegemony project. The second and third dimensions (sections 4.4.2 and 4.4.3) shed light on the structural changes within the Party-state, which, I argue, immensely facilitated the removal of vertical and horizontal roadblocks for local implementation of and compliance with the new waste regulations.

4.1 The transboundary movement of waste: Profit or pollution?

The global trade of waste[14] has increased rapidly since the 1990s. According to UN Comtrade data, in the decade of 2001-2011, the value of international trade in major

[14] For easy reference, I use the term "waste" to refer to all types of solid waste. The difference between waste and scrap is that scrap necessarily has an economic value whereas waste is a much broader term which includes all

categories of reusable and recyclable scrap goods (e.g. ferrous and non-ferrous metals, paper, plastic and textile) grew between 4 to 10 times respectively (in Gregson & Crang, 2015). Although waste has been traded between the global North and South, as well as among Southern and Northern countries (Gregson et al., 2016), most of it has flown from the affluent world to developing countries (Kellenberg, 2015). This observed phenomenon has been increasingly used as a lens to examine global political economy and global environmental politics. Two mainstream paradigms can be discerned in the existing literature on the North–South waste trade in the field of Political Science: the first paradigm is predominantly associated with the economic value of waste, whereas the second is primarily concerned with the implications of transboundary waste movement for the global environment and environmental justice. These two framings represent a typical transboundary waste binary, which highlights the social-ethical issues on the one hand and resource management and trade on the other (Thapa et al., 2023). This binary corresponds to the two dimensions of the "materiality" of waste, which is closely tangled in the complex web of social relations around the globe, and combined, they are particularly pertinent to illustrate the trajectory of policy development in China concerning imported waste over the last three decades or so.

The paradigm arguing for waste trade between countries predominantly follows the liberalist approach to global political economy, which foregrounds the material economic value trapped in waste. This strand of literature views waste as a potential resource and input for production. It insists that waste trade is like the trade of any other commodities in the era of economic globalisation, ruled by the law of supply and demand and underpinned by specialisation among countries according to their comparative advantage. The majority of waste scholars acknowledge that the colossal opportunity created for profits and revenues for both waste-importing and exporting countries is the primary reason for sustaining this trade. For the recipient countries which are in demand of cheap raw materials for low-value manufacturing and lack of capital and technology, the transfer of waste materials and scraps into their territory brings cheap secondary resources, direct profits for waste dealers, creation of employment (mostly in the informal sector), and acquisition of foreign investment, technologies and ideas. Whereas for the exporting countries which generate abundant waste due to a higher level of consumption, exporting waste to developing countries is a much more "cost-effective" solution for multiple reasons: Firstly, instead of building expensive recycling infrastructure domestically, it is much cheaper to "outsource" waste

discarded objects with or without economic value (without further asking to whom this "value" is addressed). In other words, scrap is waste, but all not waste is scrap.

recycling to other countries (just like outsourcing manufacturing). According to a report (Feng, 2018), waste processing costs in developed countries could range from US$400 to 1,000 per tonne, whereas the cost of exporting waste to China for processing was between US$10 to 40 per tonne (including shipping costs). Secondly, exporting waste to countries with lax environmental control and weak legal enforcement was a once-and-for-all solution to skirt the stringent domestic environmental regulations on waste disposal and treatment. Moreover, as developed countries often have relatively advanced waste processing technologies and systems, the associated transfer of technologies and capital is part of international business expansion for multinational companies (Clapp, 1994; Gregson & Crang, 2015; Mpanya, 2019; Strohm, 1993). All in all, according to this view, global waste trade is not a morality tale of villain and victim, but a vibrant business driven by markets, constituting an essential component of the world economy (Minter, 2013).

More recently, since the 2010s, the circular economy narrative has gained traction in the international debate on sustainable development while also reshaping perspectives of and creating more legitimacy for the global waste economy. Drawing from earlier ideas in industrial ecology and metabolism (D'Amato et al., 2017), the circular economy discourse advocated by transnational actors and countries such as those in the European Union rejects the common view of waste as a residue of post-production, but reconceptualises waste as a critical input in a circular economy and a resource that should inherently remain in the production cycle (Stevenson, 2017). In other words, harvesting waste is not only a significant economic activity for low-income countries, but also a vital part of resource recovery for the global economy (Gregson et al., 2007; Gutberlet et al., 2017; Lazarevic et al., 2010; O'Neill, 2019). This line holds that the transboundary waste movement contributes to fulfilling a "circular" flow of materials and hence a global circular economy, as countries in the Global North export used goods and scrap materials to the Global South for repair or manufacturing into new products, which are often sold back to the Global North (ibid.).

A second prominent body of scholarship on the transboundary waste movement is framed by the environmental justice paradigm, with the dominant narrative portraying the global North as the perpetrator and the global South as the victim. In this paradigm, waste is seen as risks or hazards, as externalities of production rather than as resources. Focusing on exposing how the countries of the global North are "trashing" the South (e.g. Schmidt, 2006; Sonak et al., 2008), the environmental justice paradigm criticises the neo-liberal contention that waste exports are economically beneficial to both the

exporters and importers. It calls into question the unjust North-South waste trade relations and argues that it follows “the path of least resistance” (McCrory, 1991), which allows waste to be taken “out of sight” and “out of mind” for the middle- and upper-class communities. As a result, the waste problem follows the same pattern as other environmental and health risks, where the costs shifted “away from people with socioeconomic power and towards people with less power and money” (O’Neill, 2019, p.2).

A vast array of waste literature has shown how the social and environmental burdens of global waste trade are unevenly distributed between the importing and exporting countries. A case in point is Inyang’s (1997) investigation into the international trade of unwanted hazardous waste and the impact on the trading countries in West Africa, in which he reveals that “the hazardous and toxic waste dumping trade in West Africa follows the path of the poor, corrupt or unformed and is exploitative” (p.3). Frey (2003, 2012) in his case studies of hazardous waste inflow to Mexico and e-waste exports to China, underlines the adverse health, environmental, and social consequences of waste trade to the recipient countries. Pellow (2007) argues that waste dumping across national boundaries and in particular from the rich to the poor countries is a form of “transnational environmental inequality” in a globalised world, and highlights the need for “environmental justice” in this regard. In a similar fashion, Demaria (2010) in his investigation into the process of dismantling and recovering materials from discarded vessels in one of the world’s largest ship-breaking yards in India, stresses the inherent “international and national uneven distribution of power” and an “unequal distribution of benefits and burdens” (p.250). Some critical scholars have taken the position of environmental justice further by arguing that global waste trade has become a new form of colonialism or imperialism. To name but a few, McKee (1996), referring to a public speech delivered by the then president of Zimbabwe, deplores the North-South waste trade and calls it “garbage imperialism” which has turned Third World countries into “waste baskets” (p.238); Park (1998) calls the transboundary movement of hazardous waste “international environmental racism”; and Gregson and Crang (2015) describe the current global waste trade pattern of “dumping on the peoples and environments of the Global South” (p.153) as a form of “neo-Colonialism”.

Other scholars have taken up the issue of uneven waste production and distribution from the perspective of “consumer society”. The environmental justice paradigm in this vein highlights that the environmental costs of the profligate consumption patterns and throwaway cultures mostly prevailing in the Global North are being externalised and

unfairly distributed through the use of nature and cheap labour in the Global South (Cotta, 2020). Clapp (2002) coined the term "waste distancing" to explain the growing waste output and the increasing transboundary waste movement. She argues that thanks to "the growing scale of industrial life, economic globalisation and economic inequality" (p. 156), the geographical and mental distance between consumers and their waste grows bigger in today's world, which perpetuates the "undesirable consumption choices" (p.160), resulting in more waste being generated and subsequently moved to distanced places. In the same line of thinking, the concept of the "imperial mode of living" proposed by Brand & Wissen (2013) can also be borrowed here to understand the waste movement phenomenon. The imperial mode of production and living, which underpins the everyday life and way of thinking of the people in the Global North (and recently the emerging economies), relies heavily on the unlimited appropriation of natural and labour resources from elsewhere. The notion implies an asymmetric relation of forces organised through the world market and ascribed in international institutions, which in turn normalises or reproduces the imperial world order. One of the consequences of the imperial mode of living is excessive waste generation, particularly from the Global North and the exhaustion of waste-sink capacity of the poorer countries, and concurrently, reinforced environmental injustice.

In this connection, another substantial body of literature derived from the Regime Theory (e.g. Biermann, 2007; Biermann et al., 2009; Haggard & Simmons, 1987; Young, 1982, 2011) is also worth mentioning as it sits at the interface of international waste trade and its environmental implications. This strand of waste scholarship looks at the transboundary movement of waste similar to those of liberal institutionalist scholars of international relations, giving much emphasis to the role of international regimes including international laws in global waste governance (e.g. ATCRR, 2019; Barsalou & Picard, 2018; Honkonen & Sabaa, 2017). As defined by Levy and colleagues (1995), international regimes are "social institutions consisting of agreed upon principles, norms, rules, procedures and programs that govern the interactions of actors in specific issue area" (p.274). From the 1972 Stockholm Conference to the 1992 Rio conference and the recent Paris Agreement on climate change, over the past decades, international environmental regimes in the form of conventions, treaties, laws and institutions have been at the vanguard of global efforts to tackle environmental problems and crises. In the case of transboundary waste flows, several specialised regimes have been dedicated to either regulating international waste trade or reducing waste production and circulation across the globe. These include inter alia, the Basel Convention on the

Control of Transboundary Movements of Hazardous Waste and Their Disposal, several normative declarations and protocols proposed by international organisations such as the UNEP, and rules imposed by international trading institutions such as the WTO. However, as highlighted by regime critics, international regimes tend to "reinforce existing power structures" instead of "tackling the root causes of the ecological crisis" (Williams, 1996, p. 51). Current international organisations and treaties regulating transboundary waste movement have also exposed inherent shortcomings (Kirby & Lora-Wainwright, 2015), thereby bringing into question their effectiveness in global waste governance.

4.2 China, biggest "dumping ground" or enviable waste "entrepreneur"?

As briefly introduced in the previous chapter, starting from the 1980s, with China's economic ascent, all types of waste materials and scraps from all over the world began to flood into the country, with the massive boom in waste imports coinciding with China's accession to the WTO in 2001. As a rapidly growing manufacturing base in the post-reform era, China had an insatiable demand for cheap raw materials, and the labour costs were low and environmental regulations lax - all ideal preconditions for foreign countries to transfer their waste to China. Hence, waste dealers have taken advantage of the otherwise empty containers used for exporting Chinese goods (i.e. reverse haulage) to transport waste back to China in an exceedingly organised and cost-effective manner (Davey, 2012; Velis, 2014). For the past 30 years, ships heading to China carrying millions of tons of waste collected worldwide charted the most remarkable path of transnational waste movement in history.

To briefly illustrate, from 1992 to 2016, China took in more than half of the world's exports of plastic scrap, scrap copper and wastepaper (UN News, 2018). According to a report (Zhao & Du, 2018), in the first decade after the 1978 opening-up, China imported around 1 million tons of waste annually, but the amount began to grow exponentially entering the 21st century: in 2002, about 20 million tons of foreign waste entered China, in 2005, that figure was doubled, and in the 2010s it reached a peak of 60 million tons and had remained more or less at this level til 2017. If taking into account the waste smuggled into China, the number was even higher. As such, in addition to becoming the world's manufacturing powerhouse, China earned itself the title of the world's "dumping ground" (O'Neill, 2018). Singling out the USA-China trade, for many years, waste and scraps, including copper, aluminium, paper, and plastic, were the USA's second largest exports to China behind soybeans (Baden, 2013).

The endless inflow of foreign waste was tapped into a lucrative business, bringing waste traders both in China and exporting countries dazzling profits. In particular, as described in the preceding chapter, the informal recycling sector in China undertook much of the work to turn waste into resources and profit from it. Some rural areas, especially those along the coastline or close to large industrialised regions, thrived on being global recycling hubs, dismantling, processing and extracting materials from millions of tons of waste generated both from home and abroad. Many obscure Chinese towns were put on the world map thanks to their specialisation in recycling certain types of waste. Most notably, Guiyu township in south China's Guangdong Province became the world's e-waste capital, Taizhou in east China's Zhejiang Province was world-renowned for recycling scrap metal (Schulz & Lora-Wainwright, 2019; Xu et al., 2020), and Wen'an in north China's Hebei Province was the world's famous plastic waste capital (Goldstein, 2017). These recycling centres provided a profusion of cheap secondary raw materials for China's booming manufacturing industry as well as for global traders. Also, waste trade propagated some successful self-made waste entrepreneurs while creating hundreds and thousands of jobs for the rural population (Minter, 2013). Moreover, the logistics industry in China also benefited from this trade by utilising empty containers to carry waste materials and scraps on their return haul to China, earning additional revenue. In a word, from source collection (many scrap collection centres in foreign countries were, in fact, set up by Chinese businessmen) to transportation, material recovery and selling, foreign waste trade was a billion-dollar business in China.

To be sure, technically, not all types of waste were allowed to enter China. China's very first law on solid waste management, enacted in 1995 (i.e. the Law on the Prevention and Control of Environmental Pollution by Solid Wastes; in shorthand, "Solid Waste Law"), clearly stipulated that "dumping, piling up or treating overseas waste in the Chinese territory" was forbidden, so was importing waste that could not be used as raw material (PKULaw, 1995, Article 24&25). This means only waste that could readily be used as raw material was permitted to enter. The state department of environmental protection in conjunction with the department of foreign economic relations and trade in 1996 published a catalogue of solid waste allowed to be imported as raw materials. In addition, for any entity wishing to import "permitted" waste, a licence or a certificate of approval had to be obtained from the state department of environmental protection as a legal requirement. Over the years, the import catalogue was updated several times, with more waste categories being classified as "restricted" or "forbidden" (Yu, 2019).

Despite the existence of the Solid Waste Law and other associated regulations, waste smuggling into China - whether in the form of importing waste categories on the "forbidden" list or importing "permitted" types but without a licence - has been rampant. The Chinese customs offices frequently seized imports of substandard recyclables mixed with a high percentage of non-recyclable or hazardous waste which was clearly banned under the Basel Convention (General Administration of Customs, n.d.). Estimates showed that a typical level of contamination for exported waste plastics from the USA could be as high as 20%, massively exceeding the threshold of 1.5% permitted by China's 2009 import legislation (Velis, 2014, p.53). Therefore, state authorities and official media outlets have been constantly stressing that imports of such waste constituted illegal dumping.

All in all, China has long been the largest recipient of waste produced globally. On the one hand, as the world's biggest "dumping ground", it seemingly fits into the victim's narrative, mirroring the broad "environmental justice" paradigm which repudiates countries in the Global North for offloading environmental and health impacts onto developing countries such as China. On the other hand, admittedly, China was not simply a victim in this trade. There was a widely shared acknowledgement among Chinese policy-makers and civil society actors that recyclable waste from foreign countries did contribute to China's manufacturing boom and economic take-off by providing a comparatively cheaper material input for production. From this perspective, China could be considered the world's biggest and most successful "waste entrepreneur" in the past three decades. Hence, the narrative of the Global North as the perpetrator and the Global South as the victim is rendered too simplistic in this case (O'Neill, 2018). Notwithstanding the competing narratives, the Chinese central government in recent years has been reinforcing the "environmental justice" position to effectively curb foreign waste imports. In what follows, I will delve into a historical-materialist analysis of a series of policy efforts initiated in the 2010s, which eventually culminated in a sweeping ban prohibiting the import of all types of waste into China in 2021.

4.3 Reconstructing the process: Towards a regulatory regime outlawing waste imports

In this section, I will set out a historical-materialist analysis of a string of recent policy actions taken by the central government (championed by the Ministry of Environmental Protection) in an attempt to crack down on foreign waste imports, capped by a complete ban which effectively outlawed transporting waste into China since 1 January 2021. Following the operationalisation guideline of HMPA proposed by

Kannankulam & Georgi (2014) and enriched by Brand and colleagues (2021) (introduced in Chapter 2), for this group of policies, I will focus on the process analysis, in which I will reconstruct a timeline of policy events in the lead-up to the total ban on waste imports while highlighting the conflicts and contested dynamics in the process of policy-making and implementation. In mapping out the policy process chronologically, I will also identify the main actors involved, shed light on the prominent conflict lines and competing strategies, and illustrate the asymmetrical power resources at the disposal of different actors when responding to the making and development of policies vis-à-vis foreign waste imports.

4.3.1 Background: Early efforts to control foreign waste imports faltered

As alluded to in Chapter 3, the general policy trend vis-a-vis foreign waste imports has been increasingly restrictive since the enactment of the Solid Waste Law in 1995. The first serious effort to reject foreign waste intended as raw materials could be dated back to the year 2000 (the starting of the 3rd waste regime in Chapter 3), when four state agencies under the State Council15, namely the then State Environmental Protection Administration (SEPA), the China Customs, the Ministry of Foreign Trade and Economic Cooperation and the State Administration for Entry-Exit Inspections and Quarantine jointly issued a ban on the import of 11 types of waste electrical and electronic equipment (WEEE), including discarded televisions, computers, monitors, photocopiers, video cameras, and household telephones (SEPA, 2000). The primary justification for the e-waste ban was that the survey results ascertained by the SEPA revealed that the primitive WEEE recycling practices in many coastal areas seriously polluted the environment (Chung & Zhang, 2011). In 2004, the respective state agencies updated the list to include more types of WEEE in the "forbidden" category (MOFCOM, 2004).

However, as WEEE recycling was such a lucrative business, the ban only pushed waste traders and recyclers to move their operations underground. In addition, municipal leaders often turned a blind eye to those "illegal" waste businesses since the dismantling of WEEE and processing and selling of recovered materials were the

[15] The State Council is China's cabinet and the highest-level administrative body of the country. Led by the Premier, it is responsible for managing affairs in all aspects of society and has massive apparatuses including all ministries and commissions. It is worth mentioning here that the Chinese political structure has three parts: the CCP, the government, and the People's Liberation Army. On the surface, there is a separation of power between the Party and the government. However, this political system has to be observed on the premise that the Party controls every branch of the government, and each of the government's administrative, legislative, and judicial branches is integrated within the Party and can be regarded functionally as the assisting body to the Party's ruling in China (see: Ahrens, 2013; A. He, 2018; W. Hu, 1998). Hence, the administrative system in China is characterised by a Party-government "dual-track" structure. Under Xi, the structure has become increasingly Party-centric.

backbone of local economic development and rural industrialisation (Tong & Wang, 2004), which brought a sizeable fiscal contribution to many local governments (Barnes, 2011; Wei & Liu, 2012). As such, "local protectionism" (Lorentzen et al., 2014), accompanied by defiance of policy orders from the central state institutions, was widely practised at the time. Consequently, notwithstanding an explicit ban on importing WEEE since the very beginning of the 21st century, China remained the world's largest importer of WEEE and the informal WEEE recycling sector continued to flourish for the next decade or so. As described above, some rural areas along the coast, such as Guiyu and Taizhou, remained as bustling global e-waste recycling hubs.

In the subsequent years, the central government issued several other policy prescriptions attempting to control waste imports. Among others, these included a series of environmental protection standards formulated by SEPA in 2006, which aimed at providing specific standards for managing a range of imported waste intended as raw materials (SEPA, 2006). In 2011, within the framework of the Solid Waste Law (2004 revision), the Ministry of Environmental Protection (MEP; SEPA was renamed to MEP in 2008) together with four other state agencies, namely the Ministry of Commerce (MOFCOM), the National Development and Reform Commission (NDRC), the General Administration of Customs (GAC), and the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) promulgated a normative ordinance titled "Administrative measures[16] for the import of solid waste" (MEP, 2011), providing further clarifications to the Solid Waste Law as well as a general framework for cross-departmental coordination in foreign waste management. The implementation of the various legislations and ordinances in the early 2000s, however, was rather lame on the ground, rendering the central government's attempts to regulate and control waste imports primarily thwarted. Illegal waste imports (i.e., waste smuggling or importing waste with a contamination level far surpassing the permitted threshold) and illicit waste disposal and processing (i.e., not in compliance with environmental regulations) remained rampant.

4.3.2 Tightening the grip in the Xi era: The rise of risk framing and contestations around the 2017 import ban on four major categories of waste

Notwithstanding prevalent local policy shirking in the 2000s (reasons to be explained in the concluding section), the central state has been pertinacious in further pushing for policy endeavours to curb the imports of foreign waste, drastically stepping up the game

[16] The Chinese laws and regulations are in general very broad and vague. Therefore, following the issuance of a law/regulation, more specific guidelines such as administrative measures or implementation measures are often issued by the State Council or respective ministries to facilitate policy interpretation and implementation.

entering the era of Xi Jinping. Starting from *2013* - the year Xi assumed the presidency, the central government toughened up measures and undertook a series of sweeping actions to clamp down on waste imports. Most notable among them was a camp*aign called the "Gr*een *Fence Operati*on" (GFO) *launched by the GAC*, aiming to enforce the existing waste import regulations and fend off inflows of illegal waste imports through conducting more stringent inspections by the customs offices (Balkevicius et al., 2020). In this operation mainly targeting waste smuggling and "dirty" waste, nearly every container arriving in China was inspected (Powell, 2013), and all shipments with higher levels of contamination than the permissible thresholds were rejected at the border. Although the operation only lasted ten months, from February to November 2013, it gravely disrupted the global waste trade order. Velis (2014) painted a vivid picture:

> "Inspections slow down port operations, shippers are now seeing rising demurrage costs as they pay ports to hold containers until they are inspected. Apparently many thousands of tonnes of all types of waste have been blocked. Containers have been returned at a high cost (e.g. $2,000 to the US). Large exporters in the USA started implementing more rigorous inspections in the countries of origin. Re-processors started rejecting bales with material that was acceptable before the onset of the crisis. Local recyclers in the USA and Canada had material piling up, with mixed plastic bales 'just not moving'. This resulted in extra costs and efforts for the recycling companies...Germany and the Dutch have experienced reductions in export volumes; French companies had difficulties in timely payments; and oversupply of plastic scrap was evident in the USA. Disruption of exports impacted on the collection for recycling systems..."(p.47)

Evidently, the Green Fence Operation imposed with stricter inspections brought turbulence to waste businesses worldwide while setting alarms particularly to countries which had been exporting their recyclable waste predominantly to China. A similar action was launched in 2015, in which customs offices nationwide were asked to strengthen inspections on the quality and legality of imported scrap plastic shipments. In tandem, local environmental protection agencies intensified investigations into the domestic scrap processors, conducting frequent spot audits of scrap handlers and buyers inside China to ensure they were handling waste materials per the procedures in their licenses (Elliott, 2015). Although these targeted, intensive operations conducted by specific state apparatuses had resounding impacts at the time of occurrence on the waste import & export businesses, their enforcement effects were rather short-lived. Once the campaigns ended, the previous waste trade and processing patterns quickly resumed (Tran et al., 2021).

However, the discursive impact of such targeted operations was more profound and lasting. The wide reportage of mainstream media on the state authorities' crack-down efforts (e.g. CCTV, 2013; China Youth Daily, 2013; Wang, 2013; Xinhua News, 2014) prompted heated academic and public debates around the issue of "foreign waste" in

China. It is necessary to establish a discursive basis here. In the Chinese language, two terms are generally used to refer to foreign waste: one is "*jinkou guti feiwu*", translated into "imported discarded solid objects", and the other is "*yanglaji*", which literally means "foreign garbage". While the former is a neutral term generally used in official discourse to refer to all types of imported solid waste, the latter is more colloquial, and in official language, it was mostly used to refer to the categories of waste that failed to meet import requirements. More broadly, in common parlance the term "*yanglaji*" refers to a range of foreign things seen as corrupting or threatening. The rhetoric carries some nationalist sentiment as it conjures up images of foreign exploitation and dumping which are linked to China's past experiences with colonialism and imperialism (Liebman, 2018).

Concerning the narrow sense of foreign waste, as the ensuing analysis shall reveal, the rhetoric of *"yanglaji"* would gradually gain traction in official policy discourse in the following years. The reporting of the clampdown campaigns on mass media helped script and promote a narrative in which foreign waste was constructed solely as a "risk" for China's environment and human health, and the act of foreign countries exporting waste to China as "dumping", "exploiting" cheap Chinese labour, and "intruding" into the Chinese people's everyday life. The risk framing was then widely circulated and reinforced in political and public discussions, which further activated "schemas" (Entman, 2007) that encouraged the public to think, feel and discuss according to this framing. In the end, the risk framing of foreign waste was consolidated as a hegemonic social imaginary in China, which paved the way rhetorically for legitimising and solidifying a policy regime that is stoutly against importing foreign waste. Considering this foretoken, let me move forward with the process analysis.

4.3.2.1 Normalising the "yanglaji" discourse and the "mass line" rhetoric

Building on the previous sweeping crackdown actions, in 2017, the central government rekindled scrutiny and heightened restrictions on waste imports. Its unflinching determination was manifested in imposing some draconian policies, the impacts of which have been far-reaching and are still unfolding. Indeed, the year 2017 would mark the turning point in China's waste politics and completely reshape the course of the global waste movement. The year started with the "National Sword Operation" (NSO; in Chinese "g*uomen lijian*", the literal translation stands for "sharp sword at the gates of our country"). NSO a multi-year enforcement campaign launched by the GAC that targeted the smuggling of foreign waste, among other things. According to the official parlance, combatting "*yanglaji"* was the flagship project of the NSO

campaign (Gu, 2017). Although similar to the previous actions, this campaign had heightened enforcement actions and more profound consequences. Also, whereas the inspection policy of the earlier operations only acted as a technical standard to improve the quality of imported waste, the NSO campaign additionally aimed at reducing import quantity by imposing import quota (Tran et al., 2021, p.987). In other words, if the purpose of the 2013 "Green Fence Operation" was to build a gate to "fence off" illegal waste imports, the goal of the 2017 NSO campaign was to take a sharp sword to pierce through the hitherto hegemonic order of foreign waste flooding into the Chinese territory. In tandem with the NSO campaign led by the customs office, the MEP and its local counterparts led intensive inspection campaigns against waste processing and recycling facilities across the country, which imposed penalties on over 1,000 facilities, revoked the import licenses of 960 companies, and forced the shutdown of 8,800 informal workshops (Ying, 2019, p.1152).

The NSO campaigns only signalled the beginning of a series of efforts the central state took to shatter the existing waste management order. In parallel, a national policy banning more types of waste was brewing in the background. By now, the issue of tackling foreign waste imports has attracted the attention of the very top echelon of the CCP. In mid-April 2017, during a meeting of the Central Leading Group[17] for Comprehensively Deepening Reforms (CLGCDR) headed by President Xi Jinping, the issue of foreign waste was raised as one of the targeted areas in which "deepened reform" was needed. The leading group noted that "regulations should be enhanced to 'significantly' reduce the categories and volume of waste imports" (R. Zhang, 2017). Furthermore, President Xi declared during the meeting that "*banning the import of foreign waste is a landmark measure for the construction of Ecological Civilisation[18], the reform of which requires unswerving advancement"* (MEP, 2017).

It is worth noting that the CLGCDR, consisting of officials at the rank of deputy national leader or above in the party hierarchy, was established under President Xi to steer the country's reform agenda. Since the economic reform initiated by Deng in the late 1970s, Chinese society has been under continuous reform on all fronts, and constant reform, including reforming the Party from within, is to some extent one of the legitimising strategies of the CCP to demonstrate its capacity as a progressive party to

[17] In China's fragmented authoritarianism, setting up central-level "leading small groups" is one way the CCP tries to exert its ultimate influence in policies by coordinating the fragmented interests across multiple bureaucracies. These groups are presided over by senior leaders at the central state level. Under Xi, there has been a rise of "leading small groups" (some call it Xi's signature governance innovation), signifying the centralisation of power (See Dickson, 2021)

[18] The discourse of "Ecological Civilisation" will be elaborated in Chapter 6.

adjust to an ever-changing environment both at home and abroad. The establishment of the CLGCDR under Xi's chairmanship was seen by some as a significant expansion of Xi's authority as the group can push policies past the governmental bureaucracy and consolidate the Party leadership's power over the State Council, which is led by the Premier (Huang, 2013). In short, the featuring of the foreign waste issue on the meeting agenda of the CLGCDR was monumental as it manifested that the topic of reforming the waste imports system was poised to the level of the CCP top elites, presaging the making of a hegemony project by the Party-state.

The conspicuous intention of the Party prompted industry insiders to speculate that a ban on imports of foreign waste was under consideration by the central power (Staub, 2017), and they did not have to wait long. Three months after the CLGCDR meeting, on 27 July 2017, the State Council officially issued a notice titled "*The implementation plan for prohibiting the entry of foreign garbage ["yanglaji"] and advancing the reform of the solid waste import administration system*", in which it stated that "by the end of 2017, the import of solid waste *["guti feiwu"]* posing a grave danger to the environment and triggering a strong response from the public will have been fully banned", and that "by the end of 2019, the type and volume of imported waste in general will have been significantly reduced" (General Office of the State Council, 2017). In line with this policy milestone, the MEP on the same day notified the WTO that starting from 2018, China would forbid the import of four major categories of solid waste, including post-consumer plastic waste, vanadium slag, unsorted wastepaper and waste textile. The justification for the ban on these four categories was presented in the notification to the WTO as follows: "According to the special actions...of combatting *illegal foreign garbage [emphasis added]*...we found that substantial amounts of dirty wastes or even hazardous wastes are mixed in the solid waste...This polluted China's environment seriously. To protect China's environmental interests and people's health, we urgently adjust the import list..."(WTO, 2017, p. 201).

A discourse analysis of the wording used in these two policy notices is revealing. First, with regard to the perception of foreign waste, both announcements clearly demonstrated that the official line has leaned towards the risk framing of foreign waste: In the State Council's notice, the title used the phrase "*yanglaji*", the entry of which was to be prohibited. In the texts, the usage of terms was rather fluid in both announcements. On the one hand, "*yanglaji*" seemed to be used in the strict sense to refer to illegally imported or poor-quality foreign waste, and as such, the precondition to ban the four types of waste (previously had been imported as raw materials) was to

categorise them as *"yanglajia"*, which has been constructed as a risk object. On the other hand, the term seemed to be used interchangeably with the general term "*jinkou guti feiwu*" (imported solid discarded objects) because, intriguingly, if "*yanglaji*" was used in the strict sense in the notices, then it was redundant to frequently add such adjectives as "illegal" or "smuggled" in front of it. In this reading, contrary to previous practices, the official discourse reflected in these two state notices started to use the derogatory term "*yanglaji*" as a catch-all phrase to describe foreign waste altogether. This conflation of terms by the competent authorities, whether deliberately or unwittingly, indicated a trend in the official stance on the matter of foreign waste imports, which was shifting from a relatively neutral attitude towards a more rejective one. Concomitantly, the shifting position suggested that the *"yanglaji"* discourse was being normalised in the official framing, which underscored the perception of foreign waste as a risk and constituted an essential component of the "schema" to be activated further and circulated among a broader audience.

Secondly, both announcements had a paramount focus on the "people" discourse, mainly manifested in the alleged justification for banning the selected categories of waste, i.e. these wastes *triggered a strong response from "the public" [emphasis added]*, in addition to the associated environmental risks. This emphasis was in close accordance with the CCP's present-day legitimising strategy, which has been modified from "growth-based" to "people-centred" given the new social, political, economic and environmental challenges of this era[19] (W. Zhang, 2013). To be sure, the CCP claims that the "people-centred" concept has been at the core of its ruling from the outset, inherited from Mao and Deng, with "Marxist thought on the people and the mass line as the theoretical source, historical basis and practical foundation" (He, 2020). In the previous Hu-Wen administration, the function of the government had already started to transform from growth-based to service-oriented in the face of growing inequality, corruption, and other disharmony factors (Zhang, 2013, p.176). But the "people-centred" approach as a governance strategy was first put forward by President Xi at the 19th Congress of the CCP (in 2017), which holds that "exercising power in the interest of the people are the ultimate goals of the work of political parties" (He, 2020). It has been hailed as a theoretical innovation of Xi, applicable to a China which is transitioning from a middle-income to a high-income country (Hu et al., 2020). As such, the "people-centred" approach has been serving as the primary principle of CCP's governance in the

[19] More context of this transition in Chapter 6.

Xi era, and a series of institutional reforms have been undertaken to align with this approach and to "fully mobilise the enthusiasm and creativity of the people" (ibid.).

In the face of this governance shift, the policy effort was constructed by the Chinese central government as a dutiful response to "the people's call" to ban the entry of *"yanglaji",* which conjures up images of exploitation of cheap Chinese labour and contamination of Chinese people's living environment, and - thanks to previous policy constructions - has by now been normalised as an official phrase describing all types of foreign waste. As such, if it was the will of "the people" to stop "*yanglaji*", then it was indisputable, and the Party and the government had to act as "*we must regard as our ultimate goal the people's aspirations to live a better life*" (Xi, 2017). Although there was no empirical evidence to bolster the statement as to how exactly foreign waste triggered a strong response from "the public", and notwithstanding the vagueness of the term, the emphasis on the abstract discourse - "the people" in the policy announcements not only provided a sound, invincible justification for the ban, but also served as a powerful strategy to unify the thoughts and actions of state apparatuses and civil society which included the public. In addition, constructing the policy idea of banning certain foreign waste as a state response to "the people's will" and for "the people's good" helped to consolidate the risk framing and reinforce a social imaginary in which foreign waste was perceived as a risk, an intruder, and a symbol of foreign exploitation diminishing Chinese people's national pride. As will be displayed below, the "people-centred" discourse would be repeatedly used by central policy-makers when justifying the policy on banning all foreign waste. Moreover, the ongoing overall solid waste management reform, of which controlling foreign waste is an essential component, is constructed as the Party-state's "*minsheng gongcheng*" (i.e. "a project for people's well-being") and *"minxin gongcheng"* ("a project to win people's heart") (Qiu, 2020; B. Wang, 2017).

After issuing the 2017 ban, an inter-ministerial coordination group was set up with high-level representatives from 15 central state agencies. The central coordination group, with the MEP officially assigned as the leading agency and the GAC the deputy leading agency, aimed to coordinate the work of various actors with a stake in foreign waste management and build cross-ministry consensus on the matter. The MEP (renamed to the Ministry of Ecology and Environment/MEE in 2018) has since made deepening the reform in waste imports and tackling environmental pollution in the import waste processing industry a work priority (Ying, 2019). This commitment was also manifested in the increasing reportage of the policy issue on its official online portal for information

disclosure. An initiative to drive transparent governance, the "Open Government Information" portal of the MEP archives the ministry's working reports, press releases and thematic articles pertinent to its function. A search on the e-portal showed that interestingly (certainly not accidentally), July 2017 marked a watershed moment in terms of political attention to the topic of foreign waste, in a sense that before this point, the topic was rarely reported by the central state agency[20], whereas starting from this moment, the theme appeared frequently, being featured at least once every month in the ministry's regular press conference and various working reports (MEE, n.d.).

4.3.2.2 Reconstructing the main corridor of conflicts between China and major waste exporting countries vis-a-vis the 2017 partial import ban

The announcement of the partial ban struck a serious blow to the global waste trade market and sparked bitter brawls between China and some major waste-exporting countries. On the one end of the conflict corridor were countries such as the USA, the EU and Australia which tried to push back China's ban. In their oppositional justifications, three primary lines of arguments could be discerned. The first focused on the resource materiality of the waste, championed by the scrap industries in the exporting countries in particular. For example, the USA's Institute of Scrap Recycling Industries (ISRI), in its comments submitted to the WTO in response to China's notification, stressed that the four types of materials China announced to prohibit were not trash but "very clearly valuable scrap commodities", or "goods" that should be traded (ISRI, 2017). On this material premise, the second line of argument rebuked that China's ban was inconsistent with existing international norms for trade in scrap materials, denouncing China for breaching its WTO obligations by "treating domestic and foreign waste differently and employing an overly trade-restrictive policy" (Reuters, 2018). This line of thought was concerned about the potential challenge China's ban would pose to neoliberal globalisation. Signalling out the scrap trade between the USA and China, in 2016 alone, it was worth more than US$ 5.2 billion. Implementing the partial ban would indeed disrupt the current global trade value chain, causing "the loss of tens of thousands of jobs and the closure of many recycling businesses throughout the USA" (ISRI, 2017). Besides the economic arguments, the third narrative resorted to the "environmental protection" discourse. This narrative complained that China introduced the ban rather "abruptly", leaving countries little time to adjust. As a result, the scraps rejected by China would be forced to be re-routed to third countries which may not

[20] Note that the earliest available information on this archive can be traced back to the year 2000.

have the necessary infrastructure for safe recycling. To their concern, this would direct the scrap materials away from productive reuse but towards disposal in a more perilous manner, thereby having more detrimental impacts on the global environment (Reuters, 2018).

On the other end of the conflict corridor was China, which was adamant in defending its decision to shut the door to the four categories of waste as announced. For one, the Chinese representative at the WTO debunked the accusation of "abrupt announcement", making clear that China had informed relevant international organisations half a year in advance. Indeed, events going back to the crackdown actions since 2013 in many ways foreshadowed the latest move. Along this line, the countries that complained that they did not have time to adjust were themselves to blame for having reacted too slowly. China also took the Basel Convention as the defence mechanism, arguing that it merely adhered to the principle that every country was responsible for disposing of its waste. According to this principle, China was obliged to restrict waste imports, especially since it had a tremendous amount of waste to clean up at home. In addition, the Chinese official at the WTO stressed that dumping waste in developing countries was more an issue of "morality" than "free trade", pointing out that the countries expressing "particular environmental concerns" were mainly developed countries with financial, technological and managerial capacities to dispose of waste in an efficient and environmentally friendly manner by themselves (China Daily, 2018). Moreover, the waste conflict became highly politicised and boiled up to a diplomatic bicker between China and some major waste exporters. In particular, the ban occurred when the USA - China trade relations were thwarted. Against this backdrop, a spokesperson of China's Ministry of Foreign Affairs dismissed the USA's complaints against China's import restrictions, calling its alleged concerns "hypocritical," "unjustifiable" and "illegitimate", and stressing that refusing "*yanglaji*" *"is a right enjoyed by China in accordance to international laws and has the full support of the Chinese people"* (Xinhua, 2018).

This official position resonated with and was partially informed by some civil society actors, especially those engaged in environmental protection actions. Responding to the accusation that China's ban leaves no time for others to adjust, one expert working in a think-tank organisation affiliated with the MEE openly said: *"That is their problem, their weak governing capacity* [*sic*]. *If they cannot manage their own waste, they cannot attribute this problem to China's policy"* (Interview, Environmental expert-1, December 2019). The expert also heavily criticised the "double standard" of some "Western" countries, with the narration clearly distinguishing between "us" and "them":

> "On the one hand, they criticise us for our environmental and social problems associated with waste treatment. Look at the documentary 'Plastic China'[21] - although a Chinese filmmaker produced it, they provided the funds and communication channel. On the other hand, now that we have decided to ban waste imports and clean up our environment, they blame us for not wanting to treat their waste anymore. Isn't this a malicious logic?... Why do we have to treat their waste? The Basel Convention clearly states that waste should be treated locally to the fullest extent possible. A country should only transfer waste overseas if it does not have waste treatment capacity; even if it does, it should be assured that the recipient country can treat it harmlessly."(Interview, Environmental expert -1, December 2019)

To unpack this string of arguments: some "Western" countries utilised media and other civil groups to tarnish China's international image by exposing distressing scenes of waste treatment (including foreign waste treatment) in China; but ironically, these were the same actors that exported their waste to China while possessing the capacity to treat it domestically and being fully aware that their exported waste was not being treated properly in China. Argued along this line, these countries seemed to be the ones deliberately breaching international rules all along, in particular the Basel Convention[22]. The "double standard" was also manifested in the perception of waste by "Western" countries, in a sense that the waste produced and exported by "them" was harmless, whereas the waste being imported and treated in China was harmful and emblematic of China's overall environmental crisis and social inequality.

The Chinese narrative also highlighted the dimension of economic inequality in waste trade but shunned by the exporting countries. According to the same expert, his/her think-tank did an analysis on scrap export-import trade under the WTO, which revealed that over 90% of scraps of lower economic value but higher environmental cost (e.g. scrap plastic and paper) went to developing countries, whereas 90% of scraps of much higher value but lower environmental cost (e.g. waste copper) went to developed countries. He/she hence lambasted the "hypocrisy" in the claim of "environmental protection" of the countries that voiced objection.

> "So where is the 'moral' in exporting scrap that has lower economic value but higher environmental cost to developing countries?... What is also revealing was that after the WTO notification, many embassies and foreign associations and enterprises in Beijing approached the Ministry of Ecology and Environment, raising all sorts of concerns. But only one person asked about vanadium slag, while all the others asked about waste plastic and paper. Why? Because there is no market problem for vanadium slag. This is a scrap with a much higher value and less pollution in processing. This plainly says that their concern is purely economic driven, but they do so under the banner of 'environmental protection' [sic]" (Interview, Environmental expert -1, December 2019)

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21 The documentary was made by the renowned environmental documentary director Wang Jiuliang who previously made a film titled "Beijing besieged by waste" (cross-reference to Chapter 3). There were speculations that the widely successful documentary "Plastic China" provided an important policy input to China's ban on plastic waste imports in 2017. The documentary was later taken offline by the Chinese censorship body.

22 Note the USA has not yet ratified the Basel Convention.

To summarise this subsection, China's announcement of an import ban on four categories of waste in 2017 clearly triggered a series of head-on economic and political confrontations between China and some of the major waste exporters. A closer look at the accusations and justifications held by the two sides reveals that the key contention lies in the selective definition of "waste". In defence of the waste exporters, what they exported was not unwanted garbage or negative externality of production but cheap, valuable inputs for production. Hence, in their narrative, the word "waste" disappeared altogether, but was replaced by the term "scrap" or "scrap materials". As such, the commodity feature and economic value of waste were selectively highlighted in this line of discourse, whereas the environmental and health risks of waste were omitted entirely. On the contrary, in the arguments of the Chinese officials and civil proponents of the ban, foreign waste was grossly referred to as "*yanglaji*", highlighting its negative externalities and "unwanted-ness" which conjured up repulsive national sentiment. In this narrative, waste imported to China predominantly meant "risks/hazards" to the environment and human health, whereas its economic value and commodity features were significantly downplayed.

Also interestingly, on the link between the waste exported by the developed countries and the waste being treated and recycled in China, each side selectively severed or connected it to their own advantage. That is to say, when it comes to waste-associated risks and problems in China, the exporter's discourse skilfully severed the link between its exported waste and the waste in China, whereas the Chinese side highlighted this connection. When it comes to waste materials feeding China's manufacturing sector, the narrative of the exporters highlighted the contribution of the waste exported by them, whereas the latter selectively neglected this linkage. Accordingly, the two sides took up a contrasting stance on the act of "exporting waste" in this conflict: while the exporting countries defined their shipping waste material to China as "trade", the Chinese discourse maintained that this act was primarily "dumping".

And revealingly, while both sides unanimously stressed to abide by international rules, they selectively resorted to different international regimes to defend their position. For the waste-exporting countries, the WTO with its rules supporting free trade of scrap materials was their spear, whereas for the Chinese government, the Basel Convention on controlling and minimising transboundary waste movement was its shield. However, strictly speaking, the WTO rules are only applicable to the trade of scrap materials that meet certain purity standards and are conducted by qualified/licensed companies (i.e.

referring to waste as pure resource and commodity), whereas the scope of application for Basel Convention only covers the range of waste defined as “hazardous waste”, household waste and incinerator ash (i.e. referring to waste as pure risk and externality).

The issue at stake was much of China’s imported waste, which supposedly should only contain recyclable waste and scrap materials of high quality and purity, was disappointingly mixed with a high percentage of household waste and even hazardous waste. In other words, the waste imported by China concurrently entailed the features of “resource and commodity”, and “risk and externality”. As a result, on their own, neither of the international instruments was adequate to regulate the transboundary movement of this waste mixture in its entirety. The lacuna in existing international state apparatuses, which were to some extent contradictory, left ample room for different actors to strategically select the rules they wished to abide by based on their own interpretation of the meaning of “waste” and their own interests. As such, while one side proclaimed that the transboundary movement of waste should be regulated by WTO rules, the other insisted that it must be governed by the Basel Convention.

Before the two sides could settle the disputes on the semiotics of “waste” or meet halfway along the conflict corridor, the import ban on four classes of waste came into effect on the first day of 2018. The consequence of this ban was immediate. A brief run-over of the news headlines on international media showed that the ban threw the global recycling industry into great turmoil:

> The BBC (2018, January 1) reports that the UK’s recycling industry “doesn’t know how to cope with” the Chinese ban, adding that the Environment Secretary Michael Gove had admitted that “he was slow to spot the problem coming” (para. 9).
>
> The Guardian (2018, January 2) quotes the chief executive of the UK Recycling Association saying: “We have relied on exporting plastic waste to China for 20 years and now people do not know what is going to happen. A lot of [our members] are now sitting back and seeing what comes out of the woodwork, but people are very worried”(para. 5).
>
> The New York Times (2018), January 11) highlights that “plastic piles up in Britain” and quotes a manager of a recycling company saying that China’s ban has caused “a major upset of the flow of global recyclables”, and although exporting waste to other developing countries could be an alternative, “they can’t make up the difference” (para. 6). A managing director of a British waste disposal firm commented in the news that “the market has completely changed” and “huge bottlenecks across the whole of England” would occur in the coming months (para.7).
>
> “The ban has been like an ‘earthquake’ for countries dependent on China,” says the Japan Times (2018, January 24, para.9), and the head of the Bureau of International Recycling estimates that “global plastic exports to China could sink from 7.4 million metric tons in 2016 to 1.5 million metric tons in 2018” (para.11).
>
> The list goes on…

As such, the 2017 partial import ban caused massive shifts and waves to traditional waste exporters and the global recycling industry. But China did not stop there. The central government carried out consistent measures to expand this partial ban. In the course of 2018, four central state agencies led by the MEE updated the catalogues on imported waste three times, moving a total of 32 types of waste, including post-industrial plastic waste and scrap stainless steel, from the import category of "restricted" to "prohibited", and eight types of waste, including scrap iron, copper and aluminium, from "not restricted" to "restricted" (Kou, 2019). The policies on widening import restrictions were delivered at a breakneck pace, which sometimes confused policy analysts and sent those engaged in the business into a daze. For instance, on the matter of plastic waste, the 2017 ban prohibited the import of post-consumer plastic waste, and in April 2018, the four state departments announced the inclusion of post-industrial plastic waste in the "prohibited" list as well. The two announcements combined led to a general interpretation that importing virtually any type of waste plastics to China would be illegal. However, in May 2018, the MEE reversed this understanding by issuing a quick notice, claiming that clean PET flakes which could be directly used as raw material would still be allowed to be imported (MEE, 2018a). This snippet only provided a sneak peek into China's generally black-boxed policy-making process, which was permeated with complexities, nuances, internal struggles, and occasionally even self-contradictions and confusion among state apparatuses. Inconsistency and ambiguity tend to occur, especially when decisions must be made quickly – in this case, to pave the way for imminent, utterly disruptive policy plans that could completely transform the current global waste regime.

4.3.3 Consolidating a zero waste imports regime: The enshrinement of a complete ban in the national law

The restrictive import policies illustrated thus far have progressively put certain categories of waste into the "prohibited" catalogue. With hindsight, the combined policy efforts in many ways foreshadowed that the idea to bar the entry of foreign waste altogether had been circulating at the central state level for the last few years (as confirmed by an environmental think-tank expert I interviewed). To strike while the iron was hot and achieve a thorough reform, it was now time to provide the policy idea of completely banning waste imports with solid legal ground. Inscribing the central state's policy idea into the national law was in line with the alleged governing principle of the CCP in contemporary China, namely "rule by law" (*"yifa zhiguo"*). To be sure, the Party over the years has been continuously striving to improve the legal system as a crucial

legitimising instrument to achieve a hegemonic ruling - although some have contended that the centrality of the legal system is only symbolic in the making of Chinese hegemony (Caterina, 2018).

In June 2018, the State Council issued an opinion paper stating to "strive to achieve the goal of importing zero solid waste by the end of 2020" (State Council, 2018). In the following month, the MEE drafted a proposal to amend the Solid Waste Law (the latest revision was in 2016) to add new regulations pertaining to waste management, including a ban on importing all types of foreign waste (MEE, 2018b). Although industrial and civil speculation on an outright waste import ban had been brewing all along since 2017, this was the first time that a central state apparatus publicly put forward the suggestion. The Standing Committee of the National People's Congress (China's highest legislative body) later confirmed that it would consider revising the Solid Waste Law based on MEE's proposal. In 2019, the amendment of the Law officially commenced. According to the basic proceedings of the Chinese legislation, which considers transparency and public participation as essential components in the legislative process (at least taken at face value), in July, the National People's Congress (NPC) published the draft revised version of the Solid Waste Law online, offering a window of nearly two months for state ministries, local governments, businesses and other civil society actors including the general public to submit opinions, inputs and suggestions vis-à-vis the proposed amendments.

The establishment of this basic proceeding of soliciting "public opinions" for draft laws and regulations can be dated back to 2001 when the NPC piloted the process for some drafts, and in 2008 it became applicable for all drafts, with most local people's congresses following suit. Such a type of public consultation aligns with the "mass line" governance approach endorsed by Xi himself as it showcases the CCP's aspiration for transparency and devising publicly acceptable policy. However, this mass-oriented transparency is highly susceptible to tinkering since the process is overseen entirely by Party-controlled institutions like the People's Congress system (Dickson, 2021, p.87). To put it differently, the provision of such feedback mechanisms is symbolic of the CCP's strategy to achieve governing hegemony as it simultaneously inhabits the elements of coercion and consent, in a sense that soliciting opinions and inputs from all corners of society in the process of law-making opens up the conflict field for negotiation and representation of different interests (at least symbolically), which serves as an essential instrument to obtain and exhibit the "consent" component in hegemony. In the

meantime, controlling this public consultation process by state apparatuses is coercion in full play for the Party-state to officiate and consolidate its objective.

4.3.3.1 Public consultation: Contested views of civil actors

Set aside the loud grumbles from governments and scrap industries in the waste exporting countries, the positions of which have been elaborated above, during the period of public consultation, opinions were also divided within the country concerning the idea of an all-out ban on waste imports. In particular, at the forefront of this "opinion expressing" exercise was an important civil society group, namely public intellectuals, more known in China as academic experts (*xueshu zhuanjia*), from which the Chinese government often draws policy inputs to ensure "scientific" decision-making. Although their primary profession is at universities and research institutions, it is not uncommon that public intellectuals have positions in official or semi-official "think tanks" and industrial associations and NGOs, providing allegedly interest-free consultancy and advisory services based on their expertise. Established academic experts in China can exert influence on decision-making in various ways, including providing policy inputs to the drafting of Party and government programme documents, producing reference materials for restricted high-level political circulation, undertaking research projects commissioned by the government, and airing views at academic gatherings, public events and through the media (through this channel they are also able to shape public opinions). In some cases, they can even influence decision-makers face-to-face if they have a direct communication line with government officials (Yang, 2011).

In the process of instituting the outright foreign waste ban, the opinions of experts were consulted through various forms, such as expert discussion meetings organised by the central legislative and judicial departments (NPC, 2019). The process only revealed that the group of experts or public intellectuals was by no means a monolithic block, as their views on this policy matter were more than divergent. The statements of some representatives of their field have been widely circulated and shared via various mainstream media outlets. For example, competing opinions can be observed between intellectuals at the School of Environment of Tsinghua University (the school is an important think-tank for the MEE) who predominantly supported banning foreign waste, and scholars in the field of circular economy and resource recycling who advocated a compromised solution instead of an outright ban.

At one end of the opinion spectrum, experts and their associated institutions (including public institutions and NGOs) with a primary objective of environmental

protection widely embraced the proposal of entirely banning foreign waste, closely aligned with the Chinese official stance. Their primary arguments concurred with the official risk framing outlined above, focusing on the narrative that foreign waste polluted China's environment and harmed human health. Some environmental experts also added a domestic factor to this foreign-induced risk, as illustrated by an interviewee:

> "The imported non-recyclable waste mixed in the batches put a huge strain on the already crumbling landfill situation in the country, because that waste most likely was mismanaged by the domestic informal recycling sector, and it most likely ended up in landfills or open dumps or else was simply burned in open air" (Interview, Environmental expert -1, December 2019).

As such, the risk imported was amplified by the unbridled, ill-regulated expansion of the domestic waste processing industry dominated by informal workshops which generally lacked proper safety measures and pollution controls. In addition, some proponents of the ban went as far as to disapprove of the economic benefits brought about by waste imports, a main line of defence used by advocates of transboundary waste trade. They argued that the material value generated by imported waste was negligible to the country as a whole, especially when compared with the administrative cost incurred to curb illegal waste imports and control the waste when it entered the Chinese territory, let alone the environmental cost which was unquantifiable:

> "The customs office is primarily charged with importing and exporting commodities, and one of its important duties is collecting tax. But on such a tiny matter of waste, imagine how much administration effort the customs office has invested? Compared to the minimal tax collected from waste imports, this administrative cost is disproportionately high...Therefore, it does not make much economic sense for our country." (Interview, Environmental expert-1, December 2019)

Standing at the other end of the spectrum was another segment of experts and their associated institutions against the broad-brush approach of banning all waste imports. A representative of this thought faction was Du Huanzheng, dubbed the "trash professor", who advocated maximising waste resourcification from a circular economy perspective. He argued that banning waste imports would not necessarily reduce environmental impact, for "*if there is no imported wastepaper, we have to cut down new trees, and no e-waste import, we have to smelt more copper and other metals*" (Feng, 2018). While the supporters of a complete ban argued that ending overseas waste sources would drive up China's domestic waste segregation efficiency and increase the standard of domestic waste processing and recycling industry, he was sceptical of such expectations. Instead, Du pointed out that it would be unlikely that domestic waste, even when appropriately sorted, would cover the shortfall in foreign supply to meet market demand. And he was certainly not alone. Li Zhiqing, an environmental economist

at Fudan University, echoed the persuasion of not banning all foreign waste. From an economic perspective, Li insisted that a mature market economy should allow imports of goods including waste materials while respecting China's regulatory requirements and standards (ibid.). As such, experts opposing an all-out ban stressed that the fundamental problem was not the imported waste per se but a lack of scientific assessment of the environmental and economic benefits of different types of scrap materials and raw materials, as well as the low environmental standards in the waste processing and treatment workshops in China. As an alternative, they maintained that the key to solving the contention of waste as a source of secondary material and of pollution was to control better and manage waste imports by providing a scientific benchmark for reasonable import choices, and by enhancing environmental regulations in waste industries, especially in the informal, small-scale processing workshops with outdated equipment and techniques.

Apart from public intellectuals, industrial associations were another active force in the public consultation process. For industrial associations engaged in scrap trade & processing, their primary concern was the survival of the industry altogether and the availability of raw materials if imported waste was to be wholly cut off. Needless to say, an all-out waste import ban would spell an instant demise of enterprises whose survival had relied solely on trading and processing imported waste. For waste companies that had sources from both overseas and domestic markets, although they might not run out of business immediately, the interception of foreign waste would drastically reduce their business volume. In addition, as a representative of a scrap industrial association predicated, the heightened environmental standards proposed by the MEE in the draft amendment would ring the death knell for many scrap processing SMEs which mostly would fall short of those stringent environmental requirements. Commenting on the MEE's revision proposal, the representative underscored the "immense misunderstanding" the scrap industry had borne from outsiders, and in particular from environmental agencies and activists:

> "Many items in the revision are not conducive to the development of scrap industries...For people working in the field of environmental protection, solid waste is trash; it is purely pollution without any material values. But for our industry, waste is a resource. So we have completely different perspectives. They want to forbid the transfer of waste, including plastic scrap, between countries, provinces and even cities; for instance they proposed that waste produced in Beijing should be forbidden to be transported to Tianjin. If this is the case, there is no way our industry can survive. They wish to control all types of waste according to the logic of hazardous waste management, which in my opinion is a bit conservative. But of course this is Solid Waste Law for pollution prevention and environmental protection, so its goal is to control second-hand pollution induced from waste, instead of achieving more waste

resourcification - for that, we need a different law." (Interview, Industrial association-1, December 2019)

In this reading, the antagonism of environmental actors towards foreign waste and waste in general stemmed from their perception of waste as a purely tainted nuisance, which was in complete contrast to that of the scrap industries. Again, the stunning divergence in the imaginary of waste seemed to be the underlying cause for the hardly reconcilable views held by stakeholders in different fields. There appeared to be a world apart between environmentalists and the scrap industry on the issue of waste and waste movement, in the sense that the ultimate goal of environmentalists was to avoid waste-related pollution by locking it inside the waste and shunning foreign waste altogether, whereas the purpose of the scrap industry was to unleash the value trapped in waste and extract the resource contained in waste to the maximum extent possible by shipping it to wherever this can be done most efficiently and effectively.

To raise their voice, the industrial representative said that his/her institution had submitted comments and suggestions vis-*à*-vis the draft revision of the Law to the NPC through the channel of the Ministry of Industry and Information Technology (MIIT), with which this particular scrap association was affiliated. At the time of speaking, it remained unknown whether or to what extent the opinions and comments of the scrap industry, delivered through this particular state agency, were considered by the legislative body. The representative was elusive as to the expectations that their opinions would make a difference, and indeed this perhaps was not that important at all - in a structure where the mass line is more top-down than bottom-up, the significance of civil actors participating in public consultation on draft laws does not necessarily lie in how much their comments would influence final decision-making, but rather in the fact they take the opportunity to make their views known (Dickson, 2021, p.87). And in a context like China where policy-making is highly black-boxed, it is a particularly arduous task to evaluate how public consultation concretely influences the state's policy-making; instead, in most cases, such as this one, "we learn the outcome, but not the politics of the process" (ibid, p.48).

4.3.3.2 Sealing off: The legalisation of an outright waste import ban

The period of deliberation, revision and soliciting public opinions and feedback (at least symbolically) on the amendments of the Solid Waste Law lasted approx. nine months. Eventually, in April 2020, after two rounds of draft revision and three rounds of discussion by the NPC's Standing Committee, the members of the NPC voted to pass the proposed draft amendment (NPC, 2020), and as usual, with near unanimity. The CCP

aims to present a united public facade on matters of public policies, laws and regulations, and therefore, the policy- and law-making bodies almost always approve a piece of policy or legislation with unanimity when it comes to the time to vote. In the case of law-making or -revision, most of the ministerial authorities, experts, and public opinion leaders involved in the drafting and revision are also members of the NPC (Ahrens, 2013). This means before the bill is presented for a vote at the official NPC meeting, consensus has been reached among the key decision-makers, and the arrangements have been finalised in advance behind closed doors (Dickson, 2021).

The revised Law, which entered into force on 1 September 2020, made many significant amendments[23]. With regard to waste imports, several new articles were added, including Article 24 which expressly stipulated that "The state shall gradually achieve *zero solid waste imports,* and the ecology and environment department of the State Council shall organise the implementation in conjunction with the departments of commerce, development and reform, customs, and others of the State Council" (PKULaw, 2020). It also clearly increased the penalty for violating the Law, warning that those who import solid waste to China or transfer hazardous waste across the Chinese territory in the future can expect to pay a heavy fine between CNY500,000 and CNY5 million (Articles 115 & 116). As such, the revision provided a robust legal framework for strictly prohibiting all solid waste imports.

Following the adoption of the amendments, the four central departments of the State Council, as indicated in Article 24, set out to formulate more explicit prescriptions to achieve "zero" waste imports. This is because national laws approved by the NPC are meant to be applicable across the nation with heterogeneous localities, and hence, they are often vague in terms of implementation. The onus is often on the State Council and its ministries as well as provincial and local governments to follow up with more specific regulations consistent with the general principles set forth by the law – as per their own interpretation (Ahrens, 2013). In this relation, in November 2020, following the issuance of the revised Solid Waste Law, the four state agencies jointly issued Notice No. 53, officially announcing an outright ban on importing all types of solid waste into China, effective 1 January 2021. In the meantime, the MEE stopped giving out waste import licenses (MOFCOM et al., 2020; MEE et al., 25 Nov. 2020). It is worthwhile noting here that prior to the decision, the MEE, together with the GAC, MOFCOM and MIIT, agreed to reclassify the imports of high-purity brass, copper and aluminium scraps as merchandise

[23] The revised Law will be recurrently referred to in the succeeding text and chapters.

but not waste (MEE et al., 2020). This industrial request was granted mainly due to the extremely high value and relative scarcity of these metal scraps, particularly in view of China's nascent economic recovery from COVID-19, which has disrupted mines across the globe and China's domestic scrap recycling networks (Minter 2020). As such, with the enactment of the revised Solid Waste Law and Notice 53, China officially instituted a sweeping ban on the entry of all types of foreign waste (excluding brass, copper and aluminium scraps of high purity), capping off three years of intensive, incremental policy efforts since 2017.

Speaking at a press conference following the official announcement of the outright ban, a representative of MEE's Department of Solid Waste and Chemicals (which was the competent department directly responsible for China's solid waste governance reform) hailed that the all-out ban *"demonstrates the firm determination of our Party and our government to safeguard the national ecology and environment, as well as people's health"* (MEE, 2020). Furthermore, in a documentary released by the MEE in 2021 titled *"Say No to yanglaji"*, the narrative highlighted that a survey conducted by the MEE showed that around 97% of netizens (although details of the survey participants remain unknown) supported the outright ban on the entry of foreign waste, adding that the policy had "*evoked a sense of national pride and identity*", and "*fully demonstrated our nation's growing international influence*" (MEE documentary, 2021).

These narratives reaffirmed that the policy idea of banning foreign waste was constructed by the Party-state as a national hegemony project to "win the people's heart" (*minxin gongcheng*) and for "the people's well-being" (*minsheng gongcheng*). Imbued by strong national sentiment, the discourse echoed the CCP's "mass line" governance approach stressed throughout the process, thereby aligning the waste political project with the CCP's ruling legitimacy. In addition, the Law and the accompanying policies primarily relied upon the risk framing of foreign waste, and in turn, the provision of the legal framework reinforced and institutionalised this risk framing in Chinese society. Despite exhibited disagreements and contestations, the official adoption of the latest policies sealed off all the conflicts and complexities involved in the matter, and arbitrarily created a "consensus", a "united front" against foreign waste for China, or more specifically, on behalf of "the Chinese people".

The progressive policy efforts since the 2017 partial ban have seen triumphant results in local implementation. Most visibly, there has been an incremental decrease in the volume of imported waste: while the official figures for 2017, 2018 and 2019 stood at 42.27 million tonnes, 22.63 million tonnes and 13.48 million tonnes, respectively, in

2020, it dropped to 8.79 million tonnes, down 40% year on year (MEE documentary, March 2021). And by the end of 2020 (shortly before the enforcement of the complete ban in January 2021), China achieved zero waste imports - although waste smuggling is still prevalent, cases dropped significantly, and the amount of smuggled waste was down to 42,000 tons in 2021, a 96.7% reduction compared to the previous year (Fang & Yuan, 2022).

In parallel, domestic industries associated with imported waste have undergone sweeping reforms in many major hubs. For instance, since July 2017, the government of Shandong has "dealt with"(*chuzhi*) around 1,800 informal plastic waste processing workshops in the small town of Shahe, a bustling centre for trading and processing waste plastics primarily from overseas. The local township government took mixed methods by completely shutting down electricity for production in those processing workshops on the one hand, and on the other hand, setting up a hotline 24/7 to encourage public reporting and mobilise peer surveillance on illegal operations. The municipal government promised to provide a sizeable amount of financial support in cleaning up the environment in the town and develop a high-end plastic industrial base and "Beautiful China"[24] industrial parks (MEE documentary, 2021; Yi, 2017). Similarly, the Fuyang district government in Hangzhou expelled over 100 enterprises capitalising on imported wastepaper. As an alternative, the government transformed the industrial system into one focusing on high-tech manufacturing and the digital economy. Some big paper processing and manufacturing companies successfully upgraded to high-tech and eco-businesses, whereas those without the capacity or resources shut down their business. After a series of government reform actions, Fuyang was branded as a "national demonstration zone for ecological civilisation construction" (MEE documentary, 2021; Zhong et al., 2020).

4.4 Discussion: How was the idea of banning imported waste made into a hegemony project of the central state?

The chapter thus far has exposed that the issue of imported waste, as waste in general, is a material embodiment of tensions and conflicts, and the disposition of its material value or environmental implication is subject to actors of varying interests at different times. In the case of China, before 2017, a mammoth of waste collected from the world had been flowing into the country's territory since its opening up. For most of this period, waste imported from overseas was welcomed and treated as a high-quality,

[24] The vision of building a "Beautiful China", together with "ecological civilisation construction", are two powerful rhetoric tropes under President Xi's regime. These will be analysed in detail in Chapter 6.

valuable source of secondary materials, whereas its environmental and health risks were downplayed, if not ignored altogether in the mainstream discourse, implying that risks associated with imported waste were not a prior given awaiting to be regulated by certain policy prescriptions. In the later years (in particular since 2013), however, the perception of imported waste was completely subverted, and the problematisation of foreign waste gained a rapid pace, eventually leading to a regulatory paradigm in which the import of foreign waste is to be entirely banned. Subsequently, policy results so far have shown gratifying implementation effects and a high level of local compliance, suggesting that the regulations on banning foreign waste altogether have succeeded in becoming a hegemony project of the Chinese central state, constructed as an essential instrument to tackle environmental and social risks in China.

The question is, how was the hegemony project made? The above HMPA analysis has detailed out the process marked by two policy milestones (i.e. the 2017 partial ban and the 2020 complete ban), and illustrated in depth the powerful discursive strategy the Chinese central government have deployed (in particular in section 4.3.2) in making the policy idea a hegemony project that seemingly united heterogeneous identities and interests into a popular alliance. To recapitulate, while in the beginning, the official discourse used in China to describe foreign waste was the neutral term "*jinkou guti feiwu*" (imported solid discarded objects), as waste reform deepened, the term "*yanglaji*" (foreign garbage) gradually became more hegemonic in the political and public discourse inside China, underscoring the unwanted-ness, pollution and risk features of foreign waste. As a result, a new common sense of *"yanglaji"* was created among the public, activating a "schema" in which foreign waste was immediately associated with the exploitation of cheap Chinese labour and contamination of China's environment. In tandem, the CCP deployed the "mass line" governance rhetoric by constructing the policy idea of banning foreign waste as a national project responding to "the people's will" and for "the people's good", thereby providing more legitimacy to the decision-making. The embedding of such popular discourses and commitments, as Sum (2012) puts it, "narrows the gap between top-ranking bureaucrats, think tanks, academic intellectuals, economic leaders, and entrepreneurs and mass hopes and fears", and "helps to form popular alliances with psychological-emotive as well as cognitive-rational elements behind a service bloc" (p. 75). Together, the discursive strategy of *"yanglaji"* and "mass line" rhetoric helped consolidate a hegemonic social imaginary of foreign waste in China, significantly contributing to legitimising a regulatory regime that sees banning the imports of all waste as a once-and-for-all solution to address risks

associated with foreign waste. This, in turn, further reinforces the risk framing in the public and political discourse in China and helps shape the mundane practices of people's everyday lives.

In addition to the discourse of "*yanglaji*" and the people-centric "mass line" governance rhetoric, in this section, I will try to shed light on more reasons contributing to the formation of the hegemony project by synthesising motions and considerations along two dimensions. The first dimension builds upon the analysis in section 4.3.3.1, which outlined several contested views of civil actors during the public consultation of the law amendment, to further explain why oppositional voices failed to stage a counter-hegemony project (section 4.4.1). The second dimension considers the state's institutional structure and examines how structural modifications helped address or mitigate vertical conflicts between local and central states and tensions within central state agencies. Section 4.4.2 primarily discusses the vertical relations between local and central states concerning environmental governance, reshaped by the institutional modification of changing from a horizontal governance system to a vertical one. Section 4.4.3 looks at the horizontal relations between state agencies at the central level and their contested, overlapped involvement in the matter of foreign waste management, which has been reduced in the new regulatory regime due to the radical empowerment of the state agency in charge of environmental protection. In a nutshell, the final complete ban revealed the central state's various strategic selectivities, in a sense that certain problem framings were selectively foregrounded while others were silenced, certain voices were amplified while others fell short of being heard, and certain strategies and interests were prioritised while others subdued. Thus, "consensus" as analysed above was not only achieved by discourse and persuasion, but also through tactics of (symbolic) public consultation, representation and structural limitation.

4.4.1 Vacuum in counter-hegemony project: Failed alliance among actors in opposition

As described in the above section, during the legalisation process, the central government provided a "negotiation space" (at least symbolically) for the general society to express their opinions and present their positions. In particular, the analysis in section 4.3.3.1 revealed conspicuous contentions between different civil society actors and interests, suggesting that an outright ban on foreign waste was not necessarily a political pursuit with a nationally unanimous consensus. As illustrated above, the actor groups in opposition mainly consisted of scrap industrial associations, formal and informal business owners and workers involved in foreign waste trade and processing,

and some strands of academic intellectuals. Despite being united in opposing an all-out waste ban, they did not strike any impactful counter-movements against the policy idea circulated from the central state. With hindsight, we now know that their opinions and arguments were not considered pertinent policy knowledge to influence the final decision-making, rendering the opposing moments merely innocuous "opinion expression" exercises. The reason for this feeble opposition was multifaceted. Among other things, I contend that the inherently different nature of identity and divergent interests restrained them from forming an organic alliance, and their confined power resources and power asymmetries compared with those actors driving the policy idea posed an insuperable barrier for them to stage a meaningful opposition. Let me elaborate on this point by examining the power resources/limits of the three actor groups with dissent from the official stance.

First, the formally registered waste industrial associations had the opportunity to participate in producing policy knowledge and lobby to seek to influence policy-making through their affiliated official channel. Such was the case in the scrap industrial association I interviewed which submitted comments vis-*à*-vis the draft revision of the Solid Waste Law through the MIIT channel. As illustrated in Chapter 2 on state-civil society relations in China, a civil organisation has to seek the patronage of an official state apparatus in order to be recognised as formal and legitimate, and it is more than common that retired party cadres assume the role of leadership in these entities. This holds particularly true for many first-tier scrap industrial associations, mainly representing the interest of formal waste recycling businesses. For example, the China Resource Recycling Association is affiliated with the China Federation of Supply and Marketing Cooperatives (*gongxiao hezuo she*), a critical state agency in the pre-reform era responsible for the collection and resourcification of household recyclable waste; the China National Resources Recycling Association has a historical connection with *Wuziju* which was managed by the then Ministry of Heavy Industry; and the China Circular Economy Association is officially under the patronage of the State Assets Supervision and Administration Commission as well as the National Development and Reform Commission. As such, these semi-independent scrap industrial associations mostly operate under the patronage of their line ministries and have a strong party connection.

While this political affinity granted formal scrap industrial associations privileged access to voice opinions and influence political decision-making to some extent, the institutional set-up however structurally restrained them from staging an active

opposition against the proposal put forward by the MEE, which has been the designated leading state agency in the endeavour of waste import reform. And probably more importantly, as signalled by the 2017 CLGCDR meeting and in particular the statement of President Xi, which endowed banning foreign waste with paramount significance to "the construction of ecological civilisation" (more in Chapter 6), it was clear to leaders of the associations that the policy idea of banning foreign waste was being driven by and possibly had been all worked out behind the scenes at the very top Party level. In a political system in which the central CCP has the ultimate power in state policy-making and determining the appointment of officials to state apparatuses (Ahren, 2013), it was unsurprising that other relevant ministries did not challenge the MEE in this regard. Instead, (at least publicly) they demonstrated a concerted stance supporting the waste import bans. As a result, the opposing voices and demands of the scrap industrial associations, which operated directly and indirectly under the state agencies, failed to concretely challenge the policy idea coming from the top echelon of political power.

Second, aside from scrap associations, an outright waste import ban would have the most devastating impact on the informal waste processing workshops and workers whose livelihoods had been dependent on processing imported waste into secondary raw materials. However, unlike formal recycling businesses, they were not associated with the official scrap industrial associations or established organisations. As introduced in the preceding chapter, the informal waste workshops were mostly family-run and small in scale, and they operated in scattered networks without a bellwether or an overarching institution that could unite them. This "informality" provided them with freedom and agility in business, but inherently limited their organisational capacity to present comments or opinions on public policies on behalf of the group as a whole and defend their collective interest through an official channel. Without powerful spokespersons or official communication channels, their voices were therefore unheard in the public consultation process, their "informal" expertise played little role in the production of policy knowledge, and as a result their interests were primarily omitted in the official decision-making.

In addition, partly due to their generally low educational level, this group did not possess the discursive resource to articulate their storylines, interests and strategies to mobilise other resources or networks to strengthen their position. On the contrary, their informal identity put them in a disadvantaged discursive position as waste collection and recycling was perceived as a "dirty" job and informal waste workers were often associated with "low quality" in the general social imaginary and treated as a

marginalised group in society (more in Chapter 6). Moreover, as shown above, some environmental experts and public intellectuals identified informal waste recycling & processing as the root cause of China's waste treatment problems, making this actor group's position more precarious. The informal waste sector also lacked any systemic economic capacity to influence decision-making, for the economic significance of this sector was negligible for the country's overall economy since little tax could be collected from the informal workers. As a result, due to the nature of "informality" and the overall hostile discursive environment, the power of this actor group was too feeble to represent itself officially, let alone exert influence in the development trajectory of the state policy.

The third actor group opposing an outright fan consisted of a fraction of academic experts as introduced above. Established academic intellectuals in many public policy fields are part of various expert groups providing "scientific knowledge" on specific topics to state agencies at different administrative levels. In the policy-making process, their opinions are often consulted and could constitute important policy inputs. Some of them also have the organisational power resource at their disposal to connect to state apparatuses and directly influence policy-making (Yang, 2011). However, whether and to what extent their knowledge and scientific expertise would be incorporated in the final decision-making is an empirical question (e.g. how much it is aligned with the interests of the major power blocks). In this particular policy field concerning waste imports, as demonstrated above, this actor group, exemplified by some prominent scholars, loudly lobbied for more refined policies to regulate waste imports instead of a broad-brush approach. They did have abundant discursive resources to articulate and disseminate their opinions via various channels, however, they were after all independent experts with no authoritative decision-making power. With the hindsight of the final adoption of an outright import ban, it was conspicuous that the opinions of this group of intellectuals were eventually not selected as "relevant" policy knowledge. Consequently, they failed to challenge the policy idea championed by the MEE and top CCP leadership. But interestingly, some of their other suggestions, such as expanding large-scale waste management firms while phasing out the informal sector, resonated with the policy idea that had been looming around at the central state level. Therefore, such opinions were considered pertinent policy knowledge to bolster the central government's efforts to restructure the domestic waste collection and recycling systems (analysis in the ensuing chapter). Also importantly, the public intellectuals opposing an all-out ban mostly did not have a direct interest in the scrap industry nor material incentives to engage in

actual conflicts with or jeopardise the policy plans of the central government. Hence, their disapproval of the policy idea only stayed at a discursive level.

All in all, although various voices in the policy-making process opposed an outright ban on imported waste, a lack of shared interests among those actors restrained their capacity to form an organic alliance to leverage the strength and increase the opinion volume. Furthermore, due to asymmetric power resources and structurally conditioned limitations, actors have been unequally involved in the political process of problem definition and solution finding. Also, many moments suggested that banning waste imports was the central will, so there was a sense of fatalism among these actors that their efforts would be futile anyway. In a word, the groups in dissent from the policy idea failed to form a united alliance or lobby other stakeholders to join their campaign, falling far short of staging a counter-hegemony project in this matter.

4.4.2 Reshaping vertical state relations: Strengthened CCP influence over the central-local environmental governance structure

Compared with previous central attempts which mostly had lame implementation on the ground, the latest waste import bans, as briefly outlined above, have garnered stronger echoes at the local level. The reason for local resistance to the former policy attempts was multifold. In addition to obvious economic incentives which drove those engaged in the waste recycling business and some local governments to bluntly defy policies passed down from the central state, a frail central-local state relation was a much more profound cause. As elaborated in Chapter 2, since the beginning of the opening-up policy, the Chinese state has been marked by decentralisation and fragmentation, and a so-called "horizontal" administrative structure has pervaded many public policy affairs, including environmental governance. The "*tiao kuai*" ("branch and lump" literally) system signals the vertical and horizontal state relations, where "*tiao*" means the vertical lines of functional authority over policy affairs reaching down from the ministries of the central government to the functional bureaus of the local government, and "*kuai*" refers to the horizontal level of authority of the territorial government at the provincial or regional level (Lieberthal, 1997). Each ministry sits atop a functionally-defined hierarchy of departments located at the territorial level of government. For example, the state environmental protection ministry is at the top of a hierarchy of environmental protection bureaus (EPBs) at the provincial, municipal, county and township levels. Constitutionally, organisations in both the functional and territorial systems of governance are assigned to a system of ranks in which central ministries are at the same rank as provincial governments. In the case of environmental

administration, the EPBs had at least two masters: the government at each EPB's own territorial level of the system and the EPB one level up the territorial hierarchy.

Importantly, in this dual governance system, units of the same rank cannot issue binding orders to each other; that is to say, a province may challenge, overrule, or ignore decisions made by a state ministry (Lieberthal, 1997). This bureaucratic arrangement saw seeds for central-local power struggles, leading to continuous administrative conflicts. When it came to environmental protection issues, in an era when national economic growth overrode most other priorities, and provincial and local governments were largely evaluated by their performance to drive local economic development, environmental protection issues were frequently pushed to the background of local political agenda. The administrative power structure effectively allowed local governments to prioritise economic growth while undermining environmental protection policies without little to no consequence. In addition, although authority was fragmented by function as well as by rank, it is important to note that the territorial government was responsible for the appointment of the heads of the functional units at the territorial level and allocating fiscal budget to them (Kostka & Zhang, 2018). There was an obvious conflict between the "vertical" lines of EPA authority and the "horizontal" lines of authority emanating from the territorial government at the same level. For a local EPB, although it was subject to the guidance of the upper-level environmental department, it ultimately had to obey the will of the territorial government on the horizontal plane. In order to get financial support, the EPBs had to justify that their work would contribute to or at least not hamper economic growth (Li, 2016). This fundamentally restrained local EPBs from going hard on the pollution-inducing waste trade and processing industry, which was a significant economic sector and job provider especially for the rural areas. As such, the "horizontal" environmental governing structure directly instigated "local protectionism" and enforcement deviation at the local level (Ma, 2017). Without robust institutional disciplinary rules, local governments selectively shirked from the policy orders given by the central state, and such local deviation from environmental protection policies mostly skirted serious scrutiny.

The "dual leadership" structure in environmental administration pervaded until 2016 when a structural reform occurred (Ma, 2017). In view of the administrative conundrum, and with environmental protection gaining more normative value, the central state under Xi's administration undertook a profound institutional reform in environmental protection management with the aim to overcome the problems of inconsistency and

local protectionism in environmental regulation. Notably, in October 2015, at the Fifth Plenary Session of the 18th CCP's Central Committee, the members pledged to install a "vertical" management (*chuizhi guanli*) system in environmental monitoring, inspection and law enforcement to replace the existing "horizontal" system. Correspondingly, in September 2016, the State Council issued a guidance notice, officially announcing the transition towards the "vertical" system of governance, with the plan to start the piloting in 12 provinces and roll it out nationally by 2018 (Kou, 2016). "Vertical" management, in contrast to "horizontal", is a system whereby an agency works via an internal hierarchical structure, with lower departments reporting directly to upper ones instead of to the administration of the territorial governments (Li, 2016). That is to say, local EPBs now only report to the provincial EPB, which works directly with the central environmental protection ministry, thereby circumventing interferences of the localised management of the territorial local governments.

The change was accomplished mainly by shifting cadre recruitment's power (i.e., nomenklatura). In the previous system, managers of local EPBs were chosen by the leader of the respective territorial government, whereas in the "vertical" management, they are nominated by the leading Party Members' Group at the higher-level EPB (i.e. leaders of municipal EPBs are appointed by the provincial EPB, and the municipal EPB assigns county EPB managers). In other words, the power to nominate cadres of local EPBs is now retained by the Party apparatus within the environmental protection administration at the higher level (Ma, 2017; Tan, 2018), indicating the CCP's increased influence in environmental affairs. In addition, under the new structure, the provincial EPB assimilated the power of assessing the performance of municipal and county-level EPBs, which previously was in the remit of the respective municipal/county government (Tan, 2018). The central state also drastically tightened environmental supervision and monitoring. The MEE and provincial EPBs regularly sent "environmental protection inspection squads" (*huanbao ducha zu*) to inspect, monitor and assess the environmental performance of municipal and county governments (Luo et al., 2019). In tandem, implementation rules to ensure the accountability of leading party and government cadres were formulated (Tan, 2018), directly linking the environmental performance of local government cadres with the prospect of their political career. This series of structural tinkering has been hailed as the CCP's new governance instrument to enhance the authority, efficiency and efficacy of policy enforcement by segregating environment protection authorities from local administrations which tend to prioritise local economic interests (Ma, 2017). It aimed to centralise cadre management in environmental

agencies, and strengthen environmental performance evaluation and accountability of lower-level governments, which led to enhanced enforceability of environmental regulations at the local state level. The structural reform has also been conceived as a significant part of the overall promotion of Ecological Civilization in Xi's China (Zhou, 2020; more in chapter 6).

As such, the institutionalisation of a "vertical" management structure fundamentally changed the relationship between the central and local governments on policy issues vis-a-vis environmental protection, including waste-related environmental issues. Although it has be cautioned that the "vertical" management structure itself is not free of problems and is therefore not a panacea to China's environmental governance problems (Kostka & Zhang, 2018; Tan, 2018; Zhou, 2020). In the implementation of waste import policies since 2017, the updated system seemed to have effectively mitigated local protectionism and implementation deviation arising from the previous "dual leadership" dilemma. With the ultimate decision-making power in environmental management being shifted from the territorial to the central level, the state ministry of environmental protection has been able to strengthen central oversight on local performance concerning foreign waste bans.

4.4.3 Navigating divergent interests among state ministries: Shifting institutional dynamics at the central state level

It flows from the above that the further empowerment of the state ministry of environmental protection was crucial for the "vertical" structural change in environmental governance. Institutional-wise, the issue of foreign waste management entered the remits of various state agencies as it involved international export-import, trade/commerce, environmental protection, law enforcement, secondary resource industry, shipping/coast guard, etc. In this sense, governing the policy field of foreign waste not only cut through central-local state relations but also stirred up nuances among central state ministries. While it was established at the very outset of the Solid Waste Law that the environmental protection administration of the State Council was the main functional state apparatus responsible for the overall management of waste import and export, the department of foreign trade and commerce as well as the NDRC[25] also had certain macro-management and supervision responsibilities per their functions. As for managing waste import inspections and legal enforcement at ports, the onus was upon the customs offices and the bureaus of inspection and quarantine. Other various

[25] The National Development and Reform Commission (NDRC), like the Ministry of Finance, is one of the critical ministries under the State Council. It is involved in most policymaking decisions to one degree or another and is often given at least partial responsibility for implementing new policies (Ahrens, 2013)

central administrations were in charge of specific areas pertaining to foreign waste management according to their functions.

In compound, due to the vagueness of the umbrella Solid Waste Law, different state agencies, whether individually or jointly, issued various specific policies to clarify or complement the Law over the years. As of 2019, there were in total ten national laws, three administrative regulations and two departmental ordinances pertaining to the control and management of waste import and export (Shenzhen Customs Office, 2019). Consequently, the cumbersome institutional set-up and the accompanying intricate regulatory framework not only lent confusion to business operations, but also rendered administrative inefficiency and weakened policy enforcement at the local level. At times, the issue traversed different departments' domains, functions and interests, resulting in overlapping responsibilities or absence of accountability. Although the environmental protection administration was designated as the supervisory agency for waste imports and all waste-related pollution issues, it was not considered a key agency under the State Council and was regarded as a toothless tiger for many years (Sternfeld, 2017). Hence, in practice, there was not a singular authoritative body capable of effectively coordinating the divergent interests of relevant state administrations. For instance, the state's trade and commerce agency naturally pursued distinct interests and policies compared to those of the environmental protection agency. This divergence in interests hindered the establishment of a cohesive consensus on foreign waste policies among the various central state apparatuses.

But in recent years, the state ministry of environmental protection underwent several rounds of structural reform, each time it was given more administrative significance and bureaucratic power. At the height of the latest waste governance reform, a new Ministry of Ecology and Environment (MEE) was created after the radical reshuffle in 2018, with enlarged administrative functions covering major environmental and ecological matters. Notably, it even absorbed functions previously belonging to other state administrations, such as the issue of climate change which initially fell under the domain of NDRC, the "super-ministry" of the State Council that has been continuously humbled since Xi became the helmsman (Martin, 2014). The 2018 restructuring was part of a massive cabinet shake-up as President Xi started his second term, aimed at "strengthening the Communist Party's overall leadership" of the state and "making the ministries better answer to him directly" (Li, 2018). Needless to say, the structural reform greatly empowered the state environmental agency, and was hailed by environmental officials as a remedy for the fragmented and overlapping structure that has long plagued China's

environmental governance. Since then, the MEE and its subordinate departments have shaken off the “toothless tiger” image and become more prominent and authoritative in environmental matters, including in governing foreign waste-induced environmental crises.

As revealed in the above process analysis, the MEE has been at the forefront of the latest reform in regulating foreign waste. It has lobbied to level up import technical standards, tightened control of import licensing and waste shipment inspections, and doubled down on nationwide inspection and enforcement campaigns against environmental violations in waste recycling and processing activities. Its renewed institutional empowerment helped it gain concrete compliance and support at the local state level when implementing those policy initiatives. Moreover, the MEE has been the main driver of a total ban as a once-and-for-all solution to control the environmental risks derived from foreign waste. Despite the divergent interests of different state agencies, this time it managed to bypass inter-departmental conflicts and garner the consensus in pushing forward its agenda under the blessing of the top CCP leadership.

In this process, environmental protection apparatuses also played a fundamental role in determining which discourse, knowledge, expertise and practice could inform the dominant narratives and framings of the issue, and whether and how they get to shape the specific policies under consideration. The final decision of the central state revealed that environmental problem framings were selectively foregrounded while others were silenced, voices echoing environmental protection were amplified while others fell short of being heard, and environmental interests were prioritised while others were subdued. In the end, environmental interests took precedence, overshadowing alternative considerations. Those problem definitions, strategies and narratives that were not in line with the dominant environmental accounts were relegated to the periphery. This “environmental thinking” and empowerment of environmental agencies appeared to attest to the advent of a so-called new “environmental era” under Xi’s administration (Browaeys, 2019; Ma, 2017; W. Wang, 2019). If this interpretation holds true, then the political project to ban foreign waste, framed as a means to “safeguard the national environment and people’s health”, serves to further legitimise and consolidate the CCP’s governing in the new era.

Chapter 5. Reforming domestic waste management: Governing strategies and contestations in post-consumer waste segregation

In the preceding chapter, I have depicted the outward prong of the Chinese national political project on waste governance reform, i.e., curbing foreign waste entry. Focusing on the policy progress analysis, I outlined the trajectory of recent policies restricting foreign waste imports, exposed the main institutional actors involved, the primary conflict "corridors" between China and exporting countries as well as within China, and the diverse strategies and resources deployed by the Chinese government in pushing forward its agenda. In particular, I spotlighted the discursive power of *"yanglaji"* (foreign trash) and the mass-line governance rhetorics. In this chapter, I will shift the analytic focus to the inward prong of the national political project. In tandem with the draconian policies enacted in 2017 on restricting and eventually banning nearly all types of foreign waste in 2021, the Chinese central government led by the State Council has since intensified political efforts to improve waste governance at home. A flurry of new policy initiatives has been formulated, experimented and consolidated since 2017, propelling remarkable political, social and economic reconfigurations in the policy field of domestic waste management. Some China observers argued that the government's outward strategy of banning *"yanglaji"* was just part of a larger plan to tackle the domestic waste management challenges, with its true intention stripped down to increasing domestic waste governance capacity and stimulating a circular economy in China (e.g. Han, 2020; Landsberger, 2019; Zhao & Du, 2018). Schulz (2020) in particular argued the rationale of the waste import bans was to increase domestic recycling efficiency, "*create scarcity, push domestic prices upwards, and make it easier to capture recyclables...to move the Chinese recycling industry from artisanal to industrial and prop up state-run systems".* (p. 55). In this regard, the two lines of policy undertakings are intricately linked.

Indisputably, the need to deal with the waste generated within China has been more than acute. As illustrated in Chapter 3, a profusion of waste production coupled with the prevailing treatment and disposal methods (predominant reliance on landfills) has created various environmental and social conflicts, giving rise to a nationwide waste crisis particularly in populous urban areas. Having acknowledged the severe consequences brought about by the mismanagement of domestic waste, in the pre-2017 waste regime, the Chinese central government has already enacted a series of policy measures attempting to lead a shift from a "waste disposal" to a "waste governance" paradigm. Such efforts focused on promoting voluntary waste segregation,

mainstreaming energy recovery from waste, reducing single-use plastics, formalising recycling industries, etc. However, as Chapter 3 suggested, these policy attempts cascaded down from the central level by and large fell short of sustained local implementation - except for waste-to-energy plants which have indeed flourished in recent years primarily thanks to hefty fiscal support (S. Guo & Lu, 2020).

The foregoing circumscribed policy success however did not deter the determination of the Party-state at the central level. In 2017, a resurgent national campaign to reform the domestic waste management system was launched with renewed zeal and more assertive implementation instruments. With this, the topic of municipal solid waste (MSW)[26] management, and in particular post-consumer waste management, has been charged full steam in the political, public and scholarly spheres. To illustrate, a nondiscriminatory literature search on China's most extensive academic database CNKI (China National Knowledge Infrastructure), shows that the number of articles published in China (in the format of journal and newspaper articles, dissertations, yearbooks, etc.) bearing the keyword "post-consumer waste" (*shenghuo laji*) has seen a sharp increase especially after 2017, reaching a peak in 2019 (*See the figure below).*

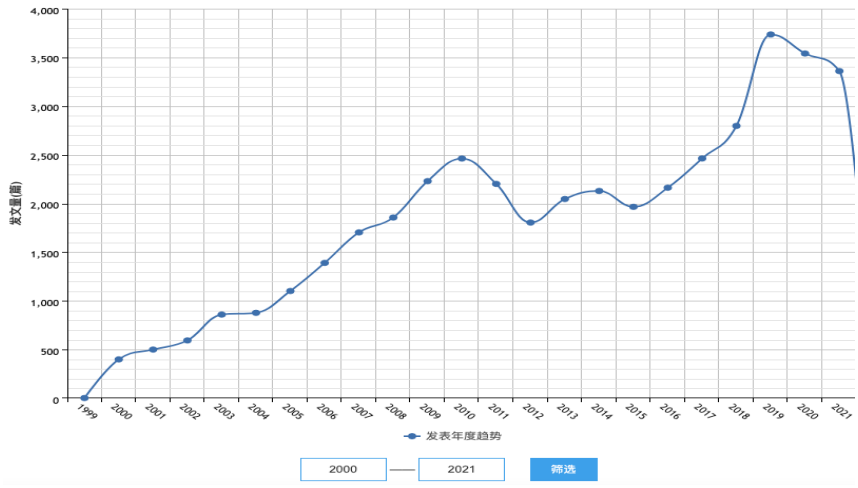

Figure 2: Number of Chinese publications containing the keyword "*shenghuo laji"* (post-consumer waste) between 1999 and 2021. *Source: CNKI database*

Given the immense complication of the overall MSW management topic, and in particular the complex types of waste which typically involve different policy oversight by various state agencies (*e.g. industrial waste under industry departments, post-consumer waste and construction waste under housing and urban-rural development departments, agricultural waste under the agricultural development departments, and cross-border waste transfer under ecology and environment departments*), this chapter

[26] Municipal solid waste, albeit slight variations in the definition, generally comprises "refuse from households, non-hazardous solid waste from industrial waste, commercial and institutional establishments, market waste, yard waste and street sweepings" (Schübeler, 1996)

narrows its analytical scope primarily to *urban post-consumer waste*. This simplification enhances the clarity and depth of the analysis. Post-consumer waste is *"generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purposes"* (European Commission, 2021, p.3). The rationale for this narrowed scope is also based on the following considerations: First, post-consumer waste accounts for around 80% of MSW in most Chinese cities (Gu et al., 2015), and compared to industrial waste and e-waste, post-consumer waste in China is relatively under-researched by international scholars. Second, due to extreme heterogeneity in waste types, post-consumer waste is relatively complex to manage and hence is a significant pain point in MSW management in general. In addition, considering the extent of nuances in technicalities, social relations and power structures in different stages of post-consumer waste management (*including collection, transportation, classification, processing, recycling, treatment and disposal*), the research scope of this chapter only focuses on the very upstream, i.e. waste segregation and recycling at the source. It has to be noted that this narrowed scope by no means reflects the overall policy reality, as the latest MSW policy evolution does not merely address this issue. Rather, it only suggests that the notch point of post-consumer waste classification[27] has been most prominently caught up by public discourse due to the nature of this sub-field, which involves broad public engagement.

On the premise of the above, this chapter will therefore primarily investigate the new conflicts and power dynamics emerging out of the most recent policy development on regulating *source separation and recycling of urban post-consumer waste* in China. Guided by the overall framework of the historical-materialist policy analysis (HMPA), in this chapter I intend to explicate the state's role, in particular the local government's role in orchestrating a new post-consumer waste governance system by unearthing the various strategies it deployed in making *waste separation at the source and the closely linked formalisation of the recycling system* a hegemony project. I argue that while the new policy deliverables and instruments were purposed to address the widely acknowledged challenges in the banality of post-consumer waste management, their formulation was based on a specific set of problem definitions, valid policy knowledge, institutional structures, and power configurations. In particular, building on the structural conditions that undergird the state's institutional functions, and harnessing technological and entrepreneurial innovations, both central and local governments actively mobilised diverse power resources. In this process, they demonstrated clear

[27] I use the terms "waste classification", "waste sorting", "waste separation" and "waste segregation" interchangeably.

strategic selectivities in the policy-making concerning waste segregation and recycling at the source. These strategic choices, along with the resulting arrangements (and sometimes maybe inadvertently), created new mechanisms and structures, giving rise to new inequalities, power imbalances, competitions and contested relations.

These arguments unfold in three sections. To lay the foundation for the analysis, Section 1 briefly explains the significance of waste classification at the source to a sound post-consumer waste management system. It also identifies competing problem framings that have been discussed in scholarly and public discourse, which are attributed to hindering the process of source classification in China. Section 2 gives a succinct overview of the development of new policies regarding post-consumer waste classification, culminating in the 2020 amended Solid Waste Law, a ground-breaking step that marked the first time that waste separation at the source was enshrined in a national legal framework. Section 3 delves into the concrete strategies and power resources deployed during the new policy-making process. I examine this from the vantage point of policy experimentations carried out in pilot cities, the results and learnings gained from which played a pivotal role in inscribing waste segregation in the national law and other nationwide policies. In particular, zooming into the policy experimentation process in one specific pilot city, I analyse in detail the municipal government's approach, including co-opting local semi-state apparatus (*juweihui*) and mobilising non-state actors (private companies and NGOs) and forces (smart technologies) into a policy execution alliance. Its aim was to hegemonise the source separation and recycling project through a combination of organisational, institutional, technological and discursive strategies. Throughout this process, I bring to the fore the new conflicts and power struggles arising thereof, especially between official state administrations and semi-state auxiliaries, among different recycling actors and their respective interests, and between residents and the managers of technological systems. The summary section then synthesises the main threads of the argument.

5.1 Contested problem definition in the "consumption work" of waste management

As noted in Chapter 3, China's municipal solid waste has predominantly been characterised by a mixed/single waste stream, which has led to serious environmental risks and loss of resources. The key to ameliorating the situation is establishing a waste management system that ensures waste separation is performed throughout, from source separation by waste generators to the subsequent collection, transportation, treatment and disposal by professional waste management entities (J. Liu et al., 2020).

Looking at the entire process, waste segregation at the source is undoubtedly the prerequisite to cementing a comprehensive separation-based post-consumer waste management system. Also, from a technical perspective, it is an essential stage for sound waste management as it has a decisive impact on recycling efficiency as well as the effectiveness of end-of-pipe treatment methods - be it incineration, compost or landfill (Graedel & Reck, 2014, p.22). Hence, this chapter primarily refers to the specific notch point of source separation performed by the waste producers, namely consumers.

To say that waste separation at the source involves consumers' labour may seem obvious. But as it is often done on a "voluntary" basis and portrayed as a conscious "green act", the stage of source separation is seldom conceptualised as a distinctive form of work, nor is it accounted for in the overall waste economy (Oates & McDonald, 2006; Wheeler & Glucksmann, 2015). Nevertheless, waste scholars have widely acknowledged that consumers' duly participation plays a vital role in waste management processes, and source separation is interdependent with the wider network of waste management activities conducted by other waste actors or technologies. For example, Koponen (2002) stresses that consumers help lessen the cost of separation further downstream by donating labour to sort trash at the source and cart it to the collection sites (p. 553 & 566), Hawkins (2006) accentuates the "assistance of free labour from householders" in recycling industries, and O'Brien (2012) argues that by sorting the waste they produced householders help turn waste "from a private leftover to a capitalist surplus" (p. 207). Wheeler and Glucksmann (2015) apply the concept of "consumption work"[28] to underline the significance of source separation to the waste social system. In their view, consumers are implicated in a chain of economic relations when their sorted recyclables enter the market as valuable commodities, and as such, *"the unpaid labour of consumers interacts with the paid work of those employed by the public and private sectors, highlighting interdependencies between work undertaken on different socio-economic bases"* (p.566). In addition, a substantial body of literature focuses on the gender aspect of waste separation, especially in developing countries as in most households, women tend to perform this activity on top of their other domestic chores (e.g. Dias & Fernandez, 2013; Guo & Lu, 2020; Oztekin et al., 2017; Seager et al., 2020).

Generally speaking, this type of voluntary "consumption work" has long been commonplace in many developed nations such as in the EU, North America and Japan,

[28] Defined as "all work necessary for the purchase, use, re-use and disposal of consumption goods and services" (Wheeler & Glucksmann, 2015, p.553).

albeit with varying degrees of precision. As for China, advocating source separation has also been a standing dish in the political and social arenas. As touched upon in Chapter 3, for the past 20 years, many Chinese cities have intermittently led waste sorting schemes to "promote individualised ethics of recycling and install Western-style garbage sorting and recycling systems" (Liebman, 2018). However, these top-down, campaign-style initiatives were fragmentary and short-breathed, failing to take root in Chinese urban life. As a result, as of 2017, waste separation in China lagged far behind the developed nations and persisted as a thorny problem in the overall post-consumer waste management system.

Despite its mundanity, the issue of waste separation is full of nuances and complexities, as waste is always "a political object" (Baker, 2022). The ordering of waste in residential compounds and on streets not only encapsulates the level of local governance and control, but potentially has bearings of the broader social milieu and ethos as well as bigger political strategies. Hence, the lack of performing can be accounted for from various perspectives. Indeed, several "blaming" frameworks can be discerned in this regard in the current scholarly and public debates. A predominant line of articulation held mainly by the public sector conceptualises waste separation at the individual level, attributing the hitherto failure to the general public's poor participation (Feng, 2017). Following the argument of anthropologist Jessica Winegar, the organised waste segregation efforts reproduce "*both the civilizing, exclusionary tendencies of the state ideal, in which middle-class people are the exemplary citizens...*"(Winegar, 2016)). In this articulation, the urban middle class is expected to perform source separation of waste, and their non-performing is believed to have resulted from low civilising quality *(suzhi di)* (Z. Liu, 2014; C. Ren et al., 2010). Accordingly, the key to addressing this conundrum is to improve citizens' "*suzhi*" by stepping up advocacy and educational efforts, which would help citizens foster an intrinsic habit and subsequently drive behavioural changes (see *section 5.3.3* for corresponding policy actions).

The "*suzhi*" discourse has been frequently used in policy statements since the 1990s and more broadly, as a general explanation for "*everything that held the Chinese nation back from achieving its rightful place in the world*" (Anagnost, 2004, p.190). Interestingly, the most referred to bearers of this discourse are two groups of stark contrast: the urban middle-class which is expected to embody civilising qualities such as "*education, lifestyle, civil dispositions, and the ability to capacitate themselves to appreciate the 'finer things in life'*"(Sum, 2017, p.300); and the rural migrants who are

generally perceived to exemplify *suzhi* in their *"apparent absence"* (Anagnost, 2004, p.190). The art of governing through the *suzhi* discourse is vividly manifested in the state project of restructuring the MSW management system. On the one hand, in the attempt to promote source segregation of waste, the term has been deployed to encourage the urban middle class to use household waste separation as one avenue to demonstrate and cultivate finer quality. On the other hand, in the effort to formalise the waste recycling sector, the exact phrase has been used to buttress the argument that informal waste collectors, who are mostly rural migrants and therefore of low "*suzhi*" (also see Chapter 4), are oblivious of urban cleanness or the natural environment when carrying out unregulated recycling activities (Landsberger, 2019).

Referring to the first aspect, the *"suzhi"* problem definition hence establishes that the inadequate civilising quality of the population has rendered the government's painstaking social mobilisation efforts futile and left waste sorting infrastructure idle, leading to miscarriages of the previous waste separation campaigns. This "blaming" framework argues that the refinement of the population, and in particular of the urban middle class, is the very prerequisite of building a separation-based post-consumer waste management system. As espoused by a waste expert I interviewed: *"Only if this step is achieved, would it make sense then for government fiscal or corporate capital to enter and invest in appropriate post-consumer waste management facilities and infrastructure."* (Interview, Waste expert-1, December 2019)

This framing is however refuted by the bearer of the *suzhi* discourse, namely the rising middle class with a relatively high sense of environmental awareness and responsibility. They, on the contrary, blame the local competent authorities for the stalemate: among the most cited "blames" are the government's failure to provide adequate education and information about the "why" and "how" of source separation, and ensuring sufficient and proper infrastructure commensurable with a separation-based post-consumer waste management system (H. Du & Liu, 2020; S. Guo & Lu, 2020; J. Liu, 2017; Yin, 2020). A frequent argument brought up by residents is that even when they have done waste separation properly at the household end, most of the waste collection companies sent or licensed by the responsible municipal bureau would tip waste from different bins altogether into a single bin lorry without making separation, thereby defeating the whole purpose of separation at the source (Feng, 2017; X. Wu, 2019; C. Zhang & Zhang, 2018). The counter framing therefore holds that the public's *suzhi* is not the problem; rather, the waste management system set up by the local government is the underlying problem, in addition to a paucity of reliable information

available to the public. In this line, once citizens have grasped the practical significance of waste separation at the source and learnt how to do it, and that adequate and effective infrastructural and management systems have been established, public trust will be rebuilt, and their habits would naturally follow**.**

At loggerheads is also the scope of "responsibility". While performing waste separation at the source might be a good *"suzhi"* or virtue to demonstrate, some citizens are not convinced that it is each individual's responsibility to get involved in waste separation since they are already paying property management fees and waste disposal fees (Feng,2017). The property management companies, however, argue that the current management and waste fees do not cover waste separation services but only the costs of cleaning communal spaces, placing waste bins in compounds, and contracting waste collection services (Fang, 2022). In fact, up until 2018 (see the following section), there was an apparent void in national and local policies regarding the entity of responsibility for ensuring waste separation at the source. In addition, enforcing waste separation had no legal foundation before 2020 (see the following section): in the previous versions of the Solid Waste Law (the overarching legal framework for waste management), the focus concerning post-consumer waste management was always on the local government's responsibility for waste collection, transportation, treatment and disposal (The Central People's Government of China, 2004), whereas the issue of separation or consumers' responsibility as waste producers was never discussed. As such, the explicit question of responsibility has remained ambivalent in political and public debates.

Another common scapegoat is the informal waste workers or scavengers, who have often been accused of jeopardising official waste reform endeavours including promoting household waste separation and formalising waste recycling (Fu, 2009; He, 2012; Y. Liu, 2011). In the preceding policy campaigns, citizens were encouraged to separate waste broadly into "recyclable" and "not recyclable", but since informal waste workers often offered doorstep services to "buy" recyclables from households directly, hardly any valuable recyclables would end up in the designated "recyclable" waste bins. In addition, the informal waste recycling and processing industry has been commonly associated with pollution, which imparts an implicit message to the general public that waste separation at the source would not automatically protect the environment if the informal practice is so prevalent and dominant (Liebman, 2018). As such, state agencies and formal recycling companies have blamed the unregulated informal waste sector for "hijacking" valuable recyclables from the post-consumer waste stream while scuppering official

initiatives to improve source separation and address environmental problems associated with waste. In this problem definition, the informal waste sector has its fair play in the previous policy failures, and the way to remove this roadblock is either to formalise the informal sector or cut it out altogether.

5.2 Post-2017 policy development propelling waste source separation

Although the foregoing policy attempts to institutionalise waste source segregation never came to fruition, since 2017 the topic has gained renewed political momentum. The flame of a new round of policy enthusiasm was reignited back in December 2016 when President Xi chaired the 14th Meeting of the *Central* Leading Group[29] for *Financial* and Economic Affairs, where the topic of waste classification was featured on the central agenda. Xi called for speeding up the establishment of a post-consumer waste management system following the classification principle throughout, and building a waste governance model *"based on the rule of law, promoted by the government, participated by the people, coordinated among urban and rural areas, and adapted to local conditions" (Central People's Government, 2016*; self-translation). The meeting was generally interpreted by policy analysts as a sign of Xi's personal devotion to the seemingly trivial topic of post-consumer waste management (Bai & Yue, 2019), which harbingered a series of relevant policy actions in the following years.

In tally with the central leading group meeting, the National Development and Reform Commission (NDRC, its function has been explained in Chapter 4) and the Ministry of Housing and Urban-Rural Development[30] (MOHURD) shortly issued a policy document vowing to double down on investing in waste treatment facilities. The two state agencies pledged to dedicate approx. 252 billion yuan (close to US$44 billion) in the 13th Five-Year Plan period (2016-2020) to improve China's urban waste management infrastructure. Around two-thirds of the budget would be allocated for developing environmentally sound MSW disposal technologies and facilities (a goal of achieving an incineration rate of 50% in urban areas and 60% in relatively developed eastern cities was set), about 10% for improving the waste collection and transportation system, 7% for projects treating food waste (compost), and 3.7% for projects piloting separation at the source (no concrete targets nor measures were set in this regard) (NDRC, 2016). As such, waste separation was officially featured as one of the focus areas under the pillar of

[29] For more information about the functions of central leading groups, see Chapter 4 footnote.

[30] A ministry under the State Council (i.e. cabinet led by the Premier). Its responsibilities include, among others, guiding the planning and construction of rural and urban areas. Since the municipal solid waste management system concerns the construction of urban areas, the ministry is the chief competent authority at the central level for this matter.

MSW management in the nation's 13th-Five-Year Plan. However, as the budget allocation revealed, the focus of this policy was on constructing more modern waste treatment facilities and in particular incineration plants, suggesting that the main objective of waste policies in this era remained to be mitigating the surface environmental and social problems (e.g. soil and water pollution, farmland encroachment) caused by illegal waste disposal and expanding landfills (Yuan & Li, 2017).

Following the 13th-Five-Year Plan for MSW management, a substantial Implementation Plan for building a post-consumer waste separation system was issued by the same central agencies (i.e. NDRC & MOHURD) in March 2017. The plan set several primary targets for the years til 2020, including establishing basic legislations, regulations and a standardisation system concerning waste separation, and fostering several replicable and scalable pilot models nationwide (General Office of the State Council, 2017). Along this line, the two state agencies identified 46 major municipalities nationwide as demonstration cities to enforce mandatory separation of post-consumer waste in all public entities, enterprises, and suitable residential communities before rolling out. The Plan provided some nationally applicable guidelines for waste classification while stressing that cities should follow a locally adapted approach. It proposed that waste should be roughly separated into three types, i.e. hazardous waste, "wet" waste (e.g. kitchen residue) and "dry" waste, and from the last category ", recyclable" and "non-recyclable" waste could be further separated (ibid.). In addition, in response to the public critique of mismatched infrastructure in the entire post-consumer waste management system, the Plan underscored the necessity to establish a proper waste collection, transportation and treatment system in correspondence with source separation.

The 2017 Plan also called for putting in place a better recycling system with improved standards for recycling infrastructure. In particular, it asked to clean up those recycling sites which failed to meet environmental and sanitation requirements, and "accelerate the *cultivation of 'longtou' companies* ("dragon head", meaning leading, prominent enterprises), and promote *standardisation* and specialisation in waste recycling, as well as *clean* [emphasis added] and efficient utilisation of secondary resources" (Section 4. para. 2& 3, ibid.). These proposed actions respond to the above elaborated "blaming" framework in which the informal recycling sector is considered to be the nub of the problem, revealing the central governments' determination to push out the unregulated informal waste workers while intensifying the support in fostering formal, *"longtou"* recycling enterprises. Notably, the Plan also set a specific objective of achieving a min.

35% recycling rate of post-consumer waste in the 46 pilot cities by 2020 (ibid.), which implicated that according to the two national agencies, the primary goal of waste separation was to increase waste recycling efficiency at the source. However, as the subsequent analysis unfolds, this national objective would become diluted in the local implementation, the leading benchmark of which would get diverged to sort out "wet" waste from "dry" waste for higher incineration efficiency instead of recycling efficiency.

The issuance of the national Implementation Plan in March 2017 officially kicked off the campaign on source separation of post-consumer waste in the 46 nominated pilot cities. The municipal governments there subsequently overhauled their municipal post-consumer waste management ordinances and initiated source separation pilots to ensure the implementation of the national plan in their administration. It was probably no coincidence that these policy actions took place in the run-up to the 19th CCP National Congress (in October 2017), which would officially introduce the "Xi Jinping Thought" (later incorporated into the Party constitution) and mark the advent of a new political era for China (Phillips, 2017). Building upon the development of the 46 pilot cities, nine central state bureaus[31], including NDRC, MOHURD and MEE[32] in 2019 jointly issued a notice, pledging to roll out the pilot initiatives across the nation and carry out waste separation in all cities at the prefectural level[33] and above. The notice set the goal of establishing a comprehensive separation-based post-consumer waste management system in all cities across the country by 2025. (Central People's Government, 2019).

In addition to infrastructure, the central government also attempted to regulate waste through pricing. The NDRC in 2018 issued a guidance document on experimenting with a new pricing mechanism aimed at waste reduction and classification at the source. Thus far, the charging system for post-consumer waste in Chinese cities has been predominantly household-based, and with slight regional differences, an average household often pays an annual waste disposal fee of CNY40-70 (US$ 6-10)(ATCRR, 2019). This non-differentiated charging system with almost negligible fee amount provides zero incentives for households to cut down waste generation on their side. In order to provide a mechanism conducive to source reduction and separation, the central government attempted to adopt the "polluter pays" principle in post-consumer waste management as well. The new NDRC notice proposed to set up a new waste pricing system based on

[31] The cross-departmental challenge will be discussed later.

[32] As introduced in Chapter 4, the Ministry of Environment and Ecology is responsible for managing environmental problems caused by all sorts of waste.

[33] Prefectural-level cities are large and medium-size cities not including sub-provincial level cities. Normally, they are cities with a non-farming population of more than a quarter of a million. http://www.china.org.cn/english/28842.htm

quantity and differentiated between separated and mixed waste in all cities and towns across the country by 2020. (NDRC, 2018)

It is also worth noting that while the 46 pilot cities were in the process of localising the post-consumer waste management reform, President Xi repeatedly renewed his personal commitment to waste segregation, elevating the matter considerably. For example, during a visit to the vanguard city of Shanghai in 2018, Xi called for the participation of all citizens and claimed that "*waste separation is a new fashion*" which later became a campaign slogan in many cities. During a tour to communities in Beijing in 2019, Xi pledged to enhance supervision and investment in post-consumer waste management, vowing: "*We must do waste separation and recycling well*" (M. Zhang, 2019; self-translation). In 2019, Xi chaired a central leadership meeting dedicated to the topic of promoting waste separation, stressing that the matter was closely linked to *"the living environment of the population, the efficient utilisation of resources, and an important manifestation of the level of social civilisation"* (CCTV News, 2019; self-translation).

The above policy development and high-level political championship cranked the topic up a notch, eventually leading to the amendment of the Solid Waste Law in 2020, which for the first time enshrined waste separation at the source as one key element in the national law for post-consumer waste management. While the previous versions of the Law by and large left out this topic, the latest version clearly stated that the nation shall "*implement a post-consumer waste separation system... promoted by the government, participated by the people, coordinated among urban and rural areas, and adapted to local conditions"* (PKULaw, 2020, Article 6). It also dedicated several articles to outlining the responsibilities of different actors in constructing a comprehensive waste separation system, including:

(a) post-consumer waste producers (individuals, public entities and enterprises) have the obligation to reduce and separate waste at the source and place it properly according to local classification standards (Article 49);

(b) schools have the responsibility to disseminate knowledge and educate school children about the importance of waste separation and how to do it (Article 11);

(c) local governments have the responsibility to expedite the establishment of a separation-based waste management system, to put in place a coordination mechanism among different departments, to educate and guide the general public to foster a habit (Article 43); to formulate adequate instruments such as differentiated waste management pricing system (Article 58); and to arrange funds needed for implementing waste separation schemes (Article 95);

(*d)* environmental sanitation bureaus are responsible for issuing guidance and strengthening supervision and administration (Article 47)...

The revised law also included legal liability of waste separation for the first time, reaffirming that waste separation is a legal obligation of waste producers. It specified that when waste producers repeatedly fail to separate waste or place it in the designated place, the local environmental sanitation department can impose a fine between CNY 50,000 and 500,000 on entities, and an appropriate fine (amount to be defined by local authorities) on individuals (Article 111). As such, the issue of waste separation at the source became cemented in the national law, which not only clarified the disputed scope of "responsibility" as discussed above, but also paved a legal foundation for local implementation in this regard.

Following the revision of the Solid Waste Law in 2020, the ambition of building a separation-based post-consumer waste management system was further consolidated as a national goal in the 14th Five-Year Plan[34] (2021-2025), which was unveiled during the 2021 "Two Sessions"[35], the most significant annual political set piece of the CCP (Central People's Government, 2021). The NDRC and MOHURD quickly followed with a development plan for post-consumer waste separation and treatment in the 14th Five-Year Plan (NDRC & MOHRUD, 2021). According to this plan, by the end of 2020, waste separation at the source should have covered most residential compounds in the 46 pilot cities, reaching a separation rate of 86.6%, with an array of replicable and scalable models and experiences emerged for others to follow (Section 1, para. 4). Building upon the positive development hitherto, the plan set the goal that by the year 2025, all of the cities at the prefectural level and above, as well as those counties in advanced regions, should have established a basic system for separation at the source and constructed compatible treatment facilities, and the national waste recycling rate should have reached about 60% (Section 3, para. 1). Once the national planning and goals have been established, the pressure is on for the local governments to pick up the slack. At the time of writing, most cities have revised their municipal post-consumer waste management ordinance to include mandatory source separation, and relevant campaigns have been kicked off across the nation.

Above, I have outlined the brief contour of recent policy developments concerning the topic of post-consumer waste separation chronologically. All in all, in parallel with the case of *"yanglaji"*, this domestic issue has evidently grabbed unprecedented political attention since 2017. The policy development trajectory (i.e. from a piloting

[34] The significance of Five-Year Plans has been noted in Chapter 3.

[35] Every year in March (normally), the two main political bodies of China, National People's Congress and People's Political Consultative Conference, meet in Beijing for the "two sessions", where plans for national policies with regard to the economy, military, trade, diplomacy, the environment and more, are revealed.

plan of limited scale to being unequivocally enshrined into the national Solid Waste Law and listed on the development agenda of the 14th Five-Year Plan), in tandem with the fervent policy experimentation (detailed in the following section) and roll-out at various local levels, seemingly suggests that waste separation at the source has developed into a nationwide hegemony project, orchestrated by two central state agencies and coalesced by local state apparatuses, waste industries, experts and the general public. With the lens of historical materialist policy analysis (HMPA), a set of questions deserves to be explored here: *How did the state construct coherence and a sense of hegemony around this political project? What strategies could be discerned and which power resources were mobilised in this particular policy-making? Whose interests were presented and whose compromised? What political and social conflicts and power struggles (if any) have been masked behind the above consensual, prosaic policy texts?* The following section is dedicated to dealing with these questions.

5.3 Waste separation 2.0: Execution alliance, carrot & stick and power reconfigurations in policy experimentation

As discussed in Chapter 4, although the central state administrations often offer an official channel for local state actors and various social actors to provide comments on pending laws, regulations and policies, they do not make these comments public (Dickson, 2021, p.5), making it impossible to have a complete, official account of the various actors, opinions, representation of interests and negotiations involved in the policy-making process. This is the case for the waste separation policies as well. There are no official sites of formal negotiations or open debates to observe, nor is there a repertoire of internal political discussions available to the public. And since public policy consultation and the NPC's voting of laws are largely symbolic (see Chapter 4) – probably especially so since the waste separation campaign has been a primarily top-down initiative, this means before the revised Solid Waste Law and other relevant national policies concerning this topic reached the public domain, any messiness around the topic had been cleared up without trace, and underlying conflicts had been resolved or silenced. Hence, attempting to answer the above questions is unrealistic by unravelling the policy-making process preceding the official announcement of the policies. Notwithstanding these restrictions, one arena however has the potential to offer ample insight into the amalgamation of actors, strategies, conflicts and power struggles that occurred in the making and consolidation of policies regulating waste segregation at the source, that is, pilot projects, or policy experimentation.

Policy experimentation constitutes a distinct mode of governance and policy-making process in China, proven largely successful in driving reforms in major economic and social domains since China's opening up (Dickson, 2021; Jiang, 2021). In contrast to the widely held assumption about policy-making in which "policy analysis, formulation, and embodiment in legislation precede implementation", policy experimentation subverts the sequence by piloting implementation at a small scale first, based on which laws and regulations are then drafted and adopted at a nationwide scale (Heilmann, 2008, p.4). As an alternative to the bargaining characteristic of the fragmented authoritarian in China (Dickson, 2021, p.79), policy experimentation takes into account the intricacies of local conditions, mobilises bottom-up initiatives and offers local experience and knowledge before entering into national policy formulation. In China's generally authoritative political environment, "experimentation under hierarchy" has been a practical approach to test novel ideas decided by the central leadership while avoiding reformist leaps or top-down/foreign policy prescriptions (Heilmann, 2008, p.4)

As such, policy experimentation in local laboratories is an essential pattern in China's central–local state interactions regarding policy generation. Pilot projects can represent important moments where central and local states, non-state actors and politics intersect. On the one hand, considering that national policies are unlikely to be simultaneously implemented in all localities with a one-size-fits-all approach, for the respective central authority, encouraging different regions to pilot a policy based on local conditions is a way to demonstrate – at least at face value - that it respects grass-roots experience and local wisdom, thereby reducing local resistance and driving reform incrementally. In addition, testing a policy prescription first on a small scale is an effective way for the central authority to minimise economic and political risks brought about by a reform while increasing the "controllability" by placing the burden on regional or local governments. It also leaves the central authority enough leeway for adjustment, improvement and even withdrawal in failure cases (Heilmann, 2008; Jiang, 2021; Z. Liu et al., 2006). On the other hand, for the regional or local governments, piloting on a limited scale is a strategy to win time and respond to the pressure imposed by the higher-level government with the smallest effort possible. In some cases, pilot projects are implemented to satisfy the local government's "rent-seeking" purposes, for these projects often entail preferential conditions for certain interest groups, or are purely image boosters for the local government (Jiang, 2021).

Thus, policy experimentation has very practical political considerations for the state at different levels. It generally helps mediate the central and local state relations, and

facilitates consensus-building during the policy-making process. In the case of waste separation at the source, as the previous section reveals, the policy-making cycle in this regard has undergone an incremental trajectory of "central intention – municipal experimentation – national policy". To be more specific, it evolved from soft pilot instructions issued by two central state apparatuses to experimentation in a limited number of pilot cities, expanding pilot projects from "points" (46 pilot cities) to "across the board" (all cities at the prefectural level and above), and eventually to the (re)formulation of national laws (e.g. Solid Waste Law) and enactment of national policies (e.g. 14th Five-Year Plan). In other words, the experimentation in 46 pilot cities prepared the ground for a broad acceptance of the concept of waste separation across the country, and for the national legitimisation and institutionalisation of the topic. By providing test runs for innovative models, the local pilot projects have been essential to stimulate policy learning and define policy parameters applicable at a national level. In this line, the experimental process demonstrated in these vanguard cities encapsulates the evident nuances in the politics of waste segregation. Therefore, zooming into these experimentation arenas would yield valuable insight regarding the amalgamation of actors, strategies, entrenched interests, conflicts and power dynamics in the process of redefining this policy field in the post-2017 waste regime. Fortunately, ample secondary data is available in the public domain regarding policy experimentation in this regard.

Therefore, in this section, I will analyse the local state's role in the contested policy field of waste segregation by zooming into the politics encapsulated in policy experimentation laboratories. Compared with the lame waste separation efforts in the pre-2017 waste regime, which was chiefly characterised by voluntarism, ambiguous responsibility, non-standardisation, non-systematisation, and lack of fiscal support for infrastructure and awareness-raising (Qi, 2021), the pilot schemes started in 2017 demonstrated more explicit role responsibilities, more vigorous enforcement with a mix of both coercive and incentivising policy instruments, and more dedicated fiscal inputs and institutional support. Also importantly, in the era of "Internet Plus"[36], most of the pilot cities avidly promoted digital technologies in waste management (Kurniawan et al., 2022), which gave rise to a bourgeoning range of "smart" waste separation and recycling tech companies, prompting some to term the renewed campaign "waste separation 2.0" (J. Guo, 2022; J. Liu, 2017; Yao, 2021).

[36] Internet Plus is a national strategy put forward by Premier Li Keqiang in his Government Work Report in 2015. It aims to drive economic transformation by integrating digitalisation-based technologies with modern manufacturing (Chang, 2015). Since its debut, the term has been applied in the modernisation of various industries and governance, including in waste management.

I focus on analysing the strategies and power resources deployed by the local governments in charting the 2.0 version of the waste separation project. In particular, I will (1) examine the structurally conditioned formation of an execution alliance for pilot implementation, (2) investigate the conflict nuances embedded in the modernisation and formalization-orientated waste management strategies as well as the power struggles therein, and (3) bringing to the fore the role of civil actors in mainstreaming policy ideas and social mobilisation. In order to have a more situated analysis, I will zoom in on the case of Hangzhou City, which was one of the policy laboratories and where I conducted three field visits between 2017 and 2019. Hangzhou is the capital city of the eastern, coastal Zhejiang province, and with a population of over 12 million (2021 data), it is one of the top MSW producers in China. It was also one of the forerunners experimenting with waste segregation projects in line with the central government's instruction. Hence, the nuances and power struggles illustrated in this epitome are representative and revealing for the overall analysis of the politics of waste segregation and recycling in China.

5.3.1 Institutional configuration in executing pilots: Governing through grassroots state auxiliaries

According to the State Council's "Regulations on the Administration of City Appearance and Environmental Sanitation", at the national and provincial levels, the state department of urban construction and administration, i.e. the current MOHURD and its direct provincial branches (*sheng zhujian ting*) are responsible for overseeing the matter of public sanitation which includes post-consumer waste management. However, at the municipal level, the municipal people's governments are administratively held accountable for the overall governance (State Council, 2017); that is to say, the issue of post-consumer waste management follows a "horizontal" governing structure (explained in Chapter 4) in which the municipal government primarily makes final decisions regarding local administrative matters on the horizontal plane. The municipal government typically assigns the municipal urban management and law enforcement bureau (*chengshi guanli zhifa ju*) to be in charge of the concrete management of post-consumer waste, instead of the municipal housing and urban rural development bureaus/commissions (*shi zhujian ju/wei*). It has to be noted that a city's urban management and law enforcement bureau (UMLEB) is solely subject to the administrative leadership of the respective municipal people's government. In the "horizontal" governing structure, even the municipal housing and urban-rural development bureau is governed by the municipal people's government instead of by the

higher-level provincial housing and rural-urban development, from which it only receives "professional guidance" (*yewu zhidao*). As revealed in the previous chapter, this fragmented governance structure often limits the implementation of central policies on the ground. *(See Chart 1 below for a simplified overview of how MSW is governed)*

The case of post-consumer waste management in Hangzhou follows the above institutional arrangement. The city's UMLEB has been given the primary duty of managing the city's overall post-consumer waste issues and putting into action the city's revised "Post-consumer waste management ordinance" which strengthened the requirements of waste separation at the source (Hangzhou People's Government, 2019). As residents are the primary producers of post-consumer waste, residential compounds are the main locus of waste source separation. Within the municipal administration, a linear, top-down bureaucratic system is enforced to ensure the pilot projects are implemented at this level (see Chart 1). In practice, under the overall guidance of Hangzhou UMLEB, the actual implementation is trickled down to the city's district governments, which then delegate the duty to their respective subdistrict offices, or "street administrative offices" (*jiedao banshichu*). The subdistrict office is the lowest official state authority in a city, overseeing public affairs at the very grassroots level including those related to residential compounds, where it governs through the proxy "residents' committees".

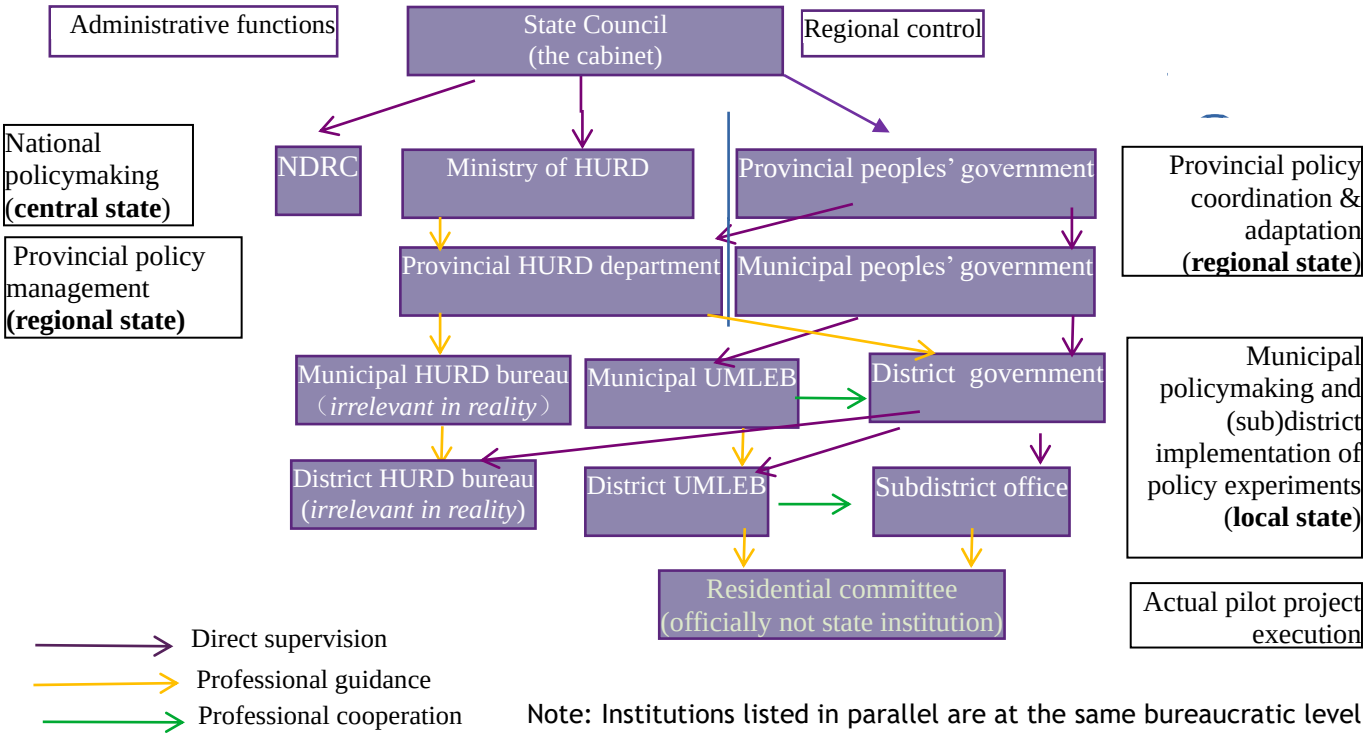

Chart 1: An overview of the main institutions involved and the "horizontal" bureaucratic structure in urban post-consumer waste management

"Residents' committee" is a unique governance concept in China. Most urban Chinese citizens live in often compact, high-rising residential compounds which are usually managed by respective "residents' committees", or *juweihui* in Chinese. According to the "Law of the Urban Residents' Committee", *juweihui* is a self-governing grassroots mass organisation which does not possess or exercise political power. Officially not connected to the state's administrative hierarchy, it serves as the linkage between community residents and the respective subdistrict office – the latter in theory can only provide "guidance" (*zhidao*) to the former without having supervision (*lindao*) power over it. *Juweihui* in general performs a dual function of public administration and service provision to the residential compounds it manages. It helps disseminate new laws, regulations and rules at the community level, handles community affairs (e.g. pubic hygiene and environment preservation), executes some public policies (e.g. census and birth control), manages welfare undertakings (e.g. women's rights, low-income groups welfare), mediates conflicts among residents, assists the local government in maintaining social order and ensures neighbourhood monitoring, as well as communicates residents' opinions and demands to the local government (Audin, 2015, p. 201; Ministry of Civil Affairs, 2018). This administrative set-up has been part of the history of the People's Republic of China ever since the outset – the first *juweihui* in China was formed in 1949 in Shangyangshi Street in Hangzhou, whose members were selected by the resident representatives of the community (ifeng, 2008).

Although officially defined as a "self-governing grassroots organisation", the status of *juweihui* is somewhat ambiguous in reality. Scholars have observed a trend of bureaucratisation of autonomous civil organisations in China (e.g. Audin, 2015; Pan, 2007; Xiang, 2006; Ji. Zhang & Qin, 2004), in which *juweihui* has evolved into a "semi-administrative organisation" (G. Wu, 2001), a "street-level" bureaucracy (Lipsky, 2010), or the "root of the Chinese state" (Read, 2012). This bureaucratisation trend can largely be attributed to the fact that *juweihui* does not have its own budget; instead, its salaried staff, offices and working equipment are all supported by the (sub-)district government. This financial dependence enables state power to appropriate *juweihui* and forces it to integrate the state's administrative norms, making it an on-site auxiliary of the Chinese bureaucracy (Audin, 2015). In particular in large and medium-sized cities where the task of public affairs governance is daunting and cumbersome, a significant portion of administrative responsibilities are relegated from municipal government down to subdistrict offices and further down to *juweihui* in a "contract responsibility" system (Yang & Yu, 2012). In this process, the ought-to-be autonomous *juweihui* is entangled in

the state's bureaucratic system, which turns it into a grassroots agency of the government, the antenna of state power at the community level (ibid.). As a result, when it comes to dealing with public affairs concerning residential compounds, *juweihui* is often a tacit proxy agency of the local state, being co-opted by the (sub-)district government into an alliance of policy execution with shared political targets set by the higher-level government authority (Y. Ren, 2021)

This alliance is evident in the case of waste separation at the source in Hangzhou, where the municipal government managed to push forward the implementation of pilot projects in residential compounds by passing down bureaucratic power and KPIs all the way to the layer of *juweihui*. The city aimed to build 2,600 "municipal-level demonstration communities" by 2021, accounting for 56% of total residential compounds in Hangzhou (Y. Ren, 2021). The criteria of a "demonstration community", as put forward by the city's UMLEB, included such indicators as a 100% coverage of door-to-door knowledge dissemination and household mobilisation in the residential compound, and a min. 80% of the classification accuracy rate (Hangzhou UMLEB, 2020). *Juweihui* naturally became the actual deliverer of such targets and activities. In fact, the revised "Municipal post-consumer waste management ordinance" officially designated *juweihui (*or where existing, property management enterprises[37]) to be the "accountable entity" (*zeren ren*) for executing waste separation schemes and achieving the assigned targets in their respective communities (Hangzhou People's Government, 2019). Some district governments set up reward schemes to incentivise juweihui to perform this role and deliver the targets assigned by the municipal government. For example, the district government of Binjiang announced to reward the respective *juweihui* a subsidy of 50yuan/per household for each residential compound that obtained the title of "municipal demonstration community", and 75yuan/per household for obtaining the title of "provincial demonstration community" (Binjiang District Government, 2019).

Living up to the expectations of the local administration was however not easy. While delivering the infrastructural standard required was relatively controllable (although constraints could arise from budget deficiency), monitoring residents' separation behaviour and ensuring a high separation accuracy rate are enormous challenges. To increase the compliance rate and meet the short-term targets, *juweihui* often took on a

[37] Similar to western societies, in relatively newly developed residential compounds, there are usually property management enterprises (*wuye*) which provide contracted property management services to the residential compounds. These services include maintenance and repair of buildings and common utilities, public security, sanitation, etc. They are entirely private entities, but *juweihui* can provide "guidance" and delegate certain administrative duties including post-consumer waste management issues in a residential compound to the respective property management enterprise.

multitude of measures. One common strategy was providing on-site monitoring and guidance, either done by *juweihui* staff or the volunteers they enrolled who were compensated with a symbolic hourly salary. These so-called "waste inspectors" (*yindao yuan*) were stationed at the waste dumpsites in the residential compound to guide residents to properly sort waste and place different types of waste in the correct bins. In addition to providing guidance, when encountering individuals who refused to comply, the "waste inspectors" were given the right to report the non-compliant individual to the city's UMLEB, which, according to Article 65 of the new household waste management ordinance, could impose a fine of max. 200 yuan (US$30) on the individual. However, this punitive instrument is by and large symbolic since *juweihui* does not have the power to enforce the fine on the spot, and for such a trivial matter it is not worth bothering UMLEB. There have been cases in some cities where UMLEB officials would join the "waste inspectors" on the site to enforce the fine, or in extreme cases, the officials would check CCTV footage to pick out those who failed to perform waste separation (Li, 2021).

However, schemes in which UMLEB officials are directly involved in supervising residents' waste sorting behaviour obviously could not be sustained in the long run due to disproportionally high administrative costs, rendering them mostly publicity stunts. In reality, when citizens failed to sort their waste properly (intentionally or unintentionally), the "waste inspectors" mostly had to do the separation themselves in order to meet the "accuracy" target set for the community whilst avoiding being reprimanded by the sub-district administration. When talking to one volunteer in a residential compound, he said that while most of the residents behaved collaboratively (at least when the "inspectors" were around), he frequently had to do second-time sorting, especially for the category of "kitchen waste" as residents often mixed plastic bags and disposable food containers with food waste. *"If I do not sort these things out, I will get fined,"* stated the volunteer (Informal interview, Volunteer-1, June 2019). This method of relying on "waste inspectors" to artificially drive up the accuracy rate of separation is, to some extent, counterproductive to the whole objective of leading residents to perform source separation. It is clearly not sustainable either – as expressed by the volunteer, once "waste inspectors" like him are gone, the accuracy rate would suffer gravely.

Another strategy *juweihui* commonly deployed was the "fixed-time, fixed-spots" (*dingshi dingdian*) scheme, in which residents were only allowed to dump household waste in the daily disposal window and at a limited number of sites. That is to say, aside

from the dedicated stations, all other waste bins within the community were closed, and except for the announced slots (e.g. 6:30 a.m. to 8:30 a.m.), the rest of the day, the bins were locked. This strategy was complemented with the "waste inspector" mechanism as due to a limited budget, *juweihui* could only station a limited number of staff/volunteers to provide on-site guidance and monitoring. This somewhat coercive instrument created a lot of dissonance among residents who complained about the inconvenience caused by the "timed" waste dumping rule. At times, it could also be counterproductive as some residents who missed the window of disposal could leave trash outside the bins (S. Zhang & Zheng, 2020).

Overall, due to the entangled institutional set-up, *juweihui* has been co-opted into the local government-led policy execution alliance which has a shared political goal. Moreover, in reality, *juweihui* was the sole bearer and deliverer of the targets on the ground, hence the sole accountable scapegoat if targets were not achieved. To meet the KPIs set in the local waste segregation campaign by the respective municipal and even provincial bureaus, *juweihui* had to mobilise the limited resources at its disposal and deploy heterogenous strategies, some of which resulted in mixed reactions from residents, and sometimes even run counter to the end goal of encouraging residents to foster a genuine habit of waste separation. The predicament of *juweihui* in carrying out pilot project execution could be mainly attributed to its generally dubious character, which makes the legitimacy of its work subject to what Audin (2005) calls "double dependency".

The first "dependency" concerns its relation with the local state at the (sub-)district level. On the one hand, by providing salaried positions and working funds, the sub-district office has the power to delegate administrative tasks to *juweihui* while demanding submission to its hierarchy. On the other hand, since *juweihui* is officially not part of the state bureaucracy, its staff do not have the administrative authority to enforce implementation on the ground. The contract situation of the staff is rather precarious and their income is much lower compared with state officials, making them the "pettily uniformed" (Hoggart, 2009, in Audin 2015, p.9), who only scrupulously carry out orders "from above" for fear of being downgraded or sacked as their career prospect outside is even scarce. Through the tactic of administrative annexation, the local state legitimately maintains control over *juweihui* and the community structure, and delegates duties to *juweihui* staff but without actually integrating them into the state administration. In a sense, the local state delegates responsibility but not power to this grassroots organisation. The second "dependency" concerns its relationship with the

residents whose interest it (in theory) represents. But because of its dubious connection with the local state agency, *juweihui* is not a body that the population truly demands or recognises; and in the meantime, because it is not an official administrative agency with political or legal enforcing power, residents could easily challenge its position and show defiance of the rules it set or the guidance it provided. As such, sandwiched between the "double dependency", *juweihui* is pressured to carry out the concrete execution of the waste source segregation pilot project gestated by state authorities, but with little official power authorised by the state, it has limited recognition and collaboration from the residents. As a result, *juweihui* has become a place where responsibilities are comfortably passed down from the local state administration and shifted up from the residents.

5.3.2 Coalition with "professional" companies and "smart" technologies

In addition to coalescing semi-state proxies into an execution alliance of policy experimentation through its bureaucratic and organisational power, the local government has passionately sought to foster a type of "collaborative governance" (Ansell & Gash, 2008) with technological companies. Its ambition to drive systemic change through technological and entrepreneurial innovation concurred with what was explicitly underscored in the 2017 NDRC-MOHURD "Implementation plan for building a post-consumer waste separation system", which called for the participation of "social capital" and "professional service providers" and the facilitating role of smart technologies. The Implementation Plan of the central government urged pilot cities to accelerate the innovation and application of "Internet +" technologies in urban sanitation systems, and develop an innovative "smart technology + social credit" governing mechanism to propel waste separation and recycling (Section 5 of the Plan, para.4). This emphasis reveals that the matter of post-consumer waste management has been – at least partly - constructed as a technological issue in China, which has circumscribed discussion to focus on tapping into the technological services of "professional" companies. The technological focus in the meantime has served to address the aforementioned problem framings of infrastructural deficiency and undesired involvement of informal waste workers.

A typical instrument of the government forming collaborative governance with non-state actors in China for public policy-making/implementation or public programme management is through "service contracting", in which the government purchases public services from social actors including private companies and NGOs (Gao & Wu, 2020). The

“service contracting” model was activated in China by the enactment of the Government Procurement Law in 2002, and pushed forward by the 2013 Circular No.96 in which the central government “encourages governments to work with social forces to improve public service provision, quality, and efficiency” (Jing & Hu, 2017, p.192). Since then, local governments have enthusiastically embraced cross-sector cooperation, particularly in delivering environmental protection and welfare projects, prompting essential changes in how the Party-state provides public services (Jing, 2012; Jing & Gong, 2012; W. Wang & Snape, 2018).

Service contracting is also globally popular in the arena of waste management. Many governments in Western countries have been purchasing waste services from social actors since the 1980s, the cost saving of which is allegedly significant compared with direct service provision by the government (Cai, 2018, p. 201; C. Du & Huang, 2019). In most Chinese cities, the collection, transportation, treatment, and disposal of waste have already been handled by service companies outsourced by the municipal government, many of which are often state-owned, either by the municipal or district government. For example, in Hangzhou, the city’s leading post-consumer waste management company is Hangzhou Environmental Group, which is affiliated with the state-owned Hangzhou Urban Construction Investment Group Co. It developed from the former *Tianziling* Solid Waste Treatment Plant, one of China's first sanitary landfills (Hangzhou Environmental Group, n.d.). But on the upstream point of source separation and recycling of post-consumer waste, government purchasing services were not a norm.

While reinforcing the message that performing source separation should be the responsibility of each individual, the local government in parallel adopted the strategy of procuring third-party services to facilitate the process since separating waste has not been an ingrained habit of the residents. But profit-driven companies generally have little incentive to get involved in merely “facilitating” waste segregation as there is little profit to be gained other than some small amount of government subsidy. In order to increase the stake, the district governments introduced the so-called “bundled services” (*kunbang*) mechanism, offering to earmark the recyclables in the residential compounds (where extra profit can be made) for the company that provided source segregation services. Touting to establish an integrated system of waste separation and waste recycling (*liangwang ronghe*), by offering this new contracting model, the local government cannily achieved the dual objective of using “social capital” to institutionalise source separation while also formalising and creating accountability in the recycling sector which hitherto had been dominated by the informal waste workers.

Although the services provided by contractors varied significantly, a common trend observed in the new campaign, especially in relatively modern residential compounds, was the deployment of smart technologies and equipment in facilitating waste separation and, ultimately, capturing the recyclable resources for profit. Riding the wave of digital technology development in China, technological applications designed for post-consumer waste management have mushroomed nationwide in recent years. Hangzhou as a pioneering city of the digital economy (gathering a cluster of tech giants including Alibaba, Tencent, etc.) has been spearheading the development of an "intelligent" garbage sorting and recycling system, harnessing big data, artificial intelligence, IoT (Internet of Things) and other digital technologies. Against this trend, modern "waste entrepreneurship" boomed, with innovative "Internet+ waste recycling" models having allegedly covered 90% of residential compounds in Hangzhou by 2020 (Sanxia News, 2021). The gallery below offers a few examples of an integrated smart waste segregation and recycling system.

Gallery: Some examples offering a glimpse into a smart waste separation and recycling system

A so-called "smart waste separation and recycling integrated house" developed by a listed company Lianyun Environment. These stations are installed in many communities in Donghu sub-district in Hangzhou. The system guides residents to sort waste into "recyclable", "kitchen" and "rest" wastes, and weigh recyclables and get "green credits". It even offers a handwashing basin and beverage vendor machine where one can redeem points directly. Disposal requires QR code or face scanning.
Source: *souhu* https://www.sohu.com/a/409540938_698722

A separation and recycling depot developed by Hangzhou Wuhuan Technology company. This depot encourages residents to separate recyclable waste into more refined categories (paper, plastic bottle, metal, glass and textile), which it collects in fixed time.

Source: *jiabaotu*
http://www.jiabaotu.com/index.html#/home

Smart bins in Hangzhou Kaixuan sub-district developed by CNTY, China's Top 500 company specialising in waste management services in particular waste-to-energy technologies. This set only collects separated "food" waste and "dry" waste. Disposal requires household card scanning.
Source*: sina*
http://slide.tech.sina.com.cn/slide_5_86452_100177.html#p=1

As vividly demonstrated, the professional service providers strove to offer clean and slick waste separation and recycling facilities. Most are registered as a technology or environmental service company, and some are large-sized or state-owned. Notwithstanding the differences in appearance and requirements (e.g. some asked for refined categorisation of recyclable waste while others asked to put all recyclables in one bin), these smart systems shared a similar mechanism incorporating both incentivising and coercive measures: Incentivising as they entailed a point-rewarding system which allowed residents to gain and redeem "green credits" earned through proper separation and recycling; and coercive in the sense that they enabled the system provider and authorities to monitor and evaluate residents' waste behaviour based on pre-registration. As such, this dual system enabled by smart technologies is fraught with contestation. In what follows, I will unravel the power imbalance and conflicts embedded in the smart "bundled services" by providing an in-depth account of one such "professional" waste service provider in Hangzhou, namely H. Environment (*company name is anonymised*).

5.3.2.1 A case study of H. Environment: smart "bundled services" of waste separation and recycling

According to the company website, H. Environment was officially founded a few years ago in Hangzhou, striving to build a modern environmental management system in the context of "digital economy" and "zero-waste cities". It invested 50 million yuan (US$8 million) in developing an integrated pilot system of post-consumer waste separation and recycling in its home district. As my informant at the company told me, the founder has over 20 years of experience in the recycling business, successfully operating several secondary resource management companies alongside the newly founded H. Environment. His company group has operational licences for different types of recyclables, including a hazardous waste treatment licence which is difficult to obtain in China. The secondary resource management companies used to purchase recyclables from upstream waste collectors (mostly the informal sector), but now, with the new H. Environment entering residential compounds, they can collect recyclable resources directly from waste producers at a lower price, thereby establishing an entire waste resourcification ecosystem from source collection to transportation, treatment, processing and turning waste into secondary material. This sets him apart from many other "waste technology companies" as they mostly only have the licence for collection but not the capacity to cover the whole waste resourcification industry.

When my field visit to Hangzhou took place in 2018, H. Environment was providing contracted services to a considerable number of residential communities in its home district, thanks to the "important support" provided by the district government – as described by my informant, who was a manager of the company. According to him, the district's urban management office oversaw the roll-out of the H. Environment recycling model across the district. In this model, the sub-district offices were asked to sign a service purchasing contract with H. Environment, under which it received a subsidy of 1.25 yuan/household/day. That is to say, for a residential compound of 1,000 households it could receive a subsidy of 37,500 yuan per month (this budget was shared between district and subdistrict governments). In addition, the contracting residential compound had to allocate the company a workstation of no less than 60 square meters and guarantee other service providers including informal waste collectors were not allowed to operate in the same residential area (Informal interview - Private sector 1, Mar. 2018).

Practically, the model works like this:

1. H. distributes company-specific trash bags to each household, and each bag has been tagged with a unique QR code.

2. Households are asked to register a personal account with details such as address and phone number (either through H. APP or with the support of H. staff).

3. Households are asked to sort out recyclable waste (e.g. plastic, glass, textile, metal) and place it together into the bag distributed to them (guidance on categorisation has been provided previously via community campaigns, brochures and H. employees). Paper and e-waste are sorted separately. When the bag is full (max. 15 kg), households can use the H. APP, WeChat account or online platform or call the hotline to request H. employees stationed in the compound to collect the bag from their houses.

4. H. employees, dressed in standardised uniforms, go to the household to collect the recyclables (this door-to-door service style is reminiscent of the informal waste sector). The employee scans the previously tagged QR code on the bag, weighs the bag, and records information about this bag of waste in the management system, which then rewards the account holder with "environmental credits" based on waste category and quantity. For big-sized recyclables such as furniture and hazardous post-consumer waste such as batteries, households can also request H. employees to pick them up (without getting "credits" though).

5. The recyclables collected from households are piled up in the work station first, collected by H. trucks and delivered to main processing centres for further sorting, and then to sister/partner companies for further treatment and turning into new materials.

6. The account holders can redeem the "environmental credits" in the special stores operated by H. Environment, where they can purchase a range of basic commodities such as wash powder, cooking oil, rice, etc. H. can use the QR code on the trash bags to monitor households' separation behaviour, and provide "data-based" management and policy inputs to relevant administrative departments.

As such, H. Environment set up a "smart" system propelling residents to perform waste separation at the source, and in collaboration with *juweihui* or property management companies, it also established a monopolised recycling system in the residential compounds it operated. At the time of writing, its service has expanded to an adjacent district in Hangzhou and some smaller cities in the same province. But such new models of contract servicing buttressed by political favour and modern technologies are not free of controversies. Setting aside efficiency and practical issues of such models, below I focus on investigating two dimensions of conflicts and power struggles arising thereof: one among competing groups of waste collectors, and the other between the "smart" monitoring system and the monitored objectives, namely households.

5.3.2.2 Informal v.s. Formal: reshaping power dynamics among waste collectors

The new waste services provided by "formal" actors such as H. Environment in residential compounds produced new economic arrangements and legalities in the recycling business. Interestingly, the names of these formal companies mostly bear words such as "environmental service", "environmental technology" or "resource management", which are only remotely associated with waste management. As shown above, the official stationing of these contracted companies with formal workers and

large-scale industrial systems in gated residential compounds created a monopoly in the recycling business. The non-compete arrangement rendered the act of uncontracted service providers (mainly consisting of “informal” trash collectors) illegal, and subsequently pushed them out of the gated residential compounds, which used to be an important economic space for them. As elaborated in Chapter 3, most informal trash collectors were rural migrant workers who struggled to make a living by collecting and selling recyclable waste. Although theoretically, any service provider could respond to the government’s open “call for tenders”, which is a required step in public service contracting, the legal status of “informal” de facto deprived individual waste collectors of the eligibility to participate in public bidding. That is to say, without a registered name, they were automatically denied entry to the new waste recycling arrangement conditioned by the service contracting model.

But even if they were formally registered, they probably would not stand a chance in the new game, which is increasingly shaped by technology, capital and network. The minimal requirement for waste collection and recycling in the new system is to have a “clean” appearance, which means waste should not be exposed to sight but stored in closed containers. But even meeting this minimal requirement posed a significant challenge for waste hawkers, who typically used open tricycles for waste collection. Moreover, the prospect of technical upgrades and the financial resources needed for implementing "smart" systems were beyond the reach of individual waste collectors' imagination. As illustrated in the example of H. Environment, the founder had accumulated significant initial capital from his other businesses before he could invest millions in developing a brand new information technology-based waste recycling system. Admittedly, there were also many start-ups with limited financial resources; however, these founders were primarily professional entrepreneurs who were experts in mobilising investment from venture capitalists. Indeed, since 2017, waste segregation and recycling projects have been fiercely sought after by venture capitalists. According to market research done by China’s top securities corporate (Essence Securities), by 2020, the nation’s waste segregation sector was estimated to be a 61-billion-yuan (US$10 billion) business, which was expected to grow to 400 billion yuan in the next ten years (Ran, 2020). Without competitive capital or expertise to attract capital, the informal waste workers are generally not positioned to share a piece of that pie.

And then there is the matter of network with the local government. In 2020, over 3,700 registered companies were providing variegated waste segregation services (ASKCI, 2020). But among the competing service providers that all touted innovative,

environmentally friendly solutions, which one should a local government choose to contract? Of course, formally, there was a fair process of public bidding with defined criteria, but was that all? As mentioned above, the success of H. Environment in its home district could largely be attributed to the sound "connection" the boss had with district government officials. The official website and social media account of H. Environment frequently feature government officials' visits to the company, suggesting that its operation is in line with government policies and that it possesses sound political resources.

But ironically, during my field visit in 2018, I witnessed that H. Environment was trying to get a foot in some residential compounds outside its home district; but a few months later, the informant of the company surreptitiously disclosed to me that H. Environment eventually retrieved from these communities due to "*high maintenance cost*", and most importantly, because *"our boss did not have such a solid connection with this district government."* (Informal interview - Private sector 1, Mar. 2018). This statement suggested that H. Environment did not get sufficient fiscal support from this district government, or the latter had its own favourite. It will be imprudent to assume that this practice is prevalent. Still, it probably should not come as a surprise that in such political projects, "connection" is an important factor for a company to stand out from its competitors to get the "licence to operate". If H. Environment as an established and resourceful company could still had to bite the dust due to the lack of "connection", the informal waste collectors did not possess the power resources to compete at all.

There have also been efforts to integrate informal waste collectors into the formal system, for example, by employing them in formal companies. However, the annexation strategy has so far proved largely unsuccessful. On the one hand, individual waste pickers were reluctant to be incorporated into the official system for two predominant considerations: freedom and income (Schulz, 2015, 2019; Schulz & Lora-Wainwright, 2019; Y. Shen & Steuer, 2017; Steuer, 2017). As documented by sociologists who followed the hidden lives of waste pickers in recycling communities in Beijing, many waste collectors refused to be employed because "*this has become a way of life with its own set of work ethics. Some regard their work as providing more freedom than a factory job, with lower risk of wages going unpaid.*" (Tang, 2017)

On the other hand, the formal system was reluctant to take them in. First, there was the barrier of "technical capability". In the recent development, collecting waste from households is no longer business-as-usual; rather, the new systems equipped with IT apparatuses unwittingly re-defined and raised the bar of qualifications for those

entering the recycling industry. According to the manager at H. Environment, the company employed many university graduates to run the entire system, and he himself held a doctoral degree in resource management. The dependence on IT technologies served as a legitimate filter which excluded the informal waste collectors as this group generally had a low education level and some were even illiterate. The only process they could potentially engage in the new system is to be employed as a manual separation worker on the sorting line, which most of the informal waste workers were reluctant to do for the above reasons (freedom and income). Additionally, the trend in resource management companies like H. Environment was to automate the sorting process as much as possible to reduce labour costs.

Then there was the issue of trust. The informant at H. Environment said the company was very cautious about employing former waste collectors as they might adulterate the company's business. As former "entrepreneurs" in the industry, these individual waste workers not only had the technical skills and knowledge to disassemble relatively valuable recyclables (such as home appliances and electric devices) but also had established business linkages with the recycling market and downstream processing companies, which could purchase recyclables from them directly while undercutting H. Environment completely. This means, as the manager illustrated to me, when a former individual trash collector - now an H. employee, was sent by the company to collect a used PC from a household, he could easily disassemble the PC, take out the price-worthy parts and re-assemble the PC back to a complete piece. As he deposited this valueless piece to the company's storehouse, no one would notice anything wrong. When asked if this was not some discrimination against waste collectors since such deceptive acts of employees could happen in any industry, the manager replied: *"Well, I am not saying that all of them have a low "suzhi", but I believe a lot of them will do that."* (Informal interview - Private sector 1, Mar. 2018).

As such, informal waste collectors faced the double barrier of acceptance in the new waste management system. They mostly did not possess the power resources, primarily political "connection" and economic resources needed to be contracted as official third-party service providers and get the licence to operate. Although this problem was not necessarily new for them, and in the past they seemed to have always found a way (e.g. going to those unguarded communities or opening locked trash bins), with the prevalence of the new service contracting model and intensified monitoring, the chance of availing themselves of the loopholes was getting slimmer. In addition, their integration into the formal recycling system has been questionable. Set aside their own

willingness and technical capacity, the perceived potential of jeopardising company interest primarily caused by their low *"suzhi"* posed an extra hindrance for the formal system to take them in.

However, it has to be cautioned here that the above analysis about the informal recycling sector's extremely restrained participation in the post-2017 waste regime was based on the general trend as observed by literature (e.g. Schulz & Lora-Wainwright, 2019; Shen & Steuer, 2017) and my expert interviews, and as examined in the specific case study of Hangzhou. It is doubtless that there could have been different arrangements in different cities and regions. For instance, in the northeastern city of Changchun, members of the informal recycling sector successfully established a formal recycling venture called Ant Recovery in cooperation with the local recycling association (Steuer, 2020; Steuer & Li, 2022) - although my research suggested this kind of informal-formal cooperation, or informal-turned-formal examples were rather rare. But still, many informal waste workers continued to be active in unguarded public spaces and residential compounds in which contracted service providers were not present yet (J. Liu, 2022), reaffirming their resistance and flexibility as indicated in Chapter 3.

5.3.2.3 Waste surveillance: Auditing apparatus and coded behaviour

As illustrated in the previous two sections, households who wanted to sell recyclables to companies like H. Environment needed to register on the respective digital platform to obtain a user-specific account (recently referred to as "carbon account" in the widely discussed "double carbon"[38] context), which could be used to request door-to-door pick-up service and gain and redeem "environmental credits". This account was also connected to the QR code tagged to the waste bag the household used, which recorded information specific to this bag of waste (e.g. category, quantity and producer). The service provider could monitor each household's waste production and sorting information by reading data aggregated through these unique QR codes. Households with "non-compliant" sorting behaviour (i.e. mixing waste intentionally or unintentionally) could be "punished" by deducting "environmental credits" from their account, whereas those with consistently "good" behaviour could be rewarded with extra points. In some residential compounds, households could also be "shamed" by naming or acknowledged as "examples of excellence" on the community's post-board managed by *juweihui* or the property management company. The exact monitoring mechanism was also applied to the modern segregation and recycling stations/bins purely gated by smart technologies,

[38] The "double carbon" policy refers to China's national commitment to reaching peak carbon use by 2030 and becoming carbon neutral by 2060.

which required residents first to scan a QR code, swipe the household card or use the face recognition system before they could drop off their waste (otherwise the bins remained closed).

The IT apparatuses in the new waste management systems promised to make waste separation and recycling convenient and fun for residents, and the APP "interacts with people and integrates into their daily routines" (Feldman, 2011, p.388). However, the deployment of such technological tools, together with the monitoring and evaluation functions they enabled, unconsciously turned residents into monitoring subjects and their waste practices as "objects of scientific knowledge and political control" (Anderson, 1995). Through participation in the novel schemes, household waste sorting behaviour, which was previously private, is now made public and monitored, scrutinised and coded by a third party with technological power. The data collected through the technologies, the revealing right of which the households had no control of, were subsequently interpreted as facts and became the benchmark for "punishment" or "reward". This manifested an unequal power relation between the households as passive objects of the technological system, and the new waste companies, in alliance with *juweihui* in most cases, as monitoring authorities with auditing power, power contracted and authorised by the local government. What's more, these data tracking individual's discharging behaviour could be linked to the "social credit system" (Landsberg, 2019, p. 68), which is part of the data-based state surveillance infrastructure being constructed for full deployment (Liang et al., 2018). Several pilot cities such as Shanghai and Xi'an have established in their municipal regulations to effectuate the reporting of recalcitrant cases in the individual's social credit system, although currently, this clause is more for preventative deterrence rather than actual implementation (Gu & Liu, 2019; Shanghai Urban Management and Law Enforcement Bureau, 2019; S. Wang, 2019).

As such, the so-called "smart" waste management system, while being touted as modern, user-friendly and enabling efficiency and transparency, was in nature a waste surveillance instrument which performed data collection, monitoring and supervision, leading to the cultivation of what Shore (2008) calls an "audit culture" in public's social life of waste separation and recycling. Although primarily an "encouraging" rather than a "punishing" scheme at this stage, the system silently exerted compliance pressure on the users. Indeed, when talking to several residents who participated in such projects, they revealed that the APP and publication of data made them feel that they were "monitored", and as a result they were more conscious about their behaviour. This is to say, the broad public compliance with the smart waste segregation and recycling

schemes created a norm among the whole residential compound, and the waste auditing culture empowered by smart technologies pushed individuals to internalise the norms, and review and police their own behaviour. This process precisely affirms what Shore (2008) suggests: "*Audit changes the way people perceive themselves: it encourages them to measure themselves and their personal qualities against the external 'benchmarks', 'performance indicators' and 'ratings' used by the auditing process*." (p.281)

Another implication brought about by the new system was that households lost the bargaining power over the recyclables they tried to sell, which was not the case when dealing with informal waste collectors. As there were often several waste hawkers in one residential compound, households could compare and choose to sell their recyclable waste to the one who offered the highest price, or the one they "liked" the most. The new contracting system enabled the servicing companies to establish a monopoly within the gated residential compound, which automatically denied residents access to other waste collectors. Although the price difference may not be significant, the fact that residents were losing the "power to choose and negotiate" put them in a bad position. When informally talking to residents who used H. Environment services, some feared that when the informal waste collectors have been completely pushed out of the recycling business, these formal companies would offer an even lower price for the recyclable materials - if not totally for free. This probably is bound to happen considering that the waste management paradigm supporting China's current waste reform largely follows the Western model, in which proper waste segregation and recycling is something of a duty, not of a reward. Within China, some scholars have also questioned the "reward" instrument (Z. Wang, 2019), which seemed to be against the policy goals of waste reduction and fostering consumers' responsibility to separate and recycle waste (more in the "summary" section).

5.3.3 The role of civil actors in mainstreaming policy ideas and social mobilisation

The above analysis manifests an overall technocratic paradigm of waste management in China, as waste separation and recycling have been primarily constructed as technical issues that could be addressed by boosting technological capacity and capital investment. In addition, since the act of waste segregation at the source is inseparably linked to citizens' awareness and participation, the matter was also constructed as a socio-ethical one. In this framing, the predicament could only be resolved by normalising source separation and increasing citizens' "*suzhi*", which could lead to the cultivation of an intrinsic habit. To this end, the primary imperative for the local government was to

mainstream the policy idea of source separation and build a general consensus among the broad public via mobilising various resources and channels.

Environmental education defined as a process "*through which individuals and society build social values, knowledge, skills, attitudes and abilities directed towards the conservation of the environment, a common good that is essential to quality of life and sustainability*" (Piccoli et al., 2016, p.799), is in general a powerful instrument to disseminate policy ideas, drive consensus-building and social mobilisation. Indeed, in the policy experimentation of waste segregation, in tandem with the focus on institutional construction and technological orientation, the local government also made a great effort to mainstream the policy discourse of source separation via various environmental education programmes, which were propped up particularly by civil forces.

As elaborated in Chapter 3, since the early 2010s, the Chinese government has increasingly realised that it would be vital to empower civil society actors to support awareness raising and social mobilisation in environmental issues. Hence, in political projects concerning environmental protection and social affairs, local governments have avidly deployed a "collaborative governance" by developing viable contract-based models with civil actors (Teets, 2012). In executing waste separation projects, the Hangzhou government clearly stated in the new post-consumer waste management ordinance that "v*olunteer service organisations and volunteers are encouraged to participate in the advocacy, supervision, guidance and demonstration of household waste sorting, and participate in the supervision of collection, transportation, and disposal...Encourage various charities, environmentalists and social welfare organisations to participate…*" (Article 53, Hangzhou People's Government, 2019; self-translation). In response, an alliance of civil actors under the auspices of government support (both administratively and financially) emerged to support the environmental education and mobilisation endeavour.

A notable actor on this front is ENGOs. In fact, ENGOs were the very bellwethers in China to promote the idea of waste source separation. A remarkable example was their active role in lobbying waste classification during the widely cited Asuwei anti-incineration campaigns, which were mobilised to rebel against the government's top-down, non-consultative decision on the siting of a waste incinerator in Asuwei, a suburb of Beijing in 2010 (Bondes & Lora-Wainwright, 2019; Johnson, 2013). Although these campaigns did not necessarily stop the construction of incinerators (e.g. the Asuwei incinerator project commenced in 2019 under the name of a "circular economy park"

after a postponed process), ENGOs managed to bring to the fore the policy proposal of prioritising waste classification over incineration (Wen, 2013).

The waste separation idea ENGOs advocated has gained unprecedented political acknowledgement, and they naturally became an organic partner with local governments in implementing the new political project, carrying on the primary role of disseminating policy ideas and mobilising social participation. In this connection, by virtue of each other's efforts, ENGOs and local governments formed a mutually conducive relationship with a shared goal of promoting waste separation, albeit their agendas might be different: ENGOs' foremost aim was to expand their influence and enhance relevance, whereas local governments primarily attempted to meet political targets. In this context, a wide range of ENGOs were avidly engaged in pilot projects across the country and new dedicated civil organisations proliferated.

ENGOs' involvement was primarily enabled through the above-illustrated public service contracting model. While private companies were mainly contracted to set up technological/infrastructural systems, ENGOs were important contractors for "soft" tasks such as engaging the public, providing public education and awareness-raising services, and steering the public to integrate environmental responsibility in their daily lives. In general, as illustrated in Chapter 3, NGOs are mostly compelled to develop a strategic "embedded" partnership with the government to get political and capital support. The ENGOs engaged in waste separation projects were no exception. They often collaborated closely with municipal and district government officials and *juweihui*. They also worked in tandem with other civil actors; for example, they enrolled subject experts from universities to organise public dialogues and expert workshops, or supported *juweihui* and property development companies in information sharing, creating awareness and mobilising citizens' participation. Some ENGOs (e.g. the Shanghai-based Aihui ENGO) were also engaged in pioneering technical solutions such as "green account" schemes in communities (Arantes et al., 2020).

In Hangzhou, environmental civil organisations at different levels were active, including big funding organisations such as Alashan SEE Ecology Association and Vanke Foundation, national ENGOs such as "China Zero Waste Alliance" and "Friends of Nature", home-grown ENGOs such as provincial "Green Zheijiang", grassroots "Cloud Commonwill" (*Yushang*), district government-sponsored Yiyou Charity... (J. Cai, 2020; Q. Shen, 2019). These environmental civil organisations formed an organic network with a specialised division of labour: while the funding organisations primarily provided financial support to running nationwide projects and resources for grassroots efforts, the

national ENGOs, mostly with more political resources, focused on policy research, public policy consultation and developing coherent advocacy messaging for the member networks. The grassroots small-scale ENGOs then focused on carrying out concrete projects in the communities (Xin, 2019).

In order to build across-the-board consensus on waste separate at the source among residential compounds and mobilise public participation, an alliance of actors, including ENGOs, local government officials, *juweihui* staff and sometimes technological system providers launched various publicity and educational campaigns of popular-science style in the city. Residential compounds were the main site for information sharing or propaganda. The explicit inscription of official discourse into public spaces in residential compounds was ubiquitous: banners bearing slogans such as *"waste separation is a new fashion"*, *"waste separation turns waste into treasures"*, and *"waste separation beautifies our homeland"* were hung on walls, public notices were pinned on blackboards and doorways, and promotional flyers were distributed to residents (H. Sun, 2022). The recurring elements aimed to sensitise residents to the new norm of source separation, and provide information and advice regarding civility and environmental sanitation. A broad examination of online and offline educational messages shows that the content of these campaigns by and large focused on three categories: (1) policy content of waste classification, which aimed to normalise the ongoing pilot projects; (2) environmental impact of performing source classification, which aimed to legitimise and rationalise the policy idea; and (3) hands-on guidelines on waste separation, which aimed to guide and standardise residents' classification behaviour.

In addition to disseminating propaganda materials, sometimes more "aggressive" mobilisation measures were undertaken. In some communities, leading working teams consisting of subdistrict officials, community workers, resident representatives, NGO members and volunteers launched the so-called "knock on the door" campaign, in which the teams visited each and every household and conducted face-to-face information sharing, demonstration and mobilisation. Such sweeping mobilisation actions aimed to meet the criteria mentioned above of getting the "provincial/municipal demonstration community" title, which required 100% coverage of door-to-door knowledge dissemination and mobilisation.

Aside from these institutional civil actors, individual citizens were also mobilised. Propelled by a sense of "pride" resulting from being seen as a "good citizen", these "role models" were voluntarily enrolled in the execution alliance to promote policy ideas and mobilise their peers' participation. Some communities put together so-called

“self-monitoring teams” incorporating resident volunteers to carry out door-to-door preaching, on-site outreach campaigns and guidance (Xin, 2019). Other districts managed to integrate a dedicated “lecturers group” to disseminate waste segregation knowledge. For example, in Xiaoshan district, the district waste separation office established a waste separation curriculum and recruited over 100 volunteer lecturers, whose occupations ranged from government officials, teachers, university students, NGO members, etc. (Sohu News, 2018). They regularly went to government entities, schools, residential compounds, shopping malls and other public spaces to disseminate knowledge about waste separation through public seminars and distributing leaflets (Chen, 2020).

Also, the internet greatly contributed to the dissemination and uptake of policy ideas among the public. The subject of waste classification emerged as one of the most discussed household topics in 2018/19. Netizens ingeniously coined countless humorous catchphrases on social media to make waste sorting easier and more relatable. In particular, the catchphrase “*What type of garbage are you?*” (Baidu Baike, 2023) went viral online as citizens tried to navigate the policy guidelines. Of particular resonance was the employment of a limerick that invoked pigs as a mnemonic tool to facilitate proper sorting. The popular mnemonic goes as follows: *“What pigs can eat is wet waste; what pigs can't eat is dry waste; what will kill pigs if they eat is hazardous waste; and what can be sold to buy pigs is recyclable waste”* (Yang, 2019). In addition to civil discourse wisdom, internet companies piled in to provide more professional and smart technological solutions. In Hangzhou, the city’s post-consumer waste management administration UMLEB integrated a digital “waste separation assistant” programme in its municipal e-governance APP, where people could seek guidance on sorting waste (Jia, 2019). The Alibaba group even developed an AI-powered APP that guided consumers to separate waste using an image recognition function (L. Zhang, 2019). Similar intelligent waste-sorting APPs were created by other internet giants such as Tencent (Ting, 2019). The competing landscape in waste segregation APPs demonstrates tech companies’ interest in this policy field.

Overall, as an illustration of policy experimentation, Hangzhou paid enormous attention to educating the public about the policy idea of waste sorting, getting the buy-in from the public about the pilot projects, and mobilising citizens to engage in these projects and eventually foster an ingrained habit. The policy logic was that the more information the government provided, the more intensive it was, the more entrenched the information would be, and the easier it would be for residents to “*adopt waste*

separation like a habit, a habit such as waiting for traffic lights and queuing" (Interview - Civil society-1, Nov. 2019). To this end, the local government attributed significant political and financial weight to policy idea dissemination, forming a coalescence with *juweihui*, professional service providers and environmental civil organisations, which further absorbed "good" individuals for peer mobilisation. According to the city's UMLEB, the impact of such campaign-like education and mobilisation efforts was gratifying: 98.8% of the households in the 1,800 pilot residential compounds were fully aware of the paramount importance of waste sorting, and 96.5% were willing to sacrifice time and space to do waste sorting (Hangzhou UMLEB, 2021). These numbers aggregated from the report-out of *juweihui* however need to be taken with a grain of salt, as they are highly susceptible to be massaged by *juweihui* who, as analysed above, had both the pressure and incentive to maximise deliverables.

5.4 Concluding remarks: Contestations at the micro-, meso- and macro-levels

In summary, in this chapter, I introduced the inward-oriented prong of the Chinese state's political project on waste governance reform, with an analytic focus on policy deliverables regulating the specific nod of *domestic urban post-consumer waste segregation and recycling at the source*. In particular, I outlined the recent policy development in this specific subfield, which evolved from a relatively fuzzy, unambitious piloting plan issued by two central state departments to policy experimentation at a limited scale, and to its eventual enshrinement into the national law and inclusion in the national development agendas. Furthermore, I investigated how the state mobilised various power resources and demonstrated strategic selectivities in the attempt to make *waste segregation and recycling at the source* a hegemony project. To illustrate the relevant actors, strategies, conflicts and power dynamics involved in redefining this policy field at the meso- and micro-levels, I zoomed into one particular locality of policy experimentation and conducted an in-depth analysis of the local government's role in charting out the 2.0 version of the waste separation and recycling project. I examined how the local government coalesced different actors to form an execution alliance for pilot projects by virtue of its organisational, systemic and discursive resources.

The policy experimentation in the locality of Hangzhou City provided a snapshot of the MSW management reform in China, demonstrating insightful nuances concerning how local governments took central policy ideas to the implementation and execution level. In response to the top-down policy initiative championed by the central leadership and

relevant central state departments, the municipal government chosen as a locus of policy experimentation formulated relevant implementation plans and translated the central policy ideas into actionable policy targets in the respective jurisdiction. The pilot projects were then carried out through a mix of carrot-and-stick policy instruments, combining top-down command-and-control methods with market-based mechanisms, and old-fashioned means with modern governing techniques. First and foremost, through the structural configurations that undergird the state's institutional functions, the state at the municipal level cascaded policy targets all the way down to the community-based grassroots organisations, which have been annexed to become a proxy state agency and held as accountable for actual project execution in residential compounds. Second, the local government strengthened infrastructural and technical capacity in post-consumer waste management via the institutional arrangement of service contracting to "professional providers", as well as by tapping into "social capital" and technological innovations. In parallel, the local government stepped up discursive efforts in collaboration with various actors to mainstream policy ideas and mobilise public participation. The form of governance demonstrated in the policy experimentation led to the reconfiguration of MSW management in China primarily as a technological issue, supported by norms and practices of individual responsibility.

Importantly, in the policy experimentation endeavour, the local government did not operate alone but formed an execution coalition with heterogeneous non-state actors. As MSW management in general was not as confrontational an issue as other areas of environmental concern such as anti-large dam construction or air pollution, the government thus was more willing to engage with non-state groups in this area (F. Wu & Martus, 2021). In concrete terms, in driving the implementation of pilot projects, the local government cooperated with grassroots semi-administrative *juweihui*, professional (and often big-data based) separation & recycling service and technology providers, venture capitalists, ENGOs, experts and even individual residents for setting up the appropriate system and infrastructure, as well as propaganda and mobilisation channels. As analysed above, the alliance featured new technological and institutional interventions that gave rise to new conflicts, competitions, tensions and power imbalances, which particularly restrained the participation of the informal waste sector and imposed surveillance on citizens. However, to achieve pre-defined political targets, the local government seemed to be willing to dismiss the interests and concerns of those actors with weaker economic, organisational and discursive power. In fact, in the process of scaling up and universalising the pilot models across the nation, these

contradictions, although they emerged prominently in the policy experimentations, were not referenced nor addressed in the later national policies and legislations.

But even the execution alliance brought together by the local state's bureaucratic power was vested with different interests: For *juweihui*, a tacit ally of the local administration due to its institutional dependency, its core interest was to complete – within a certain evaluation period - the political task of maximising waste separation rate in the communities they oversaw. Hence, they tried to fulfil the short-term targets and maximise the numbers by all means (sometimes artificially) without considering lasting habitual changes. For the "professional" service and technology providers, their underlying interest was to stand out from competitors and gain access to government subsidies, sell equipment/systems and capture recyclable resources to maximise economic and political profits. There has been little scrutiny as to where the waste they collected went. The case of H. Environment as illustrated above had a relatively complete recycling value chain which allowed it to resourcify the waste it recycled to a large extent, but many of the other tech companies had no expertise in waste resoursification nor network with the downstream recycling industry. So, they at the best served as a middleman in a modern guise for recycling (Landsberger, 2019. p.70); or worse, the waste they collected could have been incinerated or even landfilled. In any case, despite demonstrating variegated innovative technological solutions, the ultimate goal of these professional service providers had little to do with fostering long-term solutions propelling citizens to take on a new habit.

Whereas for ENGOs, even though they took more interest in mainstreaming the idea of source separation and facilitating habit adoption among citizens, their immediate concern was to expand influence and gain political and social recognition as competent service providers, thereby obtaining public servicing contracts for survival. Whereas individual experts and citizens' involvement in policy idea dissemination and mobilisation might be more altruistic, their influence was much less pronounced compared with the institutionalised actor groups. The heterogeneity of the immediate interests of the coalition revealed that the common policy goal of *driving residents to perform waste sorting as a daily practice* was not as consensual as it appeared. Consequently, the political project might risk being pulled into different directions by different alliance members.

These were the actor-specific power and interest contestations at the micro- and meso-levels. In addition, some macro-level contradictions arose from the policy experimentation process, which could impede the success of the new political project.

The first and foremost contradiction lay in the financial arrangement manifested in the pilot projects, which continued to be characterised by heavy fiscal interventions. In the case of Hangzhou, the piloting of a separation-based waste management system was chiefly funded by the local district governments, with some limited support from the municipal government. Although "social capital" was also involved, it was primarily active in big infrastructure projects (e.g. incinerators) for waste disposal and treatment (Sinafinance, 2018). There are no data available as to how much precisely local governments invested in policy experimentation, but as illustrated in the example of H. Environment, through public service contracting, the company received a subsidy of 1.25 yuan/household/day to implement pilot schemes in residential compounds. Assuming that half of the 4.4 million households in Hangzhou (as per the 2020 census, Hangzhou Statistics Bureau, 2021) were located in residential compounds which adopted a service contracting model, and assuming 1.25 yuan/household/day was the standard subsidy, the total cost for running such source separation projects in the entire city would amount to 1 billion yuan/year (0.15 billion US$). According to the finance department of the Zhejiang province, the municipal government allocated around 14 million yuan/year in total from its annual budget to support source separation work at the community level (Sinafinance, 2018), which was almost symbolic compared to the total funding needed. This suggests that the district governments have to foot most of the bill for carrying out source separation in their jurisdiction. This represents a daunting fiscal burden, particularly during the COVID crisis when the local financial outlook is prostrating. But without government subsidy, private capital has no inherent incentive to facilitate household waste separation, and if purely driven by the economic value of secondary materials, they would only focus on capturing the most profitable recyclables while totally disregarding the segregation of other types of waste (Wan, 2018). Hence, financial constraints present one of the most practical and remarkable contestations in the new waste governance model, which hitherto has been primarily pumped up by local fiscal resources.

Another general contradiction looming from source separation policy experimentation was its obfuscated "mandatory" character. While the renewed waste separation campaign was dubbed nationwide "compulsory", there was baffling ambiguity in various policy documents: The 2017 NDRC-MOHURD "Implementation plan for building a post-consumer waste separation system" (which kicked off the experimentation in 46 pilot cities) stated that waste separation should be made mandatory in public institutions and commercial entities, but in residential compounds, the focus was on "guiding" residents

to perform waste sorting (section 3). In Hangzhou's new ordinance on post-consumer waste management, the word "mandatory" was nowhere to be found, replaced with a softer version: "Entities and individuals *should* foster awareness...and sort waste before dropping off" (emphasis added; Article 9). The 2020 revised Solid Waste Law did not use "mandatory" either, but it did stipulate that "every entity and individual….*shall* drop off sorted waste in designated spots *according to the law*" (emphasis added; Article 49).

When translated into promotional materials, the message also shied away from "mandatory" but rather emphasised that waste separation was a virtue or a responsibility of every citizen (*renren youze*). The toothless messaging was compounded by the dual incentive-punitive mechanisms, which sent mixed signals concerning the compulsiveness of waste segregation in residential compounds. While the municipal government established a clear fine for non-compliance, the focus in communities was on incentivising residents who participated in the pilot schemes. The baffling thing was if source separation was every consumer's responsibility, why emphasise rewarding those merely performing their duties? This contradiction in policy measures was rebuked by many experts (Feng, 2017). A representative of Hangzhou UMLEB expressed in 2019 that the city would strengthen the fining system in the future (J. Sun & Ji, 2019); however, at the time of writing, the punitive method remained largely symbolic and not enforceable. Therefore, even today, the public has no consensus on whether source segregation is mandatory in residential compounds.

A further contested ambivalence demonstrated in the policy experimentation was the real objective of waste separation. Was the purpose to increase the recycling rate, increase incineration efficiency, reduce waste at the source, reduce landfilled waste, or all of the above, or something else? Campaign slogans primarily themed by high-sounding concepts such as "green", "low carbon", "civilisation" and "happy living" lent little clarity to the real intention of waste segregation. The fuzzy advocacy lines resulted in mixed understandings among residents while failing to evoke sincere resonance among participants (S. Guo & Lu, 2020). The understanding divergence was tied to the kaleidoscope of "scientific expertise" available concerning this topic. Following the argument of Science -Technology -Society scholars (e.g. Wynne & Lynch, 2015), the uptake of different scientific expertise was not necessarily related to which expertise was credible, but rather what kind of expertise was relevant in a particular context and at a specific time. Notably, at the central level, according to the policy documents issued by the two national state agencies NDRC and MOHURD, the primary goal directly associated with waste separation was increasing the recycling rate of post-consumer

waste. In reality, however, in many cities, the separation rate of kitchen waste was a key, if not the only, parameter to evaluate the success of pilot projects. As remarked by the experts I interviewed, the principal objective of the pilot waste separation projects was to sort out "wet" waste from "dry" waste, thereby reducing humidity in post-consumer waste and achieving a higher incineration efficiency (which concurred with the overall waste incineration paradigm). As such, there was incoherency in understanding the objective of waste separation among the state at different levels.

As to waste reduction, the messaging in policy documents and implementation was also ambivalent, to say the least. While the above national and municipal policies all inscribed "reduction, recycling and harmless treatment" (*jianlianghua, ziyuanhua, wuhaihua*) as the guiding principle of the attempted new waste management paradigm, and set targets for recycling rate or incineration rate, none of them outlined concrete measures to achieve "reduction" nor proposed targets in this regard, rendering the concept of "waste reduction" a mere vacuous "principle". To be fair, the NDRC in 2018 released a separate document suggesting a new quantity-based pricing mechanism to reduce post-consumer waste (NDRC, 2018). Thus far, the charging system for post-consumer waste in Chinese cities has been predominantly household-based, with each household paying an average annual waste disposal fee of CNY40-70 (US$ 6-10) (ATCRR, 2019). This non-differentiated pricing system with almost negligible costs provided zero incentives for households to cut down waste generation on their side. In order to provide a mechanism conducive to source reduction, the central government attempted to adopt the "polluters pay" principle (already widely adopted in managing industrial solid waste and wastewater) in post-consumer waste management as well (Xiong, 2019).

However, four years after the NDRC proposal, despite sporadic experimentation in some well-off cities (e.g. Hangzhou, Taizhou, Shenzhen, and Chengdu), at the time of writing, the implementation of the new pricing system at the local level was a far cry from becoming mainstream. Even the cities that took up the new pricing instrument largely refrained from applying it in residential compounds but instead focused on public entities/enterprises (and on food waste only), as imposing extra fees on them "is better guaranteed" (H. Du, 2021). The reluctance of local governments to enforce the "polluters pay" principle on residents[39] provided little incentive for consumers to reduce waste and further change the mode of living, while also making it practically difficult to reinforce the principle of "waste separation is consumers' responsibility".

[39] Admittedly, it is technically difficult and administratively costly to measure the quantity of post-consumer waste generated by each household.

In addition, the focus on separating out food waste implied the immediate goal of waste reduction, as envisioned by the pilot governments, was to reduce humidity in waste and increase incineration efficiency. This concurred with the predominant waste management paradigm, which officially embraces incineration as part of a circular economy since burning waste can effectively reduce waste volume while generating energy (Landsberger, 2019, p.49). The emphasis on sorting out "wet" waste exposed another level of incongruence in policies, i.e. the principle of "waste reduction" (*jianliang*) is to be understood as reducing waste generated at the source or reducing waste volume after the end-of-pipe disposal. These two pursuits of "reduction" are technically at odds with each other and entail contradictory modes of living, because for incinerators to run profitably, they need large, continuous feedstock, which inherently requires more waste to be generated at the source and runs counter to the other objective of increasing recycling rate. In this sense, a waste regime promoting waste recycling and reduction at the source while simultaneously touting incineration as a disposal panacea seems to be an oxymoron.

Another noticeable contestation in post-consumer waste management lies in the horizontal fragmentation of governance and the overlapping of state institutions. At the central level, MOHURD is the primary state department in charge of the policy field of MSW management, with the NDRC always involved in the reform and development of virtually all policy areas; in addition, at least seven other state bureaucracies at the same hierarchical level with MOHURD are tasked with respective administrative functions in facilitating MSW management (Central People's Government, 2019). Among them, the Ministry of Environment and Ecology oversees hazardous waste and pollution-related issues resulting from waste management, the Ministry of Education leads advocacy and public education efforts, the Ministry of Commerce manages waste recycling business, etc. At the municipal level, echoing the institutional overlapping at the central level, there are also a multitude of governmental agencies involved. The UMLEB is in charge of the overall matter of post-consumer waste management, but formally at least 12 other municipal departments have been assigned responsibilities. For example, the matter of waste recycling and resourcification falls under the remit of the Commerce Bureau, the supervision of waste service providers under the Property Management Bureau, waste infrastructure matters under the Housing and Urban-Rural Bureau, and all financial-related cases under the Finance Bureau (Hangzhou People's Government, 2019).

In short, at both the central and local levels, there is a serious overlapping of state agencies of parallel bureaucratic power concerning post-consumer waste management. Compounded with the administrative incongruence resulting from the fragmented "horizontal" governing structure (as illustrated in the opening of section 5.3.1), it is incredibly challenging for any government entity or "task force" to conduct effective coordination among these agencies (J. Liu, 2022). Furthermore, although state agencies are brought together by the common objective of enhancing waste governance, they inherently pursue divergent interests in accordance with their distinct administrative functions. For example, the environment department may advocate significantly different agendas compared to those pursued by the commerce department. While the limitation of the research method in this paper constrained it from empirically excavating the conflicted interests among various state agencies[40], the current institutional and governance configurations do, at the very least, hold theoretical potential for inter-agency conflicts (Steuer, 2018). Another critical risk arising from horizontal decentralisation is the discontinuity in local political agendas, leading to potential policy shirking. As municipal governments are de facto the sole owner of the MSW management topic, when they are confronted with more pressing priorities, the issue of waste governance quickly recedes to the background - as was evident during the COVID crisis and the resulting economic and social insecurities. In sum, the multitude of state actors and vested state interests at different levels could pose a substantial impediment to achieving hegemony around the renewed political project on post-consumer waste governance reform, potentially locking the project in partial reforms.

[40] The limitation of this paper points out potential areas of interest for future empirical research. See Chapter 7.

Chapter 6. Contextualising China's waste governance reform: The economic and ideological rationales for environmental policies

In the previous two chapters, I have sketched out both the inward-oriented and outward-oriented policies constituting the Chinese state's political project of solid waste governance reform. The primary focus of the policy analysis was exposing the main actors involved and the diverse strategies and resources deployed by different actor groups in the contested field of waste governance, and bringing to the fore the multi-fold conflicts and nuanced power relations manifested therein. While the topics of regulating foreign waste imports and domestic MSW have certainly been on the radar of Chinese politics for decades, it is evident that in recent years, and in particular between 2017 and 2021, the Chinese central government has shown unswerving political determination to reform the existing waste management systems, crystallised in incremental or drastic changes in policies, institutional structures and national laws.

These observed policy movements suggest that the issue of waste governance has been squarely placed on the top agenda of the state's environmental policymaking, practices and strategic vision. However, this gratifying progression raises a series of unresolved questions: Why has the overall topic of waste become so salient on the state's agenda in recent years, prompting a notable surge in policy vigour and a zealous commitment to reforming China's longstanding waste management systems? In particular, concerning foreign waste, why has the central state undertaken such draconian measures from 2017 and onwards, leading to an outright import ban in 2021 on virtually all types of waste? While there had always been fragmented policy efforts to tighten the imports of certain categories of waste and crack down on illegal imports, such a resolute policy decision, taken notwithstanding strong objections from waste exporting countries and domestic forces, is truly unprecedented. Furthermore, concerning the domestic MSW system, while previous central "wishes" largely fell short of gathering local resonance, why have local governments demonstrated continued endorsement and support this time, injecting unprecedented fiscal, political and institutional forces into waste-related policy experiments? Specifically, why were policy efforts intensified to suppress informal recycling plants and workshops, despite their contribution to the circular economy and the risk of heightened production costs and potential labour displacement? Why have many local governments followed similar top-down, campaign-style waste separation strategies despite previous failures in such schemes? And why did techno-managerial solutions, especially those fortified by "smart" systems, continue to flourish and remain favoured by governments and investors alike even in the aftermath

of the decline of numerous erstwhile "Internet+" companies? This chapter seeks to answer these research questions (posed in Chapter 1) and delve into the underlying factors driving China's latest waste policies. I will do so by situating the political project of waste governance reform in the broader context of China's economic and political-ideological development under the Xi-Li administration which began in 2012/2013.

To start with, the most ostensible reason for such a waste reform, as expounded by the experts I interviewed, was that the issue of waste governance, both concerning imported waste and domestic waste, had increasingly gained high-level political attention, and hence high-level policy patrons in particular from President Xi Jinping. This explanation suggests that previous policies issued by certain state departments and experimental programmes failed to gain momentum partly due to the absence of powerful policy patrons at the very top level. Indeed, in this renewed waste campaign, as illustrated in the empirical analysis chapters, waste governance was included in the central-level "small leading groups"[41] in which President Xi personally presided. He has also unequivocally voiced his personal endorsement and repeatedly called for local actions to tackle the foreign waste issues and reform the domestic MSW system. At the local level, exemplified in the case of Hangzhou, the local competent authority representative stated that the rationale for amending the city's MSW management ordinance in 2019 was firstly to "*put into practice Party General Secretary Xi Jinping's important instruction... as he is very concerned about the matter of waste separation, and his series of instructions have clarified the direction for the legislative work*" (Zhao, 2019; self-translation). Although it remains possible that the official's statement could be construed as mere lip service intended to show loyalty to the highest echelons of the CCP leadership, it is indisputable that the President's expressed "concern" and "instruction" have, to a great degree, garnered significant resonance in local policy-making and implementation - and particularly so when viewed against the "re-centralisation" trend in the Xi administration (see Chapter 2). As an expert associated with the Ministry of Ecology and Environment (MEE) echoed, half-jokingly: "*In China, if the top leader wants to push something, then it will be done*." (Interview, Waste expert-1, December 2019).

Revealing as this explanation is, to get a firmer grip on the questions posed, I contend that Xi's personal commitment to tackling waste issues has to be understood from a broader social and economic perspective. A notable contextual change observed under Xi was that the CCP updated its longstanding rhetoric on China's principal social

[41] See Chapter 4.

contradiction (as perceived by the Party) since 1981: from the principal tension "between the needs of the people" and "backward social production", to "*the tension between unbalanced and inadequate development and the people's ever-growing needs for a better life*" (Xi, 2017). While the previous principal concern was meeting people's material needs, in the Xi era, the CCP has come to realise that as the world's second-largest economy, the primary challenge China faces today is not material growth alone but rather the quality of growth, demonstrated in inadequate and unbalanced development in innovation capacity, environmental protection, people's livelihoods (e.g. education, social security), social governance, etc.(W. Liu, 2019). As the perceived social contradiction shifted, so did the basis for governing legitimacy, which evolved from a sole emphasis on economic development to development encompassing a broader spectrum of societal domains. While the economy remains the cornerstone, there has been a noticeable shift towards fostering a "quality" development, taking into account people's growing needs for - beyond material well-being - psychological well-being, democracy, the rule of law, equality, justice, security and a beautiful ecological environment (ibid).

Against this broad background of shifting principal social contradiction and governing rationale, I argue that the political endeavours driving China's ongoing waste governance reform were nested within the updated political-social and economic context. The unprecedented politicisation of waste-related environmental issues and the catapult of the topic to the political centre suggest that waste governance has been increasingly linked to the progress of socialist modernisation, with its end goal of transforming China into a modern socialist country that is "prosperous, strong, democratic, culturally advanced, harmonious, and beautiful" (Pan, 2021). In particular, I contend that a new waste governance system, marked by modern waste management technologies and "civilised" waste social practices while excluding foreign waste dumping on the Chinese territory, is intricately linked to the central leadership's construction of an eco-ideology. This ideology is framed with the rhetoric of "Ecological Civilization", which constitutes an essential component of the hegemonic vision that is integral to the socialist ideology in Xi's China. In the meantime, the waste management industry as a niche sector is a potential avenue for propagating new business models and spurring innovation, green technology and digitalisation, all of which underpin a shifting mode of economic growth in China marked by the discourse of "New Normal".

In what follows, I will outline the emergence and implication of the "New Normal" growth strategy in accordance with the economic, social and environmental challenges

facing the Xi administration (Section 6.1.1); and explicate the popular political discourse of “Ecological Civilization” as a constituent of the hegemonic vision (in the making) of a “Chinese dream of great national rejuvenation” under Xi (Section 6.2.1 & 6.2.2). After drawing the contour of the historical context, I then analyse the unfolding waste governance reform through the prisms of the specific economic and political-ideological conjunctures respectively (Section 6.1.2 & 6.2.3). It is important to dedicate some attention here to elucidate the relationship between the “New Normal” and “Eco-civilisation” discourses. While the emergence and domination of the two rhetoric in the new era certainly share a common historical-materialist and political conjuncture, it would be a fallacy to assert that one encompasses the other or is dedicated to the constitution of the other. In essence, “Eco-civilisation” envisages a development model that accentuates the incorporation of ecological considerations in economic development. This emphasis intersects with part of the objectives outlined in the “New Normal” construction. Despite this overlapping, the two terms have divergent correspondence and goals. As will become evident in the subsequent sections, the “New Normal” discourse primarily describes an economic status, with its central focus on managing the crisis associated with slower growth and restructuring of the economy to be propelled by innovation, industrial upgrading and expanded domestic consumption. Notably, the ecological dimension within the “New Normal” vision assumes a rather peripheral role in its construction. Conversely, the rhetoric of “Eco-civilisation” is dedicated to redirecting the course of economic development towards a path that is inherently more environmentally conscious. Rooted in the core value of harmonising human-nature relations, its primary goal is to shift policy priorities towards advocating green development and promoting a green mode of living, as well as the institutional/governance reforms attached. In this regard, “Eco-civilisation” holds greater promise in terms of propelling a more sustainable developmental paradigm (Landsberger, 2019, p.57).

6.1 The economic context: Transition in national development model

6.1.1 From GDPism to “New Normal”

For more than three decades following Deng Xiaoping’s initiation of the “reform and opening-up” policy which championed a socialist market economy, China’s overarching accumulation strategy has centred on export and foreign investment-driven growth, building upon a relatively low-end and labour-intensive manufacturing industry (see more in Chapter 3). Underpinning this accumulation strategy was the ruling growth

ideology characterised by relentless GDP growth, or "GDPism", which denoted "the belief that rapid GDP growth should always be the nation's highest priority because it is the panacea for most national issues and the way to consolidate the CCP's governing legitimacy" (Qi, 2010, p.5). In particular, since 1992, the mantra of "maintaining an 8% GDP growth rate" (*bao ba*) has been a mainstay of official rhetoric, with which the Chinese government maintained that 8% was a magic benchmark growth rate needed to provide adequate jobs for the burgeoning urban population and keep social and national stability (Lu, 2012). Consequently, this growth mindset was deeply internalised by government institutions and cadres at different levels as a crucial benchmark for performance evaluation. In Sum's (2019) words, "GDPism operated as a powerful discursive apparatus to normalise a regime of truth and guided the Party's efforts to manage the economy, politics and wider society" (Sum, 2019, p.530).

With this dominant accumulation strategy and growth mentality, it is now known to the world China's economic miracle. Nevertheless, the topic of whether or when China's growth model would run out of steam has been a longstanding subject of debate among Chinese and international analysts (Huang, 2016; Kuijs & Wang, 2006; Wagner, 2015; Zhang & Cheng, 2021; Zheng et al., 2009). In the aftermath of the 2008 global financial crisis, China experienced a significant drop in GDP growth rates - especially since 2012, the figure has fallen irreversibly below the magic 8% threshold (World Bank, n/a). In the meantime, social and environmental conflicts resulting from GDPism had loomed large (see more in Chapter 3), prompting former Premier Wen Jiabao to declare that the Chinese economy was increasingly "unstable, unbalanced, uncoordinated, and ultimately unsustainable" (Wheatley, 2011). The Hu-Wen administration (2002-2012) attempted to counteract the crises by constructing the rhetoric of "a harmonious socialist society", guided by the technocratic belief of "scientific development" (Mulvad, 2019, p.455). It undertook some social-economic reorientation efforts by extending social policies, strengthening labour regulation, and increasing environmental protection (Schmalz & Ebenau, 2012, p.497). In the wake of the 2008 financial crisis with an imminent threat of collapsing growth, the administration resorted to a proven practice of stimulus focused on infrastructure investment accompanied by expansive fiscal policies, which brought China through the recession relatively unscathed and temporarily corrected some of the shortcomings of the economic model (ibid.). Nevertheless, these measures did not lead to a transformation of the export-led growth model, nor did they address the social-economic consequences in a profound manner, which gave rise to the narrative that China under Hu was a "lost decade" for reform (Godement, 2015, p.5).

As such, at the outset of the new administration in 2012/2013, the Xi Jinping - Li Keqiang duumvirate was confronted with slackening growth and spiking environmental and social crises. In view of the economic downturn and the looming spectre of a legitimacy crisis resulting therefrom (Laliberté & Lanteigne, 2007; Peters, 2017), the CCP leadership under Xi has been seeking to pre-empt these threats by constructing a new development model oriented towards "quality-growth" and rolling out relevant policy imaginaries. In his first year of presidency in 2013, Xi was famously quoted for emphasising the limit of GDPism, stressing that "*We should no longer evaluate the performance of officials simply by GDP growth. Instead, we should look at welfare improvement, social development and environmental indicators to evaluate leaders*" (Xi, 2013). The proposed change in the cadre evaluation system signalled a departure towards a notably distinct, more inclusive and sustainable development model for China that President Xi has been pursuing under his administration.

Against this shifting historical background, the term "New Normal"[42] (*xinchangtai*) emerged, giving rise to a new type of development model in China. Xi was personally ascribed to using the phrase during a tour to Henan province in 2014, in which he was quoted saying: "...*We have to increase our confidence, start from the particularities of our country's current economic development, adapt to the New Normal and remain cool-headed at this strategic moment.*"(Xinhua, 2014). This context underscored that the phrase emanated from a crisis diagnosis, pointing to the leadership's acknowledgement of an unusual economic status fraught with new challenges to which the Chinese government and people needed to adapt. In this sense, the term was deployed by the central leadership as a discursive placebo to stabilise the state system by abating anxiety or a loss of self-confidence arising from tangible economic challenges facing China and beyond (Noesselt, 2017, p.342).

What does a "New Normal" of the Chinese economy entail? In Xi's own words, it has some notable features: *"First, the economy has shifted gear from the previous high speed to a medium-to-high speed growth. Second, the economic structure is constantly improved and upgraded. Third, the economy is increasingly driven by innovation instead of input and investment."* (Xinhua, 2014). In addition, a "New Normal" also means *"to form a new green, low-carbon and circular development model, and create new growth points"* in line with people's need for a better ecological environment (Xi, 2014; self-translation). On this premise, the pillars operationalising the transition to a "New

[42] According to Xinhua (2014), it is a political appropriation of a western concept which was popularized by the California-based bond fund giant Pacific Investment Management Co. to describe below-average growth after the global crisis.

Normal" primarily centre on improving the nation's innovation and technological capacity, bolstering domestic consumption, and optimising and upgrading economic structures (Mulvad, 2019; Noesselt, 2017; Sum, 2019; Wang, 2016). To be sure, this strategic reorientation did not take place overnight. In fact, in the aftermath of the 2008 economic crisis, national and regional authorities already started to take measures to reduce the vulnerability of export-led growth by increasing domestic consumption in the GDP share, fostering technological upgrading, investing in critical technologies and particularly green technologies, and closing down heavily polluting factories. However, during the Hu-Wen era, these measures remained in their nascent phases and were only partially implemented, and they were not systematically articulated as part of a comprehensive national development strategy (Schmalz & Ebenau, 2015).

Building upon reorientation endeavours from the previous administration, the discourse of "New Normal" therefore is imbued with future-oriented aspirations as undeniably, the policy pillars facilitating the transition to a "New Normal" present new hopes and better opportunities for China's economic outlooks in the future. As such, the phrase does not merely depict a crisis-fraught status of economic development, but more importantly embodies hope-based imaginaries for the Chinese economy. It therefore crystallises Xi's economic vision of a profoundly different developmental pattern for China, a slower but higher-quality and more sustainable growth underpinned by innovation, technological development, and industrial restructuring. In this sense, the fluid, hope-based slogan of "New Normal" is deployed by the official discourse as a means of framing the economic slowdown (including slower accumulation of economic wealth) in a positive light (Holbig, 2018). It is constructed as a wise and pragmatic strategy of the new CCP leadership in response to the pressing global development reality, which requires the Chinese economy to slow down, and more importantly, it presents a timely opportunity for China to recalibrate its development strategy towards a better "New Normal". As a result, the discourse serves to produce popular consent and manage public expectations about China's immediate economic future while enabling the Party leadership under Xi to strategically re-program policy directions in the new era (Mulvad, 2019; Sum, 2019). In this line, the discourse of "New Normal" has transcended the narrow context of economic development but has become a metaphor for the CCP to reboot its image in the new era, further consolidating its governing legitimacy in times of faltering global economic performance. In a nutshell, combining current challenges with economic imaginaries for the near future, the discourse of "New Normal" constructs a new governmental rationality and realigns the new leadership's ambition

against the historical backdrop of slower growth. In addition, the “New Normal” has important international implications both in terms of its context of origin (i.e. global economic challenges) and the consequences it brings to the world economy and environment.

6.1.2 Revamping China’s waste economy concurs with the transition towards a “New Normal”

Since 2014, the national development model featured by the “New Normal” imaginary has started taking hold under Xi, being avidly referenced in political talks addressed to both domestic and foreign audiences. The Chinese state’s renewed political project of waste governance reform is closely enmeshed in the CCP leadership’s pursuit of an economic growth model steered to the “New Normal”, which is underpinned by economic restructuring and driven by new growth engines - principally by innovation, technological development, and expanding domestic consumption market. In this overall economic development context, it has become imperative for the Chinese government to revamp the backward waste trade and processing industries dealing with both foreign and domestic waste.

First and foremost, in line with the industrial restructuring requirement under the “New Normal” model, the previous waste recycling sector, which was dominated by the informal sector with a rather primitive production mode, had to be updated. For a long time, China’s waste recycling economy was compatible with the country’s overall extensive development model. As illustrated in chapters 3 and 4, recyclables from foreign countries were valuable secondary materials for China’s resource-intensive manufacturing industry. In this sense, importing foreign recyclables was largely conditioned by the country’s position in the global economy at the time. In addition, domestically, the sector of recycling waste was an important economic area to absorb surplus rural labour and generate income for the underprivileged. Characterised by a small-scale, low-tech, low-value and pollution-intensive production mode, the recycling economy primarily centred on income creation and material extraction at the cost of the environment in many ways was the apotheosis of the country’s low-end industrial structure and purely growth-oriented development mentality in the past three decades or so.

While importing foreign recyclables brought about cheap secondary resources which contributed to China’s integration into the global value chain, it also ensnared the country in the lower echelons of the value chain. And while the burgeoning recycling businesses yielded enormous economic gains especially for the informal sector, and to

some extent they also brought positive environmental impacts by diverting some recyclable waste from going to landfills/incinerators, it was indisputable that unregulated waste recycling practices have resulted in severe environmental and social consequences (chapters 4 & 5). With the shift to the "New Normal", such low-end growth patterns "trading the environment for the economy" have become less tenable. Both the central and local governments have become more selective in terms of which economic sectors to foster and which to restrain. The primitive waste industry with low value-added but high environmental costs was unquestionably among the sectors to be phased out or in need of being upgraded. To this end, two parallel strategies were adopted. On the one hand, the import of foreign waste was increasingly curtailed, and on the other hand, substantial measures were taken to clamp down on the "scattered, messy and polluting" (*san luan wu*) informal waste processing workshops or integrate them into regulated waste resourcification industrial bases or designated "circular economy parks" (e.g. Steuer et al., 2013; Yan, 2020). However, as previous attempts in this regard have revealed, the ultimate success of such industrial upgrading initiatives is not assured – set aside that these alternatives may not necessarily be more "sustainable" (Chapter 3).

In this context, banning foreign waste imports and restructuring the low-end, obsolete waste industrial sector were an inherent result of China's transition in the development model. Both policy efforts could essentially be construed as part of the supply-side structural reform, aimed at elevating China's position in the global value chain and steering the waste economy towards an industrial scale with higher technological and management levels and environmental standards (J. Liu, 2018). Although as chapters 4 and 5 revealed, the transition was accompanied by imminent social and economic contestations including loss of income opportunities for rural labour, and lack of secondary resources, these were considered by the Chinese government as acceptable costs, or "necessary pain" for reform. Moreover, in fact, it could be argued that the creation of "new growth points" within the waste industrial sector could only be achieved by sacrificing the outdated waste business model and, to some extent, relinquishing the interests of entrenched stakeholders.

It flows from the above that the transition to a "New Normal" economy also posed new technical requirements for the waste industry, which precisely connected to another feature of the "New Normal", i.e. stimulating new growth engines underpinned by innovation and technological development. As vividly manifested in Chapter 5, to reshape the waste industry, local governments deployed a mix of incentivising and

coercive instruments to establish so-called formal “integrated networks” enabled by a set of institutional arrangements and innovative internet technologies. In addition to formalising the waste recycling sector and fostering technology-based waste management companies at an industrial scale, local governments were also keen on investing in technologies for waste incineration and turning food waste into compost and biomass. As such, as part of the strategic structural transition to the “New Normal”, the waste industry has become an avenue for creating “new growth points”, primarily via stimulating competition on innovative technologies and business models. This indicated the continuation of a predominant technocratic mindset of waste governance in the new era. Consequently, a regulated, technology-based waste economy of a large industrial scale could potentially give rise to a “green industry”, which in turn would propel the further construction of the “New Normal” imaginary. In addition, a modern waste industry bolstered with innovative smart technologies and systems (which the country takes pride in) could potentially catapult China into a position that is even more advanced than developed countries, which feeds into the cultivation of a national image that is green, innovative and technological-savvy. Indeed, slick waste service infrastructure also became part of the new “going out” strategy, with some large manufacturers of solid waste reverse vending machines exporting solutions to countries such as Brazil, Mexico, the Netherlands and Thailand (Landsberger, 2019, p.72).

A further feature underpinning the “New Normal” is a new growth engine anchored on expanding the domestic market which particularly taps into the vibrant consumption culture fuelled by e-commerce. The shift from export-led growth to domestic consumption-driven development also has implications for China’s waste economy. The most immediate result was that the primary source for recycling businesses was shifted from abroad home. With the ever-expanding amount of MSW spurred by domestic consumption, China’s internal waste generation is expected to be sufficient to feed the recycling sector – providing that proper source separation could be guaranteed. In addition, as explained in Chapter 4, the previously flourished foreign waste business was partly thanks to low logistic cost resulting from the “reverse haulage” of containers used to export Chinese goods. This logistic advantage is bound to lose its foot with the rapid transformation of China’s domestic economic structure, marked by the rising GDP share of the tertiary sector but a tumbling share of the manufacturing sector and exports (Roach, 2017).

In addition, the new focus on expanding domestic consumption underscores a chronic growth-oriented development mentality, which however potentially contradicts the

fourth feature of a “New Normal” economy as outlined above, that is, fostering “green, low-carbon development”. The shifting reliance on expanded domestic consumption certainly does not propel a sustainable change in consumers’ mode of living; on the contrary, it inherently leads to more resource consumption, and thereby more waste generation - particularly packaging waste due to flourished e-commerce. Even though most of the waste would be recycled in an ideal circular scenario, more resources would still be needed and therefore more carbon emissions. In this sense, the “New Normal” imaginary is an antinomy in its own. Primarily focusing on addressing slower growth and economic restructuring through technology and innovation, the “New Normal” model is fundamentally growth-oriented. Consequently, it falls short of delivering a “low carbon/green” development, nor does it represent a qualitatively, inherently distinct accumulation strategy compared to the “old normal”. Moreover, the perpetuation of a consumption-driven growth strategy as advocated in the “New Normal” does not prod consumers to do away from the prevailing consumption culture; on the contrary, it encourages more consumption and production. This partly elucidates why waste reduction at the source has not received prominence in policy agendas so far, let alone being enforced in practice in the domestic waste governance reform (as analysed in Chapter 5).

In summary, the reconstructing of the Chinese waste economy is coherent with the shift of China’s development model strategy from a relentless high-speed GDP growth to a slower but potentially higher-quality and greener growth, from a low-end manufacturing and export-led economy to one focused on climbing up the global value chain and tapping into the domestic market, and from a (foreign) investment-driven to innovation-driven growth...This overarching economic vision to some extent defined the path of China’s waste governance reform. That is, consistent with the “New Normal” construction, both the central and local governments would strategically prioritise those waste industrial structures and waste business models underpinned by innovation and modern technologies, while gradually snuffing out the low-end, primitive mode of production and old-fashioned value and income generation processes. In formulating and implementing relevant policies geared towards aligning the waste economy to the “New Normal”, the governments also defined it “acceptable” and “necessary” to comprise the socio-economic interests of some actor groups for the sake of reform. In short, due to the changing national development strategy and shifting focus of growth, policies concerning foreign waste imports and domestic MSW governance must be realigned accordingly to the transition towards a “New Normal”. In this regard, the strategic

selectivities of state apparatuses, their relative openness or closure for the interests of certain actors vis-a-vis the mode of waste economy, is conditioned by the type of accumulation strategy a country pursues in a specific historical conjuncture and against a broader historical-material background.

Although the construction of the renewed political project on waste governance reform stemmed from the broad political economy, whether the political project will contribute to the "New Normal" construction is questionable. While reforming foreign waste trade might have exhibited resounding success thanks to the strictly coercive policy measures, the reorganisation of the domestic MSW governance remains less predictable. As briefly analysed in the concluding section of Chapter 5, the current policy measures have demonstrated multiple drawbacks, which could easily lead to policy shirking during local implementation. Empirical studies conducted by many scholars (as outlined in Chapter 3) demonstrated that previous campaigns which relied on similar regulatory pushes and technological enhancements have proven ineffective. In this context, it is conceivable that the new political project may fall short of realising the envisioned "New Normal" waste economy. Furthermore, since growth – especially accentuated on domestic consumption growth - remains the underlying strategy of the "New Normal", it is unsurprising that the aspect of resource reduction and consequently waste reduction at the source considering the physical constraints of the environment, has not been thoughtfully integrated into the unfolding political project. This deficiency points to a significant impediment to achieving a possible transformative shift towards a fundamentally new waste governance regime (more discussion in Chapter 7).

6.2 The political-ideological context: The rhetoric of Ecological Civilisation

6.2.1 Eco-civilisation: Constituent and instrument of China's new hegemonic vision

Another rhetoric characteristic of the Xi administration and closely intertwined with the "New Normal" economic imaginary is "Ecological Civilisation" (*shengtai wenming)*, which is integral to the "Chinese Dream" construed as a "hegemonic vision" of China under Xi's leadership (Mulvad, 2019). Since late 2012, the new slogan of "Chinese dream of great national rejuvenation" has swept across the political and academic arenas, drawing enthusiastic discussions both at home and abroad (e.g. Bislev, 2015; Buckley, 2021; Marinelli, 2018; Mulvad, 2019; Weatherley & Bauer, 2021). The "Chinese Dream" has not only embodied the CCP leadership's governing ideology under Xi which set the

tone for its mission for the next three decades (realising two centennial goals[43] by 2049), but also emerged as a powerful imaginary feeding into a unifying nationalism which resonated across a broad spectrum of the Chinese populace.

As a grand political slogan, the narrative itself is all-encompassing, but its intrinsic openness has enabled it to become a popular discourse and salient to both national and personal visions (Bislev, 2015, p.594). Building upon the rapid modernisation process and economic success, the national "Chinese Dream" has been designed to hark back to the history of a century of hardship and humiliation, and look forward to the near future, where national rejuvenation or China's return to ascendant "central" role in world affairs will be achieved by 2049 under the steering of the CCP leadership (Buckley, 2021). This vision can be read in line with the master narrative of the "China Story", which is devised "as part of...creating a foundational narrative for the political purpose of nation-building" (Barmé, 2013). In this sense, the "Chinese Dream" narrative is not just a political PR exercise; rather, it to a large extent underpins Xi's broader vision of socialist modernisation, which could be understood as the attempt to re-establish China's position as a world leader in science, technology, economics and defensive power, as well as the resurgence of Chinese civilisation and culture, and Chinese influence in all areas of human endeavour (Kuhn, 2014). The underlying pillars of the "Chinese Dream" have been explicitly spelt out, covering five aspects of "environment, economy, society, culture and governance" (Xi, 2014).

Against this broader political-ideological context, the concept of "Ecological Civilisation" (in short "Eco-civilisation") also gained marked political and discursive traction. Indeed, "advancing Ecological Civilization construction and building a Beautiful China" has become one of the most popular political mantras in the Xi era (Marinelli, 2018), serving in particular as an umbrella objective for almost all policy developments pertaining to environmental and ecological issues. What is then the relationship between the concept of "Eco-civilisation" and the hegemonic vision of the "Chinese Dream"? The answer can be found in Xi's letter to the 2013 Forum on Eco-civilisation in which he wrote: "*Moving towards a new era of Ecological Civilization and building a Beautiful China is a vital component of realising the Chinese Dream of great national rejuvenation" (Y. Liu, 2021)*. In 2015, a State Council document further elaborated that the discourse "*is an essential part of the socialist undertaking with Chinese*

[43] Two "Centennial Goals", namely, achieving moderate prosperity by 2021 when the CCP celebrates its centenary, and becoming a fully modern socialist country that is "prosperous, strong, democratic, culturally advanced and harmonious" by 2049 when the PRC marks its centenary (Xi, 2014).

characteristics...vital to the people's wellbeing, the future of the Chinese nation, the realisation of the Two Centenary Goals, and the Chinese Dream of the great rejuvenation of the Chinese nation" (Central People's Government, 2015). The above narratives suggest that Eco-civilisation is positioned by the CCP not only as a crucial constituent of the new hegemonic vision of the "Chinese Dream", but also as an essential instrument to operationalise this dream.

Despite the unequivocal significance of Eco-civilisation to CCP's governance under Xi, there is a lack of consensus regarding the exact definition of the term. Approaches to Eco-civilisation are variegated, simultaneously encompassing a multifold of social, economic and environmental implications. According to the mouthpiece of the CCP, the China Daily, Eco-civilisation is *"not a term the Party has coined just to fill a theoretical vacancy in its socialism with Chinese characteristics, but rather a future-oriented guiding principle based on the perception of the extremely high price we have paid for our economic miracle. This concept reflects an important change in the Party's understanding of development. Rather than emphasising economic construction as the core of development as it did in the past, the Party authorities have come to realise that development, if sustainable, must entail a list of elements including the right relationship between man and nature." (China Daily, 2007)*

Reading between the lines, the concept of Eco-civilisation problematises China's past economic growth model and signals the Party authorities' response to growing societal concerns about the environmental consequences incurred from that model. In light of the increasing imbalances between environmental protection and economic development, the CCP has therefore embarked on an eco-reform strategy by redressing its understanding of development and socialism, and by embracing a new focus on balancing the relationship between economic, social and ecological development. In other words, in mainstreaming the discourse of "Eco-civilisation", the CCP attempts to leverage environmental concerns to enhance its governing legitimacy. This crisis-induced, future-oriented statement however does not lend much clarity to the real meaning of the concept. Indeed, some scholars fear that as the loudest buzzword among the green thinking and environmental policy discussions in Xi's China, the term is elusive and "risks becoming ideologically and semantically ambiguous" (Huan, 2016, p.63).

In the least, the Eco-civilisation discourse entails diverse specificities and nuances when construed from different vantage points. For example, for those influenced by ecological Marxist ideas, the term provides a theoretical framework to promote harmony between humanity and nature as a new Chinese version of modernity based on socialist

values (Weatherly & Bauer,2021); for others, it is China's answer to a "green economy", a top-level socio-economic strategy linking ecological factors to other development elements (Hanson, 2019; Sternfeld, 2017). And still others see it as a skilful rhetorical work of the CCP leadership to legitimise China's international environmental ambition by presenting an alternative framing to the contemporary global ecological narrative, a framing that appeals to traditional Chinese cultural values "without appearing to bow to foreign pressure" (Goron, 2018, p.42). In this relation, the term represents a novel challenge to capitalism and to some extent the "anthropocentric worldview advanced by Western modernity" (Geall & Ely, 2018, p.1185), thereby opening up new terrains of struggles for modernity.

Perhaps precisely because it primarily taps into Chinese traditional cultural values, some scholars argue that the concept can only be understood in the Chinese context, and for an international dialogue on this, they propose the term "Socialist Eco-civilisation" which explicates "the political dimension" of the concept and is comparable to the Western trend of Social-ecological Transformation (Gare, 2021; Huan, 2009, 2013, 2016; S. Liu, 2014). Others view it as CCP's tightened top-down approach to governance, consistent with Xi's emphasis on governance reforms (e.g. centralised state institutions and strict law enforcement) for driving ecological progress, the aim of which is to "strengthen the authority of individual leaders" and expand the power of the CCP in all areas of Chinese life (Buckley, 2021, p.15).

6.2.2 The genesis of Eco-civilisation

The diverse interpretations of Eco-civilisation can partly be attributed to the fact that the term itself has evolved over time, from a concept merely embodying a shared sense of crisis arising from the breakneck economic growth model in the early days, to a "confident narrative of ecological rejuvenation" in recent years under President Xi (Goron, 2019). Hence, the genesis of the term partly encapsulates the socialist modernisation process under the leadership of the CCP (Zhou & Jiang, 2020). It is generally held that the term "Ecological Civilization" first appeared in China in the 1980s in the academic domain to emphasise the importance of sustainable agriculture. According to Huan's (2016) account, the term is derived from a paper written by the agricultural economist Ye Qianji and published in a Soviet Union journal dedicated to scientific socialism in 1984 (although the original Russian version was "ecological culture"), and was rendered into Chinese later (Huan, 2016, p.52). For Ye, Eco-civilisation denoted a new pattern of civilisation underpinned by a harmonious and unified human-nature relation, a radically different ethical foundation from industrial

civilisation (Huan, 2016; Marinelli, 2018). Since then, the concept has been gradually incorporated into the Chinese academic circle, which, extending on the tenet of human-nature relation, generally stresses that China should construct a multi-dimensional systemic civilisation encompassing material, institutional, social and ecological progresses on the path towards socialist modernisation (Huan, 2016; Zhou & Jiang, 2020).

In the political arena, although existing on the fringes of policy discussions since its debut, the term was only formally appropriated by the official discourse some 20 years later, first appearing in 2003 (although this move was largely unnoticed in today's scholarly discussions) in central policy document addressing the development of the forestry sector (Huan, 2016). Over the following years, as the political consensus on balancing economic growth and environmental protection became more prominent, the discourse of Eco-civilisation gained rapid official endorsement starting from the Hu era. Interestingly, the term, originated from the Confucian notion of "harmonious human-nature relation", entered the mainstream political narrative at a time when President Hu was rehabilitating the concept of "harmonious society" to placate vigorous social movements. Hence, the leadership's choice of cultural reference in the metaphor was selective and tailored to the specific political conjunction (Goron, 2019).

Notably, Hu set the tone about Eco-civilisation in his final working reports of the 17th and 18th CCP National Congress (CNC), delivered at the end of his presidential terms in 2007 and 2012, respectively (Hu, 2007, 2012). The second report was of particular significance as it symbolised the passing of not only the baton of presidential power from Hu to Xi, but also of major unaccomplished tasks, which, among others, included "making great efforts to advance Ecological Civilization construction" (section 8 of the 18th CNC report). In this report, Hu stressed the necessity for the Chinese government led by the CCP to reconcile the contradictions between economic growth and environmental deterioration, and laid down his pledge to the next government:

> "...*We must raise our ecological awareness of the need to respect, accommodate and protect nature. We must give high priority to making ecological progress and incorporate it into all aspects and the whole process of advancing economic, political, cultural, and social progress, and we must work hard to build a Beautiful China and achieve longlasting sustainable development of the Chinese nation… and strive to usher in a new era of socialist ecological progress.*" (Hu, 2012)

What does the evolvement of the Eco-civilisation discourse in China so far reveal concerning the CCP and its governance? In Huan's (2016) analysis, the increasing attention to "nature" first suggests that the CCP's political ideology has become greener

over the past decades, and the Party has emerged to be somewhat "leftist" as the repeated nature discourse revealed an environmentalist or ecologist thinking. It also indicates a political reorientation of the CCP which includes "Eco-civilisation construction" as a key rhetoric of socialist modernisation, further suggesting that the Chinese government is looking to "a more balanced, comprehensive and scientific expression of modernisation". In addition, Huan maintains that the two goals of ideological greening and political reorientation would prompt a profound reform in the governance structure (p. 54).

Building upon the development in the Hu era, the discourse of Eco-civilisation gained more political traction, becoming more prominent in Xi's meta-narrative of the Chinese Dream of great national rejuvenation. Xi elevated the "environment" component of the "Chinese Dream" to an unprecedented status, stressing that "*ecological environment is a major political issue related to the Party's mission and purpose, as well as a major social issue related to people's livelihood*" (Y. Liu, 2021). In 2013, Xi announced "Eco-civilisation construction" as one of the five primary goals of deepening reforms in his era, along with developing a socialist market economy, democratic politics, advanced cultures and a harmonious society (Chang & Cheng, 2013). He also formed an official task force dedicated to the endeavour of Eco-civilisation construction (Weng et al., 2015). In 2015, the CCP Central Committee and the State Council jointly issued an Opinion Paper (Central Document NO.12) on further advancing the Eco-civilisation construction (Central People's Government, 2015), signalling to the administrative and political structures that the highest levels of both Party and state administration were serious about bringing ecological development to a new height (Liu et al., 2015). The "Opinion" not only offered a comprehensive articulation of the Eco-civilisation narrative (Geall & Ely, 2018, p.1190; Zhou & Jiang, 2020), but notably, it proposed to establish a cadre performance evaluation system vis-à-vis Eco-civilisation construction, which pledged to do away with the previous cadre assessment system that regarded economic growth as the sole criterion, but to incorporate targets of resource consumption, environmental damage and ecological benefits, and accordingly a merit and punishment mechanism. Considering that the impact of environmental performance is often long term, it even asked to introduce a "lifelong accountability system" for environmental records (para. 25-26 of the Opinion Paper). The reform in cadre governance corresponds to the general political trend of "concentrated power" under Xi, permeated with notions such as "top-level design" (*dingceng sheji*) and structural coercion (*daobi tizhi*) (Goron,

2018). It also paves the way for shifting the economic structure towards quality-growth and ecological security (6.1).

The follow-up Eco-Civilisation Construction Action Plan issued later fleshed out the implementation of the Opinion Paper, hence "closing down a period of debate and negotiation" around this hitherto hazy slogan (Geall & Ely, 2018, p.1186). The discourse of Eco-civilisation continued to gain momentum under the Xi administration. In 2016, Eco-civilisation construction was elevated to become a central plank of China's 13th Five-Year Plan (FYP), the nation's guiding socio-economic development plan for 2016-2020. Framed in the phrase "ecological rejuvenation", the Plan set out a top-level policy agenda featuring a new "green is gold" philosophy, transforming the vision of Eco-civilisation into an integrated, structural and governance-led approach to policymaking in China (Central People's Government, 2016)). Also, noticeably,10 out of the 25 priority targets stipulated in the 13th FYP were related to environmental policies, and all 10 were "binding" targets for 2020. Hence, this FYP was hailed as the most environmentally ambitious, or "greenest" FYP to date (Koleski, 2017; Marinelli, 2018). Subsequently, the discourse of Eco-civilisation construction, with the attached slogan of "lucid waters and lush mountains are just as valuable as gold and silver", became an integral part of the Xi Jinping Thought on Socialism with Chinese Characteristics (the guiding ideology in the Xi era), which was further codified in legal frameworks: in 2017 it was ratified in the CCP Constitution, and in 2018, it was enshrined in the Chinese Constitution. The constitutional efforts affirm the alignment of the CCP's proposition with the agenda of the Chinese government, and in the meantime suggest that the Eco-civilisation narrative in Xi's China has brought values of culture and nature under a more centralised Party governance "guaranteed by the rule of law" (Buckley, 2021, p.18).

Eco-civilisation further grew to embody the country's rising ambition to be a forerunner in global environmental governance (Geall & Ely, 2018), presenting a so-called "Chinese Road" to address the environmental-economic imbalances confronting the prevailing global economic order (Goron, 2019; Huan, 2016). The present Chinese leadership's aspiration to shape the global ecological narratives has been crystallised in a wide range of "ecological diplomacy" activities in recent years, from being a key player in climate change negotiations, to the greening of the Belt and Road Initiative and hosting the UN Biodiversity Conference (COP15) - despite some engagements were chided for being merely symbolic posturing (Landsberger, 2019). Against this background, the discourse of Eco-civilisation increasingly came to convey China's international aspiration, as reiterated by Xi unequivocally on many occasions. For example, at the 19th

CCP National People's Congress in 2017, Xi said China "*has become an important participant, contributor and leader in the construction of global eco-civilisation*", vowing to further "...*create a good productive and living environment for the people, and contribute to global ecological safety*" (Central People's Government, 2017). Furthermore, in 2018, President Xi stressed that it was the CCP's vision to "*deepen participation in global environmental governance, amplify China's voice and influence in the global environmental governance system, actively guide the direction of change in the international order, and form solutions for global environmental protection...making sure that the concept and practice of Eco-civilisation benefit the people of all countries along the Belt and Road.*" (Xi, 2018)

Such messages voiced by the Chinese central leadership transpire that Eco-civilisation is a slogan for bolstering China's national pride internally and globally. The new marriage of Chinese domestic eco-vision with international agendas is characteristic of the Xi administration. Drawing upon Mulvad's (2019) insight that a nation's hegemonic projects can well expand from a given "national-popular" setting to a global scale especially for a large country like China (p.454), it can be similarly argued that the narrative of Eco-civilisation construction under Xi has been conceptualised at the intersection of national and international crisis management, and its aim has gone beyond the national level but to achieve "international-popular consensus". The Chinese-centred discourse is ultimately bound up with the question of global economic order, and is pertinent to hegemony-building at the transnational level, which further serves to consolidate the CCP's governing legitimacy at the international level.

In summary, the concept of Eco-civilisation is not simply a green economy strategy but extends to endogenous traditional values of civilisation, culture and nature, along with impetus for better Party governance and development models in the new era. Nor is it merely a domestic policy agenda, but simultaneously engages domestic ecological goals and aspirations for global environmental influence. The multifold connotations of the narrative can probably be encapsulated in Buckley's (2021) summary: *"A uniquely Chinese approach to green economic policy, combining ambitious environmental targets, centralised state power, and traditional Chinese philosophy"* (Buckley, 2021, p.3). Thanks to the continuous construction particularly throughout the Xi administration, the discourse has been codified as a central element of the CCP's green rhetoric (Goron, 2019). Unlike his predecessors who had perceived the environmental crisis as a social and political threat, the Xi administration has managed to give a positive spin to the negative environmental problems. The Party-state demonstrated strong "discursive

power" by skilfully constructing the crisis into a positive narrative and part of the governing strategy, and by cementing the international popular discourse of environmental protection in domestic economic development, which helped to bolster the CCP's public image and defend its ruling legitimacy in the new era. The broader power of the discourse also lies in enabling a shift from the binary political economy discourse of "growth" versus "development", and "socialism" versus "capitalism", to the inquiry of a globally applicable "eco-socially sustainable prosperity" (Marinelli, 2018, p.369). In this sense, the Eco-civilisation rhetoric is closely entangled with state power rationality, linking the "nature-people" relation with "state-building", and rendering "environmental realities truly real only in relation to the state objectives and its master narrative of a rejuvenated future" (ibid, p.380). The rise and codification of the Eco-civilisation discourse also spurs wider institutional reform and technological innovation, and is closely tied to the restructuring of the economic model (section 6.1).

6.2.3 Implications of "Eco-civilisation" for China's waste governance reform

For China under Xi, a sound waste governance system is undoubtedly an important component of Eco-civilisation construction. As analysed in the previous chapters, the environmental and social problems resulting from the improper dealings with foreign waste influx and lame domestic MSW management practices were multifold, with pollution to the natural (in particular water and soil) and urban environment among the most prominent. Hence, viewed from a macro perspective, the policy efforts to tackle both domestic and foreign waste are closely aligned with the rhetoric foundation of the Eco-civilisation discourse, that is, preserving "lucid waters and lush mountains". In addition, cleaning up waste, and in particular emulating an MSW management model akin to Western countries, is directly associated with "beautifying" the environment and consequently improving people's living standards besides the previous narrow focus on material wealth. As outlined above, a beautiful ecological environment, among other things, constitutes "a better life" people aspire for in the new era (CCP News, 2022). In this relation, reforming the contaminating waste governance system is aligned with the refreshed "people-centred" mass-line governance approach under Xi (as discussed in Chapter 4). Therefore, the unfolding waste governance reform policy actions manifest that the CCP strategically framed its governing ideology and policy programmes as a systematic and holistic project (Mulvad, 2019).

At a concrete policy level, the relevant national and local policy documents outlined in the previous chapters unanimously sanctified Eco-civilisation discourse as the overarching goal for policy changes. To illustrate, the overarching legal piece on solid

waste management, the Solid Waste Law revised in 2020, clearly stated that the legislative "purpose" was to "*protect and improve the ecological environment and promote the construction of Eco-civilisation*" (NPC, 2020; self-translation). To be more specific, with regard to policies concerning foreign waste management, when announcing the decision in 2017 to prohibit the entry of 24 types of foreign garbage and further advance the reform of the waste import system (which ignited the subsequent unfolding events), the State Council justified this policy move as "*aligned with the decisions and arrangements of ...the building of Eco-civilisation and the reform of the Eco-civilisation system*" (PUKLaw, 2017). Similarly, while defending China's outright ban on all types of foreign waste (effective as of Jan. 2021) which sealed the whole debate, the representative of the competent authority hailed the prohibition of foreign waste imports as "*a landmark measure of the construction of Eco-civilisation, which must be unswervingly and strictly followed*" (MEE, 2020; self-translation).

Inwardly, the mantra of advancing Eco-civilisation construction was followed throughout the domestic MSW management reform, highlighted as the "theoretical guidance" in all of the national policy documents, including the 2017 NDRC-MOHURD implementation plan for building a post-consumer waste separation system first in 46 pilot cities, and the 14th Five-Year-Plan on promoting waste separation in all cities above the prefectural level nationwide (General Office of the State Council, 2017; NDRC & MOHRUD, 2021). In the policy laboratory of Hangzhou, as one of the first batch of the so-called "Eco-civilisation Pilot Demonstration Zones" (NDRC, 2014), the city has been actively deploying the discourse of "Eco-civilisation construction" as an overarching context of and objective for almost all ecology-related policy initiatives. The topic of MSW management was no exception, being hailed as an essential constituent of the "Eco-civilisation construction" both in the 13th and 14th Five-Year Plans for Waste Governance (Hangzhou People's Government, 2017, 2021). Even the specific node of source separation and recycling of waste was elevated to the level of "Eco-civilisation", with some scholars arguing that an individual's waste sorting behaviour is the result of the state's systemic reform in the modes of production and living aligned with "Eco-civilisation", which is more advanced than the western-invented "industrial civilisation" concept characterised by "take, make and waste" (Du, 2020).

All in all, with China following the Eco-civilisation vision illustrated by the slogan of "lucid waters and lush mountains are invaluable assets", blind acceptance of foreign waste and the prevalent haphazard ways of dealing with MSW has become incongruent with the CCP's new governing ideology. It is precisely in this context that the central

leadership and state apparatuses at various levels have been pushing for policy interventions to revamp the waste management systems both pertaining to foreign waste and domestic MSW. At home, these moves demonstrated the CCP's commitment to restore human-nature relationships and reconcile the contradictions between economic growth, environmental protection and "people's aspiration for a better life", which lie at the heart of the Eco-civilisation imaginary.

Internationally, by formulating and activating policies to tackle waste-associated problems, the Chinese government under the Xi administration strives to showcase to the world the CCP leadership's determination to reconstruct its national environmental image on the international stage, as well as its rising aspiration to contribute to and even shape the global environmental agenda (e.g. regulations of transboundary waste movement). This global dimension of Eco-civilisation is more evidently manifested in the outward-oriented bans on foreign waste, which has completely reshaped the global route of waste movement. In addition, as illustrated in Chapter 4, taking in *"yanglaji"* (foreign trash) was associated with a nation being "suppressed" and underdeveloped; hence, by implementing the waste import bans, China also hopes to boost a heroic image of a developing country standing up to resist "environmental dumping" from developed countries, and defending its "ecological sovereignty" (Yu, 2019). The term is translated from the Chinese version "*Shengtai zhuquan",* which has been increasingly advocated by some Chinese scholars in the context of Eco-civilisation construction, and in juxtaposition to the Western environmental discourse system. Expanding on the concept of state sovereignty, it draws insight from President Xi's speech at the 70th UN General Assembly, where he stressed that the principle of sovereignty should not only be reflected in the territorial integrity of countries, but also in a country's rights to independently choose political system, development path, and practices of promoting economic and social development and improving people's livelihoods. These rights have now come to include ensuring a sound ecological environment (ibid.) This implication further promotes China as a role model for other developing countries that have fallen prey as alternative dumping destinations. As resonated by Chinese scholars and politicians alike (Lin et al., 2019; MEE, 2022; Ying, 2019; Yu, 2019), as the world's second-largest economy, by saying "No" to foreign garbage and inspiring others to follow suit, China showed "the responsibility of a big country" and would play "a leading role in advocating 'a community of shared future' while contributing Chinese wisdom to the construction of global Eco-civilisation" (Lin et al., 2019; self-translation).

While the Chinese state's political project on waste governance reform seems to be closely aligned with the aspiration of Eco-civilisation construction both at the national and global levels, there are however some disenchanting aspects. To start with, as reiterated above, the policy documents and practical policy actions of this reform largely accentuated end-of-pipe treatment including source separation and formalising recycling, instead of reducing waste at the source. Hence, the primary aim of the political project remains to get waste "out of sight", and partly also turn more waste into resources including energy. However, considering the new contestations likely to arise from the new arrangements, e.g. policy dodging of local institutions and formal waste industries which are ultimately profit-driven, rule infringement of individuals, and technical limitation of incineration plants in China (as analysed in Chapter 5), even these primary goals of reducing waste-induced pollution and increasing recycling rate cannot be guaranteed, making the potential contribution of waste governance reform to Eco-civilisation construction rather feeble.

In addition, waste governance reform can hardly benefit from the institutional and cadre management mechanisms envisioned in the Eco-civilisation construction planning, which is the most effective instrument for driving Eco-civilisation at the policy execution level. While there has been visible progress on regulating foreign waste (discussed more in Chapter 7) , the situation is less promising concerning domestic MSW governance reform. As analysed in Chapter 5, since the state department of environmental protection, the main competent state apparatus in championing waste import reform, underwent the structural reform from "horizontal" to "vertical", the MEE and its subordinate departments have the full power to oversee and enforce the waste import bans with the support of legal departments, with which environmental departments have little interest conflicts in this regard. On the contrary, the governance structure of MSW management remains "horizontal", so the issue primarily lies at the municipal panel with highly fragmented management approaches. Furthermore, the enforceability of the cadre performance evaluation system, taking into account environmental records and incorporating an official's non-compliance with environmental targets into their lifelong political profile, is rather questionable. Although the 2015 Central Document NO.12 clearly called for an accountability system vis-a-vis Eco-civilisation construction, and in 2021, the CCP Central Committee and the State Council followed up with another opinions paper for the same cause (MEE, 2021), these "opinions" merely expressed a conviction and no concrete steps have yet been taken at the time of writing. Nevertheless, even if the system is enforced, it most likely only applies to "big"

environmental topics such as major water system pollution, severe deforestation, explosion of chemical plants, etc. Therefore, the proposed environmental accountability system under Eco-civilisation is unlikely to be followed as a hard criterion for MSW management (except perhaps in cases of seriously polluting landfills).

Outwardly, China's banning of foreign waste also brought contradictory implications to its international Eco-civilisation aspirations. As expounded in Chapter 4, countries that previously relied on China to process their recyclable waste contended that China's policy shift came too abruptly, rendering them ill-prepared to adjust their own systems. Consequently, a greater volume of recyclable waste has found its way into landfills and incineration facilities, or has been redirected to other developing countries which are less equipped to deal with the influx of foreign waste, thereby inadvertently exacerbating environmental challenges in these regions. While it would be unjust to assert that China transferred the waste crisis to other less developed countries through the imposition of its waste import ban, the policy actions of China could, to some extent, undermine its endeavour to promote global Eco-civilisation in this regard. All in all, although Eco-civilisation played a pivotal role in shaping waste policies in this era, the various limitations inherent in the new waste governance reform project could constrain its potential to contribute meaningfully to the promotion of Eco-civilisation construction, both domestically and internationally. These constrained outcomes will be examined in detail in the forthcoming chapter.

Chapter 7. Conclusion: Making sense of China's political project to tackle the waste crisis

7.1 A multi-scalar waste crisis: Linking international with national and local

As part of the intensifying urban "metabolism" flows (Swyngedouw, 2015), waste is irrevocably bound up in the reproduction of neoliberal capitalism. From the level of the organism of waste material to that of waste management in the entire urban area and waste movement across national borders, waste embodies the complex intersection of biophysical, economic-political and social processes in modern capitalism. The management of waste traverses all areas of public and private sectors (Deutz & Frostick, 2009) and involves material interests, networks, and power relations at different geographical and political scales. In particular, from transboundary waste movement to the siting of waste facilities at the district level and waste collection at the community level, managing waste often evokes uneven socio-ecological patterning choreographed by unequal power relations at different scales. Moreover, importantly, these scales are seldom severed but rather interlinked, as accentuated by scholars who propose to examine the "politics of scale" when approaching environmental problems (Goerg, 2007; Goerg & Rauschmayer, 2009; Swyngedouw, 1997, 2004a). As I have illustrated in the dissertation, this interlinked multi-scalarity is conspicuously encapsulated in waste politics in that international waste trade is closely linked to the global political economy, national policies and regional implementation, grassroots mobilisation and all the way down to individuals' consumption and wasting practices; and the vice versa also holds.

To recapitulate, for the part of global waste trade, the customary flow of waste from countries in the North to developing nations in the South is not only inextricably linked with the hegemonic political-economic/financial relations in a highly unequal world (Brownell, 2011; Clapp, 1994, 2010), but also intertwined with diverse national and local conditions. In a highly generalised but empirically substantiated pattern, as observed through the waste database of the World Bank (Kaza et al., 2018), the socioeconomic circumstances of waste exporters and importers exhibit the following distinctive characteristics: At the upstream phase of the transboundary waste flow are primarily high-income countries, which are often characterised by advanced levels of industrial development, access to a profusion of consumer and industrial products, and populations with higher overall consumption rates. Collectively, these attributes lead to a higher generation of post-consumer waste at the national scale. Moreover, thanks to a relatively advanced solid waste management system at the subnational/municipal/local scale, and the relatively widespread adoption of waste-sorting habits at the individual

scale, a substantial portion of the recyclable part of the solid waste stream is effectively captured by the municipal or private waste management systems. Broadly speaking, the recycling infrastructure in these countries enables them to domestically recover higher-value materials such as copper and aluminium, while exporting the rest of lower-value waste materials to other countries (transnational scale). With the export of waste, high-income countries also expand investments in the global waste management industry, with a particular focus on developing nations (Clapp, 2002).

On the downstream side of the waste flow are typically middle- to low-income countries. They predominantly adhere to an industrial development model heavily reliant on the low-tech manufacturing sector, driven by cheap labour and intensive resource usage and facilitated by lax environmental regulations on the national scale. At the subnational and local levels, municipalities in these countries often lack a proper waste management system, and coupled with the widespread absence of waste sorting practices among the citizenry at the individual level, the quality of the waste recycling system is often low. Notwithstanding the significant presence of "informal" waste workers active in recycling activities, a substantial portion of recyclable waste remains uncaptured. As a result, domestic sources of secondary raw materials fall short of meeting the industrial demand in these countries, while the inflow of foreign recyclables, typically of better quality, provides cheap feedstocks that are badly needed by the manufacturing industry. As such, the interplay of social and material realities at various scales helps perpetuate the North-South waste trade, which has in turn reinforced the existing unequal economic, social and political relations both among and within these nations.

While the multi-scalar dynamics in transboundary waste trade are relatively easy to grasp, this feature is less distinct for the part of MSW management, which mostly takes place within a specific locality and hence is predominantly construed as a local problem. Nevertheless, it is crucial to highlight that the creation and perpetuation of MSW problems at a local level should also be understood within multi-scale political, economic, and cultural processes. From environmental dumping to other countries and regions to waste treatment-related investment expansion and technological transfers, provision of waste services, siting of waste facilities, informal waste workers and individual wasting practices, the issue of MSW management is also inextricably linked with politics, economy, governance and behaviour at multiple scales. The multi-scalar power struggles and injustice are particularly prominent in developing countries where MSW is emerging as a more salient challenge as they undergo rapid urbanisation

(Breukelman et al., 2019; Kaza et al., 2018), and a broader population embraces a consumerist culture and an "imperial mode of living" (Brand & Wissen, 2013), while effective MSW management system is yet to be established.

The interconnectedness between and within transboundary waste trade and MSW management implies that the production and impact of a waste crisis are often multi-scalar. As demonstrated throughout the dissertation, perhaps no other country embodies the multi-scalar nature of the waste crisis as well as China. As elaborated in chapters 3, 4 and 5, the country had been the biggest waste importer for over three decades. The nation as a whole ranks as the second largest waste producer and is projected to surpass the U.S. to be the biggest by 2050 - although its waste generation per capita is among the lowest globally (Kaza et al., 2018). Due to this pivotal role in the global waste landscape, when the Chinese central government announced in 2017, through its environmental protection agency, its decision to ban imports of four categories of solid waste including post-consumer plastic waste, it ignited a heated global debate, catapulting the issue of waste back to the forefront of public and political discussion in many developed nations including those within the European Union. Concomitantly, as the central government introduced a dazzling array of policies and initiatives to tackle domestic MSW management challenges, it garnered significant attention within China. The public was particularly interested in the diverse household waste separation schemes implemented in pilot urbanities. Indeed, before COVID-19 kicked in in 2019, waste classification was the most discussed household topic at the time and dominated various online media. Catchphrases such as pig limerick[44] and "What type of garbage are you?" (Baidu Baike, 2023) went viral online as netizens tried to navigate the new policy guidelines.

While both the outward and inward policy developments have gained remarkable academic attention, as explained in the introduction chapter, most of the scholarly work has treated the two fronts of policy movement separately. This dissertation however applies a unique angle by treating all pertinent policy efforts as constituents contributing to one hegemonic political project overseen by the CCP leadership, that is, tackling China's intensifying waste crisis. To be sure, this crisis was construed by the top policymakers as the consequence of uncontrolled foreign waste inflows and a failed domestic waste separation and recycling system. It has been made clear that the country's foreign waste policies were closely intertwined with domestic waste

[44] To make waste classification easier and more relatable, netizens created various catchphrases and the limerick to use pigs as a reference gained great popularity. It goes as such: "What pigs can eat is wet waste; what pigs can't eat is dry waste; what will kill pigs if they eat is hazardous waste; what can be sold to buy pigs is recyclable waste."

challenges and societal economic changes, and vice versa, domestic waste policies were connected to foreign waste inflows and international politico-economic transitions. As articulated by the state agency of environment, while the overarching objective of the foreign waste bans was to safeguard China's environment and the health of its citizens, the intermediate goal was to "end the Chinese recycling industrialists' addiction to waste dumped by developed countries in the long term, bringing the country's focus back to recycling more of the waste produced in the domestic market" (MEE documentary, 2021). Viewed together, China's political project to grapple with its waste challenges has multi-scalar causes and consequences, both in magnitude and spatial scale, interconnecting waste politics at the international, national, local and individual levels.

As such, the premise of my research was to treat the two strategic fronts of policy development as a whole, and unlike mainstream quantitative research and technical-managerial approaches, my research focused primarily on the process and context of new policy-making. Applying a historical materialist policy analysis framework inspired by critical state theories, the empirical analysis has attempted to principally address two "How" questions and one "Why" question. The first "How" looked at the processes and the strategies used by the central government authorities to "diagnose" the sources of waste crisis and construct them as a hegemonic perception, a common sense. Consequently, the second "How" examined how certain policy solutions were formulated to tackle these sources of crisis as defined. The "Why" then engaged the contextual and temporal dimensions of crisis management, focusing on investigating the historical materialist context of these policy developments and their relations with broader economic, political and social factors. As such, distinct from studies that concentrated on extrapolating the impacts of the new policies, the main focus of my empirical analysis was to elucidate the contestations and power dynamics manifested during the processes of waste crisis diagnosis and solution and strategy definitions. Overall, the unique approach in my research has complemented existing waste scholarship by providing a more comprehensive understanding of the social-economic and political complexities surrounding the new waste governance reform in China, while rendering more nuanced insight into the Chinese state's ambition embedded in and the potential impacts of the new waste policies.

The remainder of this concluding chapter will summarise the main findings of the empirical analysis of this thesis and is organised as follows: Section 7.2 provides a concise summary of the main theses of chapters 4 and 5, which examined how the

Chinese central government approached, defined and discursively mainstreamed the primary causes of the waste crisis, including namely foreign waste, improper household waste separation and informal waste recycling networks. The section continues to highlight how certain sets of policy solutions were formulated and the power dynamics at play. Particularly accentuated were what strategies different levels of the governments employed and what selectivities were embedded therein, which parts of the economy (failed to) formed coalitions, and which conflicts emerged and how power dynamics were manifested. Section 7.3 revisits the central thesis of Chapter 6, which was dedicated to contextualising the specific political economy of the new waste policies. It highlights that a focus on environmental issues including waste management challenges fed into Xi's hegemonic vision of Eco-civilisation, which was integral to CCP's power legitimacy in the new era. In addition, new waste management system solutions and technologies epitomised a new development model the CCP aspired to build. Finally, Section 7.4 concludes the dissertation by offering an indicative analysis of whether China's state-led policy solutions would solve the waste crisis as defined and whether they would push towards a more sustainable waste governance regime.

7.2 Conflicts, strategies and power relations in crisis diagnosis and solution finding

From the standpoint of policy origination, there was little dispute that China faced multiple waste management challenges, which could primarily be characterised by hundreds of cities being "besieged" by waste, landfills running out of capacity much earlier than planned, and waste processing and treatment processes permeated with dreadful environmental and social conditions. The magnitude of the waste management problem across the country constituted a sense of waste crisis, propelling the Chinese government to locate responsible sources. Among others, the influx of foreign waste, the informal recycling sector and citizens' irresponsible wasting habits were diagnosed as major causes. The specific research questions to be raised here are: *How were these factors and practices framed by the Chinese state as the major crisis contributors, and how were these problem framings made into a hegemonic understanding or "common sense" within China? Subsequently, building upon these problem definitions, how did the state seek and find solutions and strategies to tackle these identified problems, and how did tensions and power dynamics play out among key stakeholders during the process of problem diagnosis and solution finding?* The summary below will present the key findings of chapters 4 and 5, structured along the outward and inward prongs of problem definition and solution finding.

Firstly, how was foreign waste defined as a major cause of China's waste crisis? For over three decades, China had been importing a staggering amount of recyclable waste from all over the world, using it as a cheaper, valuable secondary material to feed the country's booming manufacturing industry. Discussions about the impurity of imported waste and the environmental and health impacts of small waste processing workshops occurred every now and then, but by and large these problems remained unnoticed in the mainstream discourse, with the economic value of imported recyclables overriding environmental or social concerns. Hence, it was intriguing how these same imported recyclables were increasingly antagonised by the Chinese government, to the extent that it was constructed as a major risk to China's waste management crisis, and how this problematisation of foreign waste rapidly gained mass traction. My analysis in Chapter 4 revealed that the taming of the "*yanglaji*" (garbage from overseas) discourse played a pivotal role in the state's problem definition and mainstreaming of the risk framing. In the lead-up to the 2017 waste import ban, the term "*yanglaji*" became more pervasive in the political and public discourse within China. The change of phrase usage, especially in official discourse, marked a rupture shift in the central state's position on foreign waste, which had been mainly constructed as an environmental nuisance and a contaminating risk object by now. Moreover, the "*yanglaji*" rhetoric went beyond environmental concerns and evoked feelings of foreign exploitation and dumping, resonating with China's recent inferior experiences of colonialism and imperialism. The national sentiment stirred by the phrase *"yanglaji"* played a decisive role in popularising the risk framing of foreign waste within China, whereby its environmental and social implications were greatly amplified while its resource feature was largely omitted.

Drawing on the populist imagination of foreign waste, the CCP-ruled government re-activated the powerful mass line, or "people-centred" governance rhetoric. This approach, which was impregnated at the outset of the CCP and has since become the rhetoric underpinning of CCP's governance in the Xi era, has proven to be a powerful mantra for advancing many of the Party's policy agendas. Based on the prevailing perception of *"yanglaji"* as a risk object, it was only natural for the Party-government to control and regulate foreign waste, and if necessary completely prohibit its entry to safeguard "people's aspirations to live a better life". The waste reform, of which controlling foreign waste was an essential constituent, was hence constructed as the Party-state's "*minsheng gongcheng*" ("a project for people's wellbeing") and *"minxin gongcheng"* ("a project to win people's hearts"). In a sense, if the "*yanglaji*" discourse mobilised the general public behind an official risk framing of foreign waste, the

“people-centred” governance rhetoric implicitly organised heterogeneous identities and interests into a popular alliance, unifying the thoughts and actions of state apparatuses and civil actors who might have otherwise held divergent opinions.

The hegemonic risk framing of foreign waste, along with the irrefutable mass-line approach, not only provided a powerful rhetoric for defending criticisms emanating from the international arena, but also made domestic discord irrelevant. As analysed in Chapter 4, there were notable disagreements among various domestic actor groups, including scrap industrial associations, formal and informal waste business owners and workers who depended their livelihood on foreign waste trade and processing, as well as a segment of academic intellectuals who opposed an outright ban on imported waste. Although the legal process in China did offer a public consultation period on this matter, during which certain actor groups were invited to comment on pending policies, it remained unclear to which extent opposing voices were heard, debated and considered in the highly opaque, black-boxed policy-making process in China, rendering the invitation-only consultation largely symbolic. Ultimately, these actor groups’ voices and interests were selectively disregarded, and their perspectives were not considered relevant expertise feeding into the policy-making. In addition, on their part, these actor groups failed to form a coalition to advocate for an alternative solution together, partly due to incoherent and sometimes conflicting interests and power imbalances, but in part also due to the invincible populist perception of imported waste and the governance approach to combat it. As such, a hegemonic perception of foreign waste as an environmental and social risk paved the way for legitimising the central state’s policy decision to ban it altogether. It was evident that while some actor groups’ interest would suffer due to the waste import bans, the central authorities deemed their concession worthwhile under the name of protecting the “well-being of the people” and aspiring to “win people’s hearts”.

Secondly, regarding the realm of domestic MSW management, alongside major technical-managerial pitfalls, the competent state agencies and waste experts pinpointed two factors as primary causes contributing to the existing inefficient and environmentally damaging MSW management predicament: one was citizens’ lack of awareness and willingness to sort waste in households, which resulted in the mixed waste stream that greatly complexed recycling and treatment at the end, and the other was the tenacious informal recycling networks which were believed to be inefficient and dirty. Chapter 5 shed light on how these diagnoses had been consolidated and made into “common sense” in the political and social spheres. My analysis maintained that the

"*suzhi*" (civilising quality) discourse played a pivotal role in harmonising two divergent purposes: On the one hand, not sorting waste properly has been constructed as the indication of possessing low "*suzhi*", and based on this notion the *suzhi* discourse was used to mobilise China's rising urban middle-class to perform waste separation in their households as a demonstration of fine quality and civil dispositions which were ascribed to this social group. On the other hand, informal waste recycling workers were commonly perceived as having low "*suzhi*" due to their generally limited education and rural origins, and based on this epistemological consensus, it was widely believed that this group of actors needed being "formalised" into an officially recognised, industrialised recycling workforce, or disbanded altogether as more cities are striving to enhance the urban appearance and residents' civilising level. As such, the *suzhi* discourse had a unique "value coding" (Yan, 2003), in that its power in problem framing, derogating migrant bodies and mobilising specific actions was closely tied to its application to differently valued bodies.

On the premise of these problem framings, governments at different levels then set on to seek solutions to combat the consequences resulting from "low *suzhi*". Chapter 5 focused on having an in-depth case study of one popular solution widely experimented with in many localities, i.e. the so-called *liangwang ronghe,* a mechanism integrating waste separation and waste recycling into one system. This solution was closely associated with the commodification of environmental "services" by local governments. Typically, through *juweihui*[45] (residents' committee) or *wuye*[46] (property management entity), NGOs or volunteers were recruited to facilitate public education and mass mobilisation, and "professional" services from third-party solution providers were purchased to facilitate the establishment of such an integrated system. The residential compound would often close an exclusive contract with a solution provider, which would usually register as a technology or environmental service company (some were large-sized or even state-owned). The goal was to institutionalise source separation while also formalising and creating accountability in the recycling sector, which had hitherto been dominated by informal waste workers who were organised anonymously and unregulated. Notably, the acquisition of systems and solutions from enterprises, along with the educational service provision of NGOs and volunteers, is primarily funded by local government budgets - although eventually, the government's goal is to have market

[45] See Chapter 5. officially *Juweihui* is a civil organisation but it has generally been assimilated by local administrative power into a semi-state apparatus. It is typically active in older residential compounds.

[46] See Chapter 5, *Wuye* is a property management office which is usually run by a private enterprise. Typically *wuye* provides maintenance services in newer residential compounds.

incentives and waste management fees collected from residents cover these service expenses.

Among the diverse *liangwang ronghe* models, local governments particularly tended to favour elite-led, techno-managerial fixes, spending a considerable amount of budget on fostering an integrated system bolstered by digital technologies. This trend concurred with a general frantic search for a "smart" socio-ecological urbanity spurred by a global urban intellectual and professional technocracy (Swyngedouw, 2004b). These "smart" waste management solutions gained significant popularity, especially in modern residential complexes primarily inhabited by young demographics. Although they came in variegated forms, they largely shared similar functions, which incorporated a rewarding system that allowed residents to collect and redeem "green credits" earned through proper separation and recycling, combined with a surveillance system that enabled system providers and authorities to monitor and evaluate residents' wasting and sorting behaviour. In other words, while being incentivised to sort and recycle waste, citizens' private wasting practice and behaviour was also monitored and coded.

The innovative institutional arrangements and technological solutions adopted by the pilot municipalities seemed to have provided an ideal solution to regulate both the waste recycling sector as well as individuals' wasting practices at once; however, as highlighted in Chapter 5, the power imbalances and contestations embedded therein have been alarming. The first dimension of contestation concerned the competition for fiscal support and the "licence to operate" in residential compounds. The exclusive alliance between *juweihui (or wuye)* and the so-called third-party solution providers enabled by contractual configurations literally chucked out individual waste workers from the recycling business. Due to their illegitimate business identity and lack of material and organisational resources, informal waste workers barely stood a chance in the competition to get the licence to operate in those compounds. With industrial-scale operators garrisoning communities and establishing a de facto monopoly over the collection of recyclable waste there, this group of actors had to withdraw from this business activity which used to contribute to their livelihoods. Although based on observations from my recent trip to China in early 2023, it seems that it remains prevailing that even with the implementation of the new schemes, in residential complexes without strict gate guards, informal waste workers continue to find ways to enter and hawk to buy recyclables directly from households, once again proving their remarkable resilience. They often offer a slightly higher price for valuable recyclables, making them particularly popular among old patrons.

In addition to the conspicuous tension between the "informal" and "formal", there was also contestation among officially registered companies. Among the hundreds and thousands of established recycling companies and start-ups that emerged in recent years under the name of environmental service provision, and among the variegated solutions that claimed to facilitate "*liangwang ronghe*", the (sub-)district government offices had the decision to make as to which ones to support, foster and grant the licence. Although touting a "market-led" approach, local governments often favoured those companies with stronger political ties or "home-grown" solutions. Hence, overall, the community contracting models had built-in strategic selectivities, manifesting the local state's preferences over formality, technical innovation, and geographical and political affinity. Crucially, the main interest of most of these enterprises was not much in facilitating waste separation but more in capitalising on the relatively valuable recyclables collected from the residential compounds, accessing budgetary support, and acquiring political proximity with local bureaucracies.

The second primary spectrum of contestation existed between the regulating alliance (formal companies, sub-district governments and technological systems) and the residents. The integrated waste separation and collection systems, particularly those equipped with smart technologies and big data analytics functions, implicitly turned residents who participated in the pilot schemes into passive subjects. By registering in the digital system, scanning QR codes, and collecting and redeeming credits, residents became subjects of monitoring, surveillance and discipline. In some experiments, the data tracking individual's discharging behaviour could also be linked to the overall "social credit system" championed by the CCP in the new era. What's more, although allegedly these data were used to monitor and regulate citizens' wasting behaviour, in the field where data privacy was nebulous, it is challenging to prevent the conduct of data misuse by some companies, e.g. selling data related to consumption behaviour to other companies who could prey on targeted advertisement. While there have been few reports on this matter, as insinuated by one of my informants who argued that data held greater "value" than recyclables, it is not difficult to infer that such practices were common. As such, the institutional and technological structure embedded in the new waste segregation and recycling solutions clearly displayed an unequal power relation between the households as passive subjects and technical companies as monitoring entities with auditing power outsourced and authorised by local state agencies.

7.3 The historical political economy of waste politics: Reinforcing state strategies and mode of governance

Having elaborated on the "Hows" in the last two sections, this section summarises the "Why", i.e. why has the Chinese government shown such a resolution to tackle the waste crisis in recent years? To be more specific, *why have the central government agencies issued a series of import bans on foreign waste in the face of stark objections from waste-exporting countries and discord from the domestic recycling industry? Why has the Chinese government doubled down on suppressing informal recycling plants and workshops despite acknowledging the contribution of the informal waste sector, and notwithstanding the risks of increased production cost and labour displacement? Why have many local governments followed similar top-down, campaign-style waste separation strategies despite previous failures? And why have technological solutions bolstered in particular by "smart" systems risen and remained favoured by many local governments and investors continued to pile despite the fall of many so-called "internet+" companies?* Chapter 6 was dedicated to answering these questions by situating the state's political project of tackling the waste crisis in the specific historical materialist context of today's China.

To begin with, entering the 21st century, environmental issues, including waste management problems and their associated health risks fuelled public dissent in China, which constituted concerns about the CCP's ruling legitimacy and social stability. To redress the traditional development model that generated breakneck growth at the expense of the natural environment and social equity, the CCP leadership under the previous Hu-Wen administration started to deploy the rhetoric of "a harmonious society" between humans and nature, as well as among different social groups. But the scale and magnitude of the campaign reached new heights under the current Xi administration, in which environmental protection has supplanted, to a certain level, economic growth as a priority performance indicator in the cadre evaluation system. As such, the country has embarked on a journey of deploying a new accumulation strategy and development ideology which embodies the normative value of environmental protection, as well as a new national aspiration for eco-power at a global level. Hence, Chapter 6 stressed that the CCP-led waste reform project must be precisely understood against this economic-political background.

Firstly, tackling the waste crisis was closely enmeshed in CCP's strategy to transition to a renewed national development model, with the pursuit to shift from a relentless high-speed GDP growth to a "New Normal", that is, a slower but higher-quality and

greener growth. In particular, the new economic imaginary aimed to move China from a low-end manufacturing and export-led economy to one focused on climbing up the global value chain, expanding the domestic consumption market, and accelerating industrial restructuring principally by spurring innovation and technological development. Nested in the "New Normal" imaginary, it was almost self-explanatory that the Chinese central state had to regulate the waste import industry, which centred on material extraction for low-end manufacturing and income creation for rural labourers. Admittedly, the domestic waste recycling and processing sector dominated by informal waste workers was a rather primitive, low-quality production mode. Small-scale, low-tech, low-value and pollution-intensive, the informal recycling workshops were the apotheosis of the country's development model in the past three decades. Hence, for China to climb out of the lower end of the global value chain, some industrial structures, such as the recycling industry, had to be upgraded or phased out. In addition, feeding into the strategic structural transition to the "New Normal", the waste industry was seen as an avenue for creating "new growth points", primarily via stimulating competition on innovative technologies and business models. Hence, local governments looked to reshape the domestic waste economy by formalising the recycling sector, fostering technology-based, industrial-scale service companies, and investing heavily in waste incinerators and bio-waste composters...The hope was that a regulated, digital, green, investment-driven waste economy could further drive China's growth model towards a "New Normal". All in all, as elaborated in Chapter 6, banning foreign waste imports and restructuring the low-end waste industrial sector were closely connected to China's transition in the development model. The policy initiatives should be essentially construed as part of the supply-side structural reform, aiming to elevate China's position in the global value chain and steer the waste economy towards an industrial scale with a higher techno-managerial level and hopefully better environmental standards.

Secondly, creating a sound waste governance system must also be understood in the context of Eco-civilisation construction, which was a central element of the CCP's green governance under Xi. Against the rhetoric foundations of preserving "lucid waters and lush mountains" and building a "Beautiful China", it was clearly unacceptable that mixed-quality foreign waste continued to influx into China, neither were the current informal, unregulated ways of dealing with waste. At home, the policy moves were constructed to demonstrate the CCP's continued commitments to restoring the human-nature relationship and reconciling the contradictions between economic growth, environmental protection and "people's aspiration for a better life", which lay at the

heart of the Eco-civilisation imaginary. In addition, the continuous top-down approach and surveillance of citizens' wasting practices reaffirmed the mode of governance encapsulated in Eco-civilisation, which was characterised by more centralised state power.

Going beyond, the waste reform project could be construed as the CCP's attempt to showcase to the world its leadership and determination to solve problems and find solutions, thereby gaining a new source of legitimacy. In particular, a modern waste industry supported by innovative smart technologies and systems (which the country took great pride in) could potentially catapult China into a more advanced position than many developed countries, which fed into the cultivation of a national image that is green, innovative and technological-savvy. In addition, it is important to note that China's waste import bans could not be isolated from the central government's ambition to cultivate a heroic image of a developing country safeguarding its "ecological sovereignty"[47] (Yu, 2019). Also, given that foreign waste remained a prevalent challenge for other developing countries, these bans serve as a potential model for others to follow suit, particularly for those who have fallen prey to alternative dumping destinations. Considering the transboundary nature of the waste crisis, the narrative of "Eco-civilisation construction", with its Chinese eco-vision and wisdom, was proposed by the Chinese leadership as a global solution to solving the multi-scalar waste crisis, which demonstrates the CCP's rising aspiration to re-shape global environmental governance.

7.4 Outlook: Will China's waste policies drive a sustainable transformation in waste governance at home and abroad?

Above, I have summarised the "how" and "why" aspects of China's waste reform project, which were the main theses of chapters 4, 5 and 6. In the remainder of this concluding chapter, I attempt to offer some indicative analysis of the impacts of these policies based on observations of first signs. Conspicuously, China's recent political efforts were of an unprecedented scale, and these were not merely policy tinkering but entailed a more profound national ambition to revamp the overall waste management structure. Indeed, it was well hoped that the series of post-2017 waste policies, in tandem with the unwavering resolution of the central government led by Xi's CCP and supported by enthusiastic non-state actors and enabling institutional arrangements and innovative technologies, would spur a transformation in China's waste governance regime. *The questions here are: Are these policy attempts bound to succeed? And to*

[47] Term explained in Chapter 6.

what extent will they help solve the waste crisis China faces, and help usher into a new, better waste governance regime in China and beyond? It is hardly possible to provide a comprehensive, definitive answer to the questions raised as various policy experiments and their roll-out are still unfolding, and in particular on the front of domestic MSW reform, progress has been severely hampered due to the Covid crisis. Hence, any attempts made here are, at best, indicative. More importantly, this section focuses on explicating and scrutinising the opportunities brought by and challenges immanent in the current policy efforts. While the empirical analysis of the dissertation has been anchored around two spears, namely, outwardly aimed at addressing foreign waste inflows and inwardly at MSW management problems, the impact analysis as follows will also be organised along these two lines, considering that the implementation of the two sets of policies is inherently different.

7.4.1 Hope for systemic changes in transboundary waste management system

Chapter 4 has demonstrated that to address the external causes of the waste crisis, the Chinese central government initiated a partial ban in 2017, which then progressed into an outright prohibition entering into force in 2021. The incremental, coercive measures have registered resounding success in stopping the influx of foreign waste. The implementation of the bans has seen remarkable progress: According to the Ministry of Ecology and Environment - the primary state agency responsible for overseeing the waste import reform, following the issuance of the 2017 ban, China has experienced a significant reduction in imported waste on a year-on-year basis, from over 46.5 million tons in 2016 to 8.79 million tons in 2020, avoiding an estimated 100 million tons of foreign waste over the period of 4 years. By the end of 2020, the Ministry declared that the country had achieved a zero-imported waste target before the outright ban officially entered into force in January 2021 (Han, 2021; MEE, 2020). Despite some sporadic waste smuggling cases, and the Chinese government's temporary allowance for Hong Kong (traditionally HK was a transit place for imported waste destined for mainland China) to continue exporting its backlog waste paper to four designated paper processing factories in the mainland (W. Xu, 2021), overall the incremental bans have served the purpose of stopping the inflow of foreign waste rather well, effectively ending China's history as the world's "dumping ground" or biggest waste entrepreneur, at least for now. Whether China's door will remain closed for foreign waste in the long run is yet to be seen, and undoubtedly, this presents an engaging avenue for future research endeavours.

As the world's biggest recipient of foreign waste and the single centre of waste commodification activities over the last three decades, China's waste policy changes are

set to have far-reaching consequences both internationally and domestically. The series of policy instruments since 2017 has shown the first signs of reshaping international waste trade patterns and prevailing paradigms of global waste treatment. To start with, China's bans have visibly thrown the existing global waste trade system into turmoil, forcing waste businesses to change their longstanding practices. Traditional exporting countries have been actively looking for alternative destinations. For example, China's restrictive policy has diverted the EU's waste flows to countries such as Turkey, Poland and Southeast Asian countries (Harrabin & Edgington, 2019; Snowdon, 2021), giving rise to a new path of waste movement at the global scale. However, there has been a rising concern that this "quick fix" could rapidly exacerbate the pollution crisis in many of the new receiving countries as they are ill-equipped to process the sudden influx of foreign waste. The potential displacement of hundreds of millions of tons of waste that would normally have landed in China would have a profound impact on these countries' social and ecological systems. As a result, there has been a host of regulatory responses from governments of the new waste destinations, some of which, including Vietnam, Thailand, and Malaysia, have started to impose restrictions on waste imports following China's precedent (Early, 2019). In other words, China's waste import bans have sent a ripple effect worldwide, especially in low to mid-income countries, thereby potentially reshaping the dominant global waste order. This also means that the global waste management system has become a re-opened terrain for new rounds of negotiations. As such, it is more than intriguing to follow how relationships between different actors and interests will be reconfigured, and how the intricate interplay between the environment, society, and the economy will unfold in the coming years.

In addition, China's bans have, to some extent, stimulated domestic actions in traditional waste-exporting countries as they face more pressure to look for solutions at home, including improving the domestic recycling systems and more waste reduction efforts. Major waste exporters such as Germany, the UK, the USA and Japan have taken initiatives to reform their domestic waste management system to adopt better the 3R principles (i.e. reduction, reuse and recycling) locally, and they are also trying to rebuild domestic recycling infrastructure and markets (O'Neill, 2019). Recent studies also showed that some waste from Europe was flowing into higher-income countries, such as Germany and the Netherlands as these countries are better equipped technically and managerially to absorb the diverted waste (Tran et al., 2021). Some countries have also been promoting alternative materials such as bio-based plastics and a better waste treatment paradigm. For instance, the EU proposed a new Circular Economy Action Plan

(a central building block of the European Green Deal) in 2020, pledging to take more action “with the aim to ensure that the EU does not export its waste challenges to third countries” (European Commission, 2020). To tackle plastic waste, countries such as Australia, Canada, the UK and those inside the EU are looking to phase out the use of single-use plastic, including packaging, utensils and straws, and bio-degradable materials are being supported on a wide scale (e.g. (European Commission, 2020; Government of Canada, 2020; UK Parliament, 2021; Wahlquist, 2021). Industries in those countries are also moving towards a more sustainable direction. Top plastic users, including Coca-Cola, PepsiCo and Nestlé have promised to step up the effort to tackle plastic waste by reducing plastic use in secondary packaging, and expanding the production of bottles using 100% recycled plastic or bio-degradable materials (McVeigh, 2020). While these and other initiatives are still in their infancy and some are geared towards marketing purposes, how far the waste management systems in these countries and the production mode in some industries will transit towards a more sustainable one remains uncertain. Hence, this topic warrants further investigation.

Furthermore, China’s waste import bans have triggered adjustments in some international treaties, and new alliances are forming to advocate more stringent regulations in international waste trade. Most notably, given China’s ban on plastic waste import which caused the biggest global noise, the Norwegian government in 2019 put forward a proposal under the Basel Convention for more robust controls of international trade in plastic waste (Norway Ministry of Climate and Environment, 2019). In the Conference of Parties (COPs) to the Basel, Rotterdam and Stockholm conventions in Geneva, governments of 180 member states unanimously adopted the Norwegian proposal to amend the Basel Convention. Effective since January 2021, the amendments have brought additional types of plastic waste into the existing control mechanism known as the Prior Informed Consent (PIC) procedure, meaning that international shipments of most plastic scrap are only allowed with the prior written consent of the importing country and any transit countries. As such, the updated Basel Convention has been hailed as the world’s first legally-binding treaty on curbing plastic waste (Basel Convention, 2019; BRS Secretariat, 2021), serving as a good example for other international treaties and rules to better regulate other types of waste. Again, how and to which extent international regulations such as the updated Basel Convention will effectively transform transboundary waste movement is yet to be researched, and it is undoubtedly a crucial topic for future research.

7.4.2 Transformation in domestic waste governance more challenging

The import bans registered game-changing impacts domestically, the most prominent of which was a substantial reduction in imported recyclable waste, as previously mentioned. The drastic decrease and a complete halt in 2021 resulted in a shortage of secondary raw materials, driving up international prices due to continuing market demand for such materials (Minter, 2020). In the case of plastic, an interesting phenomenon was observed where the cost of primary plastic material was cheaper than plastic scraps shortly after the ban on plastic waste, partly due to international petroleum prices experiencing a plunge at the time, partly due to increased cost in processing plastic waste outside China. This directly increased the import of primary raw materials. To illustrate, while in January 2018, China's plastic waste import experienced a reduction of 590,000 tonnes compared to the same period in 2017, the import volume of virgin plastic material saw an increase of 690,000 tonnes (Zhao & Du, 2018). Reduced availability of recycled materials also drove up domestic production of primary raw materials such as copper which led to increased emissions (Liu et al., 2021; Ryter et al., 2021).

In addition to the increased import and domestic production of primary raw materials, a portion of the material shortage was met through an elevated import of processed secondary materials. This phenomenon was thanks to the wonders of global capitalism, which led some waste processing enterprises in China to relocate their waste trade networks overseas. The heightened regulations had substantial repercussions on waste businesses that had heavily relied on foreign recyclables supply. Most waste trading and recycling companies were forced to shut down in the meantime, while those larger and more established players, having swiftly adapted to the evolving policy landscape, responded by moving waste processing infrastructure and investments to Southeast Asia, the USA and elsewhere. The strategic move enabled them to recycle, import and process waste on foreign shores, and subsequently export processed secondary materials back to China (Minter, 2020, p. 202; O'Neill, 2019; Staub, 2018). As a result, while the import of waste has plummeted since 2017, the import of processed materials shot up steadily. For example, recycled pulp increased from 12,000 tons in 2017 to 176.6 million tons in 2020. The majority of that increase came from big Chinese paper companies, including Nine Dragons Paper (the biggest paper manufacturing company in the world), which has set up recycling factories in Malaysia, Thailand and Indonesia since 2018 (X. Xu, 2021). While these companies have successfully navigated uncharted territory, the approach may not be a long-term solution as governments in some of these alternative

destinations have begun to emulate China's policies by imposing restrictions on waste imports. Therefore, the road overseas might be fraught with challenges for companies that have relocated or are considering seeking opportunities in new markets. Overall, the evolving repercussions of China's bans on access to second raw materials and domestic virgin materials production, alongside the shifts in transboundary waste business patterns, are significant subjects of inquiry in future waste research.

While the enforcement of the stringent waste import regulations as a coercive tool has generated noticeable impacts on many fronts, the implementation of the parallel policy endeavour, namely the MSW management reform has been however much more complex, and effects have been somewhat nebulous. Although it has been argued in Chapter 5 that central visions have gained more local endorsement and support under Xi's more centralised political system, the roll-out of variegated government-led waste management initiatives has faced various challenges. Five years after the first national extensive policy experiments in household waste sorting and recycling in 2017, the policy idea has not created general echoes or gained practical momentum - although one could argue that awareness of waste sorting and recycling has increased across the board. Despite the fact that local governments have made substantial investments in infrastructure to facilitate system change, propelling waste producers and collectors to embrace behavioural changes has turned out to be a more arduous undertaking. In the empirical analysis in Chapter 5, I have shed light on some essential shortfalls in the current policy initiatives which could impede a positive transition in China's waste governance regime.

Firstly, a new waste management regime, as envisaged by the central government, involves co-governance of different actors, where the local government would provide initial policy support to foster change, civil actors offer guidance, citizens embrace proper separation and recycling as a daily habit, and the (formal) private sector performs integrated waste collection and recycling and resoursification, eventually allowing the state to withdraw and leaving the populace and market as the protagonists in sustainable waste governance. However, the modest success claimed in pilot projects hitherto has mainly been attributed to government interventions in the primary forms of fiscal incentivising and top-down political pressure. It is noteworthy that government-led efforts and policy experiments play a crucial role in facilitating the transitional of the MSW management system initially, it however raises questions in how far should state interventions go and for how long. At least until now, there has not been a fundamental change in local government's approach to waste separation and recycling/reuse,

compared to the previous unsuccessful endeavours experimented in the 2000s. Although the latest initiatives demonstrated new features, such as the deployment of smart technologies, contractual arrangements between communities and "formal" companies, and avid mobilisation of waste sorting instructors and monitors, they are inherently "old wine in new bottles".

In particular, the absolute predominant and indispensable role of *juweihui* or *wuye* in the overall waste sorting and recycling experiment has created a huge dependency, undermining the intended purpose of household waste sorting. While as part of the civil force they should play a facilitator and advocator's role, the cascading of policy performance targets by the local state at the municipal level has forced them to deliver on the political task, that is, ensuring waste separation rate in the bins within the communities they oversee is as high as possible. Consequently, the facilitating actors had to resort to any measures to drive the sorting rate. Typically, waste volunteers were dispatched to waste collection spots to instruct and "supervise" residents' sorting behaviour, or sometimes they actually performed sorting on residents' behalf. Their dominant role therefore has obscured the subject of responsibility for waste sorting, which in turn inhibited the cultivation of residents' immanent consciousness and habit.

Similarly, in communities with enough financial sources to purchase professional systems, the whole responsibility for waste sorting has been outsourced to third-party service providers. As illustrated, many of these providers heavily relied on technological solutions, including sleek-look machines and credit mechanisms to "entice" residents to sort their household waste. However, this type of encouragement or incentive method further obfuscated the mandatory-ness of waste sorting, giving residents the impression that it is just a nice thing to do but not a must. In stark contrast to waste imports, regulatory mechanisms have played little role in domestic waste separation, and it has proven simply impractical to fine citizens who dodged the rules. As a result of these factors, in the case lab of Hangzhou, five years after the roll-out of the household waste separation scheme (started in 2017), today, many residential communities still have to rely on "employed" volunteers (paid with a petty hourly fee) to monitor and enforce waste separation at source. It can be argued that during the COVID crisis, waste separation receded into the very background of people's lives, so there is a need to re-educate and re-steer residents to perform this task. Nevertheless, whether the practice of household waste sorting will be ingrained in people's daily lives remains to be seen. Certainly, this topic holds significant interest for waste scholars and also for behavioural social scientists.

In addition, currently, the participation of the formal private sector is primarily incentivised by local fiscal support, whereas their inherent motivation still needs to be activated. Clearly, the continuous requirement for human and financial resources in waste separation cannot be sustained purely by fiscal support in the long run. The instrument of charging households a waste treatment fee commensurable with processing cost has proven to be more than challenging to advance, and the active participation of the formal sector needs to be more credible in the long run. There have been reported cases where, due to a lack of sustained financial support and proper management (some tech start-ups even went bankrupt), “smart” waste bins have become mere decorations or, worse, mere garbage themselves (He, 2017; Sinanews, 2019). Also, according to my recent visit to China in 2023, institutional behavioural inertia, including mixing separated waste (e.g. organic waste with dry waste) during transportation by waste collectors contracted by a municipal sanitary department persisted in some places, which further dampened citizens’ enthusiasm for waste separation at source. In a nutshell, a desired waste governance system where citizens have adopted waste separation at the start as an inherent habit, and private funds and technological providers pile in to provide integrated solutions for MSW collection and recycling remains elusive.

Alongside challenges in engaging citizens and civil actors, another significant bottleneck in driving MSW reform to a coherent direction lies in the institutional constraint caused by the fragmented governance structure. As explained in Chapter 2, the Chinese state is not a unified actor, and political authority is fragmented both horizontally and vertically. As such, the state’s policy “solutions” are shaped by vertical and horizontal tensions and contradictions. Horizontally, different ministries and agencies at the same administrative level (and with parallel bureaucratic power) act as interest groups, lobbying decision-makers to adopt their preferred policies and snub the ones that harm their interests. Chapter 5 has revealed that the issue of MSW intersects different state agencies both at the central and local levels, resulting in the overlapping of functions and at times even interagency rivalries. The bureaucratic entanglement can be primarily characterised by the sanitation department focusing on waste collection and disposal, the commercial department on waste recycling and resourcification, the industrial department on resource reusing and efficiency, and the environmental impact of all these processes. In the realm of recycling and resourcification, the effective utilisation of collected waste faces challenges due to information compartmentalisation. For example, after the sanitation department carries out waste collection, the

coordination of recycling efforts should align with the commerce department that leads the circular economy, and the organic waste component should be integrated with the agricultural department. However, as of now, these departments often operate in silos without a coherent coordination mechanism (Jiang, 2021). These common bureaucratic pathologies of horizontal fragmentation with competing interests, compartmentalised information, and unclear coordination not only complicate the policy-making process, but also pose notable constraints on the effective implementation of new MSW management initiatives.

Vertically, the state at the local level has its own priorities and interests. As a result, central government initiatives especially environmental rules and regulations often tend to be "showcase politics" (Ran, 2013), ambiguous but vague and inexplicit (some deliberately so), relying heavily on local governments' good intentions rather than on hard measures with timetables. Such policy expressions focus on mobilising local attention and commitments to a particular policy area rather than implementing the policies (Kennedy & Chen, 2018; Strauss, 2006). The political efforts underpinning the domestic MSW management reform encapsulate this bureaucratic shortcoming resulting from vertical fragmentation. While the highest level of the government, led by the responsible Ministry of Housing and Urban-Rural Development, is eager to overhaul the current MSW management system, the final decision on whether and how to implement central directives rests with the municipal government due to fragmented power and also the local nature of the issue. Notwithstanding the "re-centralisation" trend (as explained in chapters 2 and 5) that has garnered unprecedented local compliance and commitments, local governments have other overriding interests and priorities that may undermine efforts to reform the MSW management system. In particular, policy shirking becomes more prevalent when local governments face more pressing crises, as demonstrated by the COVID pandemic, during which the issue of MSW was relegated to the very background of political discussions. In addition, despite the introduction of environmental performance in the cadre evaluation system, "hard" performance criteria are only applied in more "serious" environmental issues such as air and water pollution. At the same time, economic growth still takes precedence over such issues as MSW management.

Another fundamental pitfall of the MSW reform lies in the ambiguity of the purpose. According to the 2020 revised Solid Waste Law, the guiding principles of preventing pollution stemming from all solid waste were "reduction, resource utilisation, and harmless treatment" (Ministry of Ecology and Environment). This overarching directive

however got diluted in individual waste management sectors. Notably, these fundamental concepts were scarcely evident in recent initiatives targeting household waste management. Instead, relevant policy documents emphasised the abstract proclamation of the campaign, namely the “joint creation of a beautiful environment and happy life”, of which household waste sorting was a crucial component, contributing to the overarching objective of “improve the living environment and urban quality” (Ministry of Housing and Urban-Rural Development, 2019). Following this central thread, as illustrated in Chapter 5, the promotional materials of local governments and NGOs predominantly unanimously construed the purpose of household waste separation as contributing to some vague and lofty goals such as “beautifying our homeland” and “promoting a green lifestyle”. In contrast to those grand slogans, the present practice focus within residential compounds has primarily centred on separating “wet” waste from “dry” waste. Substantial investments both from private and public entities have piled into building incineration plants (Cui et al., 2020) and a tiny bit also into organic waste treatment facilities (Ouyang & Xu, 2022). In particular, public-private partnerships in the waste-to-energy incineration industry have been experiencing a rapid expansion as the nation is poised to attain the target of reaching a 65% incineration rate for municipal solid waste as stipulated in the 14th Five Year Plan (Central People’s Government, 2022; Cui et al., 2022,). Benefiting from strong political support, the number of waste incineration plants in China more than doubled in the short period from 2015 to 2021, surging from around 220 to 463, processing approx. 730,000 tons of solid waste daily by 2021 (Zhao, 2020).

These trends indicated that the present purpose of waste separation has focused on enhancing incineration efficiency, and the principle of “reduction” here primarily means reducing the amount of waste sent to landfills, whereas the concept of waste reduction at source has received little attention. While incinerators and waste reduction at source can be complementary in a sustainable waste regime, as explained in Chapter 5, prioritising incineration in the waste management paradigm is inherently at odds with source reduction, reuse and recycling as incinerators require a continuous and sufficient flow of waste to sustain them. The focus on increasing incineration rates further implies that China's current waste management system remains trapped in the “end-of-pipe” waste disposal paradigm. As such, the present policy emphasis has inherent limitations in terms of spurring profound shifts within the waste governance system, and the prospect of a transformative tipping point remains distant.

In conclusion, the scale and impacts of the Chinese state's ongoing waste reform efforts have been unparalleled, both in terms of the magnitude of central regulations and policies as well as local implementation. The above analysis points out some interesting trends. While China's foreign waste bans have brought about some profound changes which might potentially revamp the international waste trade system and drive other countries to embark on more sustainable waste management practices, domestic waste reform faces a multitude of problems. It hence remains an open-ended process when it comes to transformation. In particular, on the front of household waste separation and recycling (the focus of the empirical analysis), the central state-led campaign efforts are fraught with institutional, financial, technical and social challenges. Despite painstakingly adopting a mixture of top-down command-control and incentivising schemes including smart technologies and big-data analytics, it remains a thorny challenge to propel the switch towards an MSW management system where households perform waste separation voluntarily and formal companies operate waste collection, recycling and resourcification using market-based mechanisms. In reality, while the ultimate goal of the pilot policy projects is to achieve "mass participation", my observations and analysis suggest that grass-level state affiliations and third-party service providers are taking on primary responsibilities, rendering the public mere onlookers or passive participants in a controlled system, making the "mass participation" vision nothing more than a slogan. With the decreasing policy relevance of MSW reform, particularly since the COVID-19 crisis, private investors' enthusiasm for waste technologies and solutions has also waned, which implies that formalisation of the waste collection and recycling system using social capital is hardly viable in the short term.

Furthermore, there are inherent limitations in the predominant techno-managerial solutions which have been established as the frontier of the domestic MSW management reform. While the techno-managerial elites strive to retrofit and micro-engineer the current MSW management system, turning environmental technologies into a "green" accumulation strategy, these solutions ultimately aim to sustain economic growth and capitalist urbanity. In other words, in the predominant method of tackling the waste crisis, the neoliberal framework of a growth-centred development model that inherently gave rise to the waste crisis remains unquestioned and reinforced. In addition, the formal managerial system set-ups and eco-technological fixes are predicated upon dispossessing precarious informal labour from their resources and livelihoods. However, as evidenced in chapters 3 and 5, It is socially untenable and technically impractical to

exclude the informal waste recycling sector from establishing a new waste governance regime, considering the sector's resilience and vast experience and networks. Contrary to the "formal" service-providing companies, this group of actors is naturally interested in performing waste separation and recycling – notwithstanding the social and environmental risks in their current practices. Hence, instead of rejecting them when attempting to improve the current waste governance system, it is essential to enlist their support.

Therefore, moving forward, instead of relying solely on techno-managerial solutions, policy efforts should be steered towards integrating all relevant actor groups, turning bystanders into co-constructors and unleashing the potential of all active contributors. Also, political reform should accompany the process to break down institutional barriers at different state levels. More importantly, to transform the current waste management paradigm, political-strategic interventions into "political-social, economic, institutional and technological" processes and knowledge and information provision are not enough (Goerg et al., 2017, p.2). Instead, the focus must be extended to scrutinise and transform the structural configurations and power relations that underpin the persistence of waste management problems in China, the dominant societal dynamics that hinder the shift towards a more sustainable waste paradigm, and the modes of economic growth which, despite having gone through significant changes, continue to hinge upon accelerated resource consumption and industrial production (ibid. p. 2-7). Therefore, structural transformation is needed in addition to political-strategic solutions for a sustainable waste governance regime to emerge. At the same time, a normative discussion as to what constitutes a sustainable waste governance regime is also essential; perhaps for now the vision of the Chinese central state provides some indicative definition and offers an insightful glimpse into the direction, that is, a waste governance regime characterised by collaborative governance and shared benefits, closely aligned with the technical principles of "reduction, resource utilisation and harmless treatment" as inscribed in the Solid Waste Law.

7.5 Limitations of the dissertation and topics for future research

Lastly, while the empirical investigation undertaken in this research has yielded valuable insights, it is essential to acknowledge that this thesis also has some significant limitations. Regarding the foreign waste bans, the empirical analysis predominantly focused on the intention and discourse strategies deployed by the Chinese government. In contrast, the narratives and strategies adopted by waste-exporting countries were

largely absent from the investigation. This imbalance to a certain extent constrained the thesis from providing a comprehensive overview of the "conflict corridor" embedded in the process of policy-making, thereby rendering the analysis of competing interests and power dynamics between China and the major waste-exporting countries somewhat inadequate. In addition, overall research involving stakeholders and actor alliances sometimes lacks nuances. This shortfall primarily stemmed from the constraints associated with conducting field investigations. The outbreak of the COVID crisis and the extended lockdown of China until 2023 significantly hindered the possibility of gathering sufficient first-hand primary empirical data as initially intended. As a result, regrettably, much of the empirical analysis could only rely on secondary sources. Among the various shortfalls, one notable deficit was the lack of in-depth investigation into the role of NGOs and their interactions with other actors, including the public and private sectors, rendering the examination of the state-society relation rather limited. Another conspicuous gap in the research was the void of first-hand empirical analysis of the struggles of the "informal" waste workers and the possible strategies deployed by this sector. As analysed in Chapter 5, this marginalised and loosely organised group possessed minimal resources to establish or attach to an actor alliance in order to amplify their voice heard or defend their interests, let alone to wield any influence over policy-making processes. Hence, without having direct encounters with them, it is hardly possible to gain meaningful insights into their world and explicate their struggles and strategies in this regard. There also existed a dearth of secondary materials illustrating their participation in the evolving policy-making processes.

Hence, for future research in this field, an in-depth investigation into the roles played by NGOs and the engagement and reaction of the informal waste sector in the new waste governance reform is imperative. Gaining more nuanced dynamic insights into their respective stances and strategies in this policy arena will enrich the theoretical understanding of state-society relations in China, and effectively integrating them into the state project will considerably augment the operational strength in establishing a more sustainable waste governance regime in China. Thus, I believe these dimensions should be the focus points for future studies in the realm of waste governance in the Chinese context.

Furthermore, the analysis of potential impacts outlined above has also highlighted intriguing areas that were left unexplored due to this research's constrained analytical scope and timeframe. These areas show great relevance and merit further investigation. In the arena of transboundary waste movement, following China's import bans, the

forthcoming years are poised to unveil a captivating transformation in the dynamics among different countries, actor groups, and interests at scales. Hence, several particularly intriguing research topics have emerged. These avenues include but are not limited to whether China will maintain a long-term stance of banning foreign waste, the long-term subsequent ramifications on resource consumption patterns and waste business models both domestically and globally, the capacity of China's bans to induce shifts in waste management practices and consumption behaviours in major traditional waste-exporting nations, the further evolution of international laws and regulations aiming to govern new paths of transboundary waste movement, etc.

Regarding domestic MSW reform, there are several noteworthy areas for further research. In addition to delving deeper into civil actors and different business interests, it would be particularly intriguing to gain an insider's perspective into the intricacies of the Chinese state. This would involve understanding the dynamic and competing political agendas, material interests, and power dynamics among various state departments, local and central governments, and the government and the CCP. While clearly there are formidable challenges in this endeavour, some empirical case studies could offer valuable insights. Furthermore, given the continuous and ongoing nature of many policy experiments on a national scale, it is essential to investigate how waste sorting schemes and techno-managerial solutions would unfold and gain momentum over time, as well as the subsequent impacts they generate. In the long term, it is of paramount interest to investigate how the culmination of these and future policies would shape the trajectory of the waste management paradigm in China, and ultimately, whether and when China will eventually transition into a sustainable waste governance regime.

The END.

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