“The Waste of Society as Seen through Women’s Eyes:”: waste, gender, and national belonging in Japan

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Introduction

> "I will contentedly tie my fate to garbage. It is by this [garbage] that Japan moves, that women move."
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> Kaneko Shigeri, "Seisō angya kikō" (Record of a cleaning pilgrimage), 1934

> "It's mostly women. Men also have this feeling [of wanting to prevent waste], but, actually, practically, they don't participate vigorously, proactively. They don't. Right? Because even if they have awareness [of wastefulness] it's only women who are doing the activities themselves. …"
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> Shōno Takako[1], recycling volunteer (interview by the author, April 1, 2015)

The first time I visited Japan, as an undergraduate studying abroad for a year from 2009-2010, the strongest culture shock I encountered was garbage separation, referred to in Japanese as *bunbetsu*. In my hometown of Hendersonville, Tennessee, in the southeastern United States, there is no curbside recycling – essentially all unwanted items go in one big black trash bag, which is put out for street collection once a week and never heard from again. Voluntary recycle centers exist for the environmentally minded, but you have to transport your recyclables to the center yourself, using your car, of course, as there is no convenient public transportation, so they are not often utilized. Growing up, my family collected bottles and cans in big bags in the garage and brought them to the center only a few times a year. At college in Hartford, Connecticut, I became familiar with single-stream recycling: a single container for plastic bottles, aluminum cans, paper, and cardboard recyclables. The addition of an extra container for recyclables presented no difficulty and made intuitive sense: all the recyclable things would presumably be taken to a recycling center where they could be sorted out and, somehow, "recycled."

In Japan, things are very different. Trash bins in public areas like airports and train stations tend to have at least three options – "Cans/Bottles," "Newspapers/Magazines," and "Other." Other public or semi-public waste bins such as those at convenience stores or supermarkets may have other options – "Burnable Garbage," "Plastic," "Glass Bottles," "Styrofoam Trays." The breadth of garbage disposal

[1] All names of interviewees and informants used in this dissertation are pseudonyms.

options can be confusing for the casual visitor, and perhaps even more so for a foreigner newly arrived for a long-term stay in Japan, as I quickly discovered.

During an information session for study abroad students at my university, we students were warned to separate our garbage carefully, but as each municipality has different regulations for trash sorting, the instructions were not very specific. I found out from my landlord that I would need to buy designated trash bags for my burnable waste (which includes kitchen scraps, non-recyclable paper, and other burnable materials) and divide plastic containers and packaging, plastic (PET) bottles, aluminum and steel cans, and glass into ordinary plastic bags for separate collection on designated days. At first I was overwhelmed by all these regulations. What was I supposed to do if the paper and plastic packaging were stuck together?

I tried to follow the rules as well as I could manage, but I often made mistakes. On one occasion when my landlord was in my apartment for a minor repair, he noticed that I had placed a piece of packaging consisting of both paper and plastic together in the burnable garbage bag. He took it out of my trash, pulled the two components apart, and put them back in the correct bags. I was considerably embarrassed, and from then I redoubled my efforts to separate my trash properly. By the end of my study abroad year, variously labeled public bins no longer mystified me, and I felt proud of the ease with which I could identify, separate, and dispose of garbage and recyclable materials. When I returned to the United States, I found that the lack of recycling made me uncomfortable, and I was much more aware of the items I was discarding.

Since that first year of study abroad, I returned to Japan several times for work and study, and lived in several different cities. Each time I had to learn the garbage separation rules of a new city, none quite the same as the last, I became more curious about waste management in Japan. Why were there so many categories for separate collection? Why were citizens asked to separate the garbage, rather than employees at a recycling facility? My interest in feminism and gender studies prompted me to look at the issues from a gendered perspective: was the work of household waste separation performed by women or men, or both, and why? Were there gender differences in the way Japanese women and men dealt with or viewed household waste? How did waste fit into the construction of gender roles in Japan in a historical context? With these questions in mind, I began my study of waste in Japan in 2013 as a member of the Garbage Matters research project at Leiden University.[2]

The purpose of this study is to explicate the relationship between waste, gender roles (in particular the role of women), and citizenship in modern Japan. Waste represents an ideal site to examine

[2] "Garbage Matters: A Comparative History of Waste in East Asia," funded by the Netherlands Organisation for Scientific Research (NWO Vici Grant, 2013-2018, grant number 277-53-006).

the relationship between women and the nation-state[3] because of its connection to both the home (where municipal waste is generated, and where socially constructed gender norms and ideals like "good wife, wise mother" [*ryōsai kenbo*] have placed women) and the state (due to the state's legal responsibility, from the late nineteenth century, to manage municipal waste). The Dirt Removal Act of 1900 assigned responsibility for waste management to local governments, and the law's revision in 1932, after years of technological progress in waste management techniques, mandated that municipal waste should be disposed of through incineration whenever possible. The predominance of incineration in the waste management system necessitated more thorough separation of waste materials (those that could be burned and those that could not) than other methods, such as landfilling. The Japanese state conferred a large part of the responsibility for this separation onto citizens, who were required to separate waste before its collection. As a task related to the maintenance of the household, the work of waste separation generally fell to women. By examining women's interactions with waste, whether in the home or through their involvement in waste campaigns or local waste management policies, we can gain a more nuanced understanding of the processes that have shaped women's relationship with and place in the Japanese state.

Waste: Unwanted and Undefinable

What is *waste*? The term evokes a wide variety of definitions, classifications, and interpretations. In English, "waste" can refer to anything from a banana peel in the kitchen garbage can to an unused tract of land to a missed opportunity. In common English usage, waste has a variety of near-synonyms with slightly different nuances, which may differ depending on the speaker's dialect or culture: garbage, trash, rubbish, filth, refuse, and so on. As Zimring (2012) notes in the Introduction to the comprehensive Encyclopedia of Consumption and Waste, these terms often have pejorative connotations: "Worthless. Rejected and useless matter of any kind. Unimportant" (Zimring 2012, xxv).

While the meaning of waste and its synonyms are usually straightforward and clear in context when used in everyday life, determining a technical or scientific definition of waste is a trickier prospect. Experts in technical and policy-oriented fields may classify waste according to its material composition in order to study or regulate it for a specific purpose. Theorists in the social sciences and humanities tend to focus more on the intangible qualities that make waste *waste*, or on waste's relationship to human society. In this vein, Mary Douglas, in her seminal conceptualization of waste *Purity and Danger*, famously defined dirt as "matter out of place" (Douglas 1966). The book focuses on the role of pollution and ritual

[3] The concept of the "nation-state" will be defined and explored further in Chapter 2.

in “primitive” cultures, in which dirt, “matter out of place,” is managed and purified through taboos and rituals. Although Douglas’s work is invoked by many more recent scholars of waste, the book’s scope is limited to the worldview of the examined cultures, and offers little commentary on the role of dirt in contemporary Western society; as O’Brien (2008) points out, for Douglas, dirt is an abstract concept, and its materiality is largely ignored in Purity and Danger: “the *stuff* of dirt and the material, as opposed to symbolic, places it occupies in the systematic organisation of life, is left unexplored” (O’Brien 2008, 128). O’Brien also notes that those authors who draw on Douglas typically do not accept her ideas uncritically: “Ironically, in this intellectual arena, the very thesis that Douglas pursued, and the lessons she thought the book might teach, have been discarded” (O’Brien 2008, 127).

Since Douglas’s day, researchers have defined and theorized waste in a variety of ways, often highlighting disparate aspects of this complex topic. These studies touch on a variety of themes: policy and management (e.g., Gille 2007, 2010, Bulkeley and Gregson 2009, Lybecker et al. 2012); the culture of waste, or the relation between waste and culture (e.g. Douglas 1966, Perry et al. 2010, Reno 2009, Gregson et al. 2007); the materiality of waste (e.g. Bennett 2004, Hawkins 2011); geographies of waste (e.g. Lepawsky and Mather 2011, Crang et al. 2013); food waste (e.g. O’Brien 2012, Evans 2012, Metcalfe et al. 2013); and waste history (e.g. Strasser 1999, Melosi 2005), among others. A wide variety of definitions of waste have emerged from these studies.

Explaining her theory of “waste regimes,” Gille (2010) defines waste as “any material we have failed to use” (Gille 2010, 1050). This definition avoids creating a dichotomy between waste from production and post-consumer waste, and furthermore leaves open the possibility for an object categorized as waste to leave that category or become a different type of waste as it “it traverses the circuits of production, distribution, consumption, reclamation, and ‘annihilation’” (Gille 2010, 1050). She describes waste and society as fundamentally interconnected: “waste is not a residue of but constitutive of the social” (Gille 2010, 1060). O’Brien (1999) defines waste similarly, as “simultaneously a production resource and a consumption good: a bipolar object of political regulation and economic exchange” (O’Brien 1999, 271). For O’Brien, “wasting, as a social process of value-transformation, [is] a counterpoint to the analysis of waste, as an excess or surplus of production and consumption” (O’Brien 1999, 271). Employing Gille’s concept of the waste regime, Oldenziel and Weber (2013) focus on waste as the distinction between what can (or will) be used and what cannot (or will not), noting that this distinction is indeterminate; the difference between waste and not-waste depends on who is doing the determining: “Implied in the practice of recycling is a definition of what comprises ‘waste’. Waste to some (households) is a ‘resource’ to others (industry and the state). In this sense, recycling brings us to the core of a waste regime’s policies and ideologies” (Oldenziel and Weber 2013, 357).

As these varied definitions of waste show, waste is a singularly indeterminate concept: its properties and classifications shift according to the needs, beliefs, cultures, or aims of the persons or groups defining it. For this research, I will avoid presenting a single, rigid definition of waste, and instead focus on the waste identified as such by sources and informants. However, in order to limit the scope of the study, I chose to look primarily at the solid "waste" generated by households – the type of waste called *gomi* in colloquial Japanese and defined more technically as *kateikei ippan haikibutsu* (lit. "household-type general waste") – rather than human waste, sewerage, industrial waste, or business waste. Taking this waste as a starting point, this dissertation examines one aspect of waste that has been too often overlooked: the connection between waste and gender. Specifically, I will use waste as a conceptual lens to analyze the processes underlying and constituting women's gendered citizenship in modern Japan.

Studies of Waste and Gender

One of the earliest works to link gender and waste is Thompson's *Rubbish Theory: The Creation and Destruction of Value* (1979). In his chapter on the transfer of Stevengraphs from the category of "rubbish" to that of "durable," he notes that this transfer was also one of ownership, from women to men: "It seems probable that women were excluded from durability by a double mechanism. Items controlled by women were transferred to the durable category by transferring control to men and, when this transfer of control did not occur, nor did the transfer from rubbish to durable" (Thompson 1979, 33). Another study that explicitly examines women's role in waste and recycling practices (and which also involves a transfer of waste material from women to men) is Weber's (2013) article on women and waste recycling in wartime Germany. Noting that "domestic waste … has traditionally been defined as a female responsibility," Weber documents women's self-mobilization of food waste recycling during the First World War (Weber 2013, 371). These successful salvage drives organized by women and women's groups on behalf of state authorities in some German cities set the stage for the national socialist salvage drives of the Second World War. The latter, however, coopted women's labor under state planning rather than allowing for individual initiative: "In contrast to the earlier situation, however, women's activism now largely supported centrally implemented recycling policies and mobilised fellow women for these instead of establishing individual local waste collection campaigns" (Weber 2013, 394). A similar phenomenon occurred in Japan during the war, which is discussed in more detail in Chapter 2.

Oldenziel and Veenis (2013) describe the history of the first glass recycling system in the Netherlands, which was organized through the activism of two housewives from the city of Zeist, Babs Riemens-Jagerman and Miep Kuiper-Verkuyl. These women met through a class on environmental

leadership run by Elisabeth Aiking-van Wageningen, a woman whose environmentalism was based in Christian ideals of stewardship of the Earth, and who believed that "middle-class women, in their role as household managers, were best positioned to turn the tide" of environmental degradation (Oldenziel and Veenis 2013, 457). Oldenziel and Veenis suggest that Aiking's "belief in women's moral compass and special role in helping social change" had its roots in nineteenth-century notions of "civic housekeeping," "the belief that women had a special moral role to play in stemming the excesses of industrialization" (Oldenziel and Veenis 2013, 457). This idea informed the goals of the Netherlands' largest women's organizations, many of which took an interest in environmental pollution. Aiking, Riemens, and Kuiper represented the conservative side of women's movements, favoring a collaborative approach to social change rather than the disruptive political tactics favored by the younger progressive feminist activists at the time. Oldenziel and Veenis identify three main factors that contributed to the success of Riemens and Kuiper's recycling initiative in 1972: first, they "appealed to women's responsibility as in charge of running the household;" second, they "successfully involved key stakeholders: local authorities, business players and women volunteers;" and third, they were able to capitalize on the glass industry's flagging profit margin, as "[glass] producers were keen to apply the more cost-effective methods of reusing glass waste as an alternative to the bottle deposit system" (Oldenziel and Veenis 2013, 473). From this initial grassroots success, more cities in the Netherlands began to implement recycling programs, most of which involved collaboration with local authorities. However, as the authors point out, "the success ultimately rested on Dutch women's willingness and eagerness to collect empty bottles and jars separately on behalf of the environment without the benefit of the older deposit system's financial reward" (Oldenziel and Veenis 2013, 474). This case is one example of the way that gender (or the perception of gender roles) can affect recycling and waste management policies, and hints at the importance of women's unpaid labor in supporting recycling systems, an issue of high relevance to the case of Japan's waste management system.

Strasser's (1999) social history of waste in the United States has a particular focus on the lives of women. Before industrialization, American women made and remade clothes, selling the rags to traveling peddlers, and fed kitchen scraps to livestock. With industrialization came urbanization and its attendant trash problems; sanitary reformers in local government took on the challenge of cleaning up the cities, bolstered by women activists motivated by the idea of "municipal housekeeping" (Strasser 1999, 121). She notes that many women writers and sanitary activists "concurred with the idea that women's sphere went beyond the borders of their households" (Strasser 1999, 123), and that the housewife had a duty to keep not only her own household but also her community as clean as possible. Later, women would become the primary targets of advertising for new consumer goods and disposable products that made housekeeping much less time-consuming and unpleasant.

The research examined in this section so far has focused on historical connections between waste and gender, but many contemporary studies of waste in developed nations suggest that household waste management remains a highly gendered practice.

Evans's (2012) study of food waste practices in contemporary Britain notes the important role that food provisioning – and often its corollary, food wastage – plays in the performance of family: "it is well understood that those who assume responsibility for this activity (typically women) enact familial relations by giving consideration to the preferences and tastes of others within the household" (46). In his two examples of married couples, it is the wife who assumes primary responsibility for food provisioning, preparation, and wasting. This suggests that wasting can sometimes be seen as a gendered performance: the loving wife or caring mother ensuring that her family will have enough, even if it means that some food will end up in the garbage. Similarly, Metcalfe et al. (2013) found aspects of gender performance in their interviewees' conversations about the new food waste bins introduced in a suburb of south London. One married couple presented contrasting opinions about the appearance of their food waste bin, which Metcalfe et al. analyzed in terms of the couple's perceived gender roles:

> One possible reason for this difference between their answers is that even though John is the one who takes care of this, Gabriela still feels that she may be seen as the one responsible, as the one who will be judged by others – here by the interviewer – and so she tells the interviewer how the box 'should' be managed. John, in contrast, tells how it is managed in practice, something that has fewer consequences in terms of how he might be judged. There is an issue of gendered respectability at play here. This gendered talk *about* the bin demonstrates a further point that the household is a far from ubiquitous 'unit' with one, unified approach to waste; instead it is a space in which individuals may perform different, sometimes conflicting, sometimes complementary, practices. (Metcalfe et al. 2013, 147)

Gabriela's assumption that the interviewer might think she, as a woman, is supposed to be in charge of the waste bin, as well as the fact that it is her husband who actually manages it, indicates her awareness of culturally specified gender roles which have in this case broken down.

Further evidence for gender differences in waste behavior is provided by Takahashi et al. (2013) in their survey of waste separation practices in Sweden. The authors find a striking gender difference in the separation of food waste: while over 90% of single female households and households with both a male and female adult reported separating food waste (when containers for this purpose were provided), not one single male household reported doing so. Takahashi et al. attribute this finding to "differences in lifestyles rather than attitudes" (Takahashi et al. 2013, 16), speculating that single males may be less

likely to prepare food at home, thus generating less food waste; they also acknowledge the possibility of gender differences in beliefs and values relating to waste and the environment.

Fredericks (2009) provides a valuable account of the connection between waste and the devaluation of women's labor in her study of "the gendered politics of trashwork" in Dakar, Senegal. She found that the women trash workers who had been core members of the youth movement that took over garbage pickup duties in Dakar during the city's garbage crisis in the 1990s were pushed out and laid off in large numbers once those jobs became salaried and sought after by men; in some cases the reason given for firing the women was explicitly that bosses thought "they needed the jobs less than their male counterparts" (Fredericks 2009, 133). This study provides valuable insight about the gendered valuation of public and private waste labor, an issue with great salience to household waste management in Japan. The next section will provide the necessary historical and policy background for understanding these issues in the case of Japan.

History and Current State of Waste Management in Japan

In Japanese as in English, there is a plethora of words for waste: the commonplace *gomi*, the formal *haikibutsu*, the archaic *jinkai*, and more specific words for various types of waste – *kuzu*, *boro*, *nama gomi*, *obutsu*, and so on. Waste in more abstract terms can be expressed as *muda*, meaning something that is useless or pointless, while *mudadzukai* refers to squandering something or using something wastefully.

In Japan, waste has primarily been studied as a technical problem to be solved, and Japanese research on waste is concentrated in the natural sciences and policy-focused social science fields. According to Tasaki (2009), research on waste and recycling in Japan in the 20th century was largely focused on "end-of-pipe" methods (i.e., focusing on how to manage and dispose of the waste already produced, rather than focusing on ways to limit the production of waste), and was heavily oriented toward technological advances in waste treatment methods. In recent years, and especially since the enactment of the Fundamental Law for a Sound Material-Cycle Society (Junkangata shakai keisei suishin kihonhō) in 2000, the focus shifted toward reducing waste, including systems to encourage citizens to cooperate in waste reduction and recycling programs. (As Tasaki et al. [2011] acknowledge, although current policy places priority on reduction and reuse, in practice official measures still tend to focus on recycling.) Some major themes of current Japanese waste research include: citizen participation in sorting and recycling (e.g. Maeda and Hirose 2009, Matsui et al. 2001, 2007); waste-related consciousness and behavior modeling (e.g. Nishio and Takeuchi 2005, Takase et al. 2006, Matsumoto and Nakajima 2013, Kanzaki and Terakado 2001); environmental education (e.g. Doi 2011); and international material cycles (e.g.

Hosoda 2007, Terazono et al. 2004). There are relatively few English-language works focused on the cultural impact of waste in Japan. One of these rare works is Kirby's (2011) *Troubled Natures: Waste, Environment, Japan*, which provides valuable insight and examples of contemporary views on waste and the environment in Japan, although it has been criticized for its overemphasis on the role of an essentialized Japanese "culture" in Japanese environmental policies (Tamanoi 2012).

A very recent monograph fills much of the gap in English-language analysis of waste in Japan. Eiko Maruko Siniawer's (2018) *Waste: Consuming Postwar Japan* is an insightful history of postwar understandings of waste in Japan. From the emphasis on not wasting even a scrap as a means of survival in the immediate post-war period, to the contemporary focus on decluttering and minimalism as a means to achieve happiness, the book demonstrates how ideas of waste and wastefulness in Japan have shifted through the postwar period, rejecting the idea of a fundamental and unchanging Japanese view of waste: "What becomes apparent when we think about waste more capaciously […] is that different and often contradictory understandings of waste and wastefulness have existed in Japan at the same time" (Siniawer 2018, 9).

Scholars of modern Japanese waste history generally divide it into three periods based on the major policy concerns of the time: first, a focus on hygiene and urban sanitation (approximately 1900-1960s); second, a focus on environmental pollution (1960s-1990s), and the current period focusing on sustainability (1990s-2010s) (Tanaka 2007; Hezri 2010). The first, during which the policy goal was public health and sanitation, lasted from 1900, with the passage of the first waste management law, to approximately the 1960s. During this period, environmental protection was not a concern, and waste management was carried out in order to maintain a clean living space for residents. The second, which can be categorized as the period of environmental safety, lasted from the 1970s to the 1990s. This framework of waste management emerged from Japan's era of rapid economic growth, which was also an era of rapid environmental degradation and industrial pollution, prompting a fundamental shift in environmental policy. The third period, from the 1990s to the present, is based in a global understanding of the importance of ecological conservation, and prioritizes recycling, the reduction of waste, and the creation of a sustainable society.

Table 1. Selected waste-related legislation by year

Year	Law
1900	Dirt Removal Law (Obutsu sōji hō)
1954	Public Cleansing Law (Seisō hō)
1967	Basic Law for Environmental Pollution Control (Kōgai taisaku kihonhō)
1970	Waste Management and Public Cleansing Law (Haikibutsu no shori oyobi seisō ni kansuru hōritsu)

1991	Resource Recycling Promotion Law (Saisei shigen no riyō no sokushin ni kansuru hōritsu)
	Amendment of Waste Disposal and Public Cleansing Law
1995	Law for the Promotion of Sorted Collection and Recycling of Containers and Packaging (Yōkihōsō ni kakaru bunbetsu shūshū oyobi saishōhinka no sokushin tō ni kansuru hōritsu)
1998	Law for the Recycling of Specified Kinds of Home Appliances (Tokutei kateiyō kiki saishōhinka hō)
2000	Law Concerning Recycling of Materials from Construction Work (Kensetsu kōji ni kakaru shizai no saishigenka tō ni kansuru hōritsu)
	Law for the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Kuni tō ni yoru kankyō buppin no chōtatsu no suishin tō ni kansuru hōritsu)
	Fundamental Law for Establishing a Sound Material-Cycle Society (Junkangata shakai keisei suishin kihonhō)
	Law for Promotion of Recycling and Related Activities for the Treatment of Cyclical Food Resources (Shokuhin junkan shigen no saisei riyō tō no sokushin ni kansuru hōritsu)
	Law for the Promotion of Effective Utilization of Resources (Shigen no yūkōna riyō no sokushin ni kansuru hōritsu)
2002	Law for the Recycling of End-of-Life Vehicles (Shiyōzumi jidōsha no saishigenka tō ni kansuru hōritsu)
2012	Small Electrical and Electronic Equipment Recycling Law (Shiyōzumi kogata denshi kikitō no sai shigenka no sokushin ni kansuru hōritsu)

Sources: Tanaka 1999, Yamamoto 2003, Ministry of the Environment 2013.

Public regulation of waste in modern Japan began with the Dirt Removal Law (Obutsu sōji hō) of 1900. This law was part of a series of hygiene regulations intended to halt the spread of cholera and other infectious diseases that were becoming epidemic in Japan at that time; it followed the Infectious Disease Prevention Law (Densenbyō yobō hō) in 1897 and the Harbor Quarantine Law (Kaisō ken'eki hō) in 1899, and was promulgated concurrently with the former Drainage System Law (Gesuidō hō; this law was retired when the current Drainage System Law was enacted in 1959) (Yamamoto 2003).

The Dirt Removal Law mandated that the landowner, in the case of private land, or the city, in the case of public land, had an obligation to clean up filth (*obutsu*) and maintain hygiene, and that the municipality had the further obligation to dispose of the accumulated filth, preferably by incineration. This law established a precedent of municipal responsibility for waste management[4] (Matsufuji 2003).

[4] The Drainage System Law, enacted concurrently, dealt only with liquid waste. Because night soil had a high value at the time as fertilizer, that area of waste management was left under individuals' control until the Taishō period (1912-1926) (Yamamoto 2003).

Prior to the law, waste management had been carried out on an individual basis, or by trash pickers who collected and sorted garbage, and made their living by selling valuable materials found in it (Yamamoto 2003).

The next major waste management regulation was not enacted until 1954, after the end of both the war and the occupation. The Public Cleansing Law (Seisō hō) was promulgated for the purpose of "improving public health by sanitarily disposing of waste and cleaning the living environment." The law differed from the Dirt Removal law in that it excluded "waste water" (*osui*) from the definition of waste (*obutsu*). Unlike the 1900 law, which dealt only with generalities and left specifics up to individual municipalities, the Public Cleansing Law mandated specifically that municipalities coordinate collection and disposal of waste, perform large-scale public cleaning at least once a year, and not merely deal with waste but manage it hygienically. It established a national and prefectural responsibility for waste management, and the obligation of citizens to cooperate in waste management (Yamamoto 2003).

The next phase of Japanese waste management policy appeared against the background of Japan's rapid postwar economic growth. The boom in manufacturing and consumption led to a concomitant increase in waste: in the late 1960s, the volume of per capita waste generation increased roughly 6% per year, and production of plastics grew by as much as 25% per year (Ministry of the Environment 2006). Before the 1970s, the majority of waste was disposed of in unlined landfills or simply dumped in unpopulated areas; the resulting "secondary pollution" from the stench and the vermin these uncovered landfills attracted created a waste crisis in many urban areas (Matsufuji 2003).

As a stopgap measure to combat the burgeoning waste problem, the Emergency Measures Law for the Development of Living Environment Facilities was passed in 1963. The law mandated that the majority of waste in urban areas was to be incinerated, with the residue being disposed of in landfills. This measure was designed to reduce the burden on urban landfills, many of which were filled to capacity (Ministry of the Environment 2006).

This situation is exemplified by the case of the "Tokyo Garbage War," which occurred from 1966 to 1974. At the time, Koto Ward received garbage from all of Tokyo's 23 wards into its incineration plant and landfill. Koto had been a site of landfilling and garbage incineration since the Edo Period (1603-1867), due to its proximity to Tokyo Bay (Ishii 2006). With the rapid increase in waste generation in the 1960s, incoming waste began to exceed the facilities' capacities, to the extent that the Ward began dumping combustible waste directly into Tokyo Bay (Funabashi 2011). In response to Koto residents' demands that more facilities be built elsewhere, in 1966 the Tokyo Sanitation Bureau proposed a plan for a new incinerator to be sited in the Takaido area of Suginami Ward. Residents of Suginami, who had not been consulted, protested vehemently, and landowners at the proposed incineration site refused to sell their land. These protesters organized the Association Against the Construction of the Suginami

Incineration Plant in the Takaido Area (Suginami Seisō Kōjō Kami-Takaido Chiku Kensetsu Hantai Kiseidōmei) (Ishii 2006).

Negotiation between the Sanitation Bureau, Suginami Ward officials, and residents reached a deadlock; no progress was made for years, as alternative sites were considered and rejected. In September 1971, the Koto Ward Assembly passed a resolution threatening to deny the other wards access to its waste disposal facilities if a timely solution to the garbage problem wasn't reached. In response, Tokyo Governor Minobe declared a "war on waste" in a speech before the Tokyo Municipal Assembly, proclaiming, "The imminent garbage crisis is imperiling the daily lives of Tokyo residents" (Ariyama 2011). Ishii (2006) interprets this declaration of "garbage war" as expressive of the Governor's desire to forthrightly confront the difficulties caused by the garbage problem in all of Tokyo, but notes that it can also be thought of as encompassing Koto Ward's opposition to the other wards, the conflict between the municipal government and Takaido residents, the confrontation between Koto and Suginami, and potentially also the conflict within Suginami between Takaido and other areas considered as candidate sites for the construction of the incinerator.

The Tokyo Metropolitan Government proceeded with planning in cooperation with officials from Suginami ward, but as this process still did not include input from residents, the Takaido group remained unmoved, and some threatened to use force if the metropolitan government expropriated Suginami land for the incinerator (Funabashi 2011).

As the situation was still unresolved in December 1972, the government made plans to deal with the expected increase in waste during the New Year holiday by constructing temporary garbage collection sites at eight points around the city, one of which was near a public park in Suginami ward. On December 16, local residents organized to block the construction of the temporary facility. In response, the head of the Koto Ward Assembly organized a physical blockade of waste entering Koto Ward from Suginami. A swift response from the metropolitan government promising the construction of new facilities very soon persuaded Koto to remove the blockade that afternoon (Shibata 2001).

Still dissatisfied about the lack of resident involvement in the planning process, on May 15, 1973, Suginami protestors intruded on a planning meeting and forced it to adjourn. The following day, Koto Ward responded with another brief blockade of trash from Suginami. When Suginami residents again interrupted a meeting on May 21, Koto Ward organized not only another blockade, but furthermore enlisted the aid of the Tokyo Waste Management Union, which suspended garbage collection in Suginami. The incineration facility planning committee consisting of ward and metropolitan officials quickly issued an official statement promising a resolution by September, and Koto lifted the blockade on May 25 (Shibata 2001).

As no statement of progress with construction plans had been issued, Koto ward sent an official letter of inquiry to the committee on October 1, implying that they might block the delivery of trash from all the wards to the landfill if no solution was found. In November, the planning committee again decided on Takaido as the designated site, which decision was rejected by residents. Governor Minobe announced his decision to reopen procedures to forcefully expropriate the land for the project, and called for a vote on the subject. Takaido residents filed a lawsuit with the Tokyo District Court to stop the expropriation procedures. Twelve Takaido landowners and 516 residents were listed as plaintiffs in the suit, and 4,222 other residents entered their names as auxiliaries (Ishii 2006).

On November 21, 1974, the District Court issued a settlement of the case. The Court ruled that the incineration plant was to be built at the Takaido site, but that planning of the construction must involve the participation and agreement of residents; the facility was to employ state-of-the-art pollution controls; the garbage to be managed at the incineration site was to be limited to 600 tons per day, and the garbage was to be transported only along designated roads; community facilities were to be built to serve area residents; and financial compensation was awarded to the plaintiffs (Ishii 2006). Construction of the incinerator began in 1978, and was completed in December 1982.

The case resulted in the adoption in Tokyo of the waste management philosophy of "waste disposal in one's own ward" (*jikunai shori no gensoku*), and in Tokyo governance more generally the right of residents to have a say in urban planning that might have negative environmental consequences (Funabashi 2011).

Partly as a result of the Tokyo Garbage War, efforts to create cleaner waste management technology flourished in the 1970s. The semi-aerobic landfilling method, sometimes called the Fukuoka Method, was developed by researchers from Fukuoka University and the city of Fukuoka in 1975; compared to anaerobic landfills, semi-aerobic landfills "quickly stabilize landfill sites after the land has completed its role as landfill"[5] (Ministry of the Environment 2012b). This technique is widely used in Japan today, and is one example of waste management technology that is exported to developing countries as part of overseas development assistance (Matsufuji 2003; Ministry of the Environment 2012b).

In addition to rapidly increasing waste volume, Japan's postwar economic growth also resulted in severe environmental and health problems related to industrial pollution. The so-called "Big Four"

[5] According to the Ministry of the Environment, semi-aerobic landfilling technology works by the following method: "A leachate collecting pipe is set up at the floor of the landfill to remove leachate from the landfill, so that leachate will not remain where waste is deposited. Natural air is brought in from the open pit of the leachate collecting pipe to the landfill layer, which promotes aerobic decomposition of waste. This enables early stabilization of waste, prevents the generation of methane and greenhouse gases, which make it effective technology in the prevention of global warming" (Ministry of the Environment 2012b).

industrial pollution cases – mercury poisoning in Minamata and Niigata, bronchial asthma in Yokkaichi, and cadmium poisoning (known locally as *itai itai byō*, or "ouch-ouch disease") in Toyama, all of which resulted in judicial victories for the victims at the Supreme Court – and the grassroots victims', environmental, and anti-pollution movements that emerged from them generated domestic and international media attention, as well as widespread public anti-pollution sentiment (Almeida and Stearns 1998). This surge of outrage culminated in a special session of the National Diet held in December 1970 known as the "Pollution Diet." Fourteen environmental laws submitted by the cabinet-level Central Pollution Countermeasures Conference were passed in this session, transforming Japan's environmental regulations from barely effectual token measures[6] to some of the strictest checks on industrial pollution in the world (Rosenbluth and Thies 2002).

One of these laws was the Waste Management and Public Cleansing Law (Haikibutsu no shori oyobi seisō ni kansuru hōritsu, abbreviated Haikibutsu shori hō), which replaced the 1954 Public Cleansing Law. This act separated waste into two categories, industrial and general (defined as all waste that does not fall into the category of industrial waste), and was the first to provide a legal definition of industrial waste. The law emphasized "preservation of the living environment" in addition to the hygienic disposal of waste, which had been the primary target of the 1954 law. Furthermore, the legal term for "waste" was updated from *obutsu* (filth, dirt), which had been used in the 1900 and 1954 laws, to the more technical *haikibutsu* (waste matter) (Yamamoto 2003). The industrial waste regulations introduced in the Waste Management and Public Cleansing Law, like the regulations in many of the pollution laws that were passed simultaneously, were based on the "polluter pays principle," placing the responsibility for waste treatment and proper disposal on the corporations producing the waste.

After these laws were passed, industrial pollution in Japan decreased drastically, although environmental problems, especially illegal dumping, remained (Ministry of the Environment 2006). Public consciousness of environmental problems faded as environmental groups grew less active, and economic growth once again came to the forefront of public policy and public discourse until the mid-1980s (Rosenbluth and Thies 2002).

In the 1980s, environmental degradation, waste, and climate change became important topics for public policy across the globe. The World Commission on Environment and Development, established by the United Nations in 1983 to develop concrete proposals for sustainable development, held its final meeting in Tokyo in February 1987. The Chairman of the Commission, former Norwegian Prime

[6] The 1967 Basic Law for Environmental Pollution Control (Kōgai taisaku kihonhō) was an attempt to respond to popular demands for pollution regulation without alienating large corporations; it famously recommended that environmental protection be undertaken "in harmony with the healthy development of the economy," effectively ruling out strict pollution controls where they would interfere with industrial production (Rosenbluth and Thies 2002).

Minister Gro Harlem Brundtland, credited Japan with providing the impetus for the formation of the commission: "It was on the initiative of Japan in 1982 at the Special Session of UNEP's Governing Council that our independent Commission was called for by the General Assembly in the fall of 1983" (Brundtland 1987).

At the same time, Japan was experiencing its "bubble economy" period: "a rapid rise in asset prices, the overheating of economic activity, and a sizable increase in money supply and credit," which led to a brief period of increased wealth for nearly all levels of Japanese society (Okina et al. 2001, 397). This burst of affluence caused a corresponding slight increase in the generation of waste. These factors converged to prompt the Japanese government to enact the first of its recycling laws, the Resource Recycling Promotion Law (Saisei shigen no riyō no sokushin ni kansuru hōritsu), also known as the Recycling Law (Risaikuru hō) (Matsufuji 2003). This law was based partly on the German Waste Avoidance and Management Act of 1986, which "introduced the principle that the avoidance and recycling of waste were to be given precedence over waste disposal" (Schnurer 2002, 4). Japan's Recycling Law similarly aimed to "promote the use of recycled resources as raw materials," based on the idea that only materials which could not be reused should be managed as "waste" (Yamamoto 2003, 59). In the same year, the Waste Management and Public Cleansing Law was amended to reflect the newly acknowledged importance of reducing waste generation. The amendment also designated hazardous, explosive, and infectious waste as specially controlled waste material, and strengthened their regulation (Yamamoto 2003).

The concept of extended producer responsibility (EPR), in which manufacturers are responsible for their product's post-consumption management, gained traction in European public policy in the early 1990s. Germany's 1991 Packaging Ordinance, the first practical implementation of EPR in Europe, "assigned sole responsibility to retailers to take back product packaging from consumers and established refundable deposits on some types of packaging as a consumer incentive to return the packaging" (Sachs 2006, 68). Following the German Packaging Ordinance, the European Union enacted the Packaging Waste Directive in December 1994, which required member states to achieve 25-45% total recycling and 50-65% recovery of packaging materials by 2001, with a minimum of 15% recycling in each category of material (Bailey 2002). The purpose of the directive was to remove trade barriers between countries (Germany's Packaging Ordinance had the effect of forcing non-German manufacturers to transport used containers long distances for recovery) and promote sustainable waste management.

These developments in European recycling policy, combined with domestic criticism of the Resource Recycling Promotion Law's lack of efficacy in promoting source reduction of waste, as well as statistics indicating that packaging comprised 60% of Japanese household waste by volume in 1995, prompted the Japanese government to enact the Law for the Promotion of Sorted Collection and

Recycling of Containers and Packaging (Yōkihōsō ni kakaru bunbetsu shūshū oyobi saishōhinka no sokushin tō ni kansuru hōritsu), abbreviated as the Containers and Packaging Recycling Law (Yōkihōsō risaikuru hō), in 1995. The law, explicitly based on a policy of extended producer responsibility, established a system in which waste plastic, glass, and paper containers and packaging are collected from households by municipalities and retailers, and are then delivered to the Japan Containers and Packaging Recycling Association (JCPRA) for recycling. The JCPRA is a government-designated organization charged with managing packaging recycling; manufacturers of products that entail packaging waste are obliged to pay an annual fee to the JCPRA, which contracts recycling companies to process and recycle the waste. The recycling companies are then paid out of the manufacturers' fees after the JCPRA confirms that the recycling has been completed properly (Japan Containers and Packaging Recycling Association 2008). The 1995 law targeted glass containers, PET bottles, and paper cartons for recycling; a 2000 amendment expanded the law to include non-PET plastic packaging and non-carton paper packaging (Ministry of the Environment 2012b).

Japan's recycling policy was extended in 1998 with the Law for the Recycling of Specified Kinds of Home Appliances (Tokutei kateiyō kiki saishōhinka hō), known as the Home Appliance Recycling Law (Kaden risaikuru hō). The law was established "in order to reduce household appliance waste and contribute to the effective use of resources," and requires manufacturers of air conditioners, televisions, refrigerators and freezers, and washing machines to recycle these products; retailers are responsible for receiving the used appliances from consumers and delivering them back to the manufacturer for recycling (Ministry of the Environment 2006). Consumers wishing to discard their used appliances are obliged to pay a recycling fee. In 2012, the recycling rates for all types of appliances exceeded the standard set by the law (Ministry of the Environment 2013).

In 2000, the Japanese government announced the establishment of a "Sound Material-Cycle Society," defined as "a society that is realized by reducing the generation of waste from products, suitably utilizing waste as resources whenever possible and appropriately disposing of waste that cannot be used in any way, thereby controlling the consumption of natural resources and reducing the environmental load" (Ministry of the Environment 2007, 56). The year 2000 was declared the "First Year of Sound Material-Cycle Society," and the Fundamental Law for Establishing a Sound Material-Cycle Society (Junkangata shakai keisei suishin kihonhō) was passed in June. The law and its subsequent policies specify the hierarchy of waste management in a Sound Material-Cycle Society, based on the 3Rs (reduce, reuse, recycle), as the following five steps: 1) restraining waste generation, 2) reuse of materials, 3) regeneration of materials (through recycling, etc.), 4) heat recovery (generating energy through waste incineration, and 5) correct disposal of waste (Ministry of the Environment 2010).

The Fundamental Law was accompanied by four other pieces of legislation dealing with recycling and environmental issues in 2000. The Law Concerning Recycling of Materials from Construction Work (Kensetsu kōji ni kakaru shizai no saishigenka tō ni kansuru hōritsu), known as the Construction Material Recycling Law (Kensetsu risaikuru hō), requires businesses that undertake construction work meeting certain conditions to engage in sorted demolition and recycling of construction waste. The Law for the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Kuni tō ni yoru kankyō buppin no chōtatsu no suishin tō ni kansuru hōritsu), abbreviated Law for Promoting Green Purchasing (Guriin kōnyū hō), obliges government entities, including local governments, to take ecological considerations into account when making official purchases or contracting services, and requires government entities to formulate and publish a green purchasing policy based on the policies of the law. The Law for Promotion of Recycling and Related Activities for the Treatment of Cyclical Food Resources (Shokuhin junkan shigen no saisei riyō tō no sokushin ni kansuru hōritsu), or Food Waste Recycling Law (Shokuhin risaikuru hō), promotes recycling by food-related businesses (manufacturing, distribution, sales, restaurant operation, and catering) and sets numerical targets for food waste recycling (as compost or animal feed). The Law for the Promotion of Effective Utilization of Resources (Shigen no yūkōna riyō no sokushin ni kansuru hōritsu) was enacted as an overhaul of the 1991 Resource Recycling Promotion Law. It targets specific industries, manufacturing sectors, and products for recycling, and imposes recycling and reuse obligations on corporations engaged in these specific industries or in manufacturing the designated products[7] (Ministry of the Environment 2006, 2010, 2013).

These laws were followed by the 2002 Law for the Recycling of End-of-Life Vehicles (Shiyōzumi jidōsha no saishigenka tō ni kansuru hōritsu), which was enacted to address the growing problem of illegal dumping of used automobiles (a problem attributed to the increasing costs of proper disposal of vehicles' component parts) (Ministry of the Environment 2006). It requires automobile manufacturers to recycle airbags and other valuable materials and destroy remnant Freon, and sets

[7] The law targets the following categories of businesses and products: "1) business[es] that should control the generation of or recycle by-products (specified businesses in which resources are saved: steel business, paper and pulp manufacturing business, etc.), 2) business[es] that should use recycled resources and recycled parts (specified reuse business[es]: paper manufacturing business, glass container manufacturing business, etc.), 3) products for which raw materials, etc. should be made rational use of (specified products for which resources are saved: automobiles, electric home appliances, etc.), 4) products for [which] the use of recycled resources or recycled parts should be promoted (designated reuse-promoting products: automobiles, electric home appliances, etc.), 5) products that should have labels for promoting sorted collection (products with designated labels: plastic containers and packages, paper-made containers and packages, etc.), 6) products that should be collected and recycled by their manufacturers (designated recycled products: personal computers, small rechargeable batteries), 7) by-products the use of which is promoted as recycled resources (designated by-products: coal ash generated by the electricity industry)" (Ministry of the Environment 2010).

numerical recycling goals for the targeted materials.[8] Most recently, the Small Electrical and Electronic Equipment Recycling Law (Shiyōzumi kogata denshi kikitō no sai shigenka no sokushin ni kansuru hōritsu) was enacted in 2012 and came into effect April 2013; this law, which applies to about 100 types of small home electronics, requires local governments to collect the designated electronics and electronics businesses to promote their recycling (Yagai 2015).

Waste management in Japan today is characterized by a focus on management technology, including semi-aerobic landfills for disposal, highly efficient waste incineration facilities, and streamlined recycling centers. Despite prioritizing the first two of the "3Rs," reducing and reusing, in its policy framework, Japan's efforts have focused mostly on recycling, both of materials and of energy in the form of waste-to-energy incineration treatment (Tasaki et al. 2011). This tendency was acknowledged in the Third Fundamental Plan for Establishing a Sound Material-Cycle Society, accepted by the Cabinet in May 2013; nevertheless, most of the concrete proposals set forth in the document involve the recovery of materials from waste rather than efforts to limit the use of resources (Ministry of the Environment 2013).

The technological developments and policy changes described here have had a lasting impact on the way household waste is dealt with by municipalities as well as within Japanese homes. Household waste work is deeply connected to gender roles and the division of household labor between women and men. The next section will provide background information about the connection between gender roles and waste in Japan that contextualize the findings of this study.

Gender Roles and Household Waste in Japan

As discussed in a previous section, the idea, expressed by women activists in both Europe (Oldenziel and Veenis 2013, 456-459) and the United States (Strasser 1999, 121-123) during industrialization, that women in their role as housekeepers had a moral responsibility to ensure the cleanliness of the outside world was shared by middle-class women in Japan in the early twentieth century. Tamanoi (2009) examines two related sets of public discourse in which early activists for female suffrage engaged, democracy and purity (*jōka*), through the lens of two plays written by activist Kaneko Shigeri and published in the League of Women's Suffrage (Fusen Kakutoku Dōmei) official publication, *Fusen (Women's Suffrage*) in 1931 and 1933. Tamanoi shows how women's suffrage activists embraced the idea that women, as the "purer" sex, were uniquely qualified to cleanse both the world of politics (through political activism) and the city itself (through proper waste management). The rhetoric of

[8] This law was passed two years after the European Union's End-of-Life Vehicles Directive in 2000, which similarly set recycling targets for automobile manufacturers (Sachs 2006). Accordingly, this law was likely designed to ensure the continued competitiveness of Japan's automobile manufacturers in the European market.

"purification" (*jōka*), encompassing both moral purity and physical cleanliness, was frequently employed in these women's political discourse (Tamanoi 2009, 816). Members of the League of Women's Suffrage collaborated with local authorities to raise awareness about proper household waste disposal, and "Members of the League often visited the office of the Tokyo sanitation department (in uptown Tokyo) with flowers" (Tamanoi 2009, 827). This collaboration between women's group and state authorities on issues of waste continued during the war, when "members of such women's organizations as the Japan Women's Patriotic Association (*Nippon aikoku fujin-kai*) and the Great Japan National Defense Women's Association (*dai-Nippon kokubô fujin-kai*) began eagerly sorting trash and reducing its volume, not for the people of Fukagawa but for Japan to win the war" (Tamanoi 2009, 828). The topic of women's groups' cooperation with state and local authorities for garbage reduction and disposal efforts will be explored further in Chapters 1 and 2.

Turning to more recent times, Ben-Ari's 1990 study of the newly implemented waste separation system in the town of Otsu analyzes the system, which called for residents to separate waste into five categories with separate bags, and bring their garbage to the designated collection point at the designated date and time, in terms of a co-production system (cooperation between citizens and authorities to carry out municipal services). After pointing out cultural differences that set the Otsu waste separation scheme apart from similar schemes in the United States, he concludes that "the Otsu garbage disposal scheme cannot be understood apart from the Japanese model of social authority and hierarchy of social units" (Ben-Ari 1990, 486). In particular, he points out the feature of requesting residents to write their family name on the bags before depositing them, and its attendant threat of social, rather than (or in addition to) official, sanction, as characteristic of the Japanese style of communal responsibility. Interestingly, he highlights city officials' apparent assumption that, as "trash-related matters belong almost exclusively to the domain of women," Otsu's "professional housewives" would conform to the new rules as part of their "self-conception" as wives and mothers: "That is, city officials expected the new arrangements – involving the public presentation of the household and the kitchen – to become an aspect of housewives' self-valuation and valuation by others" (Ben-Ari 1990, 484).

Buckley (1996), drawing on Ben-Ari's study, expands on this, noting that "Garbage is treated by the professional housewife as a serious opportunity to be judged by her peers" (Buckley 1996, 448). She echoes Ben-Ari's point about city officials' awareness of the important role housewives would play in this new system: "The institutional rechanneling of women's management of the outward flow of consumer waste from the household, functioned equally as a channel for the management of the women themselves – organizing dis-orderly desires and energy" (Buckley 1996, 450). Here she suggests that the situation in Otsu was one of direction and control imposed by authorities on the women themselves,

rather than at least a partial collaboration, as might be expected given the historical cooperation of women with waste management officials described by Tamanoi (2009).

Though he phrases it in terms of a threat of social sanction from the women's group toward other citizens, rather than as the women's group actively collaborating with authority to ensure the success of the new program, Ben-Ari's original study supports the idea of collaboration rather than coercion. He quotes the head of a small town women's organization: "The responsibility for garbage disposal belongs to each individual. But anyway in our neighborhood everyone complies with the new arrangements. You see, our women's association is noisy (*yakamashii*) and we'll make trouble for anyone who won't comply. We get something like 99 or 100 percent conformity" (Ben-Ari 1990, 485). Ben-Ari characterizes the new combination of official rules with the threat of social sanction as potential "incipient totalitarianism," but reading his description alongside Tamanoi's work on prewar women's groups' connection to waste management offers a broader view of the implications of Otsu's new waste collection scheme, which is similar to many of the garbage separation systems currently employed in Japanese cities.

Recent policy studies about waste in Japan reveal some interesting gender dynamics in Japanese household waste practices. Ohnuma et al. (2005) surveyed the residents of Nagoya about their attitude toward that city's newly introduced strict recycling policies. They found that the majority of residents approved of the new rules, and that most had a preference for strict penalties for non-compliance. The primary reasons for their acceptance were social benefit (the perception that the new rules would be beneficial for everyone) and procedural fairness (the perception that the process of implementing the new rules [adequate information provided and citizen input taken into account] had been fair). The questionnaire was distributed to households with the request that the person "mainly responsible for separating recycling materials and waste in the household" complete the survey (Ohnuma et al. 2005, 4): the respondents were 86.4% female and 13.6% male, indicating a striking gender difference in household waste management which the authors noted but did not investigate. Other studies, such as Negishi and Yuzawa (2003), Kurisu and Bortoleto (2011), and Na (2009), also indicate that women are more likely to be interested in garbage management and to be aware of environmental problems posed by garbage.

Matsumoto's (2011) analysis of sorted waste collection in Japanese cities showed that municipalities tend to "implement recycling programs that fit the demographic profiles of their residents," an unsurprising result considering that most municipalities solicit residents' feedback about the waste collection system both before and after the implementation of new policies (Matsumoto 2011, 325). Matsumoto also found that having fewer wives working full time was correlated with a city having a more complicated separation system: "With respect to full-time workers, we found that a one-hour increase in a husband's market work increased the number of waste separation categories by 0.23 while a

one-hour increase in a wife's market work decreased the number of waste separation categories by 0.47, perhaps suggesting that husbands and wives do not take equal responsibility for waste management at home" (Matsumoto 2011, 331).

Taken together, these studies suggest that in Japan, household waste management is the duty of the wife, whether or not she is also engaged in full-time or part-time work outside the home. We might speculate with some justification that the 13.6% male respondents in Ohnuma et al.'s study were bachelors, and that in all or nearly all of married couple households it is the wife who takes primary responsibility for managing waste. Chapter 3 will more closely examine the gendered division of household waste labor in Japanese cities.

As numerous studies have shown, traditional gender roles remain firmly entrenched in Japanese society (Rosenbluth 2007, Eto 2010). Japan's economic system, long grounded in the tradition of "lifetime employment," in which employees work long hours and sacrifice family life in exchange for guaranteed job security, tends to discourage women from pursuing full-time paid work after marriage or childbirth (Rosenbluth 2007). As a result, the majority of married women in Japan become full-time housewives or engage in part-time work, taking full responsibility for housework while their husbands work long hours. It is therefore perhaps unsurprising that it is predominantly women who deal with the household garbage. However, Matsumoto's study suggests that even when the wife works full time, she still takes responsibility for waste disposal, indicating that gender roles, rather than mere economic necessity, at least partially determine the division of labor with regard to waste.

Tamanoi's article suggests a long tradition of cooperation between housewives and waste management officials, which, as Ben-Ari's study indicates, likely still exists. This background, combined with evidence from policy studies that include gender as a variable, reveals that Japan's present system of complicated separation of waste in the household is predicated on the existence of the fulltime housewife. Put one way, this system is dependent on and exploitative of women's unpaid labor; put another, it is the continuation of a venerable tradition of collaboration between authorities and women to accomplish the necessary task of municipal waste management. This collaborative/coercive relationship is in many ways representative of the relationship between women and the nation-state in modern Japan. The next section will discuss these dynamics in terms of citizenship and national belonging.

Gendered Citizenship and Waste

Citizenship is a complex concept with multiple and contested definitions. The term encompasses formal political rights as well as social and cultural rights (Hearn et al. 2010, 8). It is both a legal status and a category of belonging that can have deep connections to individual and group identity (Kymlicka

1995; Ito 2005). Citizenship is typically discussed as a feature of the modern nation-state (Hearn et al. 2010), and theorizations of citizenship often distinguish between a rights-based conceptualization of citizenship associated with the political tradition of liberalism and a conceptualization focused on the duties or obligations of the citizen associated with civic republicanism (Munday 2009).

Marshall's classic 1950 analysis of citizenship and social class defines citizenship as "full membership of a community" (Marshall 1950, 8), and identifies three elements of citizenship: civil, political, and social. The civil aspect of citizenship consists of "the rights necessary for individual freedom – liberty of the person, freedom of speech, thought and faith, the right to own property and conclude valid contracts, and the right to justice" (Marshall 1950, 10). The political element is defined as "the right to participate in the exercise of political power, as a member of a body invested with political authority or as an elector of such a body" (Marshall 1950, 11). Finally, the social element of citizenship is "the whole range from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in the society" (Marshall 1950, 11). Marshall traces the history of each of these aspects of citizenship in the context of Western Europe and the United Kingdom in particular, and claims that civil rights came first and were well-established by the mid-nineteenth century, followed by political rights in the late nineteenth and early twentieth centuries, and finally social rights experienced an upswing beginning in the twentieth century (Marshall 1950, 27-28). Marshall's work has been critiqued extensively by numerous scholars for its failure to examine the ways gender, race, and other social markers affect citizenship as rigorously as it analyzed the role of social class (Lister 1990, 2003; Walby 1994; Yuval-Davis and Werbner 1999).

Pateman (1985, 1989) was one of the first political theorists to present a feminist critique of liberal conceptions of a universal, abstract citizen, pointing out that these theories of citizenship in fact assume a male citizen, whose participation in civic life is predicated on women's domestic labor in the private sphere. Women have traditionally been excluded from full citizenship on the basis of their sex, and their inclusion in the public sphere has been predicated on and circumscribed by their expected duties in the private sphere, particularly motherhood (Siim 2000, 2).

These scholars are careful to note, however, that the "public" and the "private" do not exist as discrete arenas in binary opposition to one another, but "exist in an interactive, overlapping relationship" (Munday 2009, 256). Lister (1990), discussing the rhetoric employed in political discourse about government welfare programs in the United Kingdom, points out "the great artificial divide between the 'public' and the 'private' which legitimates women's economic dependence on men and which covers up its consequences as being matters of private not public concern" (Lister 1990, 446). Lister's work on citizenship emphasizes that women's work in the private sphere, typically unpaid and unrecognized,

presents a significant barrier to their access to political rights and to full citizenship (Lister 1990, 1993, 2003). In particular, women are less likely than men to be involved in formal politics. However, they may be more likely to engage in informal political activity at the local level, which is often overlooked in measures of political engagement (Lister 2003, 28-29, 32).

This point is particularly relevant in the case of Japan, which is typically described as having low political engagement at the national level but high levels of engagement in local communities (Pekkanen 2006). Significantly, women are extremely underrepresented in politics – less than 10% of Lower House members are women. One reason for this severe gender gap is that politics is widely seen, by both men and women, as a man's realm. LeBlanc's (1999) groundbreaking ethnographic study of "the political world of the Japanese housewife" amply demonstrates this tendency. LeBlanc's housewife informants, although they engaged in a variety of public activities that elsewhere might be seen as expressions of citizenship, rejected any suggestion of political motivations. LeBlanc posits that in Japan, housewife is in fact a *public*, rather than a private, role; the volunteer and socially-oriented activities that many housewives engage in are expressions of this public role. Furthermore, this public housewife identity is by definition apolitical: a housewife who engages in formal politics is no longer seen as a "true" housewife. This type of apolitical public engagement by housewives represents what LeBlanc terms "bicycle citizenship:" "She is caught in a bind that is best described as bicycle citizenship. The impetus for her citizenship is tied to her housewife identity, but that identity seems ill-suited for action as a citizen" (LeBlanc 1999, 86).

Mackie (2002, 203) argues that "the archetypal citizen in the modern Japanese political system is a male, heterosexual, able-bodied, fertile, white-collar worker," and that this model of the ideal citizen limits in practice the access of those with marginalized identities to full citizenship. In contrast to this conception of a one-sided hierarchy of citizenship with men at the top and women ignored, I argue that in the postwar period the Japanese state adopted an *explicitly* gendered citizenship regime, which advocated different ideals of citizenship for men and women. In Japan the role of the full-time housewife was valorized and held up as the ultimate aspiration for women, and remains the standard today (Goldstein-Gidoni 2017). In Japan, the social, economic, and political order is based on "the assumption that most people will live in heterosexual nuclear families with a male breadwinner and female primary caregiver" (Mackie 2002, 206). Ito (2005, 54) notes that the family is in fact constitutive of Japan's, and indeed any, "citizenship regime."

Given this social structure, we might posit a two-tiered, gendered citizenship regime. For men, the ideal citizen is, as Mackie states, "a male, heterosexual, able-bodied, fertile, white-collar worker" (Mackie 2002, 203). For women, I argue, the ideal citizen is a heterosexual married woman with children who does not engage in paid work outside the home. Good citizenship, for the housewife citizen, involves,

first, managing one's home and caring for one's husband and children, and elderly relatives if necessary. Secondly, it involves contributing to one's local community through social and volunteer activities. As LeBlanc notes, these public activities are necessary to demonstrate good citizenship, yet should remain apolitical: "In the world of volunteer activity, however, good citizenship was of great importance. … Yet while the volunteer world was plush with props of democratic life – public concern, discussion, action, openness – the volunteer experience did not lead easily to a political citizenship" (LeBlanc 1999, 89). This is because ideal citizenship for women in Japan does not involve politics. If we follow Marshall's trifold division of citizenship into the political, the civil, and the social, then Japanese women's citizenship encompasses only the social aspect. Conversely, it seems likely that ideal citizenship for men in Japan *excludes* social citizenship to the extent that the ideal male citizen is expected to focus on economic and political activities rather than engaging with his local community. In this way, Japan's citizenship regime is unequally and hierarchically divided along gender lines, with each citizen expected to perform their citizenship in the properly gendered manner. This conception may help explain the unusually low number of women politicians in Japan, and the tendency of those few to emphasize their roles as housewives and mothers in their political campaigns and policies (LeBlanc 1999). A 2014 incident in which a woman politician was heckled by male colleagues for not having children during a session of the Tokyo Metropolitan Assembly illustrates this point as well: when women attempt to exercise their citizenship outside the social sphere prescribed for their gender, they are frequently punished (Osaki 2014). (Incidents in which men face social pressure and backlash from their employers for requesting paternity leave, which one survey indicated has happened to 10% of working men in Japan, demonstrate the converse [Otake 2014].) Japanese women, therefore, may express their citizenship through the public performance of the housewife role. The foremost marker of this role is, of course, housework. It is this aspect of the housewife identity that waste can help illuminate.

Managing household waste is one task of the housewife that crosses the boundary between the "private" and the "public:" the family's garbage, an intimate record of daily life in the home, must be deposited in the communal garbage pickup area for all to see. Most municipalities in Japan require that waste be disposed of in a transparent plastic bag, often a designated bag produced by the city that must be purchased by residents, so that sanitation workers (and anyone else who happens to look) can see if the garbage has been separated correctly. This system makes visible to community members not only the contents of their neighbors' daily lives, but also how well a neighbor is executing her household duties in the form of garbage separation. As Ben-Ari's (1990) study indicates, failing to comply with garbage separation regulations can affect the errant housewife's (or indeed any woman's) social standing in the community. Management of household waste is significant as one of the most visible signs of a housewife's domestic duties, the proper performance of which confirms her belonging in the community

and the nation. Household waste work can therefore be considered a gendered expression of citizenship for Japanese women. Waste, as a site that connects the public and private, the state and the family, represents an ideal focus for examining the gendered processes of national belonging in modern Japan.

Sources, Methods, and Structure of the Dissertation

This research is rooted in the interdisciplinary field of "area studies," and "Japan studies" in particular. Drawing as it does on methods and theories from fields such as anthropology, sociology, history, linguistics, political science, economics, and so on, area studies has frequently been the subject of debates over methods and theory in the social sciences and humanities. Here I follow Bestor et al. (2003) and others in emphasizing the unique scholarly contributions of area studies to both theory and methodology: "area studies researchers develop a mediated research technique or methodology that draws upon the cultural specificity of the research setting and uses that local insight as a means to modify general, standardized disciplinary research methods" (Bestor et al. 2003, 7-8). The primary "methodology" by which area researchers do so is fieldwork, which Bestor et al. define as "gathering information in situ: on site, non-experimentally, from and about human informants," emphasizing its non-exclusive interdisciplinarity (Bestor et al., 3).

I began my own fieldwork with an open-ended research question about the relationship between waste and gender in Japan, informed by a feminist research praxis and theoretical framework which "places women's issues, concerns, and lived experiences at the center of research inquiry" (Hesse-Biber 2008, 336). Following LeBlanc (1994), I chose a mixed-methods ethnographic approach involving participant observation, interviewing, and unstructured observation to study this topic. Citing the work of Japanese sociologist Ehara Yumiko, LeBlanc posits that "the best means of probing the Japanese woman's relationship with political power is the ethnographic method" because this approach allows the researcher to "begin to understand the source of a subject's actions as what Ehara calls 'something midway between force and freedom'" (LeBlanc 1994, 24). This approach is particularly necessary in studying women's roles and relationships in the Japanese nation-state because of their marginal position in relation to political and economic power: "In other words, people, especially women, are often conscious of acting in a manner that is neither a complete submission to a power system that dominates them nor a fair execution of what they want to and believe that they should do. … Women are caught having to act in response to a social structure that does not recognize their motivations as universally valid, and they are likely to be conscious of a dissonance between what they think and how their actions appear" (LeBlanc 1994, 24-25). My study also involved a significant historical component necessitating research in archives and libraries, which, per Gordon (2003), can also be seen as a type of fieldwork for historians, especially

those undertaking research in Japan: “For the historian, the library and the archive are the most common sites of what one might call our fieldwork. … Figuratively ‘excavating’ material from archives is one of our defining research activities, comparable to the literal digging in dirt of the archaeologist or the participation in a local festival of the anthropologist” (Gordon 2003, 261-262).

I carried out my fieldwork in Japan for about 22 months in 2014-2016, supported in part by a Japan Foundation Doctoral Fellowship (2014-2015). From June-August 2014, I was affiliated with the National Institute for Environmental Studies (Kokuritsu Kankyō Kenkyūjo, NIES), a governmental research institution focused on environmental issues located in Tsukuba, Ibaraki Prefecture, Japan. During these months I undertook preliminary research on waste management in Japan and visited archives in Tokyo to collect sources. From September-December 2014 I was based at Kobe University (Kobe, Hyogo Prefecture), where I carried out a participant-observation study with the student recycling and waste reduction group Gomi Japan, which is based in the Economics Department of Kobe University. While this data does not appear in this dissertation, the interviews and observations I conducted with the student members of Gomi Japan helped me to refine and narrow down the concepts I would focus on my larger ethnographic study of waste in Tsukuba City. In January 2015, I returned to Tsukuba and resumed my affiliation with the National Institute for Environmental Studies for the next eight months, during which I carried out an ethnographic study of household waste management in Tsukuba City. I returned to Leiden University in September 2015 to analyze my fieldwork data and consult with my advisor and research project members, and it was determined that I should return to Japan for supplementary data collection. From January to August 2016, I returned to Tsukuba and conducted further household interviews, as well as interviews and participant observation with two volunteer recycling organizations in Tsukuba, the results of which are detailed in Chapters 3 and 4.

The preliminary sources that provided me with foundational information about waste in Japan included secondary sources such as edited volumes, review articles, and historical overviews of the waste management field, as well as primary sources such as government reports, white papers, and statistics. Secondary sources on waste in Japan included Hashimoto et al. 2006, Yamamoto 2008, Yagishita et al. 2004, Kawai and Tasaki 2013, Tasaki 2009, Tasaki et al. 2011, Tanaka 1999, Tanaka 2007, Yamamoto 2003, Yoshida 1999, Urabe and Inamura 2006, and Yagi 2006. Edited volumes and monographs on the development and current state of waste management in Japan included Taguchi 2007, Haikibutsu Gakkai Gomi Bunka Kenkyū Bukai 2006, Haikibutsu Gakkai 2003, Mizoiri 1988, Mizoiri 2007, and Mizoiri 2009. Governmental reports and white papers included Ministry of the Environment 2006, 2007, 2010, 2012a, 2012b, and 2013. Statistics included “Haikibutsu shori jigyō jittai chōsa tōkei shiryō (ippan haikibutsu)” compiled by the Zenkoku Toshi Seisō Kaigi on behalf of the Ministry of Health and Welfare (Kōseishō) for the years 1976-1994, and the statistical compilation “Nihon no haikibutsu shori

(Haikibutsu tōkei)" for 1972-2016, compiled by the Kōseishō Kankyō Eiseikyoku Suidō Kankyōbu Seibika (in 1998 the governmental agency publishing the statistics changed to the Kankyōshō Daijin Kanbō Haikibutsu Risaikuru Taisakubu Haikibutsu Taisakuka).

Chapters 1 and 2, which focus on garbage reduction and recycling movements led by women in the first half of the 20th century, are based on archival materials collected from the *Fusen* archives of the Ichikawa Fusae Center for Women and Governance, and the women's magazine archives of the Ishikawa Takeyoshi Memorial Library, both located in Tokyo, as well as newspaper articles found through the online digital archives of the *Asahi Shinbun* and *Yomiuri Shinbun*. For the sources located in physical archives, I looked through women's magazines published in the target range of years (approximately 1929-1945) for articles related to waste and recycling, and made copies of the relevant articles, which I then read, analyzed, and translated where appropriate. For the digital newspaper archives, I used keyword searches for the relevant terms (*fujin/josei, gomi/jinkai, undō, dantai, kaishū, boro*) in various combinations in the target range of years, then downloaded, analyzed, and translated the relevant articles. All quotations from Japanese sources that appear in this dissertation are my own translations unless otherwise indicated.

I analyzed the primary source documents, including newspaper and magazine articles, government reports, and my own interview transcripts, using textual analysis, which interrogates the text according to the following criteria: "the rhetorical context of the text (Who created the text? What are the authors' intentions? Who is the intended audience?), the specific textual characteristics (What topic or issue is being addressed? How is the audience addressed? What is the central theme or claim made? Is there evidence or explanation to support the theme or claim? What is the nature of this evidence or explanation?), and the wider context of the text (How does the text relate to other texts in the same genre or format?)" (Lockyer 2008, 865). During my fieldwork, I recorded detailed field notes by hand in a notebook while in the field and during interviews, which I then transcribed into a digital text document; these field notes also became a source for textual analysis.

I chose Tsukuba as my primary fieldwork site by "following [my] networks" (Bestor 2003): my initial affiliation with the Sustainable Material Cycle Systems Section of the National Institute for Environmental Studies Center for Material Cycles and Waste Management Research, arranged by my advisor, provided me with valuable contacts among waste management researchers that opened doors to both official and unofficial waste management institutions in Tsukuba City. Bestor's advice for finding a field site guided my decision to "determine where my contacts are strongest and where introductions from existing contacts could be most effective, and go there; don't try to find an 'ideal' place and then try to find a connection into it" (Bestor 2003, 315). My contacts at NIES helped me to arrange introductions to and interviews with representatives of various waste-related organizations in Tsukuba, as well as with

ordinary residents who allowed me to conduct household observations and interviews related to waste management in the home. In this dissertation, I have used pseudonyms for all informants and interviewees in order to protect their privacy; I chose to give each a pseudonymous name rather than a number or letter because I wanted to emphasize their humanity and avoid reducing them to a mere data point.

I conducted all interviews using a semi-structured interview method, in which "the researcher asks informants a series of predetermined but open-ended questions" (Ayres 2008, 810). All of the interviews were conducted in Japanese.[9] I used a written interview guide consisting of a list of topics to be covered in the interview, which I provided to informants in advance, along with my contact information should they have questions before or after the interview. I used the same set of topics in my interview guide for my "household" informants, and a tailored, specific guide for each organizational interview. Rather than rigidly following my interview guide, I chose to let my informant's responses determine the course of the interview, using follow-up questions to "elicit further information or build rapport through the researcher's use of active listening skills" (Ayres 2008, 810).

Interviews with representatives of companies or organizations typically occurred in the interviewee's office or workspace, often accompanied by a tour of the organization's waste facilities. Interviews with Tsukuba residents took place either in the resident's home or in a local café. All interviews were recorded using an audio recording device with the permission of the interviewee. I also took photographs of waste facilities with the permission of the interviewee. A list of interviews and fieldwork observations with representatives of Tsukuba waste and recycling organizations is attached as Appendix 1. Appendix 2 contains a list of interviews with Tsukuba residents and household observations. An example of an explanation sheet provided to organizational interviewees is provided as Appendix 3, and the explanation sheet provided to household interviewees is provided as Appendix 4. Appendix 5 contains a list of fieldwork interactions related to the volunteer recycling organization NPO Tsukuba Creative Recycle.

This dissertation explores the relationship between waste and women's national belonging in Japan during two distinct time periods. The first half of the dissertation examines women-led waste movements in the 1930s-40s, a tumultuous period during which Japan experienced rapid social and political change, including shifts in socially acceptable roles for women in public life. The cases examined in these chapters demonstrate how waste issues, often framed as feminine concerns even when they occurred in the male-dominated arenas of municipal governance or wartime mobilization, could be used by women to advance their own social and political goals. In the 1930s, the question of what role

[9] I passed the highest level (N1) of the Japanese Language Proficiency Test (Nihongo nōryoku shiken) in July 2013; while my Japanese conversational proficiency does not approach a native level, it was sufficient to conduct interviews without undue linguistic difficulty.

women should play in society was of pressing importance to both the state and to women's organizations. National bureaucracies and prefectural and local governments developed strategies during the 1920s and 1930s to "mobilize" women to achieve state aims (Garon 1997, Koyama 1999). Women's organizations worked toward their own diverse goals, often in cooperation with the state and local governments. Chapter 1 analyzes one such case, the 1933 Tokyo garbage campaign, in which the women of the League used a relatively local, municipal issue – the city's garbage problem – to advance their goal of improving women's status and ultimately attaining the vote. Chapter 2 focuses on the role of women and women's groups in wartime waste reduction and scrap collection activities. These cases show how women used waste-related activities to engage actively with their communities and sometimes local governments, demonstrating their ability to belong fully to the local community, and ultimately, the nation – what Koyama (1999, 2014) terms *kokuminka*, or "the incorporation of women into the nation-state."

The second half of the dissertation examines household waste management and women-run local recycling volunteer groups in the city of Tsukuba, Ibaraki, in the present day (data collected 2014-2016). These chapters emphasize the local and community-based nature of both municipal waste management and women's volunteer activities. Today, the majority of women in volunteer organizations participate as a means of community involvement at the local level, often in cooperation with municipal governments, rather than to achieve a national goal. Although explicitly feminist groups with the goal of redefining the role of women in society do exist in Japan today, the goals of most women's volunteer groups, including those focused on waste and recycling, tend to have more modest and local goals (Nakano 2005). For this reason, I chose to study what can be considered fairly "typical" small, community-oriented grassroots volunteer recycling organizations run by women in Tsukuba, Ibaraki.

The juxtaposition of these time periods and levels of analysis is useful as a snapshot of waste-related activities and gendered expectations in two very different periods in modern Japan. In the 1930s and 1940s, some women engaged in local waste-related campaigns with an eye toward a national goal, while today, women's volunteer waste activities tend to be oriented more toward community involvement and social improvement at the local level.

Chapter 1, "Our Mission as Women:" Technology, Policy, and Women's Rights in the 1933 Tokyo Garbage Campaign[10], focuses on the "garbage campaign" (*gomi undō*) initiated in Tokyo in 1933 by the Tokyo Women's League to Purify City Politics, a women's activist group whose core members were leaders of the country's nascent women's suffrage movement. The campaign was created to address the city's garbage problem: newly constructed waste incineration facilities in the Fukagawa area of

[10] Parts of Chapter 1 were previously published as "'Our Mission as Women:' Cooperation between Women's Groups and City Authorities in the Garbage Campaign of Prewar Tokyo" in *Gendered Food Practices from Seed to Waste*, edited by Eveline Buchheim et. al, *Yearbook of Women's History* 36 (2017): 183-196.

downtown Tokyo were generating massive clouds of noxious smoke, which experts believed was caused by excessive amounts of waste as well as high water content. The Women's League embraced the issue, organizing a lecture series about correct household waste separation and treatment, distributing thousands of fliers, assisting in the city's contest for a "cleaning slogan," and even producing a movie about the garbage problem at the behest of city authorities. Drawing on archival sources, this chapter analyzes the interactions of the women's activist group, city authorities, and other actors involved in the Tokyo garbage movement of the 1930s. It focuses on the ways in which the Tokyo Women's League leveraged garbage as a municipal problem into a social movement as a conscious political strategy, employing and transforming discourses about women to promote their goal of elevating the status of women in public life. For the city, collaboration with the women's group in the garbage movement not only helped to resolve the underlying problem by increasing citizens' awareness (and, hopefully, actual practice) of correct waste separation, it also deflected public attention away from the city's responsibility for the lingering smoke problem in Fukagawa. This case highlights the myriad ways "waste" can be employed as a political and discursive tool, as well as the active role of the women's group in establishing a cooperative relationship with city authorities in order to advance their political goals.

Chapter 2, "Uncovering the Waste of Society:" Women and the Japanese State in Wartime Waste Campaigns[11], discusses wartime waste reduction and scrap collection campaigns as a site of the construction of gender and family ideology during the war. During the Asia-Pacific War, official campaigns and propaganda from the Japanese government generally encouraged women to participate in the war effort in a manner in keeping with their "traditional" roles in the family system. For example, after a nationwide scrap collection campaign in July 1938, an *Asahi Shinbun* article, under the sub-heading "The efficacy of men outside, women inside," quoted an official from the Tokyo City General Mobilization Department emphasizing the importance of "each individual serving at the appropriate post." However, not all activities to help the war effort were initiated by the state; women's groups organized their own waste prevention campaigns, some of which did not adhere to traditional gender roles. In the 1938 "finding waste in the streets" event, organized by the Japan Federation of Women's Organizations to contribute to the government's weeklong home-front economic mobilization campaign, hundreds of women went out into the streets of Tokyo, recording any waste they observed. In contrast to the nationwide, government-organized scrap collection campaign, which was lauded by the newspaper, the *Asahi Shinbun* coverage of the event organized by the women's groups was somewhat condescending. This chapter emphasizes that wartime mobilization was largely directed by the state, but in some cases

[11] Parts of Chapter 2 were previously published as "'Uncovering the Waste of the World:' Women and the State in Japanese Wartime Waste Campaigns, 1937-1945," *U.S.–Japan Women's Journal* No. 53 (2018): 27-46.

women organized their own independent waste campaigns, demonstrating that women could be active agents in shaping their roles in the nation-state.

Chapter 3, Household Waste Work, Gender, and National Belonging: Garbage in Tsukuba City**,** focuses on waste, women, and the state in the present day. Waste remains a key point of connection between women and the state today, in the form of mandatory municipal waste separation requirements. Studies have shown that women take on the majority of the household labor necessitated by waste separation requirements (which have been increasing in complexity since in the late 1980s), and local governments reliant on proper household separation for the waste management system to function direct their awareness-raising efforts at women specifically. Today, waste separation is both a mundane part of women's household tasks and an integral part of the contemporary waste management system. This chapter is based on interviews, observations, and documents collected during fieldwork in Tsukuba, Ibaraki from 2014-2016.

Chapter 4, Waste Reduction, Citizenship, and the Housewife Identity: Recycling Volunteers in Tsukuba, examines attitudes and behaviors related to gender and waste among community volunteer recycling organizations, based on interviews and participant observation with two recycling groups in Tsukuba, Ibaraki in 2015 and 2016. Tsukuba Creative Recycle is a non-profit organization based in Tsukuba. Its principal activity is operating a second-hand "recycle shop;" it also donates clothes and other items to those in need in Japan and overseas. The second volunteer recycle organization I worked with, Tsukuba Recycle Market, is a flea-market-style open-air buying and selling event that is currently held four times per year in Tsukuba's Chuo Park. Its goal is to reduce waste by providing an opportunity for ordinary people to sell unwanted items that might otherwise be thrown away. The majority of volunteers who contribute to both groups are women, and most are motivated to participate for social reasons, although many also care deeply about reducing waste. Using these two groups as examples, the chapter focuses on waste-related volunteering as a gendered expression of civic engagement.

Finally, the concluding chapter summarizes the main points of each body chapter and restates the main arguments of the dissertation regarding the relationship between gender, waste, and civic participation in Japan.