Article

How Public Policies Are Implemented: A Comparison of Urban Domestic Waste Classification Policy Implementation Models

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Abstract: (1) Background: Domestic waste classification has become a focal point of urban governance. Existing studies lack inter-case comparisons and ignore the precise path of waste separation policy implementation. (2) Methods: I examined the process of implementing domestic waste separation policies in Shanghai, Tokyo, and Taipei using the Policy Implementation Process Model as an analytical tool. Then, I compared the implementation paths of waste classification policies across cities. (3) Results: I discovered that Shanghai typically uses a mandatory strategy, Tokyo uses a benefit-driven strategy, and Taipei uses an administrative-intervention approach. The government’s mandatory strategy for waste classification policies is heavily reliant on grassroots government mobilization. This mobilization technique, however, does not significantly motivate residents. The benefit-driven strategy encourages pluralistic participation and improves the interaction of various social groups. This strategy, however, must achieve equal cooperation among all participants. The timely exit of the intervention is critical to the effectiveness of the administrative intervention strategy. (4) Conclusions: In analyzing the characteristics of policy implementation, I find that literature is primarily grouped into two perspectives: administrative mobilization and pluralistic participation. This approach appears to imply that these two cannot be harmonized in terms of methodology. I divide the policy implementation process into stages, each of which can be distinguished by administrative mobilization or pluralistic participation. When I consider the entire process, I can see that a given policy implementation process can be characterized by both administrative mobilization and pluralistic participation. My approach allows for the methodological integration of these two key features.

Keywords: urban domestic waste classification policy; policy implementation; policy implementation process model; Shanghai; Tokyo; Taipei

1. Introduction

The pace of urbanization and the increase in urban population have made urban governance more complicated, bringing environmental issues, particularly domestic garbage in cities, to the top of the agenda. In 2016, it is estimated that 214 large- and medium-sized Chinese cities produced more than 188.505 million tons of domestic trash [1]. In this context, the efficacy of waste classification policies play an important role in the acquisition and satisfaction of urban dwellers. As a result, the urban domestic waste classification policy (UDWCP) has evolved into a governance concern linked to both the long-term viability of urban development and the general public’s well-being [2]. The solution to the domestic waste problem has emerged as the key to strengthening urban governance capacity [3].

Scholars have investigated the obstacles encountered in policy implementation using techniques such as the fuzzy-conflict model [4], the policy network [5], the Smith model [6], and the Massa model [7], respectively, to address this issue. While each of these studies provides its own interpretation, they all fail to investigate the process of implementing waste separation policies.
I study domestic waste classification policy implementation strategies in Shanghai, Taipei, and Tokyo and compare them as cross-regional cases using the Policy Implementation Process Model (PIPM) [8] as an analytical tool. These strategies are then classified based on their characteristics in two dimensions: administrative mobilization and pluralistic participation. My findings make the following contributions: First, many works have studied the PIPM or used it as an analytical tool. However, not all of the six factors listed in PIPM are relevant to an implementation process, or at least their significance varies. In this article, the key variables are combined to form specific policy implementation paths. These combinations broaden decision-makers’ toolkits and broaden their strategic options. Second, the existing literature traditionally examines the policy implementation process either from an administrative mobilization perspective or a pluralistic participation perspective. This approach seems to imply that the two perspectives cannot be unified methodologically. I argue that policy implementation can be divided into distinct stages, with some of these stages possibly characterized by administrative mobilization or pluralistic participation. This method attempts to methodically integrate these two critical characteristics.

2. Literature Review

The analytical perspectives of UDWCP can be categorized into two groups: the administrative mobilization perspective and the pluralistic participation approach. The first group examines the work on the implementation of UDWCP, particularly mandated separation policies, concentrates on the function of government in a centralized political system, offering an administrative mobilization perspective. Administrative mobilization is usually enforced by the government through administrative instructions or assignments [9]. It is mandatory, time-sensitive, and unidirectional [10]. Pressure is put on the entire administrative hierarchy for efficient policy execution to occur because political leaders can translate their political objectives into the performance evaluations of their subordinates. To succeed in the appraisal or to receive more resources, subordinators must obey their superiors and rely on administrative directives to mobilize and complete the political responsibilities as assigned by their superiors. Administrative mobilization includes not only mobilization within the state or government system, but also the mobilization of the state or government towards society or the masses [11,12]. The two paths mentioned above are complementary, i.e., how the government unites stakeholders from within and outside the administrative system towards unified action through institutionalized or non-institutionalized means. The latter emphasizes the transition from hierarchical mobilization within the government to multi-line mobilization in society as a whole, emphasizing the government’s implementation of popular mobilization strategies in social movements. In contrast, the former emphasizes mobilization within the governmental hierarchy and the transmission of the authority of centralized politics among the governmental hierarchy.

Local citizens’ participation is required for the implementation of specific policies, resulting in a network of interactions between the government and society that provides a pluralistic participation perspective. Implementing policies in a participatory manner involves all relevant social forces, including the government [13], societal organizations [14], and individuals [9]. This strategy was created to “address the challenges of the old political paradigm of principal-agent mechanisms between citizens and elites” [15] and seeks to increase service quality and public welfare while strengthening the bond between the public and government [16]. To maximize the likelihood of achieving a win–win situation for all, the participatory approach shares many characteristics with governance theory, which emphasizes the dynamic role of multiple agents and the creation of network governance structures between the government and the mass. Participatory policy implementation is, therefore, necessary to ensure both the legitimacy and efficacy of the policy execution. It no longer accepts that the only source of legitimacy is the government, but also acknowledges the validity of civil society. Implementing policies is a new way that democratic administration is realized.
Because of the vast differences between research perspectives, it has been discovered that as the literature on the two perspectives discussed above grows, it becomes increasingly difficult to align their findings. This dilemma makes it difficult to compare the results of various viewpoints with one another and further isolates the relevant studies. However, there are several stages to the process of implementing public policy. Policy implementation is distinguished by pronounced administrative mobilization or pluralistic participation at various stages. From this point, these two characteristics—which at first glance appear to be incompatible—can be really united in the process of policy implementation. The latter part of this paper first introduces PIPM, then uses it as a theoretical tool to analyze the implementation process of waste separation policies in three cities: Shanghai, Tokyo, and Taipei. I conclude by comparing the characteristics of these three policy implementation process models in terms of administrative mobilization and pluralistic participation, and by summarizing the characteristics of each model.

3. Research Methods

Since numerous underlying variables determine how policies are implemented, it is necessary to incorporate theoretical models to concentrate on the key variables. Van Meter and Van Horn proposed a conceptual framework named the Policy Implementation Process Model (PIPM) [8]. This model emphasized measuring and describing “program performance” (why did it happen this way?) rather than “final outcome” (what happened) in explaining the process of policy implementation because the former is a necessary precondition for the latter.

The PIPM outlines six factors that influence implementation results directly. (1) Policy Standards and Objectives (PSO): The indicators evaluate the policy’s level of implementation. (2) Policy Resources (PS): Financial assistance or other forms of inducement that may encourage or facilitate efficient implementation. (3) Inter-organizational Communication and Enforcement Activities (ICEA): Through activities that enable accurate and consistent communication between organizations, ICEAs ensure that standards and policy objectives are communicated accurately and consistently. (4) Implementing Agency Characteristics (CIA): The factors that influence an organization’s ability to implement policy, including the size and competence of its personnel, the degree of hierarchical control over decisions made by subunits, the agency’s potential resources, and so on. (5) Economic, Social, and Political Conditions (ESPC): Environmental elements, such as economic, social, and political conditions, may have a significant impact on how well implementation agencies and policy outcomes perform. (6) Disposition of Implementers (DI): The five components of this model must be filtered through the implementers’ perceptions of their ability and willingness to carry out the policy. In addition, Figure 1 also describes the relationship between these variables. The PIPM is frequently used to examine problems with policy implementation in the areas of urban planning [17], education [18], eradicating poverty [19], renovating dilapidated rural homes [20], intelligent innovation [21], and rural grid management [22]. In Section 5, the figures visually illustrate the relationship between these six variables.

Policy goals or standards and policy resources are identified as the most important variables in this model because they are prerequisites for effective policy implementation. Inter-organizational communication and implementation activities can profoundly influence policy implementers’ intentions, and the economic, social, and political environment faced by policy implementation agencies also have a strong influence on this process. This model’s strength is that it identifies the key factors influencing policy implementation, establishes the link between policy and implementation, explains the relationship between the variables, and seeks an effective solution to common policy implementation problems. Furthermore, public policy implementation generally takes a top-down policy-centered approach, whereas the PIPM is a classic top-down. So, this paper incorporates an extended theoretical analysis framework based on the PIMP and, under its guidance, conducts a comparative analysis of the implementation models of waste separation policies in three major cities: Taipei, China, Tokyo, Japan, and Shanghai, China, in the hope of summarizing
the experiences of successful waste separation policy implementers and exploring the key points of different policy implementation methods.

4. Implementation Modes of UDWCP

4.1. Shanghai Model: Enforcer with Coercive Ability

Shanghai is one of the largest cities in China, and due to its rapid economic development and huge consumption potential, domestic waste generation has significantly increased. Residential garbage volume is still increasing quickly because of economic growth and steadily rising consumption capacity. Domestic trash cannot be handled properly and sustainably using conventional methods, such as open landfilling and incineration. This makes domestic garbage a significant concern in urban governance. Since 2000, Shanghai has been conducting a trial project on the collection and sorting of household waste. Even though the pilot project has been ongoing for 20 years, the previous waste sorting policy’s implementation has had minimal impact. The day of the turning point was 1 July 2019. On that day, Shanghai formally enacted domestic waste management legislation, marking the beginning of the period of an obligatory policy for classifying urban household garbage.

4.1.1. Policy Resources from High-Scale Discourse

Implementing public policy in China is not merely a technical and practical procedure; it also incorporates what is known as “Stressing Politics”, the relationship between the party (the Communist Party of China, or CPC) and the masses. A specific form, signal, or symbol will be used when Stressing Politics is projected into the procedures for developing and enacting public policy. The local authorities can easily perceive and identify all of these. The CPC Central Committee, the State Council, the CPC provincial committees and provincial governments, as well as townships and sub-districts at the local level, all have the authority to issue “red tape”, or the official documents of the Party or the governments, in China. The importance of the policies in the red tape, however, varies according to different administrative levels, and the executor will decide how to put the policies in these documents into practice accordingly.

The Chinese government’s functional departments have made numerous attempts to implement garbage classification policies, but with little success. Until November 2018, Chinese President Xi Jinping stated during his inspection in Shanghai that “Garbage sorting is the new fashion. I am keeping an eye on the situation and hoping that Shanghai handles it well”. This is the first time that a Chinese leader has explicitly stated his expectations for Shanghai’s waste classification. As a response, in January 2019, the Shanghai Domestic Waste Management Regulations (SDWMR) was approved by the Shanghai Municipal People’s Congress. This is the first time in Shanghai that a policy covering the complete process and full cycle management of residential garbage from the source to the end has been implemented. Realizing waste treatment’s ability to reduce, recycle, and be harmless is the goal of this policy. In particular, it has established legally enforceable rules for how inhabitants should classify their garbage, giving the policy’s enforcers the ability to compel compliance. Based on this strategy, many departments of the Shanghai Municipal Government have also created and implemented particular functional regulations. It is under the mobilization of this high-scale discourse that a top-down driving force is created, which mobilizes the executors, effectively promotes the concentration of resources, and consolidates the foundation for the effectiveness of Shanghai’s policy. President Xi’s statement has built a high-scale discourse for the formulation and implementation of Shanghai’s UDWCP.

4.1.2. Special Environment for Publicity

In China, the Party is in charge of the public relations system. The Party’s propaganda organizations at all levels will work with UDWC implementing organizations (primarily sub-district offices and town governments within a city’s jurisdiction). They will use
advertising, conversations, and hearings to encourage cadres and people to accept the new policy. Local media in Shanghai, such as Dragon TV, Liberation Daily, and several more newspapers and TV stations in Shanghai, aggressively collaborated with the national media, such as People’s Daily and China Media Group, to conduct extensive publicity campaigns after the SDWMR was approved [23]. The UDWCP entered the propaganda scene rapidly as a result of the high-scale discourse made by the state leader. Taking Liberation Daily as an example, from 2019 to 2021, there were a total of 144 articles on garbage classification. When Shanghai’s waste classification regulations went into effect in 2019, this newspaper published 111 articles about “garbage sorting”. Large-scale declarations and frequent propaganda help policymakers and implementing organizations come to a consensus, mobilize their enthusiasm and sense of duty, and reinforce their conviction that reform should be started. In such a setting, policy executors’ communication skills have increased, allowing for a swift opening of the window for policy implementation. Additionally, such lobbying stimulates cross-sectional cooperation that may be involved in the execution of policies and directly improves communication quality.

4.1.3. Implementing Agencies with Coercive Ability

First and foremost, the UDWCP implementation is the focus of the performance assessment of all levels of government in Shanghai, including the municipal, sub-district, and town administrations. Shanghai has built a surveillance system for the implementation of this policy to improve the performance of the government after the Regulations were issued in 2019 due to the “Stressing Politics” of this policy. On the one hand, the government has set up a system of accountability to hold individuals accountable who do nothing or act carelessly. On the other hand, the performance evaluation system will take this policy’s impact into account. As a result, the execution of Shanghai’s UDWCP has emerged as one of the key daily tasks for grassroots government personnel under the burden of assessment.

Second, the mandated waste classification regulation gives the implementers some coercive power. Before 2019, Shanghai’s local government employees (such as sub-district officers) lacked the authority to penalize citizens for disobeying the rules. These employees were authorized to enforce the law under the 2019 regulations. For instance, in Shanghai, those who fail to deliver waste in accordance with the designated time, location, and method and refuse to make the necessary modifications will be penalized between 50 and 200 Yuan for individuals and between 500 and 2000 Yuan for organizations. The grassroots staff has created a strong authority in the UDWCP’s implementation as a result of this power.

Additionally, last, in order to put this policy into effect, grassroots staff have created original mobilization techniques. Residents initially opposed the mandated policy in large numbers during the early stages of its implementation due to misinformation. The grassroots staff in Shanghai chose a unique mobilization method as the actual primary implementer of the policy. They prioritize organizing supporters with particular political identities (such as the Party’s members) or social clout (such as civil servants) [24]. As a result, even if the policy audience (community residents) does not yet recognize the policy, the government can mobilize to improve policy implementation and public perception of the policy in the early stages of implementation.

4.1.4. The Effect of Policy Implementation

Although Shanghai’s UDWCP has only recently been put into action, it has had interesting implications for governance and the environment. By 2021, “white pollution” has decreased by 50% and waste in residential areas of Shanghai has decreased by 29% month over month [25], saving hundreds of millions of dollars in investment to benefit the sanitation department. The UDWCP in Shanghai has also grown to be a highly well-known example of waste governance, and its positive experience has been pushed in many cities, elevating Chinese ecological governance to a new level.
4.2. Tokyo Model: Special Policy Resources

One of the first and best cities in the world to implement waste sorting is Tokyo, Japan. Japan has a distinct understanding of rubbish since its domestic resources are few. Garbage is made up of many substances or materials; in this sense, it is a “substance” or “material”, in other words, local resources that have been “misplaced”. Therefore, the garbage classification strategy must establish the idea that rubbish is a resource rather than “waste”. Policies must make wise use of these unique resources. The development of a society that values recycling has benefited greatly from Tokyo’s UDWCP being implemented successfully.

4.2.1. Special Policy Resources

Since the middle of the 1950s, Japan has experienced a fast increase in residential waste generation due to its booming economy and rising standard of living. At that time, Japan collected and dumped domestic waste almost exclusively, which severely contaminated the area around the rubbish dump and gave rise to successive NIMBY movements [26]. Eventually, the protests brought about the infamous “Tokyo Garbage War” [27]. As a result, communities eventually decide to build their own garbage incineration facility and landfill on their own premises. There used to be more than 6000 garbage incineration facilities in Japan. Japan significantly amended its Waste Disposal Law (WDL) in 1991. For the first time, the amended law bans garbage discharge and calls for waste recycling. It is the responsibility of citizens to use recycled goods, sort their garbage, and minimize garbage disposal. Meanwhile, the garbage disposal charge structure has been established. These demonstrate that Japan’s waste treatment has progressed from landfilling to recycling and that the national strategy of “waste recycling” has been implemented. The Tokyo Municipal Government has given implementing agencies special policy resources based on the idea of “converting public goods into private products” in order to better connect waste classification with individual interests.

This responsibility means that Tokyo residents have decreased the overall pressure on the numerous garbage sorting sectors. Tokyo has set highly specific rules on garbage classification to comply with the needs of resource recycling. This requirement is so complex that it can only be completed by experts properly [28]. However, it is necessary to carry out this laborious garbage sorting because the majority of the community-built waste incineration facilities in Japan are tiny in size. As a result, the 1991 revision to Japan’s WDL mandates that local citizens must continue to perform the majority of the work involved in classifying home waste. The government collaborates with experts to create comprehensive guidelines to support residents. The pressure on industries that deal with waste is significantly reduced by this law. The UDWCP can also be properly applied at the start of resource recycling through legislation.

Specific rules are set about how waste is disposed of, which helps the resource recycling industry thrive. The Basic Law for the Promotion of a Recycling Society, the Basic Plan for the New Environment, the Waste Disposal Law, and the Law on the Promotion of the Utilization of Renewable Resources have all been sequentially promulgated in Japan. These policies did everything they could to make the maximization of recycling and trash utilization clear. According to these policies, the order of “inhibition of garbage generation → garbage reuse → garbage recycling → garbage incineration → garbage final safe disposal” must be followed for garbage disposal to maximize the effect of resource recycling [29]. Based on these considerations, Tokyo has developed the Basic Plan for Promoting the Construction of a Recycling Society. The objective of this strategy is to create a “recycling society” [30] in Tokyo by considering the usable portion of waste as a recycling resource from a legal level. The specialization of waste classification and the industrialization of resource recycling have been encouraged by the UDWCP in Japan and Tokyo, and a shift from narrow resource recycling to a larger one has been pushed.
4.2.2. Responses from Different Actors

Two key actors are involved in the implementation of Tokyo’s UDWCP: residents and industries. They reacted to Japan and Tokyo’s policies in various ways. First of all, residents perform waste separation work, which undoubtedly increases their burden and reduces their well-being and must be compensated. In Japan, residents are primarily responsible for sorting household waste. This constant work consumes a lot of time and energy, which lowers people’s happiness. For instance, in Yokohama, a small city in Japan, the garbage classification handbook published by the government includes 27 pages and lists up to 518 items. For effective operation, residents must read the manual frequently and get quite familiar with it, which will surely cause inconvenience in their daily life. In this sense, adopting the UDWCP in Japan has a significant social cost because it strongly influences labor expenses for society as a whole and resident pleasure. Although households are required to pay for the domestic waste recycling system, it is divided into three types: metered charge systems, quantitative free systems, and fixed charging systems. A subsidized payment system is one of them that stems from the quantitative free system. According to this way of charging, the government will provide equal subsidies to homeowners whose domestic waste emissions fall short of the cap based on the quantitative free system. This somewhat offsets households’ societal costs when deploying the UDWCP.

Second, the development of the circular economy and the prosperity of all types of resource recycling businesses are made possible by government subsidies. Although homeowners classify domestic waste in Japan, professional businesses run the recycling system and the resource recycling’s harmless treatment system. These businesses have grown quickly with the assistance of the Japanese government, developing the Japanese recycling industry system. For instance, the Japanese government approved a resolution in 2005 to create a comprehensive intravenous logistics base port to support the development of a reverse logistics system. The goal of this government-funded project is to find a solution to the issue of resource and energy waste brought on by the transportation of a significant volume of trash and renewable resources over medium and long distances. Japan has built a recycling system for building trash, food waste, used home appliances, used autos, packaging containers, etc. in terms of safe treatment. Construction demolition or engineering companies are required to recycle construction trash. Relevant food businesses must recycle food waste. Fifteen businesses, including Sony, Hitachi, Sharp, Sanyo, Mitsubishi Electric, Mitsui & Co., Ltd. (Tokyo, Japan), and Fujitsu, sell used household appliances. The majority of them are the ones who make these goods. These businesses are equipped with cutting-edge technology that is conversant with the components of these products. As a result, there is a high rate of resource recycling. Japan’s waste treatment business has thrived as a result of tax breaks and government subsidies, fervently supporting the success of the circular economy. In Japan, roughly 530,000 individuals were working in the circular economy in 2000, and the market was worth about 30 trillion yen. By 2007, these numbers will be 650,000 and 38 trillion, respectively [31].

4.2.3. The Effect of Policy Implementation

When Japan began implementing its UDWCP, it advocated for “garbage is a misplaced resource”. With the help of the government, businesses, and residents, less than 20% of Tokyo’s domestic waste need to be incinerated and landfilled [31]. Furthermore, the moisture content of domestic waste continues to fall while the calorific value rises significantly.

4.3. Taipei Model: Interaction between Institutions and Actors

Although Taiwan’s rubbish classification legislation predates that of many Chinese provinces, the policy’s execution is ineffective. Due to the lack of effective involvement, the early waste sorting program in Taipei was only partially carried out, and neither the public nor the government understood the significance of this policy. Taipei’s authorities
have established a government intervention plan to assure the execution of its UDWCP to change this scenario.

4.3.1. Clear Policy Standards

The Waste Cleanup Law (WCL), which Taiwan first adopted in 1974, represents the official adoption of Taiwan’s garbage disposal policy. The WCL primarily establishes the rules for waste classification policy. First of all, who carries out the policy? This policy had gone through nine changes by 2006 and is now essentially finished. Residents sort the waste dumped by households, and the Environmental Protection Bureau (EPB) primarily recycles, clears, and treats this waste. Cleanup is the responsibility of government organizations. Secondly, how should the policy be put into effect? EPB mandates that garbage trucks follow established routes and that households dispose of their trash at designated times (originally two days a week, but rose to five days after 2003) and sites (designated parking collection points). Residents who dispose of trash at unspecified times may be fined at least NT$1200. Finally, how should garbage be handled? Garbage trucks collect and transport general garbage which is then disposed of at an incineration plant. EPB sells recyclables to recyclers, who then sell them to recycling factories for profit. EPB collects kitchen waste and composts it or turns it into animal feed for reuse. Citizens can make a telephone appointment for free collection and transportation of large waste, such as used furniture, and EPB will sell it to a dismantling and recycling plant, or repair it and auction it to citizens for reuse.

4.3.2. Benefits from Policy Resources

The government creates a public fund for resource recycling. Manufacturers and importers must pay recycling fees based on their business volume, while consumers also need to pay disposal fees. Individuals and businesses who fail to comply with the WCL will be fined more than NT $6000 [32]. The fees mentioned above are the primary source of the public fund, which is used for administrative costs and incentives for recycling industries. Additionally, then, the Taipei government enacted legislation to establish a fixed expenditure for waste classification. This fixed cost is primarily associated with waste sorting and transportation. For example, Taiwan issues special garbage bags of varying capacities to make it easier for households to pay the disposal fee. Because the cost of special garbage bags is higher than that of ordinary bags, the Taipei government eventually purchases and distributes them uniformly. In addition, the government funds the operation of some waste recycling and transportation lines in remote areas. Third, Taipei mobilized market resources. Market mobilization is primarily reflected in the evaluation of the waste recycling fund. The fund entrusts a third-party institution with assessing the recycling of each unit and determining the appropriate subsidies.

4.3.3. Interaction between Institutions and Actors

Several rounds of interaction between the government and actors occurred during the implementation of Taipei’s UDWCP, which ultimately aided policy revision. The first interaction is between policymakers and community actors. Many Taipei communities have established resource recycling stations to facilitate the collection of household waste. Simultaneously, residents of the community were directed to form a volunteer team. They educate residents about garbage sorting and set up patrols to monitor residents’ garbage sorting behavior. However, due to a lack of funds, the role of these volunteer teams was limited at first, and the personnel structure was also unstable. Economic benefits from garbage sorting are owned by the community and used to support public projects in Taipei’s 2006 version of WCL. Community volunteer groups have become more stable and professional as a result of these funds, and the community has become an important force in promoting UDWCP. Furthermore, there is an interaction between policy and industry. Although the unified cleaning and transportation of garbage have solved the problem of a dirty and messy environment, the charge method is “levied with water”, which means that
residents must charge NT $4 for every ton of tap water they use [33]. This type of charging method, however, does not fully reflect the actual cost. People have a negative perception of garbage fees because the cost is so low. Meanwhile, due to the low fees, the government’s subsidies to various waste recycling enterprises are severely insufficient. Taipei issued the Autonomous Regulations on Domestic Waste Removal and Treatment Fees in 2000. This regulation made the “levied with bag” charge method mandatory. Household garbage must be packed in special bags and charged according to the capacity of the garbage bags. It truly embodies the fair principle of “less waste and less payment, careful sorting and cost savings” [34].

4.3.4. Implementing Agencies Response

With the support of the government, the community has played a positive role in promoting the implementation of UDWCP. The community awareness of environmental protection has been established through publicity, training, and supervision by volunteers, and garbage classification has become a conscious behavior. With the participation of professional knowledge, community garbage classification behavior is more standardized, which promotes the recycling and reuse of resources. Professional companies are more proactive in carrying out resource recycling to receive more recycling fund subsidies from the government. Individuals take charge of garbage collection. Individuals, for example, can collect garbage from communities before garbage trucks arrive, or set up recycling collection points at business sites. Some businesses compensate customers for recycling. Publishing companies, for example, encourage consumers to exchange resources for books, and the public to exchange waste batteries, lamps, or other polluting items for books. Consumers can also provide recycling resources to recycling companies in exchange for cash rewards. Some retailers, for example, will offer incentives to customers who return used plastic bottles.

4.3.5. The Effect of Policy Implementation

The volume of garbage removal and transportation in Taipei decreased after 2002. It remained at a low level for a long time, while the total amount of resource recycling increased. In Taipei, total resource recycling has surpassed total garbage removal since 2009 [35]. The load on Taipei’s incinerators decreased significantly after its UDWCP.

5. Discussion

5.1. Mandatory Implementation Path

Most previous waste classification policies in Shanghai were advocacy-based, resulting in ineffective results. Shanghai’s UDWCP has strong political appeal due to high-scale discourse. With the promotion of “Stressing Politics”, SDWMR is a mandatory law rather than a governmental regulation [36–38]. It defines the obligations of companies, families, and individuals in addition to determining the category of domestic waste. They must sort and dispose of their waste by the policy. According to UDWCP, government agencies must set an example in waste sorting. Meanwhile, this policy empowers enforcers to levy penalties for violations.

In Shanghai, the UDWCP implementation model is a mandatory path for enforcers with coercive power. As shown in Figure 1, UDWCP’s “Stressing Politics” mobilizes high-scale discourse, resulting in its implementation effect becoming an important indicator of grass-roots government performance. Meanwhile, the propaganda machine effectively publicizes the waste classification policy. When this policy was developed in Shanghai, the enforcer was given greater authority to enforce it. As a result, grassroots government employees in Shanghai now have the authority to impose this punitive measure, increasing the effectiveness of the UDWCP’s mandatory application.
The Tokyo model illustrates that the interest-driven path shapes rational actors and that interest-based governance logic lasts longer than government-mandated logic. However, because “exogenous induction” does not always result in the “internal” identity of residents, it may also result in poor policy implementation as a result of “market failure” [40].

5.2. Interest-Driven Implementation Path

When Tokyo was planning to solve the waste classification problem, it did not intend to build waste incineration plants and landfills in the suburbs far from the core urban area, because this would externalize the problem of urban domestic waste. Residents who produced the waste will be excluded from the garbage disposal system in this case, leading them to believe that this is unrelated to them. On the contrary, Tokyo has built these plants in the city center; giving residents the impression that garbage disposal is inextricably linked to them. This has become a principle for Tokyo in order to solve the garbage disposal problem, namely that the community must actively participate in it. The more waste they generate, the more incineration plants are built in their communities, and the (economic, physical, and mental) consequences are ultimately borne by them. So, Tokyo residents and businesses can actively participate in the implementation of the waste classification policy because it affects their own interests.

In Tokyo, the UDWCP implementation model follows an interest-driven path. As illustrated in Figure 2, the government has made detailed regulations on “who will do it”, “what to do”, and “how to do it” for waste classification, so that implementers can always get detailed help from various guidelines. Residents are the first to implement the policy because they generate household waste. Despite paying a high social cost, they received some economic compensation. Japan’s resource recycling industry is thriving as a result of the policy’s requirement for professionalism and specificity. This, in turn, has promoted more professional waste classification policy implementation.

The mandatory path gives the authorities the ability to punish offenders, which promotes public awareness and has a good policy impact. However, it will result in “government failure” [39] because of information asymmetry and other issues. Furthermore, it is probably going to make good policies into bad ones because of its coercion.

Figure 1. Mandatory path of implementing model of UDWCP in Shanghai.

Figure 2. Interest-driven path of implementing model of UDWCP in Tokyo.
5.3. Administrative Intervention Path

The role of the government in the implementation of Taipei’s UDWCP is critical. Due to a lack of government regulation in previous policies, the market took a free-riding approach based on the consideration of maximizing their own interests, and society could not form a good order. Government intervention is not only effective but also reasonable and legal in this case. The difficulties faced by Taipei, as well as the effects of government intervention, determine that the government will inevitably play a decisive role in waste treatment. After going through the enforcement process, the task of raising citizens’ awareness of waste classification was essentially completed. At this point, the UDWCP implementation process in Taipei has shifted from “strong intervention” to “weak intervention” from the government.

The UDWCP implementation paradigm in Taipei is a path for administrative intervention. As illustrated in Figure 3, WCL has established strict guidelines that require communities to form volunteer groups to promote household waste sorting, recycling, and pretreatment. The public funds support community cleaning teams, recyclers, and local governments to strictly enforce the policies. The government has had numerous interactions with communities and recyclers, clarifying the main responsibilities and operational framework of waste classification and recycling. The government coordinates the collection and transportation, residents do an excellent job of sorting waste, and recyclers are in charge of resource recovery. The three collaborate, and a complete processing system is made up of the community, the government, and the company. As part of the government’s appropriate intervention strategy, the Taipei UDWCP has been well recognized and responded to by industry and society.

![Figure 3. Administrative-intervention path of implementing model of UDWCP in Taipei.](image)

Residents’ automatic waste classification without strong government intervention is extremely rare during the implementation policy. Strong government intervention is an unavoidable logic, especially when waste production and disposal are no longer a personal issue but a serious public issue. However, the purpose of the government’s strong intervention is to cultivate residents’ awareness of waste classification. After this mission is completed, the government should wisely reduce its influence on UDWCP implementation.

5.4. Characteristics of Different Policy Implementation Paths

Varied policy implementation paths have different features in the two dimensions of administrative mobilization and pluralistic participation in the cases of Shanghai, Tokyo, and Taipei. In this paper, both administrative mobilization and pluralistic participation are divided into strong and weak levels, and three policy implementation path models are obtained: strong mobilization–weak participation, weak mobilization–strong participation, and strong mobilization–strong participation. Diverse models lead to different strategic decisions.

Strong mobilization–strong participation model (Taiwan model). When the grassroots government has strong administrative control and the members in its jurisdiction
have strong ties, it can strengthen administrative mobilization while promoting social participation. In this way, it can effectively decompose governance tasks and integrate resources from all parties, thus improving the effectiveness of multi-organism participation in governance.

Strong mobilization-weak participation model (Shanghai model). When the community members lack policy recognition but the grassroots government has significant administrative authority, the government must improve policy implementation in order to gradually build public policy acceptance by bolstering administrative mobilization. Prioritizing the mobilization of individuals with certain political identities or social influence and using them to engage the wider public to achieve performance goals is the government’s effective strategy to mobilizing the grassroots.

Weak mobilization-strong participation model (Tokyo model). When communities under the jurisdiction of the grassroots government have a strong foundation of self-governance or a stable organizational network, and local residents have both the desire and the ability to participate, the government can relax its grip and encourage more social forces to participate in the governance process. Policy implementers must fully exploit social organizations’ mobilization and networking capabilities, utilizing existing social networks to popularize policy requirements and policy goals to community members.

6. Conclusions

Although some cities have gained extensive experience, there are differences in the implementation progress and waste sorting implementation methods among cities. Nonetheless, the development of UDWCP has been a failure, and there are many parallels in the barriers that cities face when implementing policies. The PIPM-based analytical framework provides appropriate explanatory logic for clarifying these underlying factors and understanding the resulting policy–performance bias.

The mandatory path of waste separation policies depends on the involvement of local governments at all levels. To shatter the “ritual performance” [41,42], a mobilization mechanism must be established by the community spontaneously because this mobilization mechanism is unable to significantly rouse residents’ motivation. The foundation of this system is made up of neighborhood associations, volunteer groups, and eager, skilled locals who can efficiently create and widen social networks. This self-governance-based mobilization tool can quickly engage other non-governmental organizations in the process of enacting policy and encourage regular citizens to do the same. The interest-driven implementation strategy encourages pluralistic participation. Not only are people’s connections strengthened, but communities are also organized in their participation in social governance affairs, realizing the collaboration of multiple actors on equal terms in social governance.

Finally, “waste separation is a systemic project that necessitates the participation of the entire society” [43]. Whatever method of policy implementation is used, administrative mobilization and pluralistic participation must be balanced. Administrative mobilization can activate the public’s initiative and motivation, whereas pluralistic participation can create an interactive network among multiple subjects.

Implementing a waste classification policy is not only government management but also important social governance. The effectiveness of policy implementation must be evaluated from the standpoint of society as a whole. Policy implementation’s institutional and social environmental factors are difficult to change over time. However, my findings show that even with clear policy goals and standards and adequate policy resources, the success of policy implementation is primarily dependent on the agency’s understanding and effective communication of policy goals, the agency’s power, and the administrative capacity of the implementing staff.

The main battlefield of UDWCP is the community. As the policy’s executor, the community’s core functions include policy publicity, hardware facility configuration, and guiding residents’ behavior. However, community workers are responsible for a wide range of tasks that are both complicated and mundane, and a lack of funding makes it
difficult to attract talent. If they are not provided with legal resources, their position is relatively weak, and it is difficult to make a difference in the waste classification policy’s implementation.

The primary goal of waste classification policies is to improve the habits of residents. It is difficult to change the behavior of residents in a short period of time. This goal becomes even more difficult if they rely solely on the community. An effective approach is for the community to collaborate with government agencies, property management companies, non-profit organizations, and residents to form a co-governing structure. In this way, one can gradually foster the habit of garbage sorting while also increasing confidence and motivation for policy implementation.

Advocacy tools are not always effective in the early stages of policy implementation. To pique residents’ interest during the pilot stage, incentives such as free garbage bags and gift awards were used. However, these tools are extremely expensive to maintain in the long run. Their incentive effect is also limited, making genuine behavioral improvement among residents difficult. As a result, in the early stages of policy implementation, coercive measures such as fines must be used until conscious habits are formed.

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References


