Leadership and City Waste Policy: A Case Study of Waste Management in Depok City, West Java Province, 2014–2017

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Abstract

This article aims to ascertain the role of a local leader in the transformation of waste management in Depok City, West Java, between 2014 and 2017. In 2005, Depok was identified as one of the dirtiest cities in Indonesia; by 2017, it had successfully transformed itself and received the Adipura Award for Indonesia's cleanest city. Based on qualitative fieldwork, we argue that Depok's waste management was transformed through a series of policies made by the mayor in conjunction with the Government of Depok City between 2006 and 2016. The example of Depok shows that formal leadership plays an important role in encouraging the emergence of innovative policies to address public problems. In this case, the vision of the leader was translated into policy and implemented by bureaucratic institutions, thereby driving important changes in the region. Further contributing factors included credibility, protection from opposition, and access to resources. We also emphasize the importance of leadership in giving direct examples to local communities on how we understand waste; how we reduce, reuse, recycle, and participate. The leader's ability to consolidate his ideas within the broader community, as well as his commitment to sustainable change, become the main driver of his policy performance.

Keywords: *city waste; leader; leadership; policy performance*

Introduction

This article focuses on the transformational role of a local leader in managing waste problems in Depok, West Java, Indonesia. Within the context of decentralization, Depok transformed itself from one of Indonesia's dirtiest cities into one of the cleanest. The success even earned the city national recognition for being the cleanest and the best environmental management city in 2017.

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This article seeks to show that, despite the various challenges faced by the local autonomous government in overcoming its waste management problems, Depok succeeded in showing that decentralization provides local leaders with space for innovation. Local leaders' ability to utilize resources at the local level and accommodate environmental civil society interests was key aspects to solving the city's waste management problems.

The issue of waste management was chosen for several reasons; *first*, although authority over waste management has been delegated to local authorities, these authorities have acted variously in carrying out this responsibility. *Second*, despite being a form of public service like education and health, waste management is considered an unpopular issue with which the public has limited awareness. Thus, for waste management to be a common concern, it was necessary to raise community awareness of the issue. *Third*, waste issues tend to grow along with the population, and overcoming these issues—such as by identifying renewable approaches to waste management—requires effort from various parties (Kerstens et al., 2016a).

In Indonesia, discussing the management of urban waste is important for several reasons. First is population growth. In 2017, 55.2% of Indonesia's population lived in urban areas, with an average growth of 1.31% per annum (World Atlas Forum, 2018). Second, population growth is inexorably linked with waste generation. In 2014, Indonesia produced 175–176 thousand tonnes of waste a day (Wibowo, 2016); local governments only had the capacity to handle 40–60% of this waste (Dethier, 2017: 75). The mismanagement of waste can cause serious environmental damage, which in turn will threaten the health of urban communities.

Pursuant to Law No. 23 of 44 on Regional Government and Law No. 18 of 2008 on Waste Management, and following the tenets of decentralisation and local autonomy, local governments have the authority to handle waste issues within their territory through the Office of Public Works and Spatial Planning and the Office of Environmental Affairs. As such, every region (regency/city or province) in Indonesia has a role in and responsibility to manage waste. This includes household waste, waste similar to household waste (i.e. waste originating from commercial areas, social facilities, or public facilities), and specific (hazardous) waste. This article focuses on the management of household waste, which we argue, requires greater societal involvement. The fact that every city in Indonesia has an equal role and responsibility in managing waste does not mean that all regions have achieved the same results; only 50% of local governments have shown themselves capable of handling waste problems (Dethier, 2017).

Local governments' inability to manage waste issues has been attributed to "the lack of infrastructure and low environmental awareness" (Concord Consulting, 2015: 29) as well as budget limitations and the absence of experienced workers (Dethier, 2017: 83). However, some local governments have successfully managed waste issues; one of these is the City Government of Depok. Identified as Indonesia's dirtiest city back in 2005, Depok

received its first Adipura Award in 2017.[4] Since 2014, the City Government of Depok has issued various policies on waste management. One of these was household-level waste sorting, which not only educated communities on the importance of sorting waste but also showed the government's commitment to building Waste Banks in approximately 500 districts in the City of Depok. This policy encouraged citizens to change their mindset, from viewing waste as a problem to viewing waste as a resource with economic value, and underscored the importance of proper waste management. None of these could be realised without good leadership and the active participation of the communities. The city's waste management not only led to national acknowledgement, but also resulted in Idris Abdul Shomad—the Mayor of Depok, 2016–2021—being named Innovative Mayor of Indonesia by the MNC Group ("Dua Penghargaan Bergengsi Untuk Kota Depok," 2018). The reasons for Depok's success managing its waste, thus, requires further exploration.

Literature Review

A handful of articles have focused on the importance of leadership in the innovation of public service in Indonesia. Luebke (2007) argues that, within the context of local policies, the variable of local leadership is more significant than societal pressure. Luebke conducted his research using surveys and in-depth interviews, conducting multivariate regression with data from 200 districts to see the effects of societal pressure for good governance and government leadership in creating regional policies that support business climate (Luebke, 2007). Luebke found that government leadership played a more significant role in creating business-friendly policies. Local leaders have the capacity to drive change in coalitions and oversee the bureaucratic apparatus. These studies show that the leadership dimension plays a very strong role in bringing about and implementing innovative and sustainable ideas (Luebke, 2007).

However, several studies show that, where governments lack the capacity to handle waste, informal actors have room to thrive. One study conducted in Badung Regency, Bali (Bruce & Storey, 2010) showed that government waste services were not optimal, especially when serving the lower-class members of society. Consequently, informal waste "services" (managed by scavenger networks) rapidly emerged and reduced demand for governmental waste services (Bruce & Storey, 2010). Informal agents' waste management activities in Badung Regency were seen as more efficient, sustainable, and practical, especially because it was supported by the economic value of the waste itself. In general, Bruce and Storey (2010) highlight the importance of informal agent networks in the provision of waste services, as relying solely on the government to solve such problems could only further display its dysfunction. Similar arguments come from Nas and Jaffe (2004), who show that informal agents play a major role in waste management in many developing countries (including Indonesia).

[4] The Adipura Award is granted by the Ministry of Environment and Forestry of the Republic of Indonesia to Indonesian districts or cities that have successfully maintained cleanliness and managed their urban environment.

As governments lack the capacity for waste management, these informal agents are considered potential government partners for handling waste (Nas & Jaffe, 2004).

Sopha and Haryoto (2016) also highlight governments' minimum capacity for waste management. Based on their research in Yogyakarta City, waste management conducted by the government has been unable to optimally manage its waste collection points (Sopha & Haryoto, 2016). Supriyanto (2016) also discusses the condition and position of government institutions in waste management in Bantar Gebang, Bekasi (Supriyanto, 2016). Several regions have cooperated with the Bekasi government by providing waste disposal sites in several regions. However, this cooperation has been ineffective due to weak institutional structures, uncertain functions, limited coordination, and unstructured duties and roles (Supriyanto, 2016). Others emphasise the weakness of the technical and financial aspects that influence the government's waste management and sanitation policies (Kerstens et al., 2015; 2016b). It is important to involve various stakeholders and non-technical factors when it comes to an increasing quantity of waste (Zurbrügg et al., 2012).

How leaders collect resources, mobilise agents, and consolidate their interests within the context of waste management is the focus of this article. The government of Depok's policy is interesting for further study, especially in matters of leadership. Participatory waste management policies require leaders who can move and inspire society. These policies need to be studied in relation to how leaders push their policy agendas while simultaneously guiding their implementation. Using the framework offered by Smith (2007), four leadership variables will be reviewed in this article: development of vision, utilisation of credibility, protection from opposing parties/lack of support, as well as the use of leaders' access to support the proposed changes.

Apart from those four variables, in her research in Mexico, Grindle (2007) found that four factors determine regional governments' ability to carry out their responsibilities effectively and efficiently: public leadership (political leaders' capacity when mobilizing resources), healthy and balanced competition in public elections, capacity of the bureaucratic apparatus, and civil society participation. Considering political leaders' capacity as an important factor in relation to their capacity to develop new ideas (innovations), the ability to drive regional resources to implement ideas, create coalitions between various actors, and choose strategic policies to achieve new policy agendas even in situations that are not beneficial for the development of these new ideas (Grindle, 2007). From the four factors identified by Grindle, public leadership is one of the strongest factors determining the success of decentralisation, mainly as related to the emergence and development of ideas/innovations and the capacity and efforts that support the realisation of these innovations.

Using Grindle's (2007) framework, three variables outside of leadership will provide the context in this article: competition in local elections, the bureaucratic apparatus' capacity in implementing policy, and the participation of civil society. These three variables will

contextualize the social and political arena, which will either support or hinder the policy agenda proposed by the political leader. While taking into account non-leadership variables, however, the leader nonetheless plays an important role in consolidating various actors with heterogeneous interests to ensure the success of the policy.

Methods

This research employs the qualitative method using a case study. This study limits itself to the waste management policy of the City of Depok between 2014 and 2018. This scope is marked by the passage of Local Regulation No. 5 of 2014, which formally signified the implementation of a more institutionalized waste management policy while simultaneously showing the legislature's support for this legal product. Data were collected through a desk study and in-depth interviews. Through desk study, this research explored the regulations of the local government (including the Mid-Term Local Development Government Plan), online mass media articles, journal articles related to the topic, and relevant books. Supplemental data were collected through interviews with key informants from the local government, as well as the former Mayor of Depok City, local journalists, academics, and community activists.

Results

Population Growth and Waste Issues in Depok City

Due to its proximity to the national capital, the development of Depok is closely related to the development in Jakarta. Consequently, Depok is involved heavily in Jakarta's issues. In 1999, Depok emerged as a new node in the Greater Jakarta Region (popularly known as Jabodetabek), along with Jakarta, Bogor, Tangerang, and Bekasi. Each of these cities is inexorably tied, and all share similar problems: overpopulation, congestion, settlement problems, and waste. The explosive growth of Jakarta has turned Depok into a residential space for those who work in Jakarta.

Depok is an area with several fundamental characteristics. *First*, Depok is torn between Jakarta and West Java. It is a suburban area, functioning as a dormitory town for Jakarta while simultaneously existing as an independent city in West Java. *Second*, Depok is part of the Jabodetabek Region, and the city thus helps solve Jakarta's problems—waste management, transportation, and other public facilities. *Third*, and related to the second point, Depok has seen rapid population growth, and this in turn has increased the amount of household waste produced.

Depok was made an independent city in 1999 through Law No. 15 of 1999 in accordance with a proposal by the governments of Bogor District and West Java Province. This was deemed necessary to improve services in this area, including strengthening its position as the capital city's buffer zone. However, development was relatively slow, as the government was more concerned with administrative matters than infrastructure (Irsyam, 2015). As such, Depok had a hard time becoming a centre for growth, becoming more of a dormitory town instead (Irsyam, 2015).

After Depok became an independent city, its population growth was extremely high. Within a period of ten years, between 2000 and 2010, the city's population increased by 66.84%. According to the 2000 census, Depok was home to 1,160,791 people; by the 2010 census, the population had reached 1,736,565. Although Depok—which covers an area of only 200.29 km^2—was designed for a population of no more than 800,000 people (Sumandoyo, 2018), it is predicted that Depok would become Indonesia's second-most crowded city (after Jakarta) by 2045.

Depok's population density has led to other problems, such as congestion, settlements, and especially increased waste volume. For example, in 2004, Depok produced 3,376 m^3 of waste every day (Suryanto & Widjadjakusuma, 2005: 45); this had increased to 4,617 m^3/day by 2010. It is projected that, by 2025, Depok will produce 7,126 m^3 of waste every day (RPJP Kota Depok, 2006–2025). Waste management was sub-optimal, and the Cipayung Landfill—owned by the Depok Municipal Government—was overfilled. In 2005, Depok was thus named one of Indonesia's dirtiest cities (DetikNews, 2005). Sub-optimal management of the Cipayung landfill caused conflict between the government and the surrounding community.

Residents of Cipayung were among the most active in voicing their concerns regarding the city's poor waste management; this is quite understandable, as they were the ones who were directly affected by the unhealthy environment caused by the accumulation of waste. In 2008, residents of the Cipayung Park Complex, Sukmajaya, Depok, seized the waste management location. Developed by the city with the hope of earning an Adipura Award, the construction—which was done on a water-catchment area—resulted in flooding in the rainy season as well as foul odours that affected residents' health (Liputan6, 2008).

Waste Management Policy in Depok City, 2005–2017

Within a decade of being named one of Indonesia's dirtiest cities, Depok had managed to transform itself into a pilot city for a waste management and sorting programme (Suara Pembaruan, 2015; Kompas, 2017) per Depok Bylaw No. 5 of 2014 on Waste Management. It was also through this programme that Depok received an Adipura Certificate twice, in 2013 and 2015. The peak of its success was realised in 2017, when Depok received the Adipura Award for the first time (SindoNews 2017).

The waste sorting programme was one of the leading programmes implemented by Nur Mahmudi Ismail, Depok's two-term mayor (2006–2011, 2011–2016), of the Prosperous Justice Party (Partai Keadilan Sejahtera, PKS). He developed this policy in response to Depok's identification as one of Indonesia's dirtiest cities in 2005, a year before his election (*Jakarta Bisnis*, 2015). This policy was continued by Mohammad Idris, who was elected Mayor of Depok for the 2016–2021 term. Having previously served as deputy mayor under Ismail, Idris persistently promoted his "Zero-Waste City"—a slogan referring to the local government's ability to manage 100% of waste. This slogan has been controversial, as despite its successes, as by 2016 Depok was only able to manage 56.22% of the

1,286 tonnes of waste produced every day (Paramita, Murtilaksono & Manuwoto 2018: 108).

Although Depok received its Adipura Award under the leadership of Idris, it cannot be denied that Ismail played a significant role in the city's receipt of the award. Indeed, assessments for the 2017 Adipura Award were carried out the previous year, during Ismail's leadership.

Depok's efforts to reform its waste management system began during Ismail's first term. Ismail, who had an educational background in the food sector, tried to reform the waste management system, which had long relied solely on landfills (final disposal sites) and open dumping practices. Such practices had many negative implications, considering the limited area available for the increasing volume of waste. It was exacerbated by the unaccommodating waste management system. Waste should have been processed using a sanitary landfill system, instead of simply dumped at a final disposal site (landfill). As a result, foul odours were inevitable in surrounding communities, as were illnesses such as respiratory infections (*Suara Pembaruan*, 2006; Pokja AMPL 2006a). In response, the Ministry of Environmental Affairs sent a letter to the Depok Municipal Government in May 2006 urging the closure of the Cipayung final disposal site by 2007; it could only be extended if management was improved (*Suara Pembaruan* 2006; Pokja AMPL 2006a).

In response to this letter, NMI and the Depok Municipal Government developed a policy that aimed to change the dominant waste management paradigm, abandoning open dumping in favour of a 3R+P paradigm; reduce, reuse, recycle, participate (RPJMD Kota Depok 2006–2001: 78). This approach sought to reduce and resolve waste problems at the source: the household level. This was expected to not only reduce the volume of waste entering the landfill, but also to facilitate the reuse and recycling of waste into products such as compost, briskets, and electric energy (RPJMD Kota Depok 2006–2011: 78); none of these could be done without active community participation.

In 2006, NMI developed the Integrated Waste Processing and Management System (Sistem Pengolahan dan Pengelolaan Sampah Terpadu, SIPESAT), which was introduced through waste management units in various residential and industrial areas, as well as markets and other public areas. Five years were allocated for its initial implementation, with as many as ten to fifteen waste management units being added every year (RPJMD Kota Depok, 2006–2011: p. 78 & 84).

Three approaches were designed for the implementation of SIPESAT (Kompas 2006; Pokja AMPL 2006b). *First*, reducing the volume of waste entering Cipayung and other final disposal sites (landfills). *Second*, changing earlier mindsets regarding waste management, which involved several stages: pile, transport, dump, process, value. As part of this approach, local government established waste processing units (thereafter, WPUs) to handle organic waste within residential and industrial areas as well as markets and other public areas. In those WPUs, local government local government will process organic waste into compost. *Third*, at the community level, an approach known as "waste sorting" was implemented. This was considered the most important phase of

the waste management process, as communities must be aware of the importance of sorting waste and actively participating on the household level.

Regarding the second approach, the establishment of WPUs began in 2008–2009, during which time five or six WPUs were established. In the beginning, waste sorting was still conducted on the spot, and thus more time was needed to recycle inorganic waste and compost organic waste. This began to change in 2013, thanks to cooperation between the Depok Municipal Government and the Japanese International Cooperation Agency, which brought environmental activists and administrators to conduct a comparative study of waste sorting in Osaka, Japan (Hermansyah, personal communication, July 27, 2018). As a result, in 2013, the waste sorting programme began to be implemented in many households.

To strengthen the formal and legal aspects of this policy, Local Regulation No. 5 of 2014 regarding Waste Management was issued. This regulation reinforced government efforts to reduce the volume of waste that entered the final disposal site through waste sorting by identifying the specific types of waste to be sorted at the household level. With community participation, the amount of waste entering the Cipayung disposal site could be reduced by ensuring that other waste was sent to WPUs and waste banks.

While organic waste is sent to WPUs, non-organic waste with economic value is sent to waste banks (Depok Municipal Government, January 2016). However, unlike WPUs (which are managed by the government), waste banks are mostly managed by the private sector—including local communities and private organisations/foundations. Interestingly, the establishment of waste banks in Depok has been used primarily to symbolize the success of government involvement and participation in sorting the waste. Between 2012 and 2016, approximately 450–500 waste units were established, with an average of six staff per unit. However, only 75% were claimed to be active (Hermansyah, personal communication, July 27, 2018; Supariyono, personal communication, July 27, 2018).

Village waste banks are all under the coordination of the Main Waste Banks, which are located in each sub-district. Under the leadership of Ismail, 360 waste banks were active, with a combined capacity of approximately 2–3 tonnes per day. These waste banks were spread throughout seven of the eleven sub-districts in Depok: Sukmajaya, Beji, Cimanggis, Tapos, Cipayung, Cilodong, and Sawangan (Housing-estate 2018). From waste, each Main Waste Bank can earn approximately 300 million rupiahs in profit per month (Hermansyah, 2018). Main Waste Banks are provided transport facilities by the City Government, with supplemental funding from corporations (through corporate social responsibility, or CSR), foundations, and private citizens (Hermansyah, personal communication, July 27, 2018; Housing-estate, 2018).

Cooperation between the municipal government, corporations, and waste management foundations in Depok began in late 2013, when Shell—through its SUPEL (Shell for Environmental Conservation) programme—cooperated with the Semai Karakter Bangsa Foundation to support the establishment of waste banks. It provided operational assistance in the form of garbage trucks, digital scales, computers,

workshops, and other infrastructure facilities (Wulandari, 2013).

We found that the city government never took part in waste management activities. Local leaders' interests in these waste banks often became evident only at the end of their terms, when waste banks were used as campaign objects—as seen in the 2014 legislative election (Hermansyah, 2018). This can be seen from the fact that, of the 2,000 waste banks expected to be established in 2014, fewer than 25 per cent had been completed by the end of Ismail's second term in 2016.

The problem was not merely the availability of waste banks, but also the failure of socializing the importance of waste sorting within the local community. The lack of a market, thus, limited the sustainability of this program and the products it produced (Noorwendo 2018). This is also the reason the number of active waste banks dropped drastically, to fewer than 100 units today.

Discussion

Formal Leadership in the Management of Urban Waste

The success of the Depok Municipal Government in managing waste between 2006 and 2017 can be seen in various achievements, such as Depok being designated a pilot city for waste management by the Coordinating Ministry of Economic Affairs in 2015 (Antara, 2015), receiving Adipura Certificates in 2013 and 2015, and receiving the Adipura Award in 2017.

Likewise, the performance of the Depok Municipal Government was also recognised by the Ministry of Home Affairs. Since 2010, the Ministry has assessed the performance of every provincial, regency, and municipal government. The results of these assessments were first released in 2012 (based on their performance in 2010); on this list, the Depok Municipal Government ranked eighth nationwide (Kepmendagri No. 100 – 279 of 2012). The Depok Municipal Government maintained this rank until 2015, when it was ranked seventh (Kepmendagri No. 120 – 10421 of 2016); by 2017, it had dropped to thirteenth out of Indonesia's ninety-three municipal governments (Kepmendagri No. 100 – 53 of 2018). Nevertheless, the achievements of the Depok Municipal Government under the leadership of Mayor Ismail can still be considered relatively good.

Notwithstanding these achievements, several of the programmes implemented by the mayor were quite controversial. One was his 2013 campaign on using one's right hand to eat and drink, which was encouraged through billboards and posters posted on streets throughout Depok. This policy was designed to promote local character building. However, the government opposed the programme, viewing it as a waste of funds. Ultimately, the programme was not conducted intensively (Thenu, 2018; Widodo, 2015).

Another policy was One Day No Rice (ODNR), implemented in 2011. Outlined in Depok Mayor Circular No 500/1219-Economy and later revised through Depok Mayor Circular Number 500/1688-Economy. This policy was related to the vision and mission of Depok Municipal Government for the 2011–2016 period, specifically its first and second visions: "The Realization of an Advanced and Prosperous Depok" and " The Realization of Economic Independence among the People

through Local Potential" (Widodo, 2015: 201). This policy was implemented, among things, by eating non-rice (and non-flour) foodstuffs in governmental offices (including canteens) every Tuesday. This policy sparked resistance within the bureaucracy itself as well as the community (see Isma'il, 2012: 21–24). Furthermore, the fact that this policy was "only" issued through a mayoral circular underscored its lack of political legitimacy, as it had minimal support from the legislature. Nonetheless, this policy was retained until the end of Ismail's second term in 2016.

Judging from these two controversial policies, it can be inferred that Ismail was a leader with the courage to take risks on policy decisions, so long as they were in line with the visions and values he upheld. He did not seriously consider oppositional views, including those related to Depok's waste management policy.

Ismail used the title 'dirtiest city' as one of his major narratives in Depok City's Five-Year Development Plan for 2006–2011 (RPJMD Kota Depok, 2006–2011):

"… the increased population of Depok from 1,374,000 in 2005 to 1,667,000 in 2011… it is predicted that, in the future, the pressure on the environment will become increasingly heavy, in line with the growth of the population of Depok. Such pressures can be felt by the people of Depok as serious problems, taking the form traffic congestion, environmental damage, environmental hygiene problems, and waste" (RPJMD Kota Depok, 2006–2011: 74).

An analysis of these conditions was provided in the government's policy missions, namely the second one: "Building and Managing Good, Equitable, and Sufficient Infrastructure Facilities". This was to be achieved by, among other things, improving the waste management of final disposal sites (landfills) through a reduce, reuse, recycle, and participate paradigm, managing waste at its source, and repairing the sanitary landfill mechanisms in Cipayung (RPJMD Kota Depok 2006–2011: 78). To achieve this goal, the municipal government sought to establish an average of 10 to 15 locations every year (RPJMD Kota Depok, 2006–2011: 84).

Ismail's vision and mission of managing the issues of waste continued during his second term (2011–2016), albeit to a different degree. The new RPJMD explicitly stated that waste management services were only able to handle 38% of the city's waste in 2010; that public participation in implementing 3R-P (as proposed in the 2006–2011 RPJMD) was still lacking; and that waste had reached the rivers of Depok (RPJMD 2011–2016: 65). This implies two things; *first*, although improvements in waste management had been proposed, government-provided waste services were not yet able to handle 40% of the city's waste; as such, the 2006–2011 plan had not been realized.

At the same time, this narrative also indicates that the Depok Municipal Government had political will in the issue of waste management, as shown by the inclusion of said issue in the third mission of the government strategy. However, compared to the 2006–2011 RPJMD, the narrative was arranged using more generic terminology.

How can leadership discourses explain what happened in Depok? Based on a study by Grindle (2007), local governments' performance is influenced,

among other things, by public leadership. This variable includes: the capacity to develop new ideas (innovation), the ability to mobilise regional resources to implement ideas, the ability to establish coalitions between various actors, and the ability to make strategic policy choices to support the achievement of the new policy, including situations that are not beneficial for the development of the new idea (Grindle, 2007).

Waste is not a popular public issue. As such, as long as waste issues are still seen as latent, local governments will focus on issues such as education and public health. Ismail thus tried to change the situation by using his professional background in the food sector and his position as the former Minister of Forestry and Agriculture to influence and determine the Depok municipal government's policy priorities in the areas of environmental hygiene and waste management.

Pressure from external parties, such as the Ministry of Environmental Affairs and the National Human Rights Commission, as well as persons living near the Cipayung landfill, thus served as policy input. One of the outputs was the target of decreasing the volume of waste by providing waste processing units in various areas, as written in the Depok RPJMD for 2006–2011. The government sought to build 17 WPUs, each with the capacity to handle 30 m^3 waste per day, in 2006. Each WPU cost 880 million rupiahs to build (Masaharu, 2006); as such, reaching the target required significant resources, 15 billion rupiah in the first year. Strong political support would be necessary to obtain such funds through the local budget, given that the disbursement required both executive and legislative support.

Ismail also depended on SIPESAT for his waste management mission, the implementation of which required active community participation. However, ensuring such participation was a challenge of its own. In a survey conducted by BPPT in 2008, fewer than 5% of the 307 respondents (50 of whom were Depok residents) often sorted their waste; for comparison, 38.2% of respondents stated that they seldom sorted waste, while 34.2% said that they never sorted waste (Widodo & Susanto, 2009, p. 332). Although this study was not exclusively conducted in Depok, at the very least it shows that the public had limited involvement in public waste management. As of 2016, only 185 neighbourhood units (of 859 in Depok) actively sorted waste. This unfavourable sociological context was the Depok Municipal Government's biggest challenge for implementing SIPESAT.

The lack of public interest in sorting waste pushed Ismail and the Depok Municipal Government to organise various campaign and socialisation materials to ensure the successful development of WPUs and SIPESAT. A free waste collecting programme was also offered for members of the public who conducted waste sorting, while waste banks were developed to encourage communities to see the economic aspects of waste.

However, efforts to mainstream these waste banks cannot be considered successful, despite the increased amount of waste sorted. By the end of Ismail's second term, only 400–500 waste banks had been established—far short of the 2,000 banks targeted. One obstacle was the limited change in public perceptions of waste. Communities preferred to pay monthly fees (to private waste collectors or

the government) rather than sort their household waste (Supariyono, personal communication, July 27, 2018).

The above data indicate that leaders' vision is important in driving local changes; however, more is needed to ensure that policy ideas and innovations are implemented. In the framework offered by D.J. Smith (2007), another important variable is the utilisation of the leader's credibility. This can be seen in Ismail's waste management programmes. With his educational background and experience as a government minister, Ismail had relatively high political credibility. Although the losing candidates of the 2006 and 2011 elections caused political 'disruptions' at the beginning of his leadership (both in the first and second terms), Ismail's status as the local leader of the Prosperous Justice Party supported his credibility.

Support from the Regional Representatives Council of Depok was also necessary for Ismail to realise his vision and mission. This can be seen, for example, in the approval of the large amount of money needed to develop WPUs. Apart from this, the passage of Local Bylaw No. 5 of 2014 regarding Waste Management can also be seen as political support for the city's waste management policy. Access variable paved the way for various policies, as also seen in the support of private parties (such as Shell) for the programme.

Community Leaders' Role in Waste Management

Waste management is not, in fact, an area for formal leaders (read: state/local government actors). Households, as active waste-producing units, must also be taken into account. This research shows that the participation of residents and community members is extremely decisive, and thus discussion regarding leadership at the non-formal/community level is important.

One of the community leaders we met was Baron Noorwendo, the founder of the *Warga Peduli Sampah,* (Residents for Waste, WPL) Community. Located in Pitara Village, Pancoran Mas District, Depok, the community's activities include waste banks and recycling. The WPL waste bank was officially established in 2008 and was inspired by the Gemah Ripah Waste Bank community in Bantul, Yogyakarta.

Noorwendo's vision for WPL is not limited solely to waste banks. He and his wife, Sri Wulan Wibiyanto, have a great vision of spreading benefits to and improving the welfare of the residents of the area surrounding their home. Beginning in 2006, the couple began various efforts to increase the livelihoods of themselves and their family. They saw that Depok was shifting away from being a rural area, becoming an urban city with high unemployment rates. Various socio-economic "experiments" were conducted, such as building libraries and providing scholarships; however, these programmes did not last. Only in 2008, after exploring the potential waste in their environment and learning from the Bantul Waste Bank, did Noorwendo decide to establish waste banks through WPL (Noorwendo, personal communication, July 26, 2018).

Even as WPL has continued to open new waste banks, its banks have served as pilot projects for hundreds of similar banks in Depok (Noorwendo, personal communication, July 26, 2018). With their credibility as waste bank activists, Baron Noorwendo and Sri Wulan Wibiyanto have acted as references, resources, and

motivators in Depok and surrounding areas. Their success led the Head of the Pancoran Mas District to invite the couple to speak on sorting waste as a means of receiving an Adipura Award (Guitarra, 2014; Mubarok, 2016; Noorwendo, personal communication, July 26, 2018).

Various community efforts for waste management, such as those by Baron Noorwendo and Sri Wulan Wibiyanto, show how non-formal actors bring a bottom-up nuance to such activities. Without depending on government assistance, non-formal leaders have worked to realize their specific visions. It is these visions that give them the credibility to participate in waste management activities. At the same time, non-formal leadership is strengthened by non-formal leaders' access. Armed with their credibility, capacity and commitment, Baron Noorwendo and Sri Wulan Wibiyanto opened surrounding residents' access to the economy through workshops and recycling activities.

In the end, the presence of these non-formal leaders became (either intentionally or unintentionally) catharsis for the government's waste management policies. Without non-formal leaders, government policies could not be implemented optimally. At the same time, however, the presence of community-based non-formal leaders can be used by formal leaders to garner political support—especially near the general election (Hermansyah, personal communication, July 27, 2018; Noorwendo, personal communication, July 26, 2018). Sometimes, non-formal leaders even attempt to gain formal power; Baron Noorwendo capitalised on his popularity to run in the Depok Municipal Legislative Election of 2014, though he lost.

Conclusion

Various studies have shown the importance of leadership in successful government performance. Grindle (2007), Luebke (2007) and Rahman et al. (2018) emphasise the importance of political (local) leaders in bringing about policy innovation within the region. Rahman et al. (2018) found that, in the context of Depok, Ismail exhibited great leadership practices, during which he relied heavily on his background as a professional researcher (Rahman et al., 2018).

Under Ismail's leadership (2006–2016), the Depok government made various achievements. For example, in 2006, the government created SIPESAT; in 2014, it passed Local Bylaw No. 5/2014 about Waste Management. These programmes led Depok to receive Adipura Certificates twice, in 2013 and 2015, which played an important role in guiding Depok towards its first Adipura Award in 2017. Moreover, the leader's commitment towards realising a clean city can be seen in the five-year development plan, which later translated into missions, programmes, and policies (conducted by the City of Depok's Office of Environment and Sanitation).

Aside from formal leaders, community leaders also play an important role in achieving policy purposes, especially concerning waste management and waste sorting at the grassroots level. In this case, community leaders serve as activists, helping and empowering local residents through waste banks. Although formal and community leaders acted separately at the beginning, eventually they cooperated and supported each other. Together, they sought to ensure the sustainability of the local government's programmes.

However, both formal and community leaders had their own challenges. The largest challenge was the different perceptions of formal leaders (bureaucrats and politicians) and community leaders/members. Even more challenging was transforming public mindsets regarding waste to embrace the 3R+P: reduce, reuse, recycle, and participate. Therefore, leaders' ability to consolidate their ideas and commit towards sustainable change was a major driver of policy performance.

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