

From Management to Stewardship

Solid Waste Governance
in New York City and Seoul Metropolitan City

Seulki Lee-Geiller | Nov 16, 2021

RUTGERS
UNIVERSITY | NEWARK

1.

Introduction

2 billion tons

Of solid waste the world generates each year

34%

Of the total waste is generated in high-income countries where only 16% of the global population reside

90%

Of waste in low-income countries is mismanaged (Kaza et al., 2018)

Relevant Research Programs

Public Management

Government

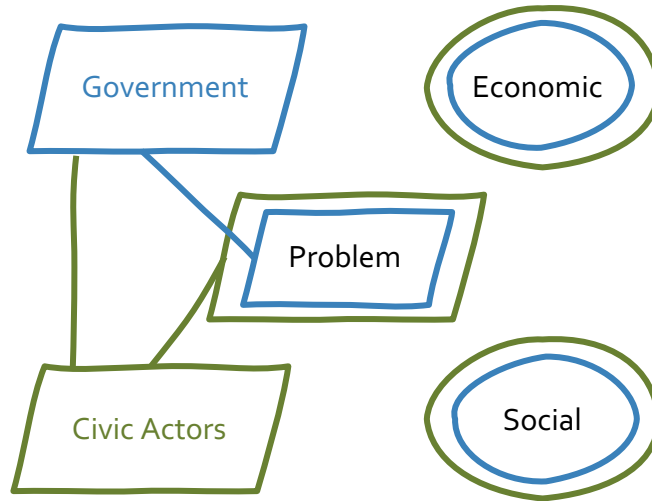
Economic

Problem

Social

Relevant Research Programs

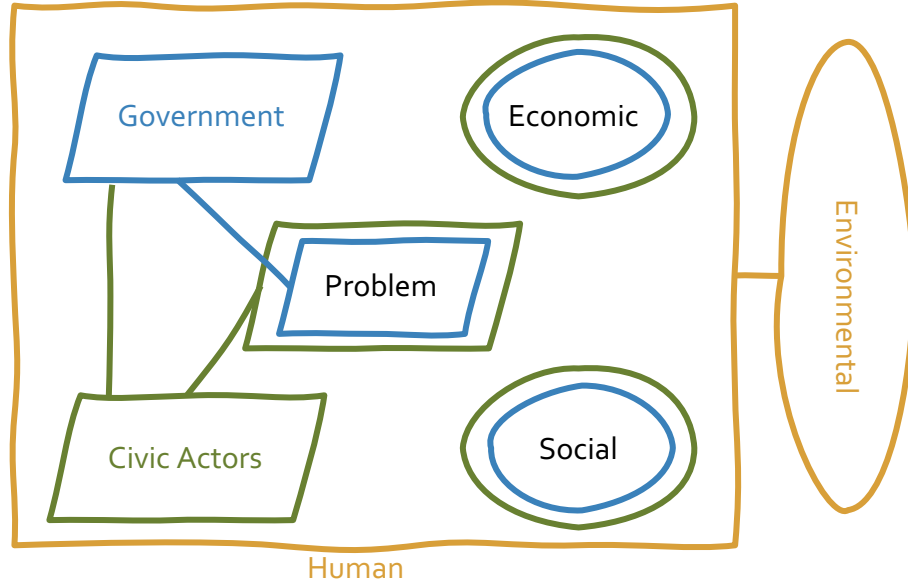
Public Management



Participatory Governance

Relevant Research Programs

Public Management

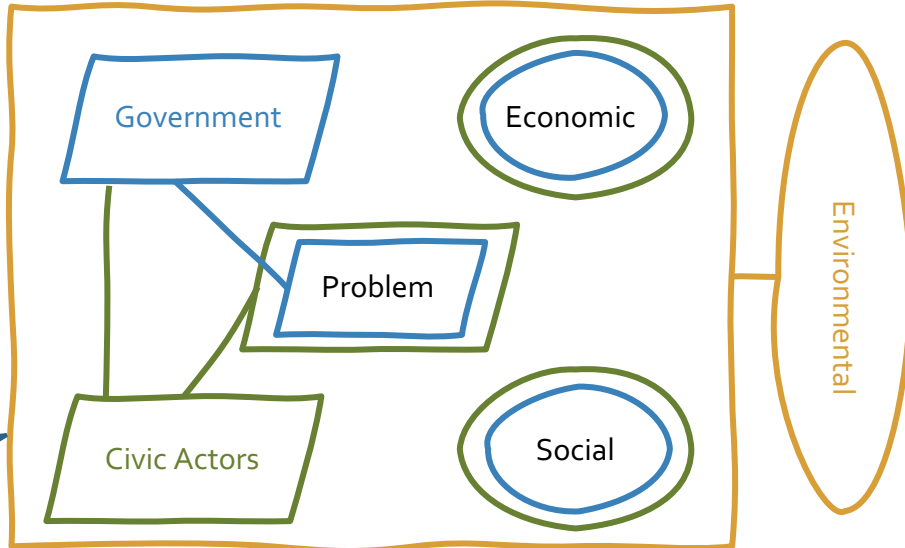


Environment Stewardship

Participatory Governance

Relevant Research Programs

Public Management



Environment Stewardship

Can we understand waste governance as part of environmental stewardship?

Participatory Governance

2.

**Municipal Solid Waste
Governance As Local
Environmental Stewardship**



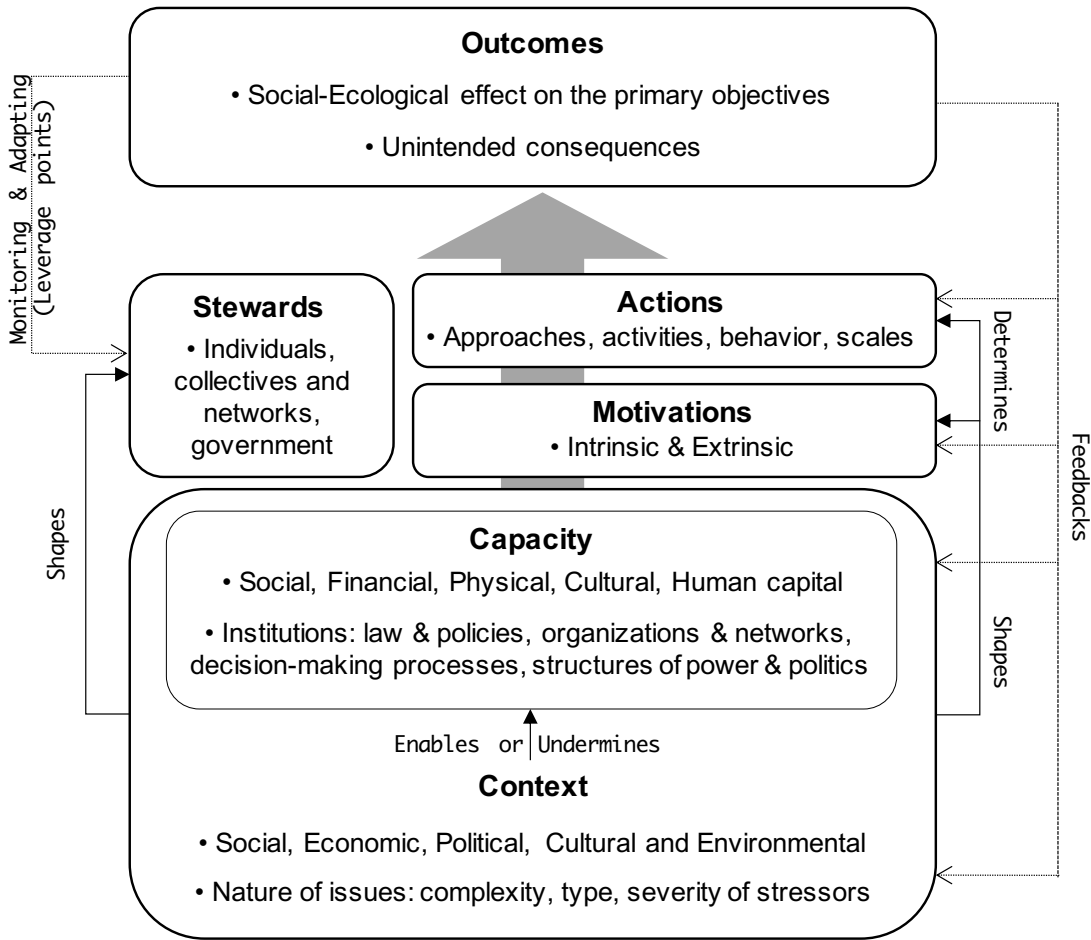
Environmental Stewardship

Environmental Stewardship

- *A set of individual actions* to preserve ecological conditions and ***a governance activity*** that requires coordination across civic, public, and private sectors (Olsson, Folke, & Berkes, 2004)
- ***A driver of civic innovation*** as practitioners seek out new ways to manage diverse ecosystem services (Connolly et al., 2013)
- ***Bridging*** between public agencies and civic organizations (Connolly et al., 2013)

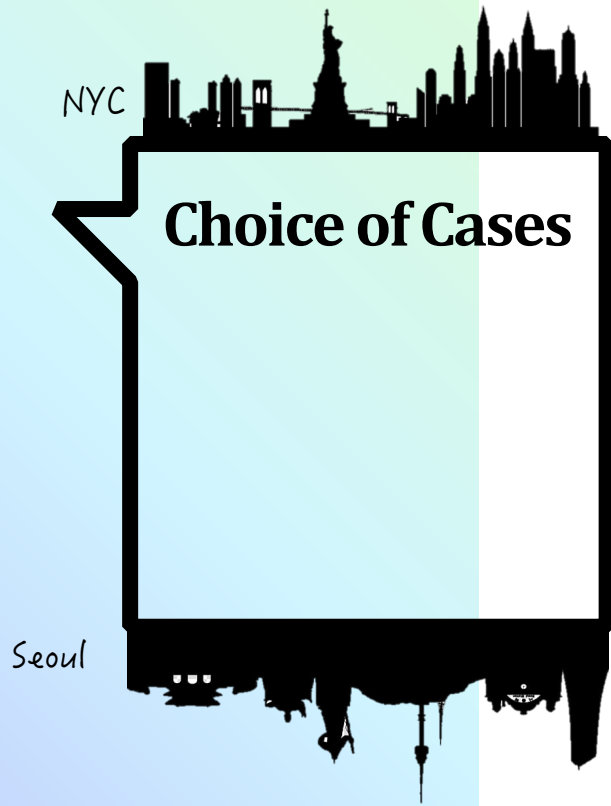
Environmental Stewardship

Analytical Framework for Resource Stewardship
Adapted from Bennett et al. (2018)



3.

Methodology



Comparative Case Study

- The systematic comparison of two or more data points obtained through use of the case study method

(Kaardo & Beasley, 1999)

Choosing two similar cases

- To increase the generalizability of the phenomenon
- Similarity in terms of
 - Population (NYC: 8.4 mil / Seoul: 9.8mil, 2018)
 - City governments' emphasis on citizen participation

Document Analysis

Systematic comparison and synthesis

- Consolidating cases into a conclusion

4.

Results

NYC

Context

Seoul

Contexts		New York City	Seoul Metropolitan City
Economic	RDRP	USD 807 billion (2015)	USD 367 billion (2017)
Political	Government	Liberal majority Policy for better waste governance	Liberal majority Policy for better waste governance
	Civil Society	Strong civil power	Active citizen participation
Social & Cultural	Population	8.39 million (2018)	9.76 million (2018)
	Composition	Ethnic diversity	Homogeneity
	Poverty rate	19.5% (2016)	5.34% (2012)
	Life expectancy	81.2 years old (2017)	86.69 (2017)
	High school graduation rate	75.9% (2018)	99.8% (2018)
Waste Governance Type		Public-Private Partnership	Public Management System



Stewards
 Motivations
 Capacity
 Actions

Stewards	New York City	Seoul Metropolitan City
Public Entities	<u>New York City Department of Sanitation (NYDS)</u> - in charge of 25% of wastes generated by noncommercial group - Solid Waste Management Plan (2006)	<u>Seoul Resource Recovery Facility</u> - In charge of all wastes generated in the city - 3rd Solid Waste Management Plan upon national guidelines (2011)
Private Sector	<u>NYC Business Integrity Commission (BIC)</u> - in charge of 75% of wastes generated by commercials <u>Sims Hugo Neu Corporation</u> - in charge of processing and marketing recyclables collected by NYDS, and building processing facility	- Private sellers of products that supports to comply with the waste disposal policy (e.g. biodegradable food waste bag) - Private recyclable processors working with the government and multiplex unit residences
Civic Organizations	<u>Nonprofit organizations</u> - Accepting and redistributing second-hand items with 100-year tradition (e.g. Salvation Army, Browery Mission, Goodwill Industries) <u>NYC Center for Materials Reuse, donateNYC, refashionNYC</u> - Featured on city government websites <u>Citizens Budget Commission</u> - Policy advisory for improving finance and services	<u>Korea Zero Waste Movement Network</u> - Plastic bag charge → nationwide prohibition for using plastic bag (2019) - Monitoring restaurants' food waste disposal <u>Korean Federation for Environmental Movement & Green Shop Association</u> - Campaign for no disposable cups <u>The Green Future</u> - Providing educational activities on the environmental for K-12 students
Individual Citizens	- Low attention to waste issues relative to other environmental problems - No extra charge other than tax on waste disposal - Voluntary recycling	- Financial contribution through volume-based garbage fee on non-recyclables and food/organic wastes - Multiplex unit residences' use of vendor contracts for processing recyclables

NYC

Outcomes

Seoul

2018 (Tons)	New York City	Seoul Metropolitan City
Total wastes / year	3,506,494	3,464,909
	- NYDS: 16,494 - Commercial: 3,490,000	
Waste generated / person	0.42	0.36
Recycling	26%	68%
	- NYDS: 29% - Commercial: 26%	
Landfill	74%	9.2%
Incineration	0%	22.8%

5.

Conclusion & Discussion

Conclusion

Can we understand
waste governance
as part of
environmental
stewardship?

Yes!

Similar

- Inclusion of various actors

Differ

- The extent to which each toward engages
- The outcomes



Discussion

For more details....

Lee-Geiller, S., & Kütting, G. (2021). From management to stewardship: A comparative case study of waste governance in New York City and Seoul metropolitan city. *Resources, Conservation and Recycling*, 164(August 2020), 105110. <https://doi.org/10.1016/j.resconrec.2020.105110>

NYC

- Encouraging more active engagement of individual citizens for enhancing recycling rates
- More emphasis on environment instead of relying too much on the private sector who's mainly motivated by economic principles
- Working on the consistent data collection across various waste collector

Seoul

- Finding ways to reduce incinerated wastes, considering environmental and health impact associated with air pollution

Thank you!

Any questions & suggestions?

