

GARBAGE GOVERNMENTALITIES AND ENVIRONMENTAL JUSTICE  
IN NEW JERSEY

by

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## ABSTRACT OF THE DISSERTATION

Garbage Governmentalities and Environmental Justice in New Jersey

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During the 1970s, under the banner of environmentalism and the purview of the newly-created New Jersey Department of Environmental Protection, the State of New Jersey implemented a municipal solid waste disposal policy that called for a garbage incinerator in each of its 21 counties and the Hackensack Meadowlands District. The efforts to site the garbage incinerators led to a forceful social movement to oppose them. In the aftermath of this policy, five garbage incinerators were finally established, one of them in the Ironbound neighborhood of Newark. This facility receives the garbage not only from all of Essex County, but also from other jurisdictions such as New York City, with the environmental and quality of life impacts being borne by Ironbound's residents. In this community, conditions of environmental injustice exist, whereby the community receives the garbage from its comparatively more affluent and whiter neighbors.

Using the Ironbound neighborhood of Newark and Essex County as a case study area, this dissertation examines how conditions of environmental injustice in the Ironbound are produced and perpetuated by the collective enactment of our governmental approaches to

the problem of increasing garbage production in New Jersey since the 1870s. The garbage flow control policy New Jersey implemented in the 1970s is a focus point in this analysis, but this dissertation contextualizes the incinerator location strategy within the history and geography of garbage governmental management in the state.

This research is informed by the scholarly literatures in environmental justice studies, governmentality, and social science studies that examine the intersection of garbage and society. Environmental injustice conditions are generally attributed in the literature to fundamental power struggles among corporate entities and social groups waged along race and class differences, with State institutions mediating these social conflicts and brokering their outcome. Using insights from the governmentality literature, this dissertation explores another explanatory framework for environmental injustice that focuses on how our collective and mundane day-to-day enactment of garbage governmental policy fundamentally produces and perpetuates conditions of environmental injustice. In this discussion, the social science literature on garbage provides key insights on garbage as a social material subject to myriad forms of governmental interventions that attempt to shape our social relations, and into the governmental rationalities, processes, and practices that have been selected by governmental authorities and that have become embodied by us, the population, in our day-to-day lives. Fundamentally, this dissertation argues that our collective governmental approach to garbage supports the power structures and infrastructures we normally point to as culprits of environmental injustice.

This dissertation uses a mixed methods approach that combines both qualitative and quantitative research methods, with the qualitative research as the dominant approach. The qualitative research consists of document reviews and qualitative content analysis of State

of New Jersey and Ironbound community documents; the Ironbound neighborhood of Newark and Essex County as a case study area; focus groups with residents of the Ironbound as the impacted neighborhood, and of Montclair as a non-impacted community served by the incinerator; and key informant interviews of environmental justice and solid waste management activists and experts. The quantitative research uses Geographic Information Systems to map garbage disposal facility locations, neighborhood demographic data from various economic and racial or ethnic Census indicators, and the flows of garbage in the case study area to the incinerator in the Ironbound, to provide a picture of the materialized physical conditions which are the product of established social relations. Maps were used as visual aids in the focus groups.

This dissertation finds that, under the various governmental rationalities of nuisance, environmental sanitation, and environment, we the population have historically enacted and embodied garbage governmental plans that do not question the production of garbage in the first place. Instead, we enact in our day-to-day lives governmental processes and practices to move the garbage out of private and public spaces designated clean, to disposal spaces designated as “appropriate” for receiving the garbage. Under the banner of environmentalism, we have increasingly subsumed ecological principles into the logics of the garbage disposal economy, especially when garbage becomes necessary for the efficient and profitable functioning of incinerator facilities like the one located in the Ironbound. Environmental injustice has been part and parcel of our collective efforts to govern garbage. We have failed to consider the impacts of our garbage governmental plans on communities like the Ironbound, and to recognize how we are implicated in producing environmental injustice.

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This dissertation would not have been possible without the support and guidance of the members of my dissertation committee: Bob Lake, Rick Schroeder, Lyna Wiggins, and Nancy Ettlinger. I am fortunate and grateful to have had Bob Lake as my faculty advisor and dissertation committee chair. With his guidance in 2003 I completed my Master's thesis on the struggle of Vieques residents to secure a better quality of life on their island-municipality in Puerto Rico. Now, years later, after returning to graduate school, Bob guided me once again to complete my PhD. There is no way I would be here finishing this dissertation without Bob's commitment to my achievement of this goal. He never gave up on me. Through the years and this process of growth, Bob was always encouraging and supportive of my ideas. His work on housing, community development, environmental justice, and social theory has been an inspiration to me. His work and commitment to social justice and to his students has been a gift and a model to emulate.

I am grateful to Rick Schroeder for sharing his deep knowledge of development, conservation, environmental justice, and political ecology, and for exposing me to great works in these fields in the classroom and as I worked to develop this dissertation. This

dissertation's approach to garbage as a multi-faceted social material at the center of human social relations and the relation between people and their environment simply would not have been possible without Rick's insightful perspectives. I am grateful to Lyna Wiggins for teaching me about geographic information systems (GIS) and the use of maps in environmental justice research and public participation efforts by local communities. I could not have completed the maps in this dissertation without the skills, analytical tools, and concepts I learned in Lyna's classroom. And last, but certainly not least, I am grateful to my outside committee member, Nancy Ettlinger. Nancy provided me with key guidance on the concept of governmentality. She shared her insights and continued to be involved throughout multiple drafts of this dissertation, and went above and beyond in her encouragement of my work at all steps of this long process.

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## DEDICATION

To Piedad, Mireyin, and Todd, and to the loving memory of Mireya and Eduardo Salazar.

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## LIST OF ACRONYMS

ECUA	Essex County Utilities Authority
EJAC	Environmental Justice Advisory Council
GREO	Grass Roots Environmental Organization
ICATW	Ironbound Committee Against Toxic Wastes
ICC	Ironbound Community Corporation
NHRA	Newark Housing and Redevelopment Authority
NJBPU	New Jersey Board of Public Utilities
NJDEP	New Jersey Department of Environmental Protection
NJSBoH	New Jersey State Board of Health
NJSCI	New Jersey State Commission of Investigation
NJSDoH	New Jersey State Department of Health
PANYNJ	Port Authority of New York and New Jersey
RRF	Resource Recovery Facility
SMOKE	Statewide Movement Opposing Killer Environments
SWMA	Solid Waste Management Act
SWUCA	Solid Waste Utility Control Act

## **Chapter 1**

### **Introduction**

During the 1970s and under the banner of environmentalism, the State of New Jersey developed and began to implement a modern garbage disposal policy to address the increasing volumes of garbage being produced by the state's population. Under the flow control policy, as it was called, 22 high-tech incinerator facilities were to be located, one in each of the state's 21 counties and the Hackensack Meadowlands district, to dispose of the garbage generated within each county or district. As is typical during the process of establishing environmentally noxious facilities, conflicts ensued throughout New Jersey during the 1970s and 80s as the incinerators were to be sited and as the communities that were targeted as disposal sites organized to reject their unwelcomed selection as “hosts” to the facilities. Grassroots community groups organized throughout the state and formed a statewide coalition to reject the incinerators. Overall, their strategy was very successful. Of the 22 garbage incinerators sought by the state, only five were actually built. But while averting most of the incinerator facilities, the five incinerators actually constructed were located in working class or people of color neighborhoods in the municipalities of Newark, Camden, Westville, Rahway, and Oxford. Today, these neighborhoods bear the burdens of receiving the garbage generated not only within their own municipality, but also from municipalities in the county or region composing the incinerator's service area.

Using the Ironbound neighborhood of Newark as a case study community and Essex County as a case study area, this dissertation examines how the inequities and burdens of New Jersey's modern garbage disposal policy are created and perpetuated by

our collective enactment of governmental approaches to the garbage problem over time. It pays special attention to how environmental inequality conditions are magnified in the Ironbound neighborhood of Newark, where one of the incinerator facilities and four garbage transfer stations are located. The Ironbound receives garbage from comparatively whiter and wealthier localities in the rest of the county and region.

Patterns of environmental inequality along wealth and racial or ethnic lines have been examined and found to exist in various geographic settings by affected communities, scholars, and government entities at all levels. These patterns are often described as matters of environmental justice. In the typical environmental justice analysis, these conditions are found to emerge fundamentally from class or ethnic conflict, from the differential ability of whiter or wealthier persons and populations to reject unwanted facilities or to move to cleaner environments, and from various land use decisions made through the formal decision-making process, among other factors. While acknowledging these factors as part of the story, this dissertation takes another explanatory approach. In this dissertation, the garbage flow control policy that New Jersey implemented during the 1970s is examined to better understand how environmental injustice conditions are fundamentally produced in connection with the development and implementation of our collective governmental approach to the garbage problem over time.

New Jersey's flow control policy offers several obvious entry points into the analysis of the relation between environmental justice and the development and implementation of governmental policy. At first glance, the design and implementation of this policy seemed to ensure the production of environmental injustice conditions due to

its inherent spatial and distributional aspects. Specifically, because a neighborhood had to be selected as the location for an incinerator facility within each disposal district delineated under the policy, the distribution of detrimental facilities or materials, which is always a central event in the production of environmental injustice conditions, was inherent in this policy. Environmental injustice also manifested itself in the policy's outcomes. As some incinerators were sited and others were not, the policy fell short of achieving any notion of regional responsibility for garbage disposal the policy may have originally put forth. In the final outcome, the incinerator facilities that were actually built were located in poor, working class, or people of color communities. These inherent policy elements and the resultant outcomes yielded a recognizable pattern of distributive environmental injustice where garbage (and all of its associated burdens) flows to the affected communities from comparatively wealthier or whiter, environmentally protected neighborhoods.

But there is more to this story that complicated a typical environmental justice analysis, as this policy's complexity challenged the standard analytical variables of the environmental justice framework. In addition to the distribution of garbage disposal facilities in space, local communities rising in struggle to oppose their selection as disposal sites, and the detrimental impacts of these facilities on their environment and quality of life, this policy's fundamental failure to question the production of garbage in the first place went hand in hand with the production of environmental injustice outcomes. While garbage flow control was put forth under the banner of environmentalism by the newly-created New Jersey Department of Environmental Protection (NJDEP), the unquestioned production of garbage under this policy overrode the environmental protection rationale put forth in it in

various ways. Flow control was never intended as a state strategy for the reduction of garbage. In fact, quite the contrary was true because, within this policy's framework, garbage became the essential material that fed the incinerators and kept them running at optimal capacity. With each feeding, garbage also generated the revenues needed to pay for the public debt incurred to construct the facilities through the tipping fees collected from each disposal contractor, which were in turn paid for by household budgets in the form of fees for the garbage service. In an overt contradiction of any environmental protection rationale that was offered for the policy, so-called "put or pay" clauses in the contracts between the municipalities and the county authorities required the municipalities to produce guaranteed amounts of garbage annually to be disposed at the regional incinerator facility, or the municipalities would have to pay the tipping fees for the guaranteed garbage tons anyway. This means that, through the flow control policy, the State of New Jersey did not aim to reduce the volumes of garbage, but instead sought to control its flow in space. The state was acting as would a traffic cop. It also means that the state embraced an economic approach to garbage that subverted ecological goals. Through this policy, the state simultaneously sought to break the monopoly of organized crime groups in the garbage service, streamed garbage and the associated tipping fees to some facilities and not others, and required a financing of the system that ultimately relied on household budgets and public debt. Garbage, the material at the center of the problem, would not be questioned as a matter of production. Instead, the garbage problem was framed as a matter of disposal in need of incinerators and neighborhoods to put them in.

The approach to environmental justice analysis in this dissertation therefore seeks to expand the boundaries of the environmental justice framework by attempting to integrate these multiple aspects of the garbage flow control story and its impacts on the Ironbound. While the typical environmental justice analytical variables of distribution of detrimental facilities or materials, community opposition, and racial or ethnic or class conflict are part of this narrative and an inherent part of this policy's implementation, either by design or by outcome, I argue in this dissertation that environmental injustice was fundamentally preordained by the unquestioned production of garbage as the unwanted material to be distributed and as it was expected to be produced and guaranteed in order to feed the incinerator machinery and maintain its disposal economy. The availability of more and more garbage guaranteed and magnified conditions of environmental injustice because there would always be more of the unwanted material to be distributed to impacted communities. I argue further that this policy was not just about siting facilities, and it didn't involve only the governmental entities facilitating and approving the siting, the incinerator facilities that would profit from these ventures, and the affected communities rising in struggle to oppose these facilities. These are usually the discrete and limited set of actors described in the traditional environmental justice analysis. Rather, this policy was about producing a set of social relations among various actors to collectively implement a governmental policy that neglected and failed to address the production of garbage, and instead turned it into a necessary material for the incinerator disposal economy. Actors enrolled in the implementation of this governmental approach to garbage included households, communities, governments, corporations, and infrastructures. All of them

were part of implementing various aspects of this policy through their day-to-day practices and their co-articulated social relations. These social relations often meant economic arrangements among these actors, but they also included day-to-day practical and mundane arrangements. This was and continues to be a collective endeavor.

Environmental injustice conditions evolve from these established social relations. These relations create ways of life that get enacted every day. In this manner, environmental injustice becomes ingrained in the mundane. Under the State of New Jersey's implementation of the flow control policy, the increasing streams of garbage produced by the state's population would continue to inundate the space of the household. Households would continue to produce garbage and handle it as they usually did, by containerizing it, moving it to the curb on designated days, and paying for the collection and disposal services. Municipal departments or private contractors would pick it up in accordance with established schedules, permits, technologies, and procedures, and would flow it to the designated incinerator facilities to which they paid a tipping fee funded by the households. Municipalities would sign the disposal contract which outlined their responsibilities with respect to the incinerator facility, agreeing to source the incinerator guaranteed amounts of garbage each year, or pay the disposal fee anyway. Counties would mediate between the incinerator companies and the municipalities as solid waste management authorities. The state's environmental protection agency would champion this policy as a modern and environmentally logical approach to the problem of solid waste management, notwithstanding the policy's inherent failure to question the production of garbage in the first place. The poor, working class and people of color communities who

lost their battles against the incinerators would also be garbage producers, but in contrast to the other communities in the incinerator service area, they would have to live with the negative impacts of the facilities established in their neighborhoods. In the end, environmental injustice conditions would be created and perpetuated by the collective performances of all of these social roles and social relations surrounding the governmental approach to garbage as a disposal problem rather than production. When seen at its more detailed scale, this process has produced and maintained a social relation among people in garbage producing communities and garbage disposal communities where producers send their garbage to their neighbors without any concern for its impacts or any ethical qualms about this process. At its more granular scale, there was a production of individual subjectivities – of garbage governmental subjects – as the building blocks of the social relation we call environmental injustice.

### **1.1 Research Questions**

The complexity in New Jersey's garbage flow control policy brings to the fore questions that seek to examine how the unquestioned production of garbage and the approach to it as something to be distributed rather than reduced is related to the production of environmental injustice. Once this dominant definition of the problem for governmental intervention is accepted, it becomes imperative to examine how people, households, communities, private entities, governments, and infrastructures have become enrolled into producing environmental injustice through performing their respective roles within the system of garbage governmental management in their day-to-day lives. This has to do with



how the collective governmental approach to garbage becomes normalized and mundane throughout the social body, and how the production of environmental injustice is an inherent outcome within this process. Research questions in this dissertation therefore investigate how environmental injustice conditions are produced as part of the collective process of governing garbage. Accordingly, this dissertation asks a central question:

*How does the problem of environmental injustice with respect to garbage emerge and evolve in the context of the collective process of enacting governmental approaches and practices about the garbage problem over time?*

This dissertation answers this general question by asking three sets of more specific research questions concerning the geographical and political history of garbage governmental management in New Jersey that preceded the 1970s flow control policy; how garbage flow control operated as a new and modern strategy of garbage governmental management after 1970; and how environmental injustice conditions were produced through the collective process of governing garbage and are continued to this day and perpetuated through mundane day-to-day processes, practices, and social relations.

*Set (1): Garbage Governmental Management in Historical Perspective (1870s - 1970s)*

Recognizing that governmental approaches to the problem of garbage production preceded the emergence of New Jersey's flow control policy under the banner of environmentalism in the 1970s, the first set of research questions seeks to establish the context within which the 1970s flow control policy and the production of environmental injustice conditions stemming from its collective implementation can be properly

understood. This first set of research questions seeks to examine in historical perspective how the problem of unfettered garbage production came to be reflected upon by government and became a project for governmental intervention and the collective exercise of governmental power among people, households, communities, governmental entities, civil society groups, private commercial entities, experts, and the population as a whole. Within that story of the evolution of garbage governmental management, governmental approaches can be understood as sets of evolving social relations that yield environmental injustice conditions. To reconstruct this history, this dissertation asks:

- (1) How have governmental approaches to the problem of unfettered garbage production evolved and changed over time in New Jersey?
  - (1a) What specific rationalities or problem definitions, tools and technologies, subjects, practices, spaces, and political-economic concerns characterized each garbage governmental approach?
  - (1b) How were multiple actors at various spatial scales enrolled in the achievement of these garbage governmental goals?
  - (1c) How was space imagined, transformed, or created to produce the solid waste disposal landscape under each garbage governmental management approach?
  - (1d) What kinds of social and environmental relations were eliminated, perpetuated, or newly instituted under each garbage governmental approach?

*Set (2): Flow Control as a Modern Form of Garbage Governmental Management  
(1970s - Present)*

Once previous garbage governmental approaches are examined, one can place the garbage flow control policy initiated in the 1970s in the context of previous governmental approaches. It is possible to examine how flow control rested on preceding strategies, changed significant aspects of them, or created a new definition of the problem and a new solution. Out of this context, the flow control policy can be interpreted as attempting to establish a certain set of social relations which yields current conditions of environmental injustice. To investigate flow control as a governmental approach, this dissertation asks:

- (2) How can the solid waste flow control policy be understood as a new garbage governmental approach? What relation does the flow control policy bear to previously-instituted garbage governmental approaches in New Jersey?
- (2a) What specific rationalities or problem definitions, tools and technologies, subjects, practices, spaces, and political-economic concerns characterize the garbage flow control policy?
- (2b) How were multiple actors at various spatial scales enrolled in the achievement of governmental goals under flow control?
- (2c) How was space imagined, transformed, or created to produce the solid waste disposal landscape under flow control and in its aftermath?
- (2d) What kinds of social and environmental relations were eliminated, perpetuated, or newly instituted under flow control?

*Set (3): Garbage Governmental Subjects (Present)*

A key goal of this dissertation is to better understand how the production of environmental injustice becomes ingrained in the practices and understandings of everyday

life, especially through our production as garbage governmental subjects who enact garbage governmental approaches. Empirical evidence of the production of garbage governmental subjects is sought at each stage of the research process and within each of the three sets of questions presented here. However, set (3) attempts to examine a modern day manifestation of garbage governmental subjects, especially in relation to impacted and non-impacted communities and households in an incinerator's service area. To investigate how we become enrolled in producing and perpetuating environmental injustice conditions, this dissertation asks:

(3) How do residents of a community with an incinerator facility, and residents of another community served by that facility, enact garbage governmental practices and experience the effects of the garbage governmental plans in their day-to-day lives?

(3a) How are residents of the garbage management district constituted as garbage governmental subjects through garbage governmental management relations, processes, and practices?

(3b) How do these residents come to view, understand, and make sense of their own garbage production, management, and exportation to the incinerator facility, their place within the environmental inequality landscape, and their role in constituting it?

## **1.2 Theoretical Framework: Environmental Justice, Governmentality, and the Social Science Literature on Garbage**

This dissertation brings together three theoretical frameworks - environmental justice, governmentality, and the social science literature on garbage - in the analysis of how environmental injustice conditions emerge in relation to our accepted and collectively enacted governmental approaches to the garbage problem.

This dissertation situates its research of governmental approaches to garbage in New Jersey and related geographies within the framework of *environmental justice* studies. Among other evolving meanings, environmental justice refers to the reality that a range of undesirable land uses and environmentally noxious facilities are primarily distributed in society along wealth and ethnic or racial lines. Environmental justice research has provided several theories as to how these patterns emerge and for what reasons. For example, since at least the late 1970s, the role of government in either producing or ameliorating environmental inequalities has been a central theme for the environmental justice movement and environmental justice scholars. Early on, movement participants argued that government entities and policies either created conditions of environmental injustice, or failed to protect affected communities from polluters dumping in low income and minority neighborhoods. A number of environmental justice scholars have examined how government policies in housing, transportation, and land use are implicated in the distribution of environmental burdens along wealth and racial lines, and point to broad socio-spatial processes as mechanisms for the production of contrasting landscapes of waste disposal and environmental privilege (Pulido 2000; Cutter et al. 2001; Bullard 2001; Getches and Pellow 2002: 18-20). Other scholars have specifically examined the role of the State in environmental justice as a producer of racial social relations, as an arbiter

between the demands of capital and society, as a judge in settling environmental justice claims through the courts, and as a managerial agent under neoliberal state policy (Bullard 1990; Lake and Disch 1992; Lake 1993; Knorr 1997; Pulido 2000; Heiman 2001; Holified 2001, 2004; Hoidal 2003; O'Connor 2007). However, these conceptualizations of the State and the role of government in producing environmental injustice have significant shortcomings. A major problem with these framings is that they focus solely on conflict and thereby neglect the ways in which the production of environmental injustice becomes part of everyday life through our accepted modes of governmental management and action concerning socially burdensome materials. These framings ignore how the production of environmental injustice becomes a collective undertaking and becomes a normal part of everyday living. This dissertation seeks to explore this angle by examining how governmental approaches to the problem of unfettered garbage production, and the everyday life practices such approaches encourage and enable, contribute to the production of disposal landscapes and are implicated in matters of environmental injustice.

This is where the concept of *governmentality* informs the environmental justice analysis in this dissertation. In its analysis of environmental justice, this dissertation engages with Foucault's concept of governmentality as a theoretical frame of governmental management and action (Foucault 1991, 2003, 2007, 2010; Dean 2010; Ettliger 2011). I argue that three features the governmentality framework render this concept particularly relevant for the analysis of environmental justice issues. One feature is that the process of governing is a collective endeavor. Rather than governmental action emerging solely from the decisions of government entities or from conflict situations, under governmentality the

act of governing is undertaken by all actors in society at the various scales or sites they occupy. This means that governing about environmental justice issues includes individuals, households, communities, institutions, corporations, and the formal governmental apparatus with its units, departments, and agencies, among other possible entities and sites, all of which are collectively enrolled into formal efforts to govern about social problems and with respect to socially-burdensome materials, such as garbage (Foucault 1991). A second feature of governmentality that is relevant for the analysis of environmental justice is how governing is actually accomplished as a collective process. Rather than imposing rule primarily through force or conflict, the formal institutions of government seek to achieve what Foucault calls the “conduct of conduct,” or the production of individuals as subjects who will undertake and enact the desired behaviors and practices in their day-to-day lives in a self-guided manner. In that process of creating individuals as subjects, governmental efforts involve governmental rationalities or mentalities (problem definitions), as well as a range of technologies, to create subjectivities and enroll the members of society in enacting desired governmental practices (Foucault 1991; Dean 2010). A third and final feature of governmentality that is relevant for environmental justice analysis has to do with the stated purposes or rationalities of governing. Under governmentality, the formal institutions of government deploy disciplinary (aimed at individuals), biopolitical (aimed at populations), and neoliberal (informed primarily by political-economic principles) techniques of rule. For example, a major stated rationality of government is promoting the health, safety, and welfare of the general population, while simultaneously ensuring the circulation of people, goods and services within the system of

political economy, often deploying space and conceptions of space as elements of particular projects of government (Foucault 1991; Huxley 2006; Elden 2007a, 2007b; Crampton and Elden 2007). These three features of the governmentality framework help to create a conceptual space for an analysis of environmental justice in relation to the governmental practices undertaken by multiple actors, at multiple sites, and concerning the material burdens produced, consumed, and finally disposed and distributed in space. Environmental justice exists within the larger questions of how governmental projects concerning socially-burdensome materials are simultaneously about matters of production, consumption, political economy, population, ethics, and space.

As a third theoretical framework, the social science literature that examines the interplay of *garbage and society* offers evidence of the intersection of environmental justice issues and governmentality. Arguably, garbage could not provide a more perfect subject for this analysis. It is notable that the location of landfills in low income and people of color communities was one of the issues that sparked the environmental justice movement in the United States during the 1970s and 80s. However, garbage is selected as a focus of study in this dissertation because of the ways in which it is ingrained in the social fabric and enters every space of everyday life. Social science scholars in the disciplines of geography, history, anthropology, sociology, and other fields trace the problem of unfettered garbage production in the United States to cultural, economic, and other social transformations taking hold since the early 1900s, and characterized by widespread over-production, affluence, and consumerism (Strasser 2000; Melosi 2005). This means that even the most intimate, basic, and mundane of human activities have been transformed into



garbage-making events, which become stratified in landfills as fossils in archaeological digs (Rathje et al., 1992; Rathje and Murphy 2001). But this also means that individuals, organizations, corporations, and government institutions all govern the definition and disposition of garbage and can intervene in its production in various ways. However, although production, consumption, and way of life practices generate increasing volumes of garbage, the “garbage problem” in the United States has been historically defined in quite different terms over time. These constitute governmental rationalities concerning garbage. Historically, garbage has been defined or rationalized as material to be discarded to the outside for nature to break down and metabolize; as a nuisance warranting individual, community, corporate, and local government intervention; as a health, hygiene, and sanitation problem needing scientific expertise and state government intervention when city populations grew to larger numbers; and finally, in its more recent definition, as an environmental problem once the concept of the environment enters the social conscience following the 1960s (Strasser 2000; Melosi 2005).

The intersection of garbage and economy is a theme that recurs throughout this story. It can be argued that today economic or neoliberal principles have come to govern our thinking about garbage. Over time, garbage has become an article of commerce within the system of political economy, and garbage production volumes continue unabated notwithstanding attempts to divert garbage from final disposal sites through recycling. Garbage pervades the social fabric and all spaces within it, and the flood of unwanted material is removed and sent for disposal to dumps, landfills, and incinerators, typically located in poor and ethnic minority communities (Strasser 2000; Pellow 2004; Melosi

2005). The unfettered production of garbage is therefore a necessary condition for the production of environmental injustice associated with its disposal. This situation can be interpreted as a collective form of marginalization and abjection of host communities and their residents by society in general (Moore, S. 2008, 2009).

### **1.3 Methods and Data**

In order to answer the research questions posed above in a manner that is informed by these theoretical insights, this dissertation uses a mixed methods approach that combines both qualitative and quantitative research methods and data. In doing so, this dissertation draws from two established research traditions in environmental justice studies that are often used separately.

The qualitative portion of the research is the dominant methodological framework in this dissertation. Qualitative research in environmental justice studies has relied heavily on document reviews, key informant interviews, and case studies. This dissertation continues that tradition by incorporating documents, interviews, and the Ironbound neighborhood of Newark and Essex County as the case study community or area. In addition, this dissertation adds focus groups with selected residents of the Ironbound as the impacted neighborhood and of Montclair as the non-impacted neighborhood. However, this dissertation differs in the main emphasis of the environmental justice story that is told through the information derived from these methods. Rather than focusing on how environmental injustice conditions in the case study community emerge solely from racial or class conflict, the discrete process of establishing a detrimental facility, the negative

outcome of a judicial ruling, or the land-use and economic socio-spatial processes affecting the siting of a detrimental facility in the community, this dissertation uses qualitative methods to seek evidence of how environmental injustice conditions emerge from our collectively enacted governmental approaches to garbage and our enrollment into those approaches as garbage governmental subjects. With this goal in mind, document reviews primarily serve to establish the historical trajectory of our collective governmental intervention into the garbage problem; interviews serve to gain expert perspectives on the problems of solid waste management policy and governance in New Jersey; and the case study serves to open up a window into how the production of environmental injustice touches down on a real community on the ground in connection with our accepted and collectively enacted garbage governmentalities and how impacted and non-impacted communities are co-articulated into a relation of environmental injustice. The focus groups in the case study area seek evidence of our production as garbage governmental subjects who enact governmentalities and participate in the production of environmental injustice through our everyday lives. In sum, this dissertation examines the various qualitative data derived from these methods to reconstruct a history of how garbage comes to be reflected upon as a governmental problem in New Jersey; how historical governmental interventions into the garbage problem and the solid waste flow control policy in particular constituted governmentalities that have led to a set of human social relations that pervade contemporary life and that include the creation of disposal landscapes and environmental injustice conditions; and how our garbage governmentalities are sustained through our day-to-day and mundane understandings, processes, and practices with respect to garbage.

With this as the primary goal, quantitative methods are used to complement the qualitative research in this dissertation. The research incorporates quantitative data and methods to illustrate some of the spatial distributions and relations that stem from our established socio-environmental relations. Using geographic information systems (GIS), spatial data on facility types and locations, and census demographic and geographic data, this dissertation illustrates the resultant spatial distributional pattern of solid waste disposal facilities in the Ironbound, Newark, and Essex County. For this case study area, this research also develops a map of the garbage production volumes transferred through the county-approved routes from the municipalities in the county to the garbage incinerator in the Ironbound. This research also includes the present day distributional pattern of operating landfills, incinerators, and transfer stations in New Jersey that results from adoption of the flow control policy, and analyzes the economic and ethnic or racial demographic characteristics of impacted and non-impacted populations using proximity analysis. In using GIS mapping in this dissertation, this work incorporates a long-established research tradition in environmental justice which has contributed greatly to our understanding of environmental inequities and, in doing so, has been a powerful ally of affected communities because of the way a map can speak more than a thousand words. However, this dissertation differs from some of this research in that it does not attempt to find an explanation of environmental injustice only within or through the quantitative mapping. Instead, the resultant spatial patterns of inequality revealed by the quantitative data are woven into the larger narrative of the social relations that produce environmental injustice, thereby contextualizing their meaning. This approach liberates the quantitative

environmental justice research from having to settle the question of whether or not an environmental injustice has been committed. Instead, having qualitatively established the social processes and social relations that yield environmental injustice conditions, the quantitative pattern serves as an illustration of their physical manifestations. In a functional and complimentary role, several of these maps were used as visual aids during the focus groups research.

### **1.3a Qualitative Methods and Data**

This section proceeds to discuss in more detail the specific data and methods used in this dissertation, and how they complemented each other within a mixed-methods research approach.

#### *Document Reviews*

This dissertation relies significantly on the review of many documents, as both primary and secondary sources. The information obtained from primary source documents in significant ways constitutes the backbone of the story in this dissertation. These documents include sources from state, county, and municipal government entities, but also from the Ironbound community and from secondary sources. Specifically, much of the historical information on the evolution of garbage governmental approaches over time comes from a review of the annual reports of the New Jersey State Board of Health (NJSBoH), which was founded in 1876 and became the New Jersey State Department of Health (NJSDoH) in 1915. This was the state government entity originally charged with

governing garbage from 1877 through 1969 by coordinating the efforts of local boards of health and by enforcing various relevant regulatory codes that sought to guide human behavior with respect to garbage. I reviewed each of the 92 annual reports produced by this state health agency for the detailed and rich accounts documenting the evolution of public health in general and of garbage as a problem that required governmental intervention in particular, and how the collective effort of governing garbage was accomplished over time in New Jersey.<sup>1</sup> These annual reports also pointed me to a series of directly relevant laws, codes, and regulations concerning garbage, which were also reviewed. Specifically, I reviewed the State Sanitary Code, Smoke Control Code, Air Pollution Control Code, descriptions of the Swine Code, and related statutes. These codes and statutes were all connected to and sought to modify what humans did with their garbage, from the handling of garbage in a sanitary manner to protect human health, to stopping the burning of trash in densely populated areas in order to curb air pollution, to the elimination of the long-established practice of feeding garbage to swine and other farm animals. In the 1970s, garbage ceased to be addressed by the NJSDoH and instead became the responsibility of the newly-created NJDEP. This important historical break symbolizes a change from the governmental view of garbage primarily within a public health context to its view as an environmental problem that required highly technical interventions that were founded in

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<sup>1</sup> This archival material is made available since 2006 by the Rutgers University Libraries as part of their Health Sciences and the History of Medicine program. The material is titled "New Jersey Health Statistics from 1877 to 2000: An Historical Electronic Compendium of Published Reports," and was compiled and annotated by Mark C. Fulcomer, Ph.D. and Marcia M. Sass, Sc.D. A description of the materials and a copy of each annual report is available electronically at: [http://www.libraries.rutgers.edu/history\\_of\\_medicine/NJHS/nj\\_state\\_health\\_statistics](http://www.libraries.rutgers.edu/history_of_medicine/NJHS/nj_state_health_statistics).

more complex and formalized scientific and economic systems. In trying to understand this change, I reviewed New Jersey's Solid Waste Management Act of 1970 and its companion law, the Solid Waste Utility Control Act of 1970, which established the foundation for the modern regulation of garbage in the state and gave way to the regionalization of garbage disposal on a county basis and the implementation of the flow control policy of the 1970s. I also reviewed various NJDEP annual reports and specific reports concerning garbage and solid waste management issued by that agency from the 1970s to the present. These reports are made available on the NJDEP's website. This transition also relied heavily on the empowerment of county governments, which assumed the control over garbage governmental planning once held by each municipality. In order to understand the role of county governments in the evolution of garbage governmental management, I reviewed various county agency reports that were required to be produced by each county since the 1970s, which are available at the Rutgers University Archives in Alexander Library. A key primary source were also the multi-year contracts entered-into between municipalities in Essex County and the Essex County Utilities Authority (ECUA) for the disposal of garbage or municipal solid waste from these communities at the garbage incinerator in the Ironbound, which is owned by the Port Authority of New York and New Jersey (PANYNJ) and is currently operated by Covanta Energy. Other related primary sources from government agencies included various court cases and municipal ordinances or resolutions, as cited.

These government agency primary sources were balanced by primary sources derived from community entities, especially from the Ironbound neighborhood. I reviewed

documents concerning garbage and environmental justice issues as documented by members of the Ironbound community since the late 1970s. Specifically, I reviewed each monthly issue of the Ironbound Voices local community newspaper from 1980 to 1987, documents and audiovisual materials recorded by the community, and various other records made available at the Van Buren Branch of the Newark Public Library and organized as the Ironbound Environmental Justice History and Resource Center. The Ironbound Voices community newspaper, available at the Washington Street branch, is a key resource of material for this dissertation because its articles carefully and methodically document the community's efforts to achieve the cleanup of the neighborhood from industrial and other sources of pollution, and to protect the community from a series of detrimental facilities that were proposed to be located there during the 1980s. Alongside stories about the start of little league, and announcements of marriages, births, and death, Ironbound Voices chronicles the Ironbound neighborhood's participation in the budding environmental justice movement in the United States, intersecting with key members of the movement such as Lois Gibbs and Benjamin Chavis, and key events marking the struggle for farm worker rights, the community opposition to a landfill for the disposal of PCBs in Warren County, North Carolina, and the broader anti-toxics movement in the United States. The Ironbound's fight against the garbage incinerator was an important part of this story.

Secondary sources such as other newspaper and magazine articles, books, trade publications, and academic articles on these subjects were used in combination with the primary sources, as cited.



All of these primary and secondary documents were reviewed to answer the set of central and related researchable questions presented in this dissertation. I reviewed these documents using content analysis and qualitative coding. For each document or set of documents, I followed several steps. After reading each document or set of documents, the key message of each document was written down on a separate piece of paper, with dated or sequential organization, when necessary. This resultant summary and chronological document was then reviewed to identify emerging themes and keywords from each document and over time. The themes and keywords derived from these documents were then compared with a set of themes and keywords derived from the theoretical literature considered in this dissertation. From the garbage social science literature, principal themes included the treatment of garbage as resource or a burden, garbage as a material around which a range of social and environmental relations are constructed, the changing definitions of the garbage problem over time, the changing governmental approaches to the garbage problem over time, the marginalization of people and places associated with garbage, garbage as an article of commerce, the establishments of rights to the garbage, and patterns of de-skilling and related changes in human-human and human-animal relations. From the governmentality framework, principal themes included the enactment and conduct of garbage governmental practices; the rationales for their enactment, including problem definitions; the techniques through which garbage governmentalities were established; the technologies favored to handle garbage; the multiple scales at which these governmentalities were enacted, from the individual, to households, communities, neighborhoods, organizations, firms, city administrations, institutions, governmental

departments and agencies, and others; the establishment of subjectivities, comportments, desired conduct, and other actions in the realization of garbage governmental programs; the role of space in the achievement of governmental goals; and matters of political economy, population health and safety, and ethics in the realization of governmental approaches to garbage. From the environmental justice literature, key themes included the association between garbage and marginalized poor or colored communities, groups, and individuals, and the spatial distribution of garbage.

A key research goal was to evince and show where the document themes merged with the theoretical themes, thereby creating the arc of the story as the theory could be used to weave together the pieces of information emerging from the various documents. Therefore, both the emerging document themes and the literature themes were used to read again the original primary and secondary documents to then extract the storyline and reconstruct the story of the evolution of garbage governmentalities and environmental justice in New Jersey in general, and in the Ironbound neighborhood of Newark and Essex County in particular. Both the governmentality framework and the garbage and society literature significantly informed the way in which I read these documents, informing my understanding of how environmental injustice conditions are produced.

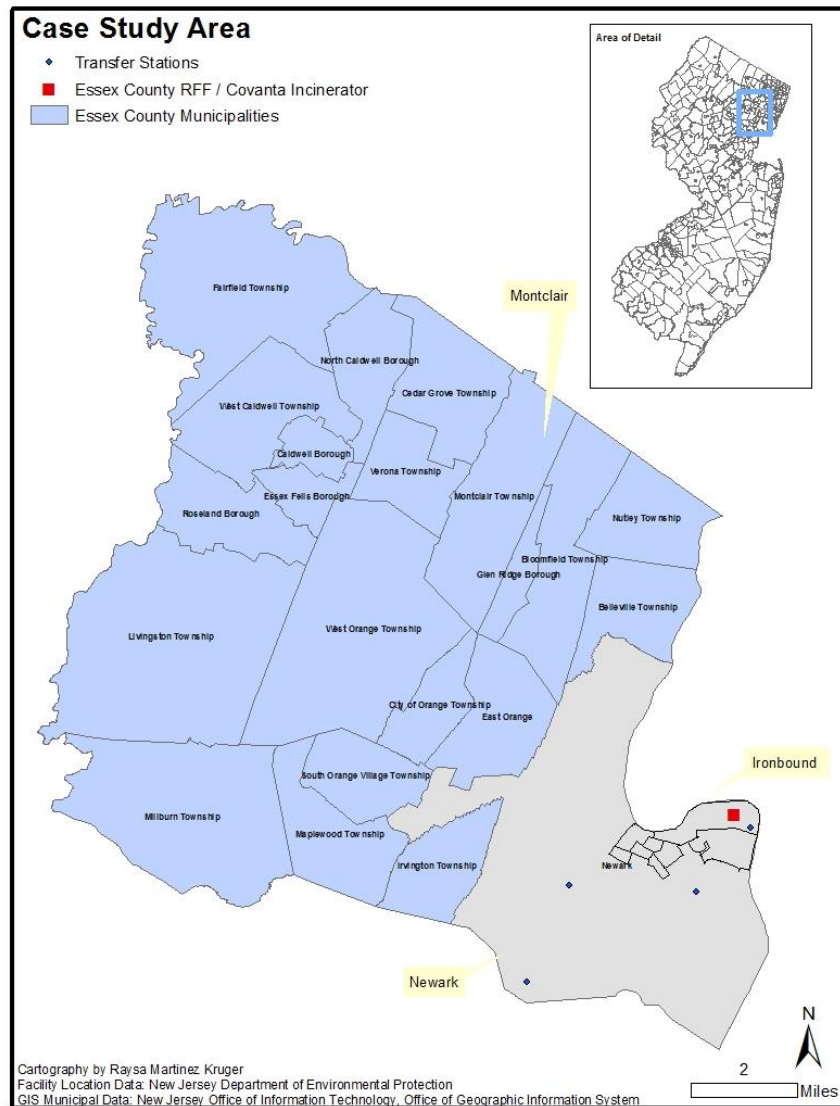
Specifically, I found evidence in the documents of the general categories of governmental effort identified in the social science literature on garbage. These general categories were the pre-State modality of dumping, and the formal State modalities of nuisance, sanitation, and environment. I also found evidence of the elements of governmentality associated with each modality, and these modalities could be understood

as garbage governmental rationalities. The document sources evinced the rationalities put forth under each garbage governmental effort; how these efforts sought to create garbage governmental subjects from local governmental authorities, to individuals and groups such as garbage collectors, farmers, and other garbage people, to households and communities; the technologies and practices favored under these efforts and held out to be essential for the success of the governmental efforts; the spaces that were targeted under each governmental effort, which included the designation of clean public and private spaces that were to be free of garbage, and disposal spaces that were to receive the garbage; and political-economic components, including a reshuffling of who had the right to collect and dispose of the garbage, and the treatment of garbage as an article of commerce within a sophisticated economic system, where garbage ceased to have direct use value and became an article of commerce, among other evidence of governmentality. Inherent in those governmental efforts I also found evidence of the modalities of rule involved in creating governmentalities, specifically the disciplinary (desired individual conduct with respect to garbage), biopolitical (garbage as a threat to the population's health and safety and a collectivized approach to it), and neoliberal (garbage management as informed by economic principles and understood within a sophisticated political-economic system) modalities of rule. These findings allowed me to situate current conditions in the Ironbound not only within the flow control policy of the 1970s and 80s but also within previous garbage governmentalities enacted in New Jersey. Current environmental injustice conditions are interpreted as the result of these various governmentalities. Today, garbage governmentalities are significantly informed by neoliberal economic principles which rest

on some of the practices and subject formation efforts established by previous governmentalities, and yet put forward new aspects.

*Case Study: The Ironbound Neighborhood of Newark and Essex County*

The disposal of garbage at the incinerator facility in the Ironbound neighborhood of Newark represents a material reality that is a product of established social relations. These relations have been structured through governmental policies concerning garbage as a social material, and through our enactment of these policies in our day-to-day lives. Relations are structured not only by actual policies and infrastructures – from what are considered proper disposal practices to the actual physical incinerators, roads, and garbage trucks – but also, and more importantly, by the day-to-day mundane practices that people and communities whose garbage goes to that facility undertake in the conduct of their daily lives.



**Map 1. Case Study Area**

The Ironbound neighborhood of Newark, and Essex County and its municipalities, is selected in this dissertation as the on-the-ground case study where the flow control policy touched the lives of real people and the broader population for various reasons. Both the Ironbound and Essex County are selected because of their unique qualities and characteristics in the context of flow control, environmental justice, and New Jersey. Essex

County is a place of contrasts, including urban and rural environments, the very wealthy and very poor, generally white suburbs and diverse cities. Within the county, Newark is impacted by large infrastructural facilities such as Newark Liberty International airport and the Port of Newark seaport, the Newark Pennsylvania Station train station along the Northeast Corridor line, and nearby major highways such as the New Jersey Turnpike, Garden State Parkway, and Routes 1 and 9. The city is also neighbor to New York City, and is bordered by the Passaic River. Both Newark in general, and the Ironbound neighborhood in particular, have a long and illustrious cultural, political, and industrial history. The Ironbound neighborhood of Newark is characterized as a traditionally immigrant community with a diverse population, composed of Portuguese, Spanish, and Brazilian residents, but also White, Hispanic, and Black residents, who together share in a common history of neighborhood industrialization and polluting facilities that continues to this day. During the flow control policy years, the residents of Essex County engaged in a negotiation over which of their municipalities would be the host of a major incinerator facility, which was only one of five (out of 22 desired) actually built in New Jersey. Even though Ironbound residents had been successful in fending off some other major disposal facilities through activism during the 1980s, they lost their battle against the garbage incinerator. Today, the garbage incinerator in the Ironbound is the largest in New Jersey (and the East Coast), and accepts garbage not only from Essex County municipalities but also from New York City (its major contributor) and various other nearby jurisdictions and states. In selecting this case study, I sought insight into the kinds of social relations that

were established among the residents of Essex County through garbage governmentalities, and the governmentality of flow control in particular.

The Ironbound neighborhood also offered other advantages as a case study that other incinerator-burdened communities in New Jersey did not readily offer. Important distinguishing factors were certainly the presence of the largest incinerator in New Jersey and the demographic and community differences among the residents of the municipalities in Essex County. But more importantly, the Ironbound also has a long history of struggle and organizing through the Ironbound Community Corporation (ICC) and other local community organizations, a struggle that continues to this day. During the environmental justice struggles in the 1980s, Ironbound residents formed the Ironbound Committee Against Toxic Wastes (ICATW). Other groups joined with ICATW in efforts to achieve the cleanup of their neighborhood and to protect the community from additional environmental assault. This represents a proud history of activism in defense of their neighborhood which has been well-documented by Ironbound's residents through their own sources and accounts. A wealth of historical materials was readily-available for me to use during the research process. The community continues its activism on environmental justice issues and riverfront cleanup and development through the ICC and other organizations. There was also the availability of a garbage contract with communities in the county disposing at the Ironbound incinerator. This combination of qualities and resources presented unique research opportunities that made this case study the right one for this dissertation.

*Focus Groups with Ironbound and Montclair Residents*

The case study is complemented and augmented in this dissertation by the inclusion of focus groups with community residents. I use focus groups to gain insights into how residents of the Ironbound, a community impacted by the garbage incinerator, and residents of Montclair, a community that does not have the facility within its boundaries but that is served by it, understand and explain environmental injustice conditions and their place within them as producers and managers of garbage, or garbage governmental subjects. Through focus groups in these two interrelated communities, and incorporating participants' reflections of both their personal and communal roles in the production of environmental inequality, this research aims to expand the environmental injustice analysis beyond the impacted community. Environmental justice research has typically included the views of community residents who live in detrimental environments through interviews and ethnographic research, but focus groups as a way to explore their perspectives and understandings of these conditions has been an underused research method. Environmental justice research has also generally ignored the understandings and perspectives of residents of communities that do not have a detrimental facility but who benefit from that facility being located in a disadvantaged neighborhood, even though these communities are woven with disadvantaged communities into the social and environmental relations that produce environmental injustice. There has also been a lack of articulation of precisely how environmental injustice conditions are produced through the everyday mundane life practices that people undertake. The purpose of the focus groups in this dissertation is therefore to gain insights into these related and co-articulated communities, to learn from



participants' reflections, and to understand how participants make sense of the relations within which they exist.

In using the focus group method to explore environmental justice issues, this dissertation draws from the work of Lisa Clarke and Julian Agyerman, who used focus groups with Black and minority ethnic groups in Britain to explore how these communities understand themselves in relation to conditions of environmental quality in their neighborhoods and how they viewed their environmental responsibilities and rights and those of others (Clarke and Agyerman 2011). The results of that study yielded insights into the gap that exists between environmental values and actions, as the authors found that although focus group participants believed that protecting the environment was important, they at the same time "shifted" responsibility for its protection to others, such as government entities (Clarke and Agyerman 2011: 10-25). Clarke and Agyerman's research did not explore environmental injustice as a co-articulation of social and environmental relations among differently-situated communities, as the research only focused on the views of residents of affected communities. These authors also did not consider environmental injustice conditions as a product of established and embodied governmentalities. However, the authors did prompt the participants to reflect upon whether they saw themselves as implicated in affecting their environment. This dissertation seeks to add a co-articulation of impacted and non-impacted communities and a governmentality dimension to environmental justice research using the focus group method.

Ironbound community residents were identified and invited to take part in the focus groups by working with the ICC, a neighborhood organization with strong ties to the community's residents and which offers a variety of programs in childcare, community health, education, economic development, and environmental justice. Because of the diverse ethnic makeup of the Ironbound neighborhood, the focus group participants were selected to reflect various community profiles. The three Ironbound focus groups consisted of 24 total participants, with six, nine, and nine participants in each group. The first focus group was composed entirely of women, all of whom were Spanish-speaking and of Hispanic or Latino origin. The second focus group was of mixed gender and ethnic background, with White, Black, and Hispanic or Latino residents. The third focus group was primarily composed of Black residents who reside in the public housing developments closest to the Covanta Energy incinerator. As a whole, the Ironbound focus group participants were of diverse ages, and the majority were female, self-identifying as Black or Hispanic or Latino, with annual household incomes of \$20K or less.

The municipality of Montclair was selected for conducting the focus group for various reasons. Montclair exhibits the demographic characteristics of the suburban areas of the county, but the township was selected for inclusion in the focus groups mainly because it champions environmental values. I felt that residents of Montclair would be more interested in participating in a focus group about garbage. In recruiting Montclair residents for the focus groups I sought and received the assistance of the Montclair Environmental Commission. The Commission assisted me by placing my advertisements on their social media platforms and other local media. Interested persons contacted me

directly to sign up for one of the three focus groups in the community. The three focus groups in Montclair consisted of 13 total participants, with four, three, and six participants in each group. As a whole, the Montclair participants were also of diverse ages and the majority were female. The three Montclair focus groups were mostly composed of White residents, with one Hispanic or Latino participant in the first focus group. The majority of the Montclair participants reported having annual household incomes of more than \$100K.

In total, 37 residents from Ironbound and Montclair participated in the focus groups, of them 25 females and 12 males. Table 1 summarizes the participant demographics.

**Table 1. Focus Groups Participant Demographics**

<i>Focus Group Location and Number</i>	<i>Number of Participants</i>	<i>Gender</i>	<i>Age Range</i>	<i>Race or Ethnicity</i>	<i>Household Income (\$ in thousands)</i>
<b>Total Participants</b> <i>N = 37</i> <i>F = 25 M = 12</i>					
<b><i>Ironbound</i></b>					
IRON_1	6	F = 6 M = 0	30s = 4 40s = 2	Hispanic or Latino = 6	<10 = 3 10-20 = 1 20-30 = 2
IRON_2	9	F = 4 M = 5	18-19 = 1 20s = 2 30s = 2 40s = 2 60s = 2	White = 2 Black = 2 Hispanic or Latino = 5	<10 = 2 10-20 = 3 20-30 = 2 30-40 = 1 50-60 = 1
IRON_3	9	F = 6 M = 3	20s = 3 30s = 3 60s = 1 70s = 1 80s = 1	Black = 8 Hispanic or Latino = 1	<10 = 5 10-20 = 3 40-50 = 1
<b>Total Ironbound</b>	24	F = 16 M = 8	18-19 = 1 20s = 5 30s = 9 40s = 4 60s = 3 70s = 1 80s = 1	White = 2 Black = 10 Hispanic or Latino = 12	<10 = 10 10-20 = 7 20-30 = 4 30-40 = 1 40-50 = 1 50-60 = 1
<b><i>Montclair</i></b>					
MONT_1	4	F = 3 M = 1	18-19 = 1 20s = 1 40s = 1 60s = 1	White = 3 Hispanic or Latino = 1	40-50 = 1 >100 = 2 No answer = 1
MONT_2	3	F = 1 M = 2	50s = 3	White = 3	10-20 = 1 50-60 = 1 No answer = 1
MONT_3	6	F = 5 M = 1	50s = 3 60s = 2 80s = 1	White = 6	10-20 = 1 >100 = 5
<b>Total Montclair</b>	13	F = 9 M = 4	18-19 = 1 20s = 1 40s = 1 50s = 6 60s = 3 80s = 1	White = 12 Hispanic or Latino = 1	10-20 = 2 40-50 = 1 50-60 = 1 >100 = 7 No answer = 2

Both sets of focus group participants were presented with the same questions and visual aids. The focus group questionnaire consisted of a set seven questions, specifically designed as a “funnel” to begin with a set of general questions that were introductory and easy for the participants to reflect upon and answer, progressing into more specific questions that required more elaborate reflection (Krueger 1998, vol.3). The first few questions sought to get the participants to reflect upon, consider, and discuss their views on garbage and how they are involved in producing and managing garbage in their daily lives. Then the questions became more specific, and were designed to get the participants’ perspectives on the practices they undertake with respect to garbage in their daily lives, and finally on the garbage transfers and environmental and social inequities within which they exist as highlighted by the garbage incinerator and the flows of garbage to that facility illustrated by the map visual aids. In generating the group discussion on the latter questions, a visual display of six maps I developed was presented to the participants. The maps displayed demographic information for Essex County, showing the ethnic or racial diversity and poverty status of the population at the census tract level; the total tons of municipal solid waste disposed by Essex County municipalities and other counties in New Jersey at the incinerator in the Ironbound neighborhood; and the garbage routes used to transport that garbage, with the thickness of the lines for each route shown in proportion to the volume of garbage transported to the incinerator, and using directional arrows showing the flow of garbage from the rest of the county to that facility. The goal of the focus group questionnaire and maps was to stimulate the participants to first consider and reflect upon their own role in the garbage production, management, and transfer, and then reflect upon

the specific infrastructures connected to those daily processes, the location of the garbage incinerator in the Ironbound, and the ethnic and class inequities evinced by the maps. The discussions provided insights into how participants come to view and understand conditions of environmental injustice and their place within them. The focus group procedures, questionnaire, and maps used as visual aids are provided in Appendix 1.

I moderated, recorded, and transcribed each focus group discussion, assigning each participant a code to maintain their confidentiality. Each recording, transcript, and participant coding document produced a record of material that could be analyzed systematically and independently verified by others (Krueger 1998, vol.6). The transcript data was analyzed using the same content analysis and qualitative coding procedures used for documents. However, the data were also analyzed using procedures specifically recommended for focus group analysis in the methodology literature. The raw data from the recordings and transcripts was analyzed by listening to and reading each focus group material first individually to identify emerging themes; then as part of one of two sets consisting of either Ironbound or Montclair focus groups to identify similarities and differences across transcripts within the same set; and finally in comparison and contrast among the two sets. In addition to analyzing the transcripts for emerging themes, comparing, and contrasting, they were analyzed for the frequency, extensiveness, and intensity of these themes or comments to identify the major thrust of the focus group or set. The analysis paid attention to instances of “complimentary” and “argumentative” forms of interaction among members of the group. According to Bryman, and citing focus group interpretation insights provided by Kitzinger, complimentary discussions among

members are characterized by mutual agreements on certain points, statements, or views, while argumentative discussions reflect differences in participants' understandings (Bryman 2008: 485-487). I also took notice of information that I would have expected to be brought up by the participants but that was not mentioned or discussed during the focus group (Krueger 1998, vol.6: 31-38). The major themes identified across focus groups within each of the two sets (Ironbound and Montclair), and the similarities and contrasts among the two sets, provided the material for results.

The goal of the focus group component of this research is not to be able to generalize about how each broader community feels and thinks. In fact, my focus groups participants are likely to be much more engaged with their respective communities than an average person. Rather, the goal is to identify modalities of feeling and thinking about our collective governmental approach to garbage and environmental justice which may be transferrable to similar circumstances and similarly-situated communities (Krueger 1998, vol.6: 61-77). In other words, the focus group results yield insights into the modes of thinking, rationalizing, and making sense that may operate and pervade as part of the garbage governmental relation we call environmental injustice, and the ways in which these modes support the broader social and material structures and infrastructures we normally point to as ultimate causes of environmental injustice.

#### *Key Informant Interviews with Activists and Experts*

Unstructured interviews with key informants were conducted early during the research process. Interviews provided useful perspectives concerning solid waste

management and environmental injustice issues in New Jersey, helped me refine my research focus, and directly informed my selection of the Ironbound neighborhood of Newark and Essex County as my case study area.

With the purpose of obtaining diverse perspectives on solid waste management and environmental justice issues, three sets of key informants were pursued: environmental justice activists or experts; members of the Environmental Justice Advisory Council (EJAC); and government policy experts working at the NJDEP. Although activists are experts in their own right because of their extensive knowledge of their respective communities and the issues that affect them, and although many activists also count with formalized or professional training and expertise, I classified key informants as activists when the main thrust of their environmental justice work focused on local community development, education, or grass roots organizing. I classified key informants as experts when the main thrust of their work was to bring their formal and professional expertise to environmental justice work. I classified the EJAC members as a separate category of key informants due to their participation in an advisory body that attempts to shape environmental justice regulation at the NJDEP through the formal decision-making process. I also treated the NJDEP policy experts as a separate category due to their unique position within the formal regulatory process.

A total of 12 interviews were conducted during a one-year period from October 2011 through September 2012. Of these, 7 were conducted with environmental justice activists, three of whom were also a member, the chairperson, and vice-chairperson of the EJAC; 3 with environmental justice experts, including two scientists and one attorney; and



2 with NJDEP solid waste management policy experts. Once an initial interview was completed with these key informants, additional interviewees were identified using a snowball sample by asking an interviewee to recommend other persons to also pursue for an interview. I stopped pursuing additional interviews when I had obtained sufficient understanding of the environmental justice and solid waste management policy landscapes and issues, had sufficient information to select my case study area, and no new information was gained by conducting an additional interview. Each interview lasted about one hour, and was conducted in the key informant's work setting or other setting selected by him or her. Although confidentiality was offered to each key informant, none of them wanted to remain confidential and they gave me permission to use their names in connection with their views or the information they provided.

The environmental justice activists or experts interviewed for this dissertation were selected by first identifying through an internet search the various environmental justice organizations doing work in New Jersey and contacting their listed leaders. This initial search revealed that environmental justice organizations are well-organized in New Jersey under the New Jersey Environmental Justice Alliance (NJEJA), an umbrella organization composed of individuals and groups doing environmental justice work in the state, including a range of issues impacting low-income and people of color communities.<sup>2</sup> When

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<sup>2</sup> See the NJEJA's website at <http://njeja.org/about/>. This organization takes pride in being one of the few statewide environmental organizations in New Jersey having people of color among its top leadership. On its website, the NJEJA describes its mission as "working together to create healthy, sustainable and just communities by eliminating environmental injustices in low income and communities of color. Together we support and work with communities through local, state, and national policy development, targeted

the NJEJA website was first accessed in 2011, the website listed regional contacts for organizations doing environmental justice work in northern, central, and southern New Jersey. From the available organizations, I first contacted Kim Gaddy of the New Jersey Environmental Federation (NJEF)<sup>3</sup>, Ana Baptista of the ICC<sup>4</sup>, and Valorie Caffee of the New Jersey Work Environment Council (NJWEC)<sup>5</sup>. Each of these three leaders granted me an interview. Gaddy provided me with a multi-faceted perspective, including an understanding of environmental justice issues from her position as a long-term activist and community leader deeply involved in Newark's environmental governance institutions, as a Newark resident, and as mother, sister, and daughter. Baptista shared with me her unique perspective as an Ironbound community resident, working on environmental justice issues at the ICC at the time and also deeply involved with environmental governance

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campaigns and organizing, education, advocacy, training and technical assistance focused on critical environmental justice issues" (accessed June 8, 2014).

<sup>3</sup> See the NJEF's website at <http://www.cleanwateraction.org/about/>. The NJEF has brought together many other environmental organizations in New Jersey during a 40-year period. Known today as Clean Water Action, this organization works on environmental justice issues by undertaking grassroots campaigns for "clean, safe and affordable water; prevention of health threatening pollution; creation of environmentally safe jobs and businesses; and empowerment of people to make democracy work. Clean Water Action organizes strong grassroots groups and coalitions and campaigns to elect environmental candidates and solve environmental and community problems" (accessed June 8, 2014).

<sup>4</sup> See the ICC's website at <http://ironboundcc.org/>. The ICC is the principal social services and community development organization operating in the Ironbound neighborhood of Newark since 1969. The ICC works in the areas of housing, child care, community health, education, community development, and the environment. As part of improving the quality of life of Ironbound's residents, the ICC has historically worked to promote environmental justice as a main component of its work.

<sup>5</sup> See the NJWEC's website at <http://www.njwec.org/about.cfm>. The NJWEC is one of the few organizations approaching environmental justice issues not only from the negative environmental impacts of pollution from factories in the state, but also from the perspective of workers, their right to be protected and the occupational health issues they suffer, and their right to good and well-paid jobs. The NJWEC is "a membership alliance of labor, environmental, and community organizations working for safe, secure jobs and a healthy, sustainable environment. WEC links workers, communities, and environmentalists through training, technical assistance, grassroots organizing and public policy campaigns to promote dialogue, collaboration, and joint action. Formed in 1986, WEC is the nation's oldest state labor/environmental (or 'blue/green') coalition" (accessed June 8, 2014).

organizations in Newark and the Ironbound, which placed her at the center of ongoing work concerning solid waste management issues directly related to the regionalization of garbage disposal and the operation of the incinerator facility in her community. Caffee generously contributed the insights she has gained through her long career working at the intersection of environmental justice, worker rights, and civil rights in New Jersey, and as a leader in the broader environmental justice movement in the United States and internationally.

Gaddy, Baptista, and Caffee directly connected me with additional activists and experts. My list of activist key informants grew to include Nancy Zak and Arnold Cohen, who have been long-term residents of the Ironbound neighborhood, members of the ICC, and involved in the community's efforts concerning the garbage incinerator and other causes for decades; Priscilla Hayes, a long-term environmental activist and educator working on food and sustainability issues; and Henry Rose who, as the statewide coordinator for the NJEJA has been involved in organizing communities around environmental justice issues for more than two decades, including community organizing around the siting of a recycling facility in a low-income neighborhood of Trenton, New Jersey's capital city.

My list of key informants also grew to include three experts: Nicky Sheats, Director of the Center for the Urban Environment at the John C. Watson School of Public Policy, Thomas Edison State College; Peter Montague, Executive Director of the Environmental Research Foundation; and Olga Pomar, Managing Attorney of the Community Development Unit at South Jersey Legal Services in Camden. In their respective careers, each of these experts has offered their professional knowledge and expertise to

communities working for environmental justice. Sheats' research on cumulative environmental impacts documents problems of environmental pollution affecting low-income and colored communities from multiple sources. Montague's research on landfill design and other matters, which he made available to community groups through his publication Rachel's Environmental Health News, for many years translated scientific jargon about pollutants into language that the average person could understand. Pomar has for many years represented low-income persons and community groups working to achieve a better quality of life in Camden, New Jersey, and was the lead attorney representing the residents of South Camden in a landmark environmental justice case against the NJDEP and the St. Laurence cement factory in the Waterfront South neighborhood. Through their work and careers, these three experts have also greatly informed wider policy, legal, and governmental debates on environmental justice, and they enriched my understanding of these issues tremendously.

Interviews were also conducted with selected members of the state's EJAC, which is a body of public members originally created by the NJDEP in 1998 and appointed by that agency's Commissioner to consider matters of environmental justice policy in New Jersey and advise the agency on the direction of such policy.<sup>6</sup> The council members also make recommendations to the NJDEP on how to effectively communicate with the public and affected communities concerning environmental justice issues, and how to involve them in the decision-making process. The EJAC's membership was identified through a

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<sup>6</sup> See the EJAC's website at <http://www.nj.gov/dep/ej/ejcouncil.html>.

review of the council's website. Three members of the council were interviewed in 2011, who were also environmental justice activists. At the time of the interviews, Caffee served as the chairperson, Baptista as the vice-chairperson, and Gaddy as a member of the council. Interview questions focused on the EJAC's work, environmental justice issues in general, and solid waste management issues in particular. These interviews pointed me to the council's more recent work in pursuit of an understanding of and a standard for cumulative impact in the context of environmental justice research and policy. Cumulative impact refers to the environmental impacts of multiple sources of pollution and kinds of pollutants that often affect burdened communities.

Government policy experts at the NJDEP were also interviewed for their expertise on environmental justice issues and solid waste management policy. Two interviews with policy experts were conducted. Anthony Fontana, Bureau Chief of the Bureau of Transfer Stations and Recycling Facilities, and Sanjay Shah, provided insight into the NJDEP's role of regulating solid waste management facilities for compliance with laws, rules, and regulations. Environmental justice policy experts at the state's Office of Environmental Justice were also pursued, but did not respond to my interview requests. These two interviews helped me to better understand some of the solid waste management issues of concern to policy experts.

The unique perspectives and deep understanding of the issues provided by each of the key informants greatly informed this dissertation. These diverse categories of key informants provided first-hand knowledge of the issues, helped me understand the problems of environmental injustice and garbage as they understood them given their own

roles with respect to these issues, and provided important historical background and current insights and perspectives. Through these interviews, I was able to determine that environmental justice issues associated with garbage disposal facilities were currently being dealt with as a forefront matter by the Ironbound neighborhood of Newark. Therefore, and as some of these interviews were conducted early in the research process, the knowledge that key informants shared with me significantly informed my selection of the Ironbound neighborhood of Newark and Essex County as my case study community or area, pointed me to local materials and resources, and helped me to develop community contacts. Several key informants lived through the implementation of the flow control policy and were directly involved in the Ironbound's effort against the incinerator facility and in other community struggles with respect to garbage facilities or other environmental burdens in New Jersey.

### **1.3b Quantitative Analysis and GIS Mapping**

This dissertation also draws from a quantitative research tradition in environmental justice studies by using GIS mapping, data, and methods. Maps produced using GIS have been used in the conduct of environmental justice research since at least the early 1990s (Glickman 1994; McMaster et al., 1997). This research consists of combining data on facility locations, pollution volumes, geographic units of analysis, and population demographics. These data are analyzed using spatial analysis functions provided in a GIS software package, such as ArcGIS. Typically, geographic units of analysis that are readily-available, such as zip codes, municipalities, or census tracts, blocks, or block groups, are

used as a base map onto which the other data are overlaid. Facility locations are brought up on the map using address geocoding functions. Pollution data, usually derived from government data sources such as the Toxics Release Inventory or the Superfund program, are assigned to each facility. Demographic data derived from the Census, typically concerning the income, race or ethnicity, and poverty status of the population, are assigned to the geographic units of analysis. These various data elements are combined and visualized in map form, and spatial analysis techniques are performed to arrive at comparisons, contrasts, and impact assessments among the various geographic areas and populations. A common analysis technique involves the use of distance buffers to select the underlying demographic data of the populations residing close and far to the facilities to arrive at comparisons and contrasts concerning demographics and pollution (Chakraborty and Armstrong 1997; Sheppard et al., 1999). More complex studies incorporate the use of air dispersion models to examine how pollutants emitted from the facilities travel in space (Chakraborty and Armstrong 1997; Dolinoy and Miranda 2004). Predominantly, GIS environmental justice analyses have been used in the assessment of public health impacts of environmentally noxious facilities, and in risk assessment and management, typically using proximity to the facility or pollution source as a proxy for risk (Chakraborty et al., 1999; Maantay 2002a, 2007; Wu and Batterman 2006; McEntee and Ogneva-Himmelberger 2008). A common use has also been to reveal the stark class and ethnic or racial contrasts that exist between communities that have detrimental facilities within their boundaries and those that do not, often finding that people of color

and poor communities bear a disproportionate share of detrimental facilities (Mohai and Saha 2007; Bullard et al., 2007).

The benefits of GIS for the conduct of environmental justice research have been well described in the literature. Because GIS facilitates the combination of the multiple demographic, geographic, and environmental data needed for environmental justice assessments; offers tools and functions appropriate for the analysis of such data; enables the visual representation and display of the data; and allows for the production of maps showing the findings; the incorporation of GIS methods has helpfully and significantly contributed to environmental justice research (McMaster et al., 1997; Sheppard et al., 1999; Bullard et al., 2007). However, a limitation of GIS-based methods is that they cannot independently be used to explain how patterns of inequities came to be constructed, or elucidate the salient factors implicated in such construction. Therefore, the presentation of the stark class and ethnic or racial inequities revealed through a GIS quantitative analysis are not sufficient to understand the full implications of what is being presented in the map. Because of this, maps must be contextualized within the social process that produced the inequities revealed by the map, and that story must be found through qualitative analysis.

Therefore, the goal of mapping in this dissertation is to illustrate and visualize the existing distributional pattern of garbage facility locations, the flows of garbage to the Ironbound neighborhood for disposal at the Covanta Energy incinerator, and the demographic and neighborhood characteristics of impacted and non-impacted areas in order to show the material manifestations of established social relations concerning our collective undertaking of modern garbage governmental management. This GIS-based



analysis complements and illustrates the distributive and other aspects resulting from the various social processes subject to qualitative analysis.

Specifically, in this research, I combine garbage disposal facility location data and census demographic and geographic data at the census tract level, to conduct a general quantitative analysis of the demographics of impacted and non-impacted neighborhoods. I conduct a more specific analysis for my case study community of Essex County, Newark, and the Ironbound in particular. To be able to conduct this analysis, I first developed shapefiles of operating post-flow control municipal waste landfills, incinerators, and transfer stations in New Jersey. For the case study area, I also obtained various solid waste production and management data from the NJDEP. I incorporate various census data, including income, poverty, and racial or ethnic demographic variables at the census tract level to conduct a comparative analysis of impacted and non-impacted areas. These data can be understood in the context of the general history of garbage governmental management. One key aspect of this analysis is the mapping of municipal solid waste garbage routes, and solid waste volumes moving along those routes, from Essex County municipalities to the Ironbound incinerator in 2010. This map aims to show the municipal solid waste transfers from non-impacted Essex County municipalities to the impacted neighborhood of the Ironbound to show the connection these two sets of communities mutually have. It is important for me to embed this analysis within the history of this case rather than as a free-standing analysis. The following sections summarize the quantitative data and methods used in this dissertation. Additional discussion of these data sources and methods, and their methodological limitations, is provided in Appendix 2.

The facility shapefiles of landfills, incinerators, and transfer stations developed in this dissertation will be made available to the public after the dissertation is completed by publishing them through the New Jersey Geographic Information Network.

### *Facility Locations Data*

I began to research the location of garbage management and disposal facilities in New Jersey by reading the NJDEP's Solid Waste Management Plan for 2006. In that document, I discovered the story of the flow control policy and its outcome of having succeeded in locating only 5 of the 22 incinerator facilities originally desired. But that story and that document also revealed that flow control was precipitated by a transformation in the spatial thinking concerning where garbage disposal facilities were to be located, going from a local or municipality-based approach to a regional or county-based approach. From that moment on I knew that the mapping of facility locations would reveal a picture of the modern day manifestation of that collectively-implemented policy decision. Furthermore, regionalization of garbage disposal also meant that a constellation of garbage transfer stations had to emerge in New Jersey, as garbage trucks would no longer be making the short trip from their collection route to the local municipal dump. Instead, garbage would have to be deposited at an accessible transfer station for further shipping to the regional facility (which could be in New Jersey or outside in another state). To understand the impact of flow control on the landscape, I therefore had to map the location of modern day incinerators, landfills, and transfer stations in New Jersey.

While searching for addresses or the geographic location of current operating incinerators, landfills, and transfer stations, I came across a list of 844 landfills known to exist by the NJDEP.<sup>7</sup> These include the so-called “historical” landfills or the old municipal dumps that were closed upon the regionalization and modernization of garbage disposal in New Jersey associated with the flow control policy. Most of the landfills on that list, 816 of the total, are classified as “not open,” meaning that they have stopped receiving waste. The list also includes 16 “open” landfills currently operating, only 13 of which accept municipal solid waste or bulk waste. Most of the landfills on the list have not properly closed even though they have ceased to operate, as closing a landfill requires a very detailed and expensive process which has become unaffordable to many former landfill owners. Only 111 of the 816 landfills not operating are classified as being properly closed. The 13 operating landfills that accept municipal solid waste fit the modern description of a sanitary landfill, which reflects a fancier, highly technical, engineered design. Aside from this list, there are also dumps that are not known to exist by the NJDEP, but that surface every now and then as a reminder of unplanned and often furtive practices adopted by people to govern their garbage. For example, tire dumps are routinely discovered in the Pine Barrens and at the bottom of the Passaic River. In any case, the existence of this list of known dumps and landfills, and their classification by the NJDEP as not open or open, can be interpreted as a direct reflection of the changes in governmental approaches to garbage over time, and

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<sup>7</sup> The complete list of “New Jersey Solid Waste Landfills” is available on the NJDEP’s website at: <http://www.nj.gov/dep/dshw/lrm/landfill.htm>.

specifically as the product of the various modes of State interventions into the garbage problem changing from dumping, to nuisance, to sanitation, and finally to environmental modalities, with the latter representing the modern high-tech approach. This information fit seamlessly with the broader narrative in this dissertation. For the conduct of the quantitative environmental justice analysis, I selected from the list for mapping purposes only the 13 operating landfills that currently accept municipal solid waste (one accepts bulk waste originating from homes and municipal sources).<sup>8</sup> These are the modern day manifestations of our collective approach to garbage governmental management that resulted from the flow control policy efforts.

I also found information on the location of waste incinerators operating in New Jersey. Currently, the NJDEP lists a total of 6 incinerator facilities operating in the state.<sup>9</sup> This reflects one private incinerator operated by Novartis Pharmaceutical Corporation, and five county incinerators also known as resource recovery facilities (RRFs) which are operated in Camden, Essex, Gloucester, Union, and Warren counties. These five are the flow control incinerators, and I selected them for the quantitative environmental justice analysis in this dissertation. A list of the 56 operating garbage transfer stations in New Jersey was also available from the NJDEP, by county.<sup>10</sup> All of these transfer stations were

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<sup>8</sup> A list of these "New Jersey Approved Operating Commercial Landfills" is available from the NJDEP at: <http://www.nj.gov/dep/dshw/lrm/aocslf.htm>. See also <http://www.nj.gov/dep/dshw/lrm/clfadd.htm#Atlantic>.

<sup>9</sup> See the list of "Authorized New Jersey Incinerators" on the NJDEP's website at: <http://www.nj.gov/dep/dshw/rtrp/njaincin.htm>.

<sup>10</sup> See the list of "Transfer Station/Intermodal Container/Material Recovery Facilities (Operating)" available on the NJDEP's website at: <http://www.nj.gov/dep/dshw/hwtf/tsicmrfd.htm>.

selected for mapping in this dissertation. In sum, this dissertation maps the geographic location of 13 operating landfills, 5 incinerators, and 56 transfer stations representing the post-flow control constellation of municipal solid waste management facilities operating in New Jersey. This mapping is a background to the more specific mapping of the case study area of the Ironbound neighborhood of Newark and Essex County.

### *Census Geographic and Demographic Data*

Census data is often incorporated as part of quantitative environmental justice analyses, and this dissertation does so as well. Two kinds of Census data are incorporated in this dissertation. One is geographic boundary data, specifically the census tracts for New Jersey. The other is demographic data, concerning various demographic and economic indicators for the population residing in each census tract. Environmental justice scholars who have used quantitative methods and GIS mapping recommend the use of the data at the most spatially-resolved scale, and therefore census blocks or block groups would have been ideal. However, because not all of the census demographic data are available at those more spatially-resolved scales, the census tract level proved more usable as most census data is available at that level and could thus make possible comparisons among various indicators for the same geographic units of analysis. I explored a range of indicators for New Jersey's population, but decided to include in the analysis in this dissertation data for income, poverty status, and racial or ethnic categories by Hispanic and non-Hispanic origin. The geographic and demographic Census data provided the base maps onto which the facility location data was overlaid.

### *Essex County Garbage Volumes and Transfers to the Ironbound Neighborhood*

Additional data was obtained from various sources for the case study area. The county-approved garbage routes for the transfer of garbage from Essex County municipalities to the Ironbound incinerator are published in the Essex County Solid Waste Management Plan for 2006 (Essex County Utilities Authority 2006, pp. II-8 to II-11). The NJDEP provided me information on the tonnage of waste and waste types sent to the Ironbound incinerator from Essex County municipalities, and from various other New Jersey counties and out-of-State jurisdictions, in 2010 (with New York City by far sending the largest quantities of garbage to the Ironbound incinerator). The data on garbage volumes from each Essex County municipality was combined with the data on the approved routes to create a map of a process that happens every day and that is a product of our accepted forms of garbage governmental management, a key feature of the environmental injustice conditions we produce and perpetuate every day, and yet normally remain invisible.

### *General Political Boundaries and Roads Data*

Shapefiles of parcels, municipal and county boundaries, and the streets and roads in the State of New Jersey, developed or published by the New Jersey Office of Information Technology, Office of Geographic Information System (NJOIT-GIS), were also used in the various processing steps, mapping, and spatial analyses conducted in this dissertation.

### *Cartography and Spatial Analysis Functions*

Various spatial analysis processes and functions were used to conduct the quantitative environmental justice analysis in this dissertation. Shapefiles of incinerator, landfill, and transfer station facility locations were created using *address geocoding* and *digitizing* techniques. The point locations were overlaid on top of the census tracts data. Attribute tables containing the demographic census data were joined to the census tracts data using a *table join* function. Proximity analysis was conducted using *buffer analysis*, using a 2-mile buffer zone distance from the facility to select the nearby census tracts using various *selection by location* functions. The census tracts were selected if they were completely or partially inside the buffer zone. Both selection results were used to calculate census tract averages for each demographic characteristic using the *summarize field* function.

The map of county garbage routes and garbage volumes produced for the case study area of Essex County, Newark, and the Ironbound was developed by extracting the approved routes from the streets dataset created by NJOIT-GIS, merging those street segments for each route, and then assigning the volume of garbage traveling on each route from each town to the correct route on the attribute table. This process was time consuming, as it contained information for a large number of roads and highways, many of which also had alternate names and were therefore difficult to find during the first attempt. At the end of this process, I had a map of the garbage routes approved by Essex County for the transfer of garbage from each municipality to the Ironbound incinerator, and how much garbage traveled to the Ironbound along those routes from these towns in 2010.

Cartographic mapping allowed me to bring all of this quantitative information together to conduct the environmental justice demographic analysis. I used thematic mapping to create choropleth maps of income, poverty status, and racial or ethnic demographic data by census tract, and to overlay these maps with the incinerator, landfill, and transfer station facility locations placed on top. In a choropleth map, the color of the geographic unit becomes greater in intensity as the value of the indicator rises. The overlay of these data readily provides a visual of the elements of a typical quantitative environmental justice analysis. For the case study area, this information is taken further by the mapping, as a separate component, of the garbage routes and the volumes as reflected on each route. Cartographic flow lines were drawn on top of these routes, where arrows represent the flow of solid waste volumes to the Ironbound incinerator from other parts of the county. These maps allowed not only for contrasting the demographic characteristics of neighborhoods impacted and not impacted by the garbage facility infrastructures, but also for representing the transfer of waste from impacted to non-impacted neighborhoods, thereby helping to make visible how the mundane converges with large and visible structures and infrastructures implicated in producing environmental injustice.

#### **1.4 Description of Chapters**

Chapters 2 through 6 present the results of this research and provide an interpretation of their significance for our understanding of environmental injustice.

Chapter 2, titled *Environmental Justice as an Everyday Practice*, lays out the theoretical approach in this dissertation by discussing how the three sets of literatures



inform each other and help to frame this study. The chapter begins with a discussion of the *environmental justice* literature, and focuses on the views of the relation between the State, power, and environmental justice put forth in the literature. In this chapter, I argue that the environmental justice literature explains the production of environmental injustice using a view of power as conflict, and specifically from an understanding of the State as a producer of oppressive racial or class relations, as a managerial agent implementing policy through its administrative apparatus, and as a judge in settling environmental justice claims through its courts. I also argue that these various formulations of the State adopt a view of the relation between the State, power, and environmental justice which is focused on conflict without paying sufficient attention to key social processes that are fundamentally implicated in producing environmental injustice conditions. One such process has to do with how our governmental approach to socially-burdensome materials not only does not question their production, but also makes us all participants in the production of environmental injustice through the mundane activities we undertake without question or any ethical qualms in our day-to-day life.

This chapter also discusses the *governmentality* literature to argue that Foucault's notion of power as diffused in a capillary manner throughout the social body, and as something that can be understood beyond conflict and oppression to include the mundane, can help us engage with environmental justice as connected to the processes and practices of everyday life. These processes and practices have to do with our collective effort to govern socially burdensome materials. I discuss the types of disciplinary, biopolitical, and neoliberal modalities of power, and the rationalities, technologies, subjects, practices, and

spaces which constitute elements of governmentalities, which together form our ways of living and enacting day-to-day governmental processes and practices. Finally, this chapter discusses how the social science scholarship on garbage, which we may call the *garbage and society* studies literature, provides empirical examples of how governmentality elements and power modalities come together with respect to governing garbage as a social material in its dual nature as a resource and a burden. The main message of this chapter is that our governmental approach to garbage is a collective endeavor that implicates us all, and that environmental injustice conditions emerge from these day-to-day governmental processes and practices that connect us to the larger structures and infrastructures we typically point to as culprits of inequalities and oppression.

Chapter 3, titled *The Evolution of Garbage Governmentalities in New Jersey - 1870s through 1970s*, discusses the historical progression of governmental approaches to the problem of unfettered garbage production in the state, and the entrance of the State as a grand actor into governing garbage, which was done using the main overarching and biopolitical rationality of the police power of the State. I argue in this chapter that, with each phase of governmental intervention, specific sets of social relations were established among people, their garbage, and their environments. Using empirical evidence from document reviews, and answering the first set of research questions, this chapter illustrates how garbage became a target of formal governmental management seeking to address dumping under the logics of nuisance, sanitation, and environment. Practices of reusing and dumping are evident in the practices employed by various categories of people who collected garbage or who used garbage to feed farm animals or extract grease for further

sale. What was not used was dumped outside into lands, rivers, oceans, or burned into the air. Households and municipal governments also emerge in these documents as important entities in the production and management of garbage. Once garbage volumes reached proportions that were unmanageable using rudimentary methods of disposal, the State intervened using the logic of nuisance. This meant that the garbage problem and garbage itself began to be formally conceived within the logic of property. Under the nuisance logic, the municipality becomes a grand actor in the collection of garbage; specific public and private property spaces are declared off limits to garbage; and garbage itself begins to be treated as property, evinced in the fact that permits and formal legal contracts came to determine who could collect and use the garbage and in what ways. The Board of Health (later the Department of Health) as a State institution emerges and begins to govern garbage and enroll multiple actors into formal garbage governmental plans. Following nuisance, the logic of environmental sanitation then emerges with a focus on the public health impacts of dumps, and to prescribe disciplinary practices and technologies for garbage people at disposal sites. The “sanitary landfill” concept emerges as a technology with required disposal practices, and in response to the demographic explosion of vermin populations - rats, mosquitoes, flies, etc. - at dumps and which plagued towns and cities. Finally, after environmental sanitation, the environmental logic emerges as a highly technical perspective on the problem of garbage and sanitary landfills, with an emphasis on meeting scientific standards, regionalizing from municipal to county-based systems of collection and disposal, and further developing an approach to garbage arguably more centered on economy rather than on ecology. At this juncture, garbage governmental policy

becomes the purview of the newly-created NJDEP and ceases to be addressed by the NJSDoH. This is when the flow control policy emerges during the 1970s as a regional approach to govern garbage, with an emphasis on sophisticated infrastructural technologies such as “resource recovery facilities” or incinerators.

The main message of this chapter is that the garbage governmentalities of nuisance, sanitation, and environment that preceded the implementation of flow control had established certain foundations on which flow control was based. There was a massive orchestration of governmental powers, both institutional and mundane, and of garbage governmental subjects, to move the garbage around. These foundations included the perpetual failure to define the garbage problem as one of production rather than disposal; the designation of clean spaces off-limits to garbage; the production, by exclusion from clean spaces, of disposal spaces that were to receive the garbage; the treatment of garbage as property which involved the dispossession of various categories of garbage people from that resource; the massive enrollment of the state’s population into embodying desired conducts with respect to garbage, as producers of garbage, as packers and sorters in accordance with desired practices and schedules, and as payees for garbage services and infrastructures; the production in the 1970s of a “garbage crisis” that developed as former garbage sinks were eliminated (feeding of garbage to swine / dumping on land, water, or burning to the air), as dumps and sanitary landfills were closed, and as incineration technology was put forth as the environmentally-protective panacea for destroying increasing quantities of garbage.

Chapter 4, titled *Environmental Injustice in the Ironbound*, answers the second set of research questions presented in this dissertation. In the Ironbound, the flow control policy that we have collectively embodied and implemented in the State of New Jersey translates into visible environmental justice conflict. The efforts to locate the incinerator facility in the Ironbound are an example of how we come to designate this neighborhood as an “appropriate” space for garbage, and collectively alienate it and its residents while we designate other communities clean and off-limits to garbage. This chapter discusses the Ironbound community's struggle against its selection as the location for the garbage incinerator in Essex County. During the 1980s, by the time the incinerator facility locations are ready to be designated through a contentious process of public hearings and formal votes by the city and county governing bodies, the Ironbound is simultaneously fighting against proposals to locate within the neighborhood three other detrimental facilities for the treatment or disposal of hazardous waste and sewage. It is also fighting for the cleanup of many contaminated sites and seeking protection from illegal hazardous waste dumping and storage, and the impacts of airplane noise and port truck traffic. Organized as the Ironbound Committee Against Toxic Wastes (ICATW), the community mounted a vigorous opposition to these various facilities which was an integral part of a larger social movement that included civic, cultural, political, and religious groups in the Ironbound and Newark, newly-formed statewide environmental groups like the Grass Roots Environmental Organization (GREO) and the Statewide Movement Opposing Killer Environments (SMOKE), and national and international groups like Greenpeace. The Ironbound's struggle places the community at the front and center of the budding

environmental justice movement in the United States, as key figures in the movement such as Lois Gibbs of Love Canal, and Benjamin Chavis of the United Church of Christ, routinely support the community in their actions. The formal process of establishing the facilities, which included a series of public hearings by the NJDEP, Essex County, and the Newark City Council, ran its course and the incinerator opened in the early 1990s despite vigorous community opposition. Since then, the community has continued to monitor the impacts of the facility and recently took successful legal action to require the facility to install more adequate pollution control technology.

The main message of this chapter is that the Ironbound's opposition to the garbage incinerator proposal constitutes an important counter-conduct that is necessary for the amelioration of environmental injustice, as the community challenges the acceptance and acquiescence expected of them. They challenge the policy that expects them to receive an incinerator facility which, by its very nature, is an undesirable land use and detrimental to the wellbeing and quality of life of the neighborhood. At the same time, an understanding of this conflict, opposition and struggle in the context of the larger story of governmental approaches to the problem of unfettered garbage production suggests that another important counter-conduct has not occurred, and that is a counter-conduct that would challenge our collective construction as garbage governmental subjects enrolled in producing and perpetuating environmental injustice. A collective challenge to our subjectivities as garbage governmental subjects would recognize that the struggle for environmental protection in the Ironbound is not the sole responsibility or burden of Ironbound residents, but is a collective responsibility of all.

Chapter 5, titled *Garbage Governmental Subjects*, answers the third set of research questions in this dissertation. This chapter discusses the results of the focus groups in the Ironbound and Montclair. A premise of this dissertation, and of this chapter, is that we have become garbage governmental subjects who enact the garbage governmental plans and are fundamentally implicated in producing and perpetuating environmental injustice conditions. From the previous chapters, we learned that a garbage governmental subject enacts and embodies various elements of the garbage governmental plan. We are garbage producers, sorters and movers, and as such we are part of the regular collection schedule, perform the proper techniques to keep ourselves and especially our neighbors happy, and we therefore connect to the garbage infrastructure. We are economic subjects, as we pay for everything, including the garbage bought, disposed of within the household, and using our household labor, materials, and time. We also pay for the costs of collection and disposal, and we are entered into as economic subjects in connection with "put or pay" agreements in garbage disposal contracts. We are also ethical or unethical environmental injustice subjects, through the processes of distancing oneself from our own garbage and that of others, and from our inability or unwillingness to see this as a moral or ethical crisis.

With this fundamental premise in mind, this chapter discusses the experiences of Ironbound and Montclair focus group participants. In the Ironbound, the dominant theme was the constant experience of dumping, which is rampant in the community. In this context, the presence of the incinerator in the neighborhood comes to be seen an insult and a form of normalized collective dumping. In Montclair, the dominant theme was the participants' constant shaping of their own subjectivities as what they understand to be

“good environmental citizens” through practices of aggressive composting and recycling. For them, the presence of the incinerator in the Ironbound was surprising, but then not so surprising when considering that the community likely became the site of the incinerator due essentially to their comparatively lower wealth and political power. That explanatory approach to the environmental injustice conditions was shared by both sets of participants, which can be interpreted as an understanding that injustice is inevitable.

Chapter 6 is a conclusion that discusses the significance of this research for our understanding of environmental justice, and proposes further questions and additional future research.



## **Chapter 2**

### **Environmental Justice as an Everyday Practice**

The concept of *environmental justice* refers to the reality that all kinds of waste, toxic materials and unwanted facilities are primarily distributed spatially and socially along wealth and racial or ethnic lines. Scholars have sought to examine why and how this problem occurs. Notwithstanding the broad approach to this problem put forth by the environmental justice movement and recent scholarly work expanding the concept's meaning, the environmental justice literature has primarily defined the problem of environmental injustice as a power struggle over environmental quality involving confrontations and oppressions within class conflict and race conflict frameworks, with the State playing a central role in both producing and resolving these conflicts. Inevitably, this predominant framing of the environmental injustice problem results in an analysis that contains a set of predictable analytical variables in terms of actors, practices, and spaces. The typical analysis includes a burdened poor or colored community that rises in struggle against an environmental oppressor, which is typically the State, a white or wealthy community, or a bad corporate actor, with the institutions of the State also included as the entities that can broker the conflict into a beneficial or environmentally just outcome. There are also predictable practices, which are mainly the processes and politics of waste disposal site selection, approval, and management. Finally, the typical analysis contains predictable spaces where this conflict unfolds, mainly the neighborhoods selected as host communities and the locations of final disposal sites. Although this dominant framing of the environmental justice problem is powerful and important, an analysis that only focuses on

conflict and only on these limited sets of variables is bound to ignore important aspects of the problem. One key aspect is that the problem of environmental injustice is directly related to how we govern all kinds of socially burdensome materials not only through our governmental policies but also through the governmental practices we all perform in our daily lives. In this sense environmental injustice is an everyday practice.

Seeking to expand analyses of environmental justice beyond its conflict aspects, in this chapter I argue that the problem of environmental injustice is collectively produced, that it fundamentally emerges from how we govern about socially burdensome materials through our governmental policies and in our everyday life practices, and that it therefore involves a much wider set of actors, practices, and spaces than is typically acknowledged in the environmental justice literature. I argue that the environmental justice literature's dominant framing for the production of environmental injustice adopts a relation between the State, power, and environmental justice that has the State at the center of power in its ability to shape racial relations, arbitrate class relations, narrowly define and manage environmental injustice conditions through its administrative apparatus, or decide environmental justice conflicts through its judicial apparatus. This framing of the relation between power and environmental justice unnecessarily obscures the multiple actors, practices, and spaces implicated in producing environmental injustice. As an alternative framework for analyzing how environmental injustice conditions are produced and perpetuated, I adopt the concept of governmental power advanced by Foucault as governmentality. Under *governmentality*, people exercise governmental power in their day-to-day lives and in all kinds of spaces, and the governmental power exercised by the

State seeks to coordinate all other forms of governmental power exercised in our society. This process involves developing the rationalities and forms of knowledge used to understand and define social problems; favoring the technologies deployed to address them; specifying the practices that people will undertake to address these problems; shaping the spaces within which these problems will be addressed; and importantly, enticing the multiple individuals that compose the mass of the human population into performing the desired governmental practices in their day-to-day conduct as self-guided and obedient subjects. I argue that governmentality makes possible an analysis of environmental injustice that – while it may include aspects of environmental oppression, conflict, and community struggle – extends beyond the traditional focus in order to consider how the production of environmental injustice has become ingrained into our everyday life conduct, mundane practices, and quotidian spaces as part and parcel of efforts to govern socially burdensome materials. In this sense we are all implicated in producing environmental injustice.

To illustrate how environmental injustice conditions are produced and perpetuated by the collective exercise of governmental power, I consider the problem of garbage, specifically municipal solid waste. The location of garbage disposal facilities has been a key theme in the environmental justice literature, focusing on how these facilities are distributed in low-income neighborhoods and people of color communities, on the conflicts that ensue when communities rise to oppose the location of these facilities, and on the protections sought from the State. Instead of focusing on the conflict aspects of environmental injustice, I illustrate how the production of environmental injustice is

founded on our collective governmental approaches evinced in the historical progression of State interventions into the garbage production and disposal problem identified in the multidisciplinary social science literature of *garbage and society* studies. Going from dumping, to nuisance, to sanitation, to environment, each of these modalities of State interventions into the garbage problem represents a governmentality into which we have all been enrolled as governmental agents or garbage governmental subjects who enact the day-to-day practices required by the governmental effort. Within this context, we can see that the location of final disposal sites in low income neighborhoods and people of color communities is only the result of how the production of environmental injustice has become ingrained in the practices of everyday life that each of us enacts as we govern garbage. I argue that because these daily governmental micro-practices connect us and support as a foundation the social structures and infrastructures that we largely recognize as the main culprits in producing environmental injustice, we are all implicated in producing environmental injustice conditions through our everyday practices.

This chapter proceeds in three parts. Section 2.1 discusses the environmental justice literature, and develops in more detail the Racial, Capitalist, Managerial, and Judicial State power frameworks that underlie major approaches to explaining environmental injustice. Seeking to expand upon a conception of power in environmental justice, section 2.2 discusses Foucault's approach to power in general, and governmental power in particular, as a diffused activity that is shared by all within the social body. In section 2.3, this chapter illustrates the production of environmental injustice conditions within the larger collective effort to govern garbage.

## 2.1 The State, Power, and Environmental Justice

The concept of *environmental justice* generally refers to the reality that all kinds of waste, toxic materials, undesirable land uses, and environmentally noxious facilities are distributed in our society primarily where the poor and people of color work, live, and play. This concept emerged in the United States from the struggle waged by affected communities over the past four decades as they demanded a stop to this assault on their quality of life and collectively formed the environmental justice movement (Cole and Foster 2001; Bullard 2001; Faber and McCarthy 2001; Kurtz 2004). Since the 1970s, this grass roots movement brought together the experiences of African American, Hispanic, Native American, Asian American, and other non-white communities, and significantly drew from various strands of activist movements, including the Civil Rights, American Indian, anti-toxics, labor, and farmworker movements (Cole and Foster 2001: 19-33, 134-150; Faber and McCarthy 2001). By bringing forth these experiences, the environmental justice movement distinguished itself from the mainstream environmental movement and added a radical perspective to it and a focus on people in relation to the environment and environmental politics (Cole and Foster 2001; Faber and McCarthy 2001, Schlosberg and Bomberg 2008). As movement participants shared their diverse experiences of environmental oppression, the concept of environmental justice expanded to include a variety of scales and meanings.

The geographic scales of environmental justice have expanded from the initial focus on neighborhoods, as the concentration of environmental burdens along class and

racial or ethnic lines is ubiquitously present at various spatial scales. These scales include the human body (rates of asthma, child lead poisoning); workplaces (worker exposure and occupational health); homes (lead, mold); neighborhoods (location of unwanted facilities and land uses, such as landfills, incinerators, and toxic waste storage, treatment, and disposal facilities); states (transfers of waste across state lines); countries (transfers of waste across international boundaries, usually from First World to Third World countries); regions (unequal environmental protection standards across regions); and the globe (as in global warming's disproportionate impact on the poor) (Bullard 2001; Schroeder et al. 2008; Carruthers 2008; Walker 2012). The meaning of environmental justice has also broadened beyond the distribution of environmental burdens and the initial focus on distributive justice, to include consideration of procedural justice or people's right to participate in the decision-making process, notions of justice as the recognition of claims made by those affected, and the ability of individuals and communities to exercise their capabilities to achieve their full potential in life (Bryner 2002; Schlosberg 2009; Lake 2010). The environmental justice framework has also gone beyond the distribution of environmental burdens to include the lack of environmental benefits and amenities such as parks and green spaces; the contamination and depletion of natural resources that indigenous and other communities depend on for subsistence; the economic abandonment of local communities which makes them vulnerable to detrimental facilities and destructive natural resource extraction practices which come shrouded in the promise of local jobs; and the rights of industrial and farm workers to a decent wage and to be protected from harmful chemicals in fields and factories, among other related issues at the intersection of

environmental and economic development (Bullard 2001). Some seek to further expand the environmental justice framework beyond its emphasis on “justice to people” so that the concept of “justice to nature” or “ecological justice” can be considered within the environmental justice framework (Schlosberg 2009; Low and Gleeson 1998).

The broadening of environmental justice to include a variety of scales and meanings is reflected in the *17 Principles of Environmental Justice* adopted as a unifying banner by the environmental justice movement in the early 1990s (Pellow 2004: 171-173). The principles are wide ranging, including spiritual, ecological, economic, health, and other dimensions of environmental justice. The principles do not privilege a notion of environmental justice as distributive justice, but include other notions such as “justice for all.” Significantly, by further declaring that public policy, production, and consumption decisions must be part of the solution to the problem of environmental injustice, these principles also broaden the kinds of actors and processes implicated in both producing and ameliorating environmental injustice. The role of public policy is embodied in Principle 2, which holds that “Environmental Justice demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias” (Pellow 2004: 171). A notion of producer responsibility is embodied in Principle 6, which holds that “Environmental Justice demands the cessation of the production of all toxins, hazardous waste, and radioactive materials, and that all past and current producers be held strictly accountable to the people for detoxification and the containment at the point of production” (Pellow 2004: 172). The role of individuals as consumers is embodied in Principle 17, which holds that “Environmental Justice requires that we, as individuals,

make personal and consumer choices to consume as little of Mother Earth's resources and to produce as little waste as possible; and make the conscious decision to challenge and re-prioritize our lifestyles to insure the health of the natural world for present and future generations" (Pellow 2004: 173). These principles establish environmental justice as something that requires attention not only to the distribution of environmental burdens and the impacts on affected individuals and communities, but also to much broader public policy goals, producer responsibilities, and consumer choices and actions, which significantly expands the range of actors and processes implicated in both producing and ameliorating environmental injustice.

The meanings, scales, actors, and processes implicated in environmental injustice have also been informed by academics, both from within the environmental justice movement and outside of it (Szasz and Meuser 1997; Cole and Foster 2001: 24-26). Acknowledging the broad nature of environmental justice, some scholarship has moved beyond the initial dominant focus on facility siting and demographic analysis which sought to document environmental justice outcomes rather than to examine how social processes produced such outcomes (Cutter 1995; Szasz and Meuser 1997). Recent scholarship variously examines the evolution of the environmental justice movement, the multiple meanings and scales of environmental justice, and the many ways in which environmental injustice is produced not only through the deliberate targeting of oppressed communities, but also through the deliberative processes of democratic decision making, and through complex socio-spatial processes that are in turn shaped by structural inequalities (Holifield et al. 2009; Lake 2010). For example, recent works examine the history, iconography, and



strategy of the environmental justice movement, including the movement's discursive frames, claims-making strategies, the deployment of scale as a political strategy for coalition-building across national and international geographies, and the role of women as dominant movement participants (Cole and Foster 2001; Farber and McCarthy 2001; Kurtz 2003, 2005; Bullard et al. 2007; Di Chiro 2008; Walker 2012). Works also examine both the operational and theoretical definitions and normative meanings of environmental justice, including the concept's broadening from notions of distributive justice to procedural, recognition, and capability justice frameworks, some including a notion of ecological justice (Lake 1996, 2010; Bullard 2001; Holifield 2001; Bryner 2002; Getches and Pellow 2002; Schlosberg 2007; Walker 2009a, 2009b, 2012; Low and Gleeson 1998). The production of environmental injustice across spatial scales, specifically in the context of First World and Third World development and natural resource use has received a sustained focus, emphasizing how the experience of environmental injustice can be understood as universal as affected communities in both contexts experience spatial, distributive, procedural, ethnic, and class inequities (Schroeder et al. 2008). In terms of the social processes that produce environmental injustice, works have documented how conditions of environmental injustice emerge in historical perspective from systemic socio-spatial processes of institutional and structural racism; class conflict; colonialism; industrial capitalism and economic restructuring; the differential ability of whites to secure clean environments in suburban areas; and the inequities inherent in urban development and redevelopment processes, including land use and zoning designations (Bullard 1990; Lake 1993; Hurley 1995; Pulido 2000; Cutter et al. 2001; Maantay 2001, 2002b; Ishiyama

2003; Pellow 2004; Salkin 2004; Aponte 2004; Baver 2006; Leichenko and Solecki 2008; Sundberg 2008; Barraclough 2011).

However, notwithstanding these scholarly efforts to expand the concept of environmental justice, it can be argued that the basic approach to environmental injustice remains attached to a view of power as conflict within race and class frameworks, and how communities fight their environmental oppression through social movement strategies. In this story of a power struggle over environmental quality, the State plays a central role in both the creation of environmental injustice and its resolution. This theme runs through environmental justice scholarship because it consistently implicates the State in producing environmental injustice outcomes. Works either centrally consider or make significant reference to how State policies in the areas of housing (mobility, affordability, lead poisoning); transportation (location of major roads, airports); land use (exclusionary zoning); and the environment (allowable pollution discharges by corporations, failure to require corporations to use the best available pollution control technologies) are implicated in producing unequal landscapes of environmental quality (Pulido 2000; Cutter et al. 2001; Bullard 2001; Getches and Pellow 2002: 18-20). Even the contrary case presented by Auyero and Swistun in their study of the Argentinian community of Villa Inflamable (flammable village), where the community's residents do not rise in struggle to protest their environmental oppression but simply wait for future settlements, cleanups, or relocations, implicates this view of power in that a community's action or inaction in relation to Shell Oil and the unresponsive Argentinian government institutions is a major theme underlying this case study (Auyero and Swistun 2009).

Either directly or by implication, environmental justice scholarship adopts at least one of four models of the State in relation to environmental injustice. Under the *Racial State* model, and using the concepts of structural racism, environmental racism, and white privilege, scholars draw from the experiences of Native American, African American, and other non-white communities to examine how environmental injustice emerges from the State acting as a racial oppressor or from oppressive racial relations that the State continuously shapes. Under the *Capitalist State* model, and drawing from the experiences of poor communities and workers, scholars examine how environmental injustice results from class relations and specifically from how the State mediates between the conflicting demands of Capital and Society. Under the *Managerial State* model, the State manages conditions of environmental injustice through environmental justice policies and programs, mainly by collecting data on the demographic characteristics of specific populations and quantitative evidence of disproportionate impact; designating environmental justice communities; encouraging local community participation in narrowly-defined decisions through the formal decision-making process; allocating funds; and measuring and assessing risk. Finally, under the *Judicial State* model, the State makes rulings on environmental justice cases brought to its courts by affected communities seeking protection and relief from environmental assault and asking the State to uphold and protect their rights and quality of life.

The problem with these analyses is that they rely on a particular formula concerning the relation between the State, power, and environmental justice that does not engage with key societal processes that are implicated in producing and perpetuating environmental

injustice conditions, some of which are highlighted by the environmental justice movement in its more complex articulation of environmental injustice. In and of themselves, these four models of the relation between the State, power, and environmental justice reveal contradictions between what environmental injustice is claimed to be fundamentally about in the environmental justice literature and the State's role with respect to that problem. For example, both the Racial State and Capitalist State models point to fundamental social fractures continuously perpetuated by the State, suggesting that environmental justice will only be achieved when we, as a society, successfully challenge the oppressive racial and class relations that produce environmental injustice. However, under the Managerial State and Judicial State models, the State emerges as not confronting either racial or class oppression. Rather, the State is revealed as significantly narrowing the meaning of environmental justice and what it would take to achieve it, as not seeking to eliminate environmental injustice but to manage it, and ultimately as incapable of addressing environmental injustice within its powers as currently delimited. Ultimately, these framings of the relation between the State, power, and environmental justice fail to consider how the collective exercise of power we all undertake as we govern about socially burdensome materials in our day-to-day lives is a fundamental process through which environmental injustice has become ingrained throughout our social fabric, a process in which the State also plays a major role. In the following paragraphs I discuss in more detail these four formulations of the State as a center of power in environmental justice research, and following that discussion I examine how the concept of governmentality can inform an analysis of environmental justice that engages with key processes through which

environmental injustices are produced and perpetuated through everyday life and mundane practices.

### *Racial State*

A major conception of how environmental injustice is produced through the exercise of State power is the Racial State. Under the Racial State concept, the State is highlighted as a producer of environmental injustice conditions when entities at various government levels directly sanction, facilitate, or implement policies and practices that burden communities of color with toxic or environmentally undesirable facilities and land uses while white neighborhoods remain protected from such burdens. Within this framework, conditions of environmental injustice stem from historical patterns of racism that were perpetuated by the State and carried out by society at large, and can be understood as yet another manifestation of racial inequalities and oppressions that continue unabated today notwithstanding the successes gained from civil rights struggles and claims that we have achieved a colorblind society. The Racial State formulation has evolved within the environmental justice literature through the concepts of structural racism, environmental racism, and white privilege, each highlighting how the State is engaged in producing environmental inequalities along a human population that is constantly divided along a white/non-white axis. More recently, the Racial State concept as developed by critical race theory scholars has been discussed in the environmental justice literature as a formulation that can help in understanding the distributional patterns of environmental quality as an example of the ways in which race continues to remain implicated in the allocation of

resources in our society; the dynamics of the environmental justice movement as a racial social movement that seeks to influence the State; and how the inherent constraints of the Racial State may limit the possibilities for future change. In the following paragraphs I discuss the development and use of these various Racial State formulations in the environmental justice literature.

The 1987 United Church of Christ Commission for Racial Justice report, titled *Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities With Hazardous Waste Sites*, is often hailed in the environmental justice literature as a seminal report because it was the first to document the concentration of hazardous waste treatment, storage, and disposal facilities (TSDs) and uncontrolled toxic waste sites in African American, Hispanic, Native American, and other non-white communities across the United States contiguous states (UCC-CRJ 1987; Grossman 1994: 583-588). The report gave credence and legitimacy to the plight of non-white minority communities who had been protesting against the environmental contamination of their neighborhoods. However, this report deserves its landmark status for yet another reason: it was the first such study to introduce the concept of *structural racism* as an explanatory framework for environmental injustice (UCC-CRJ 1987).

The UCC-CRJ report found that the location of TSDs strongly correlated with the non-white demographic composition of the population living near those sites, with race or ethnicity being more significant than other variables such as income and home values (UCC-CRJ 1987: xiii-xiv, 9-14). In explaining these findings, the report argued that various societal or structural factors combined to produce this pattern. These factors included the

lack of governmental protection manifested in cutbacks to environmental monitoring and protection programs during the 1980s under President Reagan's administration; the targeting of minority communities manifested in state-level decisions to site these facilities in African American and other ethnic minority communities; the barriers to empowerment of local communities manifested in their inability to effectively advocate for themselves while also fighting to overcome poverty, unemployment, detrimental housing, and poor health conditions; the economic disinvestment of these communities manifested in their increased likelihood to accept proposed facilities in exchange for jobs and economic development even at the expense of their health and safety; the lack of an actionable knowledge base manifested in the dearth of information available to affected communities from government agencies on the environmental and health impacts of facilities; and the exclusion of affected communities from the broader environmental agenda, manifested in the failure of the mainstream, predominantly white, environmental movement to recognize the toxic environments in ghettos, barrios, and reservations as part of their cause (UCC-CRJ 1987: xi-xii, 1-7). Because of these multiple and simultaneous oppressions affecting the wellbeing of non-white communities hosting TSDs, and because the concentration pattern of TSDs in these urban or non-white neighborhoods across the country could not have evolved simply by chance, the UCC-CRJ viewed the study results as evidence of an "insidious form of racism" that still pervades in the United States (UCC-CRJ 1987: ix, xv, 13-21, 23). Quite prominently, in its preface to the report, the UCC-CRJ quoted the following definition of racism as an explanatory framework for environmental injustice:

“Racism is *racial prejudice plus power*. Racism is the *intentional or unintentional* use of power to isolate, separate and exploit others. This use of power is based on a belief in superior racial origin, identity or supposed racial characteristics. Racism *confers certain privileges on and defends the dominant group*, which in turn sustains and perpetuates racism. Both *consciously and unconsciously*, racism is enforced and maintained by the legal, cultural, religious, educational, economic, political, environmental and military institutions of societies. Racism is more than just a personal attitude; it is the institutionalized form of that attitude” (UCC-CRJ 1987: ix-x, emphasis added).

The inclusion of this definition of racism in this landmark environmental justice study was truly groundbreaking, partly because it allowed the reader to interpret an unsettling racial pattern in a somewhat more modern way, no longer as the result of the overt forms of intentional racism so clearly seen in decades past, but as the result of the new forms of racism which need not be intentional in order to yield an outcome where privileges (a clean environment) and burdens (TSDs) are allocated along racial lines through legitimate social institutions or economic processes. Although the UCC-CRJ report did not aim to dwell on a specific mechanism through which the confluence of “racial prejudice plus power” became institutionalized and then “consciously and unconsciously” produced an environment in which non-white neighborhoods are burdened with toxic facilities and land uses, it did put forth the notion that the overtly racial or ethnic pattern of environmental pollution and toxic disposal is in and of itself an undesirable outcome and evidence of the pervasive nature of racism as it is embedded in social structures and institutions even today. Consistent with this multi-faceted nature of structural racism, the report logically proposed that environmental injustice must be addressed by all actors in society at large, and specifically by governments, corporations, communities, and individuals as part of a collective effort (UCC-CRJ 1987: 24). The report specifically called for actions to address



this problem at all levels of government and civil society realms. It called on government institutions to adopt a self-reflective view by urging Congress to enact legislation and the President of the United States to require all federal agencies to evaluate how their own policies negatively impact non-white communities; it called on government agencies to take action and the U.S. Environmental Protection Agency in particular to address the specific concerns of non-white communities and to clean up contaminated sites in those communities; it urged state governments to evaluate and revise the criteria in use for establishing hazardous waste facilities so that demographic characteristics are taken into account; it urged mayors to consider local perspectives and experiences; religious, civil, and political organizations to empower their bases by registering people to vote and to press their elected officials on this issue; and local community residents to educate themselves and to take action to address the problems of hazardous waste in their communities (UCC-CRJ 1987: xv-xvi, 23-27). The report also recognized the importance of developing expert knowledge of this problem and encouraging corporate responsibility. It recommended that additional studies be conducted from demographic and epidemiological standpoints, that information be provided to the communities in which hazardous waste facilities are located, that universities teach about environmental issues affecting low-income and colored communities, and that corporations evaluate their decision-making processes to consider their impacts on racial and ethnic communities (UCC-CRJ 1987: xvi, 27).

While the UCC-CRJ report's view of environmental injustice through the lens of structural racism called for the amelioration of this problem through a collective effort, key

environmental justice studies sharpened this notion to be more narrowly focused on the State as a racial oppressor, an arbiter between polluters and people of color, and a distributor of environmental goods and bads among the racialized population. The concept of structural racism introduced by the UCC-CRJ report was developed further by UCC's leadership, scholars, and the environmental justice movement to specifically name the contamination of non-white ethnic minority communities as *environmental racism* (Grossman 1994: 583-588). Environmental racism was, in fact, the original concept coined by the movement to refer to why environmental injustice occurs, before this concept morphed into the woefully inadequate “environmental equity” and eventually the more inclusive “environmental justice” (Holifield 2001). Environmental racism is understood as a form of institutional racism that is implemented and perpetuated by State policies and practices, with the State performing a distributive function by unequally allocating environmental quality along racial or ethnic lines. In his seminal environmental justice study *Dumping in Dixie*, which examined the living conditions of African American communities relegated to toxic environments in Louisiana, Alabama, and Texas, Robert Bullard defines environmental racism as:

“... any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color. Environmental racism combines with public policies and industry practices to provide *benefits* for whites while shifting industry *costs* to people of color. It is reinforced by governmental, legal, economic, political, and military institutions ...” (Bullard 1990: 98, emphasis original).

This definition initially narrowed the scope of the environmental injustice problem from broader societal or structural issues to specific State decisions to distribute

environmental benefits and burdens along racial lines. Essentially, the argument at the center of environmental racism studies is that State institutions undertake or facilitate the distribution of environmental costs and benefits in society along racial or ethnic lines, yielding benefits for whites and costs for people of color. Environmental racism studies consider specific governmental mechanisms through which unequal outcomes are produced. It is argued that various State institutions either implement or reinforce environmentally racist policies and practices, not only when they site polluting land uses and facilities in colored communities, but also when they do not protect those communities, do not apply protective laws and regulations uniformly, levy lower penalties on polluters located in colored neighborhoods, take longer to place contaminated sites on a remediation list, take longer to clean up those sites once placed on the list, and pursue less aggressive containment remediation actions rather than cleanup (Bullard 1990: 97-112).

In addition to unequal protection by regulatory and enforcement State institutions, it is argued that environmental racism is perpetuated by the lack of diversity in decision-making bodies at all levels of government, from local zoning boards to the management positions at the U.S. Environmental Protection Agency; by housing policies and practices that concentrate people of color in the most polluted areas; and by transportation policies that destroy non-white communities by building highways through them, among other State-sanctioned policies and practices (Bullard 1990: 97-112; Simms 2012-2013). Although these measures may suggest deliberately racist acts by the State entities undertaking them, the practice of environmental racism is understood to transcend intentionality or individual racist acts as the more overt forms of racism exercised with

impunity in the past have given way to practices that are assumed to be race-neutral but that are in fact founded on historically racist legacies or yield the same racially oppressive outcomes. For example, the contamination of environments and resources that traditional communities depend on for subsistence or their dispossession from those resources; the lack of housing choice experienced by low-income people and ethnic minorities because of affordability issues or discriminatory housing market practices; and zoning decisions that concentrate detrimental facilities in poor or ethnic minority communities while preserving white neighborhoods intact are practices that are historically intertwined with overt racism and which today continue to yield racially oppressive outcomes, even if the racial or ethnic effect is not intentional (Pulido 2000; Cole and Foster 2001: 54-79; Sundberg 2008).

Consideration of racism in the environmental justice literature has progressively grown more complex, especially through the work of Laura Pulido. Pulido examines how the detrimental environments in non-white neighborhoods have been historically produced by the exercise of *white privilege* or “the privileges and benefits that accrue to white people by virtue of their whiteness” (Pulido 2000: 13). Drawing from the insights of critical race theory (Delgado and Stefancic 2001), Pulido uses the concept of white privilege to examine how environmental injustice is produced historically and geographically through the regional and societal dynamics of residential segregation, industrialization, and migration that have been orchestrated by State policies and practices largely to the benefit of whites (Pulido 2000). Although white privilege is related to institutional forms of racism, Pulido argues that it differs from them in important ways:

“White privilege is a form of racism that both underlies and is distinct from institutional and overt racism. It underlies them in that both are predicated on preserving the privileges of white people (regardless of whether agents recognize this or not). But it is also distinct in terms of intentionality. It refers to the hegemonic structures, practices, and ideologies that reproduce whites’ privileged status. In this scenario, whites do not necessarily *intend* to hurt people of color, but because they are unaware of their white-skin privilege, and because they accrue social and economic benefits by maintaining the status quo, they inevitably do. White privilege thrives in highly racialized societies that espouse racial equality, but in which whites will not tolerate either being inconvenienced in order to achieve racial equality ..., or denied the full benefits of their whiteness... It is precisely because few whites are aware of the benefits they receive simply from being white and that their actions, without malicious intent, may undermine the well-being of people of color, that white privilege is so powerful and pervasive” (Pulido 2000: 15, emphasis original).

Using the Los Angeles area as a case study in her analysis, Pulido argues that State policies and practices, especially during the post-World War II years, allowed whites to secure clean residential environments in the suburbs while concentrating pollution in central city urban minority neighborhoods (Pulido 2000: 27-31). Through white privilege, whites have historically benefited from housing, transportation, employment, and land use development policies that were sanctioned and heavily subsidized by the State, which were not as readily available to African Americans, Hispanics, Asian Americans, and other ethnic minority groups. For example, the granting of suburban home ownership financing under Federal Housing Act programs and by the Home Owners Loan Corporation was conducted by ranking white neighborhoods higher than Black and Hispanic neighborhoods, thereby awarding funds primarily to white applicants while redlining entire colored communities as practically ineligible, using overtly racist notions to justify these decisions (Pulido 2000: 27-28). These policies allowed whites to secure housing in suburban areas and, once there, to perpetuate racial segregation through municipal

incorporation, and then through the adoption of zoning ordinances that permitted restrictive covenants and minimum lot sizes for residential housing and at the same time excluded industrial development, thereby concentrating both the colored population and industrial growth in urban areas (Pulido 2000: 29-30). Federally funded freeway systems were consistently built through colored urban neighborhoods, causing their economic, social, and environmental disruption while providing accessibility to central city jobs and amenities for suburban whites (Pulido 2000: 29). During the post war years, whites also gained access to well-paying jobs in government services and cleaner industries that were also relocating to white suburbs from non-white central cities (Pulido 2000: 29). In Pulido's analysis, the State therefore performs a central role in the distribution of environmental quality by facilitating the development of space through housing, economic, and land use policies that have historically privileged whites to the exclusion and detriment of non-white populations.

Pulido's initial use of critical race theory concepts to inform analyses of racism in the environmental justice literature has given way to Hilda Kurtz's use of the *Racial State* concept. As a more systemic approach, Kurtz argues that this concept can reconcile within a single framework the various iterations of State racism adopted in the environmental justice literature (Kurtz 2009). This concept emerges directly from the work of David Theo Goldberg and Michael Omi and Howard Winant (Kurtz 2009; Goldberg 2002; Omi and Winant 1994). Goldberg argues that the nature of the State is fundamentally that of a Racial State because it has historically woven human social relations into a racialized social fabric to a great extent and in various ways. For example, the State has historically structured

human social relations in a racial way by defining populations in racial terms and fitting individuals into racial group categories, and then using such definitions and categorizations to include and exclude individuals and groups in the allocation of rights and benefits; regulating a range of social relations between the racially defined groups through marriage, property, and other relations; delineating the terms of their membership into the larger political community of the nation-State; managing their labor, income, and economic opportunities and possibilities; and otherwise mediating between those placed at the top of the socially-constructed human racial hierarchy and those placed at the bottom (Goldberg 2002: 110-111).

In their theory of racial formation, Omi and Winant put forth a very similar understanding of the State, but focus on the process through which (and the purposes for which) racial categories and related understandings of race are socially created and “inhabited” at different historical moments (Omi and Winant 1994: 77-91). The authors propose that racial categories are created within socio historical contexts of *racial formation*, which involve historically situated *projects* where racial conceptualization is informed by both social structural concerns and cultural representation, and where a *racial project* is “simultaneously an interpretation, representation, or explanation of racial dynamics, and an effort to recognize and redistribute resources along particular racial lines. Racial projects connect what race means in a particular discursive practice and the ways in which both social structures and everyday experiences are racially organized, based upon that meaning” (Omi and Winant 1994: 55-56). Omi and Winant also argue that racial social movements, such as the Civil Rights Movement in the United States, confront the State to

demand justice and equality, but that the State incorporates changes only in a very limited fashion, and so the cycle of social instability, demanding change from the State, and subsequent State transformations continues and gets repeated over time (Omi and Winant 1994: 78-81). Kurtz argues that these insights from critical race theory can productively inform future research on the environmental justice movement's demands from the State as a racial social movement, and can help us interpret State institutional responses to these demands and to claims of environmental injustice by considering the extent to which the State's fundamental nature as a Racial State and therefore its historical interest in producing social differences along racial lines for distributive purposes limits the possibilities for achieving meaningful change through limited governmental reforms (Kurtz 2009).

The Racial State concept as developed by critical race theory scholars also suggests that one might place environmental injustice conditions within a racial formation project for the distribution of environmental goods and bads and the justification of racialized environmental injustice outcomes. As part of that analysis one might examine the State's efforts to racialize certain populations and how such racialization somehow comes to justify or legitimize their environmental oppression. Juanita Sundberg pursues this approach precisely in her analysis of how the dispossession of certain communities in Latin America from their subsistence resources came to be justified and legitimated through a racialization process in which these communities, their livelihoods, and the environments they occupied were considered undesirable and substandard (Sundberg 2008). Deploying her concept of *environmental formations*, Sundberg illustrates how Spanish colonial administrations, elite classes after independence, and elite professional classes working



with international development organizations today have variously misrecognized subsistence environments as unproductive wastelands; collective land use systems as inefficient when compared with large-scale agriculture; and certain agricultural practices as inconsistent with conservation goals (Sundberg 2008; see also Wolford 2008). Importantly, Sundberg illustrates that these conceptions of the environments that subsistence communities occupied went hand in hand with the racialization of the population undertaken for the distribution of benefits and burdens, and that this co-articulation of people and environment served to justify the communities' dispossession from their resources (Sundberg 2008: 579). Sundberg argues that, for environmental justice research, an analysis that considers "how racialization works with and through environmental formations will help to understand not only how exclusionary discourses and practices work, but also how they come to appear justifiable and indeed necessary" (Sundberg 2008: 579).

Considered all together, analyses of the Racial State in environmental justice research present the problem of environmental injustice as resulting from a fundamental social fracture that is largely produced by the State, through structural racism, environmental racism, white privilege, or its inherent interest in perpetuating and maintaining racial differences. Environmental injustice emerges variously from how the State behaves as a racial oppressor, how it perpetuates racially uneven environmental policies, and how the racial social relations that it continuously shapes among the population through its policies lead to the production of uneven environmental quality outcomes. This framing of the relation between the State, power, and environmental

injustice therefore suggests that a fundamental change in these racial relations is necessary to achieve environmental justice.

### *Capitalist State*

Another formulation of the relation between the State, power, and environmental justice in the scholarly environmental justice literature and put forth by the environmental justice movement is the Capitalist State. In contrast to the formulation of the Racial State, where the State is a producer of racial social relations among the population, a mediator between privileged whites and oppressed non-whites, and a distributor of environmental benefits and burdens along racial or ethnic lines, the Capitalist State concept presents the State as a mediator or arbiter between the discrete categories of Capital and Society. Under this formulation, environmental injustice emerges fundamentally from the State's failure to force corporate actors to stop the production of pollution, internalize environmental externalities, or otherwise deal with the full costs of their practices which are then transferred to Society with the State's blessing. Instead of forcing corporations and industries to change or eliminate environmentally harmful production processes, materials, and practices, the State burdens low income and people of color communities by allowing corporations and industries to dispose of their waste at designated State-sanctioned locations.

The concept of the Capitalist State is a common theme in environmental justice studies which document the environmental oppressions brought upon affected communities by bad corporate actors sanctioned by the State. For some authors, the

predominance of class over racial or ethnic oppression as a fundamental explainer of environmental injustice outcomes is preferred because “explaining this outcome as merely the result of racism, be it overt, institutional, or even due to ‘White Privilege,’ is safe and perhaps counterproductive in our quest for environmental justice ... because industry and the regulatory agencies responsible for generating and managing the toxic burden can still go on with business as usual, now directing the externalities toward poor White communities as part of a fair-share program” (Heiman 2001: 6).

A more complex concept of the Capitalist State is articulated by Robert Lake and Lisa Disch (Lake and Disch 1992; Lake 1993, 1996). Under Lake and Disch’s model of the Capitalist State, the State has a structural relation to Capital based on the State’s interest in continued economic activity, and at the same time has a structural relation with Society based on the State’s interest in maintaining political legitimacy. But regarding the issue of negative externalities such as waste, the interests of Capital are not aligned with the interest of Society and are actually in contradiction, as Capital seeks to continue to produce waste while Society seeks to be fully protected from the negative health and environmental impacts that workers and host communities directly bear (Lake and Disch 1992). Using the example of hazardous waste policy, Lake and Disch argue that the State avoids a crisis of legitimacy that would result from uncontrolled corporate waste dumping by instead developing a policy strategy based on finding locations where disposal can occur (Lake and Disch 1992: 665). However, in adopting a disposal solution the State obscures what is fundamentally a production problem created by Capital, thereby avoiding threats to current economic activity and at the same time foreclosing the production and lifestyle changes

that a reduction policy would necessitate (Lake and Disch 1992: 667). In this approach, a production problem is turned into a disposal problem. The State's interest in continued economic activity is maintained by framing these disposal measures as protective of Society's health, safety and welfare when compared to the havoc that unregulated dumping would create (Lake and Disch 1992: 671). Referring to the State's policy decision to find a location for locally unwanted land uses (LULUs), Lake summarizes the relation between Capital and Society fomented by the State, and how what is a production problem is framed as a disposal problem:

“Rather than necessarily and inherently fulfilling a societal need, LULUs represent a particular solution to a problem. Siting hazardous waste incinerators, for example, constitutes a locational solution to an industrial production problem (hazardous waste generation). But the incinerator siting solution is only one of a number of possible strategies for hazardous waste management. The facility siting strategy concentrates costs on host communities, as compared to the alternative strategy of restructuring production so as to produce less waste, which in the short run concentrates costs on capital” (Lake 1993: 88).

Following the State's strategic misrecognition of Capital's production problem as a disposal problem, the State seeks to defend its disposal approach by denouncing the pluralist conflict that emerges when affected workers, communities, and others rise in opposition over the State's waste disposal policies and proposed facility locations (Lake and Disch 1992: 672-679). Suddenly, the conflict no longer is said to include Capital, but is now turned into a conflict between the State – which is seeking the greater good of Society – and local community interests – which impede that greater good. Once the State adopts a site selection policy and disposal approach to the problem of waste production, the State then strategically denounces the pluralist conflict of community opposition as a

form of selfish parochialism that impedes the fulfillment of broader social benefits, which further misrecognizes the fundamental nature of the conflict between Capital and Society and reframes it as a conflict between the State and local communities (Lake 1993). When a disempowered community becomes empowered and succeeds in rejecting a facility, such success then puts pressure on the State to pursue other strategies which may hold Capital accountable to the extent that other local communities are also able to prevent disposal at any given location (Lake 1993: 91-92).

Some of the strategies adopted by Capital and the Capitalist State when confronted with a successful community opposition effort are discussed by Schelly and Stretesky in their elaboration of their “path of least resistance” theory (Schelly and Stretesky 2009). In their analysis of successful community opposition cases involving Shintech, Louisiana Energy Services, and Select Steel facilities, the authors find that the successful rejection of a noxious facility by one community may lead the corporate actors to locate that facility in another community or to expand an existing facility somewhere else, these options being paths of least resistance. However, in some cases, successful protests have led to the adoption of better pollution control technologies or greater State oversight, which suggest some measure of community impact over Capital (Schelly and Stretesky 2009: 376-377). But the fundamental conflict between the interest of Capital and Society continues, however, when not all communities are equally empowered to succeed in fending off unwanted facilities, or when some communities are in such dire economic conditions that in order to prevent their own extinction they volunteer to accept a detrimental facility that everyone else has rejected even if additional pollution control technologies are in place.

For Lake, this situation represents a dilemma that can only be resolved when notions of distributive justice that primarily inform the environmental justice framework are replaced by notions of procedural justice that are consistent with the concept of community self-determination (Lake 1996). In other words, environmental justice would not be achieved by having everyone accept their fair share of Capital-produced environmental externalities, or by having communities participate in that allocation through the democratic process. Rather, the achievement of environmental justice would require adopting a notion of procedural justice that is consistent with self-determination, which must in turn be defined as:

“... an ability not only to select among a set of options but also to determine the options presented for consideration. As applied to environmental equity, self-determination is not realized simply through participation in decisions regarding the distribution of environmental burdens if it does not also extend to participation in decisions controlling their production” (Lake 1996: 165).

Therefore, for environmental justice to be achieved, people must have a say into corporate decisions, practices, and processes to reduce or eliminate waste, and this would require a fundamental alteration of the current relation between the State and Capital (Lake 1996: 171-172). This view is also articulated by Heiman, who argues that the achievement of environmental justice requires corporate and State actions to eliminate pollution instead of distributing it as part of fair-share programs or risk management plans (Heiman 2001). In essence, analyses of the Capitalist State in environmental justice research present conditions of environmental injustice as emerging from the fundamental fracture of oppressive class relations, with the State acting as a mediator or arbiter between the broad categories of Capital, composed of bad corporate actors, and Society, composed of poor

communities, workers, and the general population bearing the costs of environmental pollution externalized by corporations. Within this framework, only fundamental changes to renegotiate these class relations would lead to environmental justice.

### *Managerial State*

While the Racial State and the Capitalist State formulations in environmental justice research point to fundamental problems of inequality in society along racial or ethnic and class lines which are perpetuated by the State, thereby strongly suggesting that fundamental social changes would be necessary to successfully achieve environmental justice, the State in environmental justice research also emerges as a Managerial State. This conceptualization reflects how the State has actually responded to the environmental justice movement's claims of environmental injustice through its Executive Branch apparatus and at local government levels. Under this model, research considers how State institutions and agencies at federal and local government levels have defined what environmental justice means, and how these definitions develop into policies, programs, and practices to manage environmental injustice conditions. The Managerial State is revealed as bypassing the broad and more encompassing definitions of environmental justice put forth by the environmental justice movement, and ignoring the more fundamental critique of racial or ethnic and class inequality and conflict, instead implementing approaches to environmental injustice that do not challenge fundamental processes but rather manage the problem using quantitative analyses, specialized staff, community involvement, funding allocations, and risk management techniques. The Managerial State's definition of the environmental

justice problem, its quantitative measurement, and the types of solutions proposed to address it as measured, quantified, and defined are narrowed down to what can be accomplished through programs. In this model, the State acts as a managerial agent, managing both the ways in which the environmental justice problem is defined, the possibilities for action, and what is to be done about the problem substantively.

The Managerial State is exemplified by how the federal government has attempted to address the environmental justice movement's claims of environmental injustice through its Executive Branch agencies. Without question, the environmental justice movement was successful in getting the attention of the federal administrative system when, supported by evidence from the UCC-CRJ report and a widely cited U.S. General Accounting Office study, in 1994 it led President Bill Clinton to adopt Executive Order 12898, titled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (U.S. President 1994; Getches and Pellow 2002: 15-17). And yet, the movement's success in getting the State to define and address environmental injustice has been limited by how narrowly the State has delimited its own powers. For example, among several other provisions, the Executive Order requires the establishment of federal agency responsibilities, agency strategies, and protocols for data collection and analysis. In outlining the agency responsibilities, the Executive Order is informed by a notion of environmental justice as disproportionate impact, as it requires that "... each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, *disproportionately high* and adverse human health or environmental effects of its programs, policies, and activities on minority populations and



low-income populations...” (U.S. President 1994, emphasis added). To achieve environmental justice as the elimination of disproportionate impact, the Executive Order establishes a strategy based on promoting the enforcement of health and environmental laws in affected communities; seeking the community’s public participation; improving research methods and data collection efforts; and identifying communities that may be more at risk than the general population due to their greater consumption of certain resources, such as fish directly caught from rivers and streams (U.S. President 1994). In turn, the agency responsibilities and strategies are to be guided by protocols for data collection and analysis, which include demographic, epidemiological, fish consumption, and other data about the populations of concern (U.S. President 1994). Therefore, within the Managerial State’s framework, environmental injustice would cease to exist when State measures can eliminate the disproportionate environmental impacts on low-income and people of color communities.

Following the framework for, and approach to, environmental justice laid out under the Executive Order, the U.S. Environmental Protection Agency defines environmental justice as:

“... the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies... Fair treatment means that no group of people should bear a *disproportionate share* of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. Meaningful Involvement means that: 1. people have an opportunity to participate in decisions about activities that may affect their environment and/or health; 2. the public’s contribution can influence the regulatory agency’s decision; 3. their concerns will be considered in the decision making process; and 4. the decision makers seek out and facilitate the involvement of those

potentially affected...” (U.S. Environmental Protection Agency 2014, emphasis added).<sup>11</sup>

This definition of environmental justice has been very influential in shaping scholarly research, informing federal governmental approaches to environmental injustice, and in adopting environmental justice measures at state and local government levels. The definition’s emphasis on disproportionate impact has been widely cited in scholarly environmental justice research to frame, explain, and measure the environmental injustice problem. This same emphasis has also determined the boundaries of the U.S. Environmental Protection Agency’s actions with respect to conditions of environmental injustice and measures to address it. The agency applies this definition of environmental justice to various aspects of its stated mission, including “setting standards, permitting facilities, awarding grants, issuing licenses and regulations and reviewing proposed actions by the federal agencies” (U.S. Environmental Protection Agency 2014). The agency works collaboratively with its Office of Environmental Justice, which facilitates the agency’s “efforts to protect environment and public health in minority, low-income, tribal and other vulnerable communities by integrating environmental justice in all programs, policies, and activities” (U.S. Environmental Protection Agency 2014). Some scholars have used the U.S. Environmental Protection Agency’s definition of environmental justice as a yard stick to examine whether the agency is in fact following its own definition while implementing its own programs, such as in awarding brownfield redevelopment funds or cleaning up

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<sup>11</sup> Definition of Environmental Justice, accessed on February 1, 2014 at the U.S. Environmental Protection Agency’s website at: available at <http://www.epa.gov/compliance/ej/basics/index.html>.

Superfund sites (Solitaire and Greenberg 2002; Holifield 2004). Furthermore, this definition of, and a particular policy approach to, environmental justice emanating from the federal level has led to the adoption of similar notions of environmental justice at state and local government levels, with each of these local government levels developing their own environmental justice statutes, rules, regulations, or executive orders, and with some local governments enacting environmental justice ordinances (De Guire 2012). But the adoption and spread of this definition is alarming because it narrows down the achievement of environmental justice to a calculation of disproportionate impact and to the ability of affected communities to participate in a decision-making process that offers few beneficial alternative outcomes for affected communities.

The various ways in which the Managerial State narrowly circumscribes the meaning of environmental justice and what must be done to address it is clearly articulated in the work of Ryan Holifield. Holifield and others contrast the diverse definitions of environmental justice put forth by the environmental justice movement's principles with the federal government's definition which has remained attached to limited notions of distributive and procedural justice (Holifield 2001; Ewall 2012-2013). While the environmental justice movement puts forth a broad and multifaceted definition of environmental justice embodied in the movement's *17 Principles of Environmental Justice*, the federal government's narrow definition conceives environmental justice primarily as a distributional matter and as something that can be bounded in space through the determination of environmental justice communities (Holifield 2001: 80-83). In the process of narrowing the meaning of environmental justice, the State not only favors

specific ways of managing the problem, but also limits the terms of its own engagement. Although environmental justice programs implemented by various federal agencies also incorporate some notion of procedural justice, it is also narrowly defined as merely requiring community knowledge of, or participation in, the decision-making process. The Managerial State's definition of and response to environmental injustice embraces an approach which does not make room for the broader definitions put forth by the movement or for addressing the fundamental inequalities fomented by the State along racial or ethnic and class lines (Holifield 2001: 81-82). For example, while the environmental justice movement believes that key to addressing environmental injustice is the "prevention of all toxic pollution," the Managerial State's approach to environmental injustice "leaves room for the continued production of toxic waste, as long as its negative effects do not fall disproportionately on disadvantaged communities" (Holifield 2001: 78; Heiman 2001). In other words, the State's definition of environmental justice and its approach to it neutralizes the more radical demands of the environmental justice movement or does not allow these demands to enter its formal policy-making realms.

Holifield also argues that environmental justice policy implementation can be interpreted as a form of what Bob Jessop terms "neocommunitarianism," a style of neoliberal community development applied by the State in local disadvantaged communities that seeks to involve community residents in the implementation process under a banner of empowerment and self-sufficiency, even when in reality the program goals are more modest (Holifield 2004: 286-287). Within the larger context of neoliberal state policy, environmental justice policy establishes the rules of community engagement

and participation in a narrowly defined manner, in a process that is driven by the quantification of an “environmental justice community” as an entity that can be bounded, measured, and located within Cartesian space so that it can be managed. The key conclusion of this research on the Managerial State’s approach is that the implementation of environmental justice policy does not lead to a fundamental reworking of racial or ethnic or class relations, or even to a redistribution of risk, but rather involves the management of environmental injustice conditions through the dedication of specialized staff, funding, and heightened attention to marginalized communities under the banner of community empowerment (Holifield 2004: 292-296).

The Managerial State’s adoption of a narrow definition that focuses on managing the problem rather than eliminating it leads to the continuation of the set of social relations that produce environmental injustice in the first place, rather than challenging those social relations as a way to address environmental injustice (Holifield 2004; Bullard et al. 2007). In addition, it is often the case that the State’s definition of environmental justice contradicts that of the affected community and cannot be reconciled. Darren Ranco provides a clear example of this problem as experienced by Native American communities (Ranco 2008). Ranco points to the limitations of participation by Tribes in the decision-making process when the definitions of what constitutes an appropriate outcome are diametrically opposed. In cases concerning Tribal clean water standards for rivers, the Tribes and the U.S. Environmental Protection Agency had different definitions of what constitutes an acceptable risk, with the U.S. Environmental Protection Agency seeking to reduce risk and Tribes seeking to completely eliminate risk by bringing to bear higher

standards of environmental quality that are consistent with the Tribe's use of resources such as fish, or ceremonial uses such as bathing and immersing in the river (Ranco 2008: 356-360). In those cases, the ability to participate in the decision-making process is not an adequate or sufficient venue for achieving the Tribe's definition of environmental justice, and in fact that participatory process reflects the historical barriers to self-determination experienced by Tribes (Ranco 2008:354-356, 360).

Even after decades of environmental justice policy measures, the Managerial State has not succeeded in resolving environmental injustice conditions (Bullard et al. 2007). Some authors have argued that the beneficial effect of the Executive Order has been to change regulatory culture by instituting a self-reflective requirement for federal agencies so that they must now consider the effects of their policies on vulnerable communities, and also to democratize the process in that affected communities can now have a voice in the decision-making process and demand that procedural requirements be followed (Torres 1994: 549-551; Ewall 2012-2013: 5-6). Those beneficial effects notwithstanding, a 2006 Office of Inspector General report found that, at least with respect to the U.S. Environmental Protection Agency's environmental justice programs, the agency had failed to conduct the appropriate reviews required to even assess whether its programs are having a disproportionate impact on low-income and people of color communities, and that the agency as of that date lacked specific directives and instruction on how to conduct these reviews (O'Connor 2007: 120-121). In addition, with respect to the approximately 250 environmental justice complaints brought to the U.S. Environmental Protection Agency directly by affected communities since 1993, most have been dismissed or rejected, and

many after a delay of twelve to eighteen years (Ewall 2012-2013: 9-10; Cole and Farrell 2006: 272-273).

In essence, the Managerial State seeks to manage environmental injustice conditions without challenging the social relations, practices, and processes that produce environmental injustice in the first place. As such, the Managerial State does not seek a fundamental rearrangement of racial or ethnic or class relations, and guarantees no expressed rights for affected communities other than acknowledge that disproportionate impact is an undesirable outcome and that affected communities must participate in the decision-making process, even if there are very few meaningful beneficial outcomes for those communities.

### *Judicial State*

The State in environmental justice contestations also emerges as a Judicial State when affected communities seek protection and remedies through the courts. Under this model of the relation between the State, power, and environmental justice, the State is assumed as capable of delivering justice and thereby settling environmental justice conflicts, usually by drawing upon the legal doctrines available under various constitutional and civil rights frameworks when environmental injustice is alleged to emerge primarily from racism, and under environmental and land use frameworks when quality of life issues or corporate abuse are the primary thrust of the environmental injustice claim. Court cases have often combined both sets of legal doctrines. However, most environmental justice court cases have so far been unsuccessful in obtaining the final

judicial ruling sought by affected communities, as the courts have repeatedly ruled against environmental injustice claims for failure to prove that the alleged racism was intentional, or to prove disproportionate or disparate impact even when racial discrimination is not intentional, failing to recognize how discrimination and racism operate today (Knorr 1997; Getches and Pellow 2002: 7-13; McLeod 2008). There is also a failure of the Judicial State to comprehend the multiple assaults suffered by affected communities in their experience of environmental injustice. In several environmental justice cases, a community's multiple burdens from multiple facilities and sources of pollution has been interpreted by the courts as an exculpatory factor for the particular polluter instead of as evidence of an environmental injustice for the community (O'Connor 2007: 129-130, 133-134). In the experience of the environmental justice movement, affected communities, and as discussed in the environmental justice literature, the Judicial State emerges as unable or incapable of recognizing a community's experience nor the complexity of environmental injustice as a societal problem that cannot be reduced to intentionality alone, and thus it emerges as incapable of delivering environmental justice through the judicial apparatus.

Scholars argue that, at least in part, the pursuit of environmental justice through the courts emerges from the way in which the environmental justice problem was conceived in Executive Order 12898. That order did not provide any path forward for the claiming of rights or the pursuit of redress by burdened communities. In fact, a key aspect of the Executive Order is that it expressly provided that no rights and no claims for affected communities were implied in its language. It specifically stated that its purpose was only to:



“improve the internal management of the executive branch and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person” and that it “shall not be construed to create any right to judicial review involving the compliance or noncompliance of the United States, its agencies, its officers, or any other person with this order” (U.S. President 1994).

Therefore, no legal pathway was established in the Executive Order for those affected to pursue (Knorr 1997; O’Connor 2007: 119-123; De Guire 2012: 230-232). In addition, Congress, the State’s branch capable of inscribing environmental justice rights and remedies into laws has not acted on environmental justice legislation introduced by some of its members. Members of Congress have attempted to address environmental justice rights and requirements at least since 1992 when Congressman John Lewis and then Senator Al Gore introduced legislation, with some version of that bill being introduced in subsequent years (Knorr 1997; De Guire 2012: 227-228; Ewall 2012-2013: 10-11). Left without any expressly stated environmental justice rights and remedies, communities have sought to demand that courts address their concerns through other legal frameworks. These frameworks have included the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution; Title VI of the Civil Rights Act of 1964; the provisions of 42 U.S.C. §1983; and various environmental and land use laws and regulations (Knorr 1997; O’Connor 2007; Hoidal 2003: 202-209).

Some of the first environmental justice court cases were brought under the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution. The Equal Protection Clause provides, in pertinent part, that:

“All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the state wherein they reside. No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; *nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws*” (U.S. Constitution, Amendment XIV, §1, emphasis added).<sup>12</sup>

The problem with environmental injustice claims brought under the Equal Protection Clause has been that, in developing its jurisprudence, the courts have ruled that a proof of intentional discrimination is required (Knorr 1997; Madrid 2003; McLeod 2008: 551-554). Two key environmental justice cases brought under the Equal Protection Clause were *Bean v. Southwestern Management Corporation*<sup>13</sup> and *East Bibb Twiggs Neighborhood Association v. Macon-Bibb County Planning and Zoning Commission*<sup>14</sup>. In both of these cases, predominantly non-white communities argued against a government entity’s decision to grant a permit for the placement of a landfill in their neighborhood. In *Bean*, community residents brought a claim against the Texas Department of Health, arguing that the decision to site the landfill was not only racially discriminatory in and of itself, but that it also fit a pattern of discrimination by that department (Knorr 1997; Madrid 2003: 131-132). However, the court concluded that the statistical and historical evidence presented by the community was not persuasive in proving intentional discrimination, and interpreted the evidence of cumulative impact as an exculpatory situation for the

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<sup>12</sup> United States Constitution, Fourteenth Amendment, accessed on November 10, 2013 at the Cornell University Law School’s Legal Information Institute’s website at: <http://www.law.cornell.edu/constitution/amendmentxiv>. See also the Library of Congress website at: <http://www.loc.gov/rr/program/bib/ourdocs/14thamendment.html>.

<sup>13</sup> See 482 F. Supp. 673 (S.D. Tex. 1979).

<sup>14</sup> See 706 F. Supp. 880 (M.D. Ga. 1989), aff’d, 896 F.2d 1264 (11th Cir. 1989).

department rather than as evidence of discrimination and racism (Zimmerman 1994; Knorr 1997; Madrid 2003: 131-132). In *East Bibb*, the community challenged the granting of a landfill permit by the county planning and zoning commission as a racially discriminatory decision. However, as in *Bean*, the statistical and other evidence presented by the community was not interpreted by the court as intentional discrimination (Zimmerman 1994; Knorr 1997).

In an effort to bypass the intentionality standard of the Equal Protection Clause, affected communities turned instead to sections 601 and 602 of Title VI of the Civil Rights Act of 1964. Section 601 of the act provides that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance,” and section 602 directs each federal department and agency that extends financial assistance to effectuate the nondiscriminatory provisions of section 601 “by issuing rules, regulations, or orders of general applicability which shall be consistent with achievement of the objectives of the statute authorizing the financial assistance.”<sup>15</sup> These provisions were seen as a more hopeful alternative because the regulations that had been promulgated by State departments and agencies under section 602 included a disparate impact standard that did not require proof of intentional discrimination (Schofield 2002: 909; Core 2002: 192-193). Two landmark environmental justice cases filed under Title VI were *Chester Residents Concerned for Quality Living v.*

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<sup>15</sup> See 42 U.S.C §§ 2000d-2000d-1, accessed on November 11, 2013 at the United States Department of Justice website at: <http://www.justice.gov/crt/about/cor/coord/titlevistat.php>.

*Seif*<sup>16</sup> and *South Camden Citizens in Action v. New Jersey Department of Environmental Protection*.<sup>17</sup>

In *Chester Residents*, the community challenged the Pennsylvania Department of Environmental Protection's decision to grant a permit for a waste treatment facility to be located in Chester, a predominantly African American neighborhood. The community argued that the department, which received funds from the U.S. Environmental Protection Agency, failed to consider how granting a permit for the new facility would negatively impact the neighborhood, which was already burdened with other similar facilities, and therefore violated the disparate impact standard of section 602 U.S. Environmental Protection Agency regulations (Core 2002: 206; O'Connor 2007: 138-139; Ewall 2012-2013: 6-7). Although the court ruled that section 601 requires proof of intentional discrimination, it also held that the U.S. Environmental Protection Agency regulations under section 602 validly implemented a disparate impact standard and that the community was entitled to bring a private right of action to enforce the application of that standard in the decision to grant the permit (Core 2002: 207-209; Madrid 2003: 134-136). Although the U.S. Supreme Court agreed to review this lower court ruling, the case was rendered moot before the case could be heard because the entity seeking the permit for the waste treatment facility withdrew its application (Core 2002: 205-206).

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<sup>16</sup> See 132 F.3d 925 (3d Cir. 1997), vacated as moot, 524 U.S. 974 (1998).

<sup>17</sup> See 145 F. Supp. 2d 446, 472 (D.N.J. 2001), op. modified and supplemented by 145 F. Supp. 2d 505 (D.N.J. 2001), order reversed, 274 F. 3d 771 (3d Cir. 2001), cert. denied, 122 S. Ct. 2621 (2002) (mem.).

In *South Camden*, using both Title VI and nuisance arguments, residents of the Waterfront South neighborhood of Camden City sued the New Jersey Department of Environmental Protection (NJDEP) over the approval of a permit to the St. Lawrence Cement factory (Cole and Farrell 2006; O'Connor 2007; Ewall 2012-2013: 7-9). The community's residents were successful when the court temporarily halted the construction of the cement factory as it found that the NJDEP failed to consider the disparate impact of the facility on the Waterfront South neighborhood as required by U.S. Environmental Protection Agency regulations (Schofield 2002: 909-912; Madrid 2003; O'Connor 2007). However, the *South Camden* case was overruled, and the ability of environmental justice communities to bring actions under Title VI was foreclosed, by the United States Supreme Court's decision in *Alexander v. Sandoval* – a case concerning the discriminatory impact of English-only drivers' license tests on non-English speakers – by holding that persons do not have a private right to bring action under the disparate impact regulations because Congress had not created such right in the statute that authorized the regulation (Schofield 2002: 912-913; Madrid 2003: 137-141; Ewall 2012-2013: 7-9). The residents of South Camden proceeded to amend their complaint to include their rights to bring such actions under 42 U.S.C. §1983, which was seen as unaffected by the *Sandoval* decision. That statute, in pertinent part, provides that:

“Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any State or Territory or the District of Columbia, subjects, or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the

Constitution and laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress...” (42 U.S.C. §1983).<sup>18</sup>

This attempt also failed. The U.S. Court of Appeals for the Third Circuit reasoned in part that Congress never expressly intended to grant such private right of action in the law, and therefore that a regulation could not in and of itself grant such right (Schofield 2002: 914-917; Madrid 2003: 143-147; Ewall 2012-2013: 7-9).

Scholars have pointed to the Judicial State’s problems in recognizing environmental injustice claims under other legal frameworks, such as the National Environmental Policy Act (NEPA). Although NEPA expresses the goal of humans living in harmony with nature for multiple generations, courts have ruled that NEPA’s requirements are merely procedural, specifically the production of an Environmental Impact Statement for the purpose of informing the public, and not necessarily for the amelioration of these impacts (O’Connor 2007: 123-124; Ewall 2012-2013: 11). The same procedural purpose has been found to apply to environmental justice claims brought under the National Historic Protection Act (NHPA), which Native American communities have used to protect sacred sites from negative environmental impacts (O’Connor 2007: 126). Some see the pursuit of environmental justice through the framework applicable to cases of unequal distribution of municipal services as a more fruitful approach. In those cases, affected communities have shifted the argument from a harm done to a benefit denied to them, and have succeeded by establishing that the spatially isolated and identifiable

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<sup>18</sup> See 42 U.S.C. §1983, accessed on November 16, 2013 at the Government Printing Office website at: <http://www.gpo.gov/fdsys/pkg/USCODE-2009-title42/pdf/USCODE-2009-title42-chap21-subchapI-sec1983.pdf>.

minority community was made so by historical evidence of housing and zoning discrimination; showing the failure of a local government entity to equally provide amenities to that community when compared to the rest of the municipality; highlighting the tangible nature of the benefits denied, such as paved streets, lighting, and water and sewer services; and using court precedent that makes room for historical evidence of discrimination by evaluating “racially restrictive zoning ordinances, residential development patterns, and a presence or lack of minority political representation” (Hoidal 2003: 213, 210-221).

Essentially, the Judicial State emerges as unable to deliver environmental justice thus far. Based on the environmental injustice claims brought to its courts by affected communities, the Judicial State establishes an impossible standard: deliberate discrimination is impossible to prove, while the deliberative process of our democracy is absolved even when that process produces the same results and outcomes as intentional or unintentional discriminatory and oppressive acts would produce. The experience of environmental injustice by affected communities is misrecognized, as multiple assaults from multiple oppressions is seen by the Judicial State as an exculpatory situation for the additional polluter rather than as evidence of environmental injustice. There is also the fact that claims brought under racial discrimination statutes do not protect other oppressed communities, such as white working class or rural communities affected by resource extraction practices such as coal mining and mountaintop removal (Ewall 2012-2013: 11). In essence, the inability of the Judicial State to bring about environmental justice is

certainly challenged, and this strongly suggests that other avenues are necessary to achieve environmental justice.

*Limitations of State Power Frameworks in Environmental Justice Research*

The above discussion of the Racial, Capitalist, Managerial, and Judicial State power models that emerge as key themes in environmental justice research reveals several limitations of these models. These conceptions of power centered on the State and viewed in terms of conflict, confrontation, and struggle result in an environmental injustice analysis that contains predictable actors, practices, and spaces. Predictable actors include a burdened community rising in struggle; an oppressor entity which can be the State, a white or wealthy community, or a bad corporate actor; and also the State as a potential liberator. Predictable practices are mainly the process and politics of disposal site selection and community struggle. Predictable spaces are mainly the disposal sites and the communities burdened with those sites. In this analysis, the State is given a privileged role in the distribution of power and in its ability to bring about a solution to the environmental injustice problem, as it is variously an oppressor, arbiter, judge, managerial agent, and a potential liberator. These predictable analytical variables become dominant in the typical environmental justice analysis. As the State is revealed as incapable of protecting affected communities through formal channels, the conflict over environmental injustice becomes a social movement strategy.

The problem with these framings of the relation between the State, power, and environmental justice is that they ignore various important aspects of the environmental



injustice problem, a key aspect being that the unquestioned production of burdens guarantees the need for disposal sites, which is acknowledged by some scholars. But there is another key aspect that these framings ignore. Because socially burdensome materials are subject to governmental practices across actors and spaces within our social fabric, environmental injustice is enacted and produced by multiple actors, at multiple spaces, and through mundane day-to-day practices in which the State also plays a role and which have to do with what we all have accepted as the appropriate ways of governing socially burdensome materials. This process includes the participation of all in society in the production of these burdens, their consumption, and their governing through everyday life, mundane activities and practices; the acts of distancing oneself from one's waste and that of others through small individual daily practices and large collective projects of infrastructure and land use; and, as these practices have become commonplace and shrouded with acceptability, our collective failure to recognize these practices and their effects as ethical crises that would lead us to demand and to enact a different socio-environmental relation. The concept of governmentality can help us explore the environmental injustice problem as involving multiple actors, practices, and spaces and as part a broader conception of the relation between the State, power, and environmental justice.

## **2.2 Governmentality, Power, and Environmental Justice**

This chapter has argued thus far that analyses of environmental justice adopt models of the relation between the State, power, and environmental justice that have the

State at the center of power variously as a producer of racialized social relations; an arbiter of class relations; a managerial agent that manages environmental injustice conditions without challenging the underlying processes that produce environmental oppressions and inequalities; and as a judge that is incapable of recognizing the environmental injustice claims brought to its courts by affected communities. These models of power in environmental justice research frame the occurrence of environmental injustice as the result of the uneven distribution of power among wealthy white populations and ethnic or racial minority communities, bad corporate actors and the rest of society, and the State and affected communities attempting to secure their rights to work, live, and play in a healthy environment. In these scenarios, the uneven distribution of power leads to a conflict over environmental quality and gives rise to a social movement that seeks to influence the State to take particular actions to resolve specific local instances of environmental injustice. However, because of their focus on power as conflict, these framings do not examine how the production of environmental injustice has become ingrained in the practices of everyday life undertaken by the multiplicity of actors composing the social body in connection with governmental decisions concerning socially burdensome materials and related to production, consumption, and ways of life.

Foucault's concept of governmentality can broaden our understanding of how environmental injustice conditions are produced and perpetuated through the diffused and collective exercise of governmental power. Governmentality refers to a form of governmental power where, instead of ruling primarily by force or by reliance only on the techniques of rule that stem from its sovereign power, the State promotes the collective

exercise of power in society through ways of ruling that are fundamentally non-judicial in their primary impetus and that become ingrained and enacted in everyday life practices. These forms of governmental power include disciplinary (targeted at human bodies), biopolitical (targeted at human populations), and neoliberal (targeted at individuals conceived as free subjects within the political economy system) (Foucault 1980, 1990, 1991, 1995, 2000, 2003, 2007, 2010; Miller and Rose 1990; Rose and Miller 1992; Legg 2005; Dean 2010; Ettlinger 2011). In promoting the collective exercise of governmental power, the State as the political form of government seeks to enroll the population into enacting its governmental goals through calculated approaches to social problems. Elements of this process involve the State acquiring knowledge about social problems in order to define those problems and intervene into them (governmental rationalities); favoring certain technologies to address them (governmental technologies); promoting certain practices to be performed by people (governmental practices); delineating and shaping the spaces within which people will perform the desired governmental practices (governmental spaces); and enticing the diversity of individuals who constitute the population into performing and enacting its governmental goals through their day-to-day life practices in a self-guided manner and in mundane ways (governmental subjects) (Dean 2010). Through the exercise of governmentality, the State continuously shapes human social relations and the relation between people and their environments. It is within this process that one can place the production and perpetuation of environmental injustice conditions.

In order to expand environmental justice analyses, and informed by Foucault's approach to governmental power as widespread and exercised throughout the social body as the collective exercise of governmental power, one must therefore examine the ways in which the production of environmental injustice has been diffused throughout the social body as part of larger efforts to govern socially burdensome materials. This analysis moves away from the sole focus on power as conflict within race, class, and State-centered institutional frameworks, to consider how governmental power is exercised by all within the social body as we collectively govern socially burdensome materials through disciplinary, biopolitical, and neoliberal techniques; as we adopt and in fact enact the governmental rationalities, technologies, practices, and spaces as key elements in the particular governmental effort; and, in that process, as we become governmental subjects in our day-to-day lives. In essence, one must examine how we collectively produce and perpetuate environmental injustice conditions.

This section develops this argument by first discussing Foucault's conceptualization of power because his concept of governmentality emerges as a key part of his critique of sovereign power. This section then discusses Foucault's disciplinary, biopolitical, and neoliberal governmentalities as forms of governmental power that transcend sovereign power, and delves into the governmental rationalities, technologies, subjects, practices, and spaces that constitute elements of particular governmental efforts. Discussion of these kinds of governmentality and their constituent elements is important because, as Foucault argues, they help us understand how governmental power is exercised today. In that way, governmentality helps us analyze the development and perpetuation of

current conditions. This section concludes with a discussion of specifically how Foucault's insights on power and governmental power can help us expand environmental justice analyses beyond the conflict model of traditional power analyses by providing a different model of the relation between the State, power, and environmental justice that makes room for an analysis of the collectivized production of environmental injustice.

### *Power, Subjects, Knowledge*

Foucault developed the concept of governmentality as part of his overall critique of power. Through his work on sexuality, institutions such as asylums and prisons, and later on, the governing of human populations and spaces such as the town, Foucault developed a concept of power that transcends its conception as confrontation, struggle, force, or war, or as a thing or commodity over which the State holds a monopoly, or which is exercised only as part of economic, racialized, or class-based social relations alone (Foucault 1995, 2003, 2007, 2010; Lemke 2002, 2007, 2012; Gunn 2006; Jessop 2007; Elden 2007a, 2007b). Rather, his critique puts forth the notion that power is intrinsic to all kinds of social relations, not as an appendage to them, but as an inherent part of them, and that these relations – such as those among men and women, religious leaders and their followers, teachers and their students, doctors and their patients – exist beyond the formal institutions of the State, cannot be reduced to economic or class relations alone, or to confrontation, struggle, or force. Foucault therefore critiques the “economism” of power in both classical and Marxist analyses. By “economism” he means that, under the traditional theory of sovereignty, it is assumed that the subject-to-subject and subject-to-sovereign social

relation is pre-given and founded on the social contract, which renders power as a commodity that can be granted, held, exchanged, appropriated, or surrendered as part of the relation between the State and its human subjects (Foucault 2003: 13-14, 43-45). Similarly, he argues that an economic view of power emerges under Marxist theory when power is conceptualized only as something that produces and perpetuates oppressive economic or class relations (Foucault 2003: 13-14; Lemke 2002, 2007, 2012; Jessop 2007). As an alternative, Foucault proposes that instead of assuming that some have power and others have not, one must examine actual power relations to understand the nature of power.

Instead of defining power a priori using classical theories, foundational documents and institutions, or superimposing grand overarching models of class, ethnic or racial, or State oppression onto what is being observed, the researcher must examine how power is exercised among members of the social body, and this would include the analysis of power not only as a source of oppression, but also as a productive activity because the exercise of power produces people as subjects of power, shapes their social relations, and structures the relation between people and their environment (Foucault 2003: 14-19, 27-34). Power must be treated as something that circulates and functions throughout the social body as a chain or network, where individuals become relays of power, and where a consonant set of social relations are attempted to be formed among the different members of that social body (Foucault 2003: 29; 2007: 215, 215-216). Rather than focusing on the assumed centers of power in that network, such as the central State and its institutions, one can examine how power circulates in the network to become part of “regional forms and institutions,” where

power becomes “capillary” as it gets “invested in institutions, is embodied in techniques and acquires the material means to intervene” into everyday life in a way that is “less and less juridical” in its form and function (Foucault 2003: 27-28). In that way, the exercise of power toward a certain end becomes part of mundane, everyday life practices. In this analysis, one need not assume that power is equally or democratically distributed among the members of the social body, but one must examine how local processes and practices have been “invested, colonized, used, inflected, transformed, displaced, extended, and so on by increasingly general mechanisms and forms of overall domination” (Foucault 2003: 30).

Foucault’s notion of power as diffused throughout the social body and as intrinsic to human social relations is distinguished from other notions of power put forth in both classical and Marxist approaches in two other important ways. One key element of Foucault’s concept of power is that individuals are transformed into subjects through the exercise of power, and that therefore their role or position should not be preconceived in an analysis of power. This means that the individual should not be taken as the a priori subject of rule, as is the case under the traditional theory of sovereignty. Rather, the individual as a subject of rule is constituted through the exercise of power. An analysis of power relations that explores the transformation of individuals into subjects is not based on “asking subjects how, why, and by what right they can agree to being subjugated, but showing how actual relations of subjugation manufacture subjects” (Foucault 2003: 45). One must examine how the exercise of power involves the development of individuals in their social relations as targets of rule, how power gets invested in their day-to-day

processes and practices, and how power constitutes individuals as its subjects (Foucault 2003: 28). It is proposed that “rather than asking ourselves what the sovereign looks like from on high, we should be trying to discover how multiple bodies, forces, energies, matters, desires, thoughts, and so on are gradually, progressively, actually and materially constituted as subjects, or as the subject” (Foucault 2003: 28). He argues that individuals as subjects are an effect of the exercise of power.

A second key aspect of Foucault’s concept of power and a significant departure from other notions of power is the relation between power and knowledge. In contrast to other analyses of power where ideology is the focus, in Foucault’s analysis ideology is not that important, but knowledge is key. Knowledge is produced in the exercise of power through apparatuses and techniques that seek to develop “truth,” and then this truth further supports and augments the exercise of power. An analysis of power that takes into account the relation between power and knowledge examines the “actual instruments that form and accumulate knowledge, the observational methods, the recording techniques, the investigative research procedures, the verification mechanisms” as the mechanisms of power “cannot function unless knowledge, or rather knowledge apparatuses, are formed, organized, and put into circulation” (Foucault 2003: 33-34). The exercise of power therefore involves the development of dominant forms of knowledge in order to operate, but that process also produces what Foucault calls “subjugated knowledges.” This concept has a dual meaning in Foucault’s work. In one sense, subjugated knowledges refer to knowledges that have been sidelined and silenced by the dominant “functional arrangements and systematic organizations” of knowledge (Foucault 2003: 7). He also



means knowledges that have survived such functional arrangements, but “that have been disqualified as nonconceptual knowledges, as insufficiently elaborated knowledges: naive knowledges, hierarchically inferior knowledges, knowledges that are below the required level of erudition or scientificity” (Foucault 2003: 7). In Foucault’s critique of power, subjugated knowledges are of central importance because they actually make that critique possible as they challenge the dominant view’s claims to uniqueness, veracity, and legitimacy. He argues that subjugated knowledges can be revealed through scholarly analysis and, most importantly, by subjects in struggle who themselves bring to bear their local experiences and knowledge to challenge dominant discourses, narratives, and accepted “truths” (Foucault 2003: 6-8).

Foucault’s critique of power therefore displaces what have been traditionally conceived as the key elements in power analyses. As Simon Gunn argues, Foucault’s reconceptualization of power takes us beyond the traditional conceptions of power emanating from the theory of sovereignty and even transcends the models of power that dominate political analyses identified by Steven Lukes as focused on the actions of decision-makers, institutions, and social groups as they try to settle visible social conflicts, control the political agenda, and even prevent social conflicts from overtly manifesting (Gunn 2006). Foucault’s approach to power also takes us beyond key conceptualizations of power in Marxist theory, such as Gramsci’s hegemony. According to Gunn, while hegemony displaces overt oppression as the main technique of power, it is still an explainer of power in terms of conflict in that hegemony prevents latent class conflict from manifesting as the subjugated classes consent to their rule by accepting the dominant

group's views of the world as common sense (Gunn 2006: 707). With Foucault's approach, one seeks to move beyond a view of power as centered on the State or its institutions, Marxist class struggle, racial oppression, force, and as informed by ideology. Instead, one pursues a view of power as inherent to social relations existing throughout the social body, as a productive activity that creates and enrolls individuals as subjects and produces their social and spatial relations, and as informed and augmented by knowledge and forms of expertise (Miller and Rose 1990; Rose and Miller 1992).

However, in Foucault's analysis of power, the fact that power is not centered on the State does not mean that the State is removed from the exercise of power and its analysis. It is as part of his critique of power and his analysis of State power in particular that he develops his concept of governmentality, which is a model for how the State exercises governmental power today.

### *Power, State, Governmentality*

While Foucault's critique expands conceptions of power beyond traditional notions where the State has a monopoly on power, the State is not absent in his analysis of power but is actually a central piece of his overall critique (Lemke 2002, 2007, 2012; Jessop 2007). A central question in Foucault's work is how State governmental power has sought to become predominant over the multiple governmental practices existing within the social body. He specifically examines how the governmental power exercised by the State has historically sought to become a predominant form of power that aims to intervene and coordinate the exercise of other forms of power existing in society. Consistent with his

view of power as exercised throughout the social body and as intrinsic to social relations, Foucault does not see the State as the center of governmental power. In fact, he believes that there has been an overvaluation of the State in predominant power analyses. Instead of analyzing the emergence of State institutions during the 1580s to 1650s period said to have given birth to the State, he is rather more interested in exploring when and how this concept of the State comes to be reflected upon in connection with governmental tactics and practices (Foucault 2007: 247). He argues that, over time, through newly developed governmental tactics and techniques, the State has been able to survive and evolve in the face of very significant demographic, economic, technological, and other changes in society, from the feudal system, to the administrative system, and finally to the modern and international State systems (Foucault 2007: 108-110). He argues that the origins of the State or its functions are not the really meaningful or important analysis to pursue. What is important is how the State has been “governmentalized” over time and therefore been able to survive (Foucault 2007: 109; Rose and Miller 1992). Foucault’s argument can shed light on how the State governs today.

The issue of how the State has become “governmentalized” refers to how the State has learned to exercise governmental power – which is not something unique to the State – and in that process how it gradually has come to coordinate and shape human social relations and the relations between people and their environments in very significant ways. The State has learned this so well that in our modern parlance we define government as a domain of the State. He makes this point precisely in his exploration of the governmentalization of the State when he discusses how the meaning of “government”

evolved in the West, how it used to refer to a variety of social activities, and how it became synonymous with the State over time (Foucault 2007: 120-123). He traces the various meanings since the 13th century, finding that “to govern” or “government” referred to a range of activities and interpersonal relations before those terms acquired their strictly political or State-centered meaning in the 16th century. To govern something had various meanings, including spatial (moving forward on a narrow path), moral (to conduct someone or oneself well), subsistence (the source of one’s subsistence or the means of supporting a dependent), medical care (a doctor caring for a patient and the patient caring for himself or herself), and relational (having command of someone else, a sexual relation, or conversing with another person) (Foucault 2007: 120-123). Given these multiple meanings he suggests that the act of governing has never been solely the domain of the State and, of particular relevance to our notions of State power, he concludes that “...one never governs a state, a territory, or a political structure. Those whom one governs are people, individuals, or groups” (Foucault 2007: 122). In Foucault’s analysis, the act of governing therefore permeates all kinds of social settings and social relations that exist outside of the formal institutions of the State, as in households, schools, churches, workplaces, institutions, and other settings (Foucault 2007: 88, 93; Miller and Rose 1990; Rose and Miller 1992). This means that the exercise of governmental power occurs at multiple sites or scales, is undertaken by individuals at all of those sites or scales, and that the acts of governing that individuals perform can be understood as instances in the exercise of power as part of their social relations in their daily lives. The governmental power exercised by State institutions is only one form, which Foucault refers to as the

political form, of governmental power. In the process of governmentalization, the State not only had to learn how to govern people who were already exercising governmental power in their social relations, but also how to become a predominant form of governmental power over all others in society being undertaken in all sorts of spaces. Foucault's discussion of governmental power therefore highlights the behavioral and spatial aspects of power. Essentially, the State had to learn how to govern people and space or environment (Elden 2007a, 2007b).

Governing people is therefore a key aspect of the governmentality framework, and in this endeavor human conduct is of central interest. This focus on governing people is why Foucault refers to governmentality as "the conduct of conduct." Foucault's reasoning suggests that, in its governmentalization, the State had to learn from and become invested in the governmental practices already being undertaken by people as part of everyday life. He furthers his argument by connecting the governmentalization of the State to the power being exercised by religious pastors. In its governmentalization, the State sought to govern people by establishing something analogous to religious pastoral power or "the practice of spiritual direction, the direction of souls" (Foucault 2007: 123; Elden 2007a: 568-570). Foucault views this aspect of governing people as informed by pastoral power because that power had already established among the population something akin to what the State seeks to establish and achieve while governing. The State sought to create "types of relationships under law, salvation, and truth" and, as is obvious in the context of criminal justice, education, social welfare, and other policy areas, to produce "a subject whose merits are analytically identified, who is subjected in continuous networks of obedience, and who is

subjectified ... through the compulsory extraction of truth” (Foucault 2007: 184). He specifically discusses the 16th century concerns about whether the State or the religious pastor should have jurisdiction over the guidance of certain kinds of human conduct (Foucault 2007: 230-232). The key point in this discussion of pastoral power and human conduct is that, for government, guiding the conduct of individuals came to involve more than just telling individuals what to do, as in legal proscriptions, requirements, or prohibitions under traditional sovereign rule. It was more complicated than this. It came to involve a deeper process of constituting individuals as obedient subjects who accept governmental guidance and who become self-guided subjects exercising proper conduct in their public and private lives. In the process of producing subjects, individual human conduct would be relevant for the exercise of State governmental power in various ways. Conduct would matter not only as the activity of conducting someone (guidance), but also as the ways in which a person conducts himself or herself (behavior), allows himself or herself to be conducted (submission), is actually conducted (enactment), and behaves in response to a form of conduct (effect) (Foucault 2007: 193). At the same time, the governmental power exercised by the State would also be concerned with the resistances to power exercised by those being conducted as “counter-conducts” or strategies of subversion against governmental power (Foucault 2007: 194-202). Foucault considers “revolts of conduct” as distinct from mass political revolts against a ruler, oppression and exploitation, or against inequitable economic or other conditions, although he allows that these two types of revolts are often linked (Foucault 2007: 196-197). Reflecting again the focus on the individual as the subject of government, a counter-conduct can be understood

as an individual's ethical crisis when that conduct is a "struggle against the processes implemented for conducting others" in a power relation (Foucault 2007: 201-202; Ettlinger 2011). At the same time, a counter-conduct can be understood as an act of defiance of a particular governmental attempt to guide conduct, regardless of whether such counter-conduct is ethical (Dean 2010).

In the process of governmentalization, the State also had to learn how to govern space, as individuals are not conceived alone in a vacuum or separate from other individuals and the spaces or environments they occupy. In this regard, Foucault argues that the notion of a sovereign ruling over a territory became sorely inadequate. Instead, the State became interested in space as a variable in the exercise of governmental power, not only as the entirety of a territory, but in its qualities, and also in the activities occurring in the spaces that fragment that territory, namely households, institutions such as schools, prisons, and asylums, towns, and markets (Elden 2007a). In its governmentalization, the State sought to establish continuity and consonance in the governmental practices undertaken by individuals at all of these multiple sites and scales so that the practices at one scale could merge seamlessly with those at another, and so that particular governmental efforts could be achieved. This "essential continuity" must exist among individuals and scales traditionally considered as external and internal to the State, and both in an "upward" direction reaching the formal institutions of the State and in a "downward" direction reaching individuals who would properly conduct themselves in the most private spaces of households and in the most public spaces of the town (Foucault 2007: 94). The State's governing of relations between people, and between people and their environment, relates

to the “dispositional” characteristic of government, where seeking the “right disposition of things” does not necessarily equate to achieving the common good but rather achieving a set of specific governmental ends (Foucault 2007: 96, 98-99). Space becomes a variable in governing the range of human social relations and human welfare in the face of uncontrollable events, risks, and misfortunes that are likely to happen (Foucault 2007: 96-97). He argues that:

“One governs things. But what does that mean? I do not think this is a matter of opposing things to men, but rather of showing that what government has to do with is not territory but rather a sort of complex of men and things. The things with which in this sense government is to be concerned are in fact men, but men in their relations, their links, their imbrication with those other things which are wealth, resources, means of subsistence, the territory with its specific qualities, climate, irrigation, fertility, etc.; men in their relation to that other kind of things, customs, habits, ways of acting and thinking, etc.; lastly, men in their relation to that other kind of things, accidents and misfortune such as famine, epidemics, death, etc... What counts essentially is this complex of men and things; property and territory are merely one of its variables” (Foucault 2007: 93-94).

The key point in the above quote is to illustrate that two key aspects of the State’s governmentalization, namely the government of people in their social relations and the government of space or environment, go together and cannot be divorced in the exercise of governmental power. For Foucault, and reflecting his overall critique of sovereign power, dispositional government means that the State transcended in significant ways the predominance of the law under sovereignty, as now the law takes a secondary role in the exercise of governmental power. He argues that under dispositional government “... it is not a matter of imposing law on men, but of the disposition of things, that is to say, of employing tactics rather than laws, or, as far as possible employing laws as tactics; arranging things so that this or that end may be achieved through a certain number of



means” (Foucault 2007: 99). In this context, legal proscriptions that tell individuals what to do become secondary to the goal of using laws to arrange people and space to achieve specific governmental ends (Foucault 2007: 99). Instead of primarily or only ordering people to do one thing or another, the State’s governmentalization allowed for the orchestration of human social relations and the relation between people and their environment by enticing day-to-day conducts in human beings and by shaping the spaces and environments in which humans exist and conduct themselves in order to produce specific human socio-spatial relations (Huxley 2006).

In addition to learning how to govern people and space, the process of governmentalization also involved the State learning how to develop its own set of knowledge to produce “truth,” and in that way augment its power to intervene and coordinate the conduct of people, shape spaces, and structure ways of life. Statistics, which Foucault refers to as the science of the State, became a dominant form of knowledge deployed by the State in its process of governmentalization (Rose and Miller 1992: 185-187). The gathering of statistics about the qualities and endowments of the territory, its natural resources, and its population as an economic, reproductive, and defense asset, and an examination of the same characteristics of other states within mercantilist and political economic systems, allowed the State to calculate and construct economic and spatial realities or “truths” and apprehend them in order to devise plans for governing and thereby augment its power, internally and in relation to other states (Foucault 2007: 313-315; Elden 2007a; Hannah 2000). For example, Foucault argues that the use of statistics to measure various demographic, health, and economic aspects of the population revealed that the

population faced different problems than those of the family, and led to the replacement of the family as a model for government (Foucault 2007: 104-105; Legg 2005: 143-144). The development of knowledge by the State also involved a process that Foucault refers to as the “disciplinarization of knowledges” (Foucault 2003: 181-185). In this process, the State eliminates or disqualifies knowledges that it finds expensive or irrelevant (selection); normalizes the various knowledges that survived the selection process so that these diverse knowledges become intelligible with one another (normalization); organizes them into a hierarchy of dominant and subordinate knowledges (hierarchicalization); and organizes them into a pyramid that centralizes their control (centralization) (Foucault 2003: 180-181). Formal scientific disciplines were created as part of this process, with the university as an institution playing a major role in the selection, normalization, hierarchalization, and centralization of knowledges, and also in their dissemination (Foucault 2003: 182-183). Foucault maintains that this process established a new relationship between the exercise of power and the knowledge on which this exercise is based, with science playing a predominant role (Foucault 2003: 184-185). The State also gave a higher standing to experts or possessors of scientific knowledge, compared to others outside of those knowledge domains, and in that process whether someone possessed scientific knowledge or not became the basis for questioning the legitimacy of those speaking and determining who was considered qualified to speak (Foucault 2003: 184; Rose and Miller 1992: 187-189). However, the confrontation between dominant knowledges and the subjugated knowledges of subjects in struggle continues as part of politics (Foucault 2003: 186).

The governing or development of people, spaces, and knowledge that the governmentalization of the State involved represent strategies that the State deployed in order to survive. However, these strategies did not emerge solely from within the State, but rather were precipitated by fundamental transformation in the social body – its population, environment, and economy. Foucault argues that, historically, the governmentalization of the State can be interpreted as an adaptation that occurs in response to the major social developments in the West that occurred during the 16th century (Foucault 2007: 100-103). In the face of rapid and fundamental social changes, and especially the unprecedented growth of the human population and its settlement into densely populated urban environments, the State was forced to transcend the limitations of sovereign power, its traditional conceptions of the social contract, public law, and its inadequate sovereign-to-subject and subject-to-subject relations, and had to also move beyond the family as a model for governing (Foucault 2007: 103). The State had to exercise the kind of power Foucault calls governmentality. It is at this analytical junction that Foucault provides a three-part definition of governmentality which highlights both its functional and historical aspects, while emphasizing that it is a work in progress. He defines governmentality as:

“... the ensemble formed by institutions, procedures, analyses and reflections, calculations, and tactics that allow the exercise of this very specific, albeit very complex, power that has the population at its target, political economy as its major form of knowledge, and apparatuses of security as its essential technical instrument ...” (Foucault 2007: 108).

The key message about governmentality in the above-quoted part of Foucault’s work is that the formal institutions of government at some point had to transcend the limitations given to them by the traditional theory of sovereignty and, in the face of rapid

demographic, economic, urbanization, technological, political, and other changes occurring in the social body which had a life of their own, the State had to adopt new and different governmental modalities in order to survive. The State had to develop new ways of governing people and space in their more complex interrelations brought about by population growth, urbanization, and political economy. As Stephen Legg argues, Foucault's governmentality can be situated within the historical realities presented by the demise of the feudal economic system brought about by the agricultural and industrial revolutions, thereby releasing the rural population to relocate and settle in dense urban environments, in turn precipitating State governmental actions to address threats to the health, safety, and welfare of the population through spatial planning and other techniques (Legg 2005). As an analytical concept, governmentality therefore captures Foucault's critique of traditional notions of power as inadequate in explaining new configurations of power between the State and the population. This concept also captures an understanding of governmental power as primarily pertaining to the multiple possibilities of the relation between the State, people, and space or environment. These key aspects of governmentality allow us to understand the exercise of governmental power as a new relation between the State, people, and space or environment which transcends the traditional model of sovereign power and which is essential for understanding present conditions and how governmental power is exercised today.

Foucault directly noted that governmentality is a useful concept for the analysis of power, and specifically governmental power, for various reasons. As Foucault argues, this concept helps us understand government as a problematizing activity in the complex world

that we currently live in, with the population as a key focus of governmental action. By extending beyond the institutions of the State to the practices of everyday life undertaken by people in all kinds of spaces, governmentality moves the inquiry to locations outside of the institutional approach or the State-centered approach, allowing for an analysis of the workings of government and power or the “how” of government, and for an understanding of institutions as products of larger social projects or more general technologies of power (Foucault 2007: 116-117; Rose and Miller 1992). For the social problems that we face today, it is no longer enough to adopt views of power and the State centered on formal State institutions and their actions, or on individuals who are the decision-makers, or even on social groups or classes operating within the realm of formal politics as opposed to the domain of everyday life (Mitchell 1991; Gunn 2006). Because governing is a shared activity in that it involves all members of the social body, one must reject the alleged divisions between the public and the private, the political and the mundane. Foucault argues that it is therefore important to move beyond an analysis of expected institutional functions, so that one can pursue an analysis of the actual functions such institutions perform and the actual outcomes and consequences of government within the larger social projects and the general economy of power (Foucault 2007: 117-118). He argues that the goal is not to “measure institutions, practices, and knowledges in terms of the criteria and norms of an already given object” but rather “grasping the movement by which a field of truth with objects of knowledge was constituted through these mobile technologies” (Foucault 2007: 118). In summary, he argues that the goal is to:

“...free relations of power from the institution, in order to analyze them from the point of view of technologies; to distinguish them also from the function, so as to take them up within a strategic analysis; and to detach them from the privilege of the object, so as to resituate them within the perspective of the constitution of fields, domains, and objects of knowledge” (Foucault 2007:118).

Foucault illustrates how governmentality transcends the traditional constraints of State-centered institutional analyses, sovereign power, and the view of power as conflict within race and class frameworks by examining disciplinary, biopolitical, and neoliberal governmentalities. These governmentalities offer key insights into how the State governs today.

#### *Discipline, Biopolitics, and Neoliberalism*

The fundamental social transformations that led to governmentality as a predominant form of rule in modern societies, especially the demographic explosion of the human population and its settlement into urban environments, unleashed certain biological and political realities which forced the State to change from its exercise of power centered in the law (sovereignty), to other modalities of power that apply to individual human bodies (discipline), human populations (security or biopolitics or biopower), and individuals conceived as free subjects guided by the market within a political economic system (neoliberalism) (Foucault 2003: 34-46; 2007: 66-79; Ettliger 2011). The unprecedented growth in the human population and its settlement into urban environments left the State's sovereign power unable to deal with new biological, political, and economic challenges. The human population as an object of rule, having its own biological and political essence, simply could not be willed at using only laws that permit, forbid, or require human conduct.

In this context, Foucault argues that disciplinary and biopolitical forms of rule were developed and implemented by the State beginning as early as the 17<sup>th</sup> century. On this point, Foucault states:

“... It is as though power, which used to have sovereignty as its modality or organizing schema, found itself unable to govern the economic and political body of a society that was undergoing both a demographic explosion and industrialization. So much so that far too many things were escaping the old mechanism of the power of sovereignty, both at the top and at the bottom, both at the level of detail and at the mass level. A first adjustment was made to take care of the details. Discipline had meant adjusting power to the individual body by using surveillance and training ... at a local level, in intuitive, empirical, and fragmented forms, and in the restricted framework of institutions such as schools, hospitals, barracks, workshops, and so on. And then ... you have a second adjustment; the mechanisms are adjusted to phenomena of population, to the biological or biosociological processes characteristic of human masses. This adjustment was obviously much more difficult to make because it implied complex systems of coordination and centralization” (Foucault 2003: 249-250).

Disciplinary forms of governmental power began to be targeted to human bodies within delineated institutional settings such as schools, workhouses or factories, prisons, medical facilities, and military institutions. Key aspects of disciplinary power involve the specification of practices that must be performed by human subjects with their bodies, the training of the body to perform those practices well, the use of time tables to designate daily schedules, the breaking up of spaces into smaller portions or cells to achieve greater functionality and surveillance, and other techniques that seek to yield proper performance and proper conduct (Foucault 1995: 135-170). In the exercise of disciplinary power, there is an articulation of temporal, spatial, and motion elements in connection with a human body in order to achieve a goal (Foucault 1995: 137). At the same time, the application of disciplinary power on individual human bodies allows for an augmentation of power as

these bodies combine as part of a larger population in their productive effect, as in workers in a factory collectively producing a product or soldiers composing an army (Foucault 1995: 162-167). While disciplinary power within institutions is enforced often under direct supervision, these “new micro-physics of power” became the foundation of other primarily non-judicial forms of power as they “reached out to ever broader domains, as if they tended to cover the entire social body” (Foucault 1995: 139). Disciplinary techniques and practices diffused throughout the social body can be understood as a foundation or constituent elements of other forms of power, such as biopolitics.

Biopolitical forms of governmental power are targeted to human populations in order to affect their health, safety, and welfare through measures that target human conduct with respect to matters of fertility and reproduction, quality of life, death, mortality, morbidity, epidemics, endemics, and anything that affects the population’s well-being (Foucault 2003: 245-249). Biopower is exercised over a population “not to the extent that they are nothing more than their individual bodies, but to the extent that they form, on the contrary, a mass that is affected by overall processes characteristic of birth, death, production, illness, and so on” (Foucault 2003: 242-243). Examples of the State’s exercise of biopower include public health and sanitation campaigns; the use of statistical knowledge to keep track of what is happening to the population in terms of demographics and vital statistics through data gathering and census taking; the regulation of reproductive, sexual, and racial relations; programs designed to understand and affect health, disease, and other variables; and concerns of risk, insurance, immunizations, and other advance calculations to maintain the population’s health, safety and welfare and its productive and



reproductive capacities. Foucault argues that the State began to exercise biopower in connection with concerns for the economic capacity and productivity of the State, with the population understood as an economic resource and a variable in augmenting the State's power (Foucault 2003: 244).

As with other forms of governmentality, Foucault proposes that an aim of biopolitics or biopower is to establish specific relations among people, and also relations between the population and the environment, with this latter term understood as both the natural and the man-made or urban environment or milieu (Foucault 2003: 245). Of this biopolitical concern of the human and natural environment, he states:

“This includes the direct effects of the geographical, climatic, or hydrographic environment: the problem, for instance, of swamps, and of epidemics linked to the existence of swamps throughout the first half of the nineteenth century. And also the problem of the environment to the extent that it is not a natural environment, that it has been created by the population and therefore has effects on that population. This is, essentially, the urban problem” (Foucault 2003: 245).

Concerns of biopower include what we call the “police power of the State,” which is the State's fundamental function of promoting the health, safety, and welfare of the population (Foucault 2007: 312-313; Elden 2007a: 572-573). Foucault argues that, historically, the police power came to encompass the entirety of government. It included a diversity of concerns, such as the maintenance of good order; splendor; the education of children and professionalization of individuals; morals like modesty, loyalty, wealth, proper household management, and consumption; charity and care of the poor; public health; risk calculation and management through insurance in the face of natural disasters, economic fluctuations, and epidemics; the regulation of industries and workplaces such as

in manufacturing and agriculture; the regulation of markets and commerce in terms of product safety, workplace rules, and the amounts and prices of marketable goods; provisions for landed property; construction of roads; management of public buildings; and management of natural resources to ensure the provision of safe drinking water and wood through forest management (Foucault 2007: 319-326, 334). The police power became supremely important in the context of a growing population that increasingly settled into urban environments and that became a participant in a more complex economic and political system, which led Foucault to conclude that the police power was mainly exercised to target “urban objects” or the “problems of the town” or of “dense coexistence,” in addition to the problems of “the market” (Foucault 2007: 334-335).

Just as is the case with disciplinary power, the police power developed as a kind of governmental power very different from traditional notions of sovereign power and justice, as it involves the State acting on its subjects in a non-judicial manner through regulations, ordinances, interdiction, and instruction (Foucault 2007: 339-340). This is not the pre-made subject under sovereignty in terms of his or her status and endowments, but rather the State's formation and constitution of subjects, their social relations, and the relations between people and environment through the police power (Foucault 2007: 322). Rather than basing people's relation with one another or their environment on the narrow proscriptions of laws, Foucault argues that a fundamental object of police is to govern men in their relations and their coexistence, stating that:

“... what police has to govern, its fundamental object, is all the forms of, let's say, men's coexistence with each other. It is the fact that they live together, reproduce, and that each of them needs a certain amount of food and air to live, to subsist; it is

the fact that they work alongside each other at different or similar professions, and also that they exist in a space of circulation; to use a word that is anachronistic in relation to the speculations of the time, police must take responsibility for all of this kind of sociality...” (Foucault 2007: 326).

In addition to the notion that the goal of biopolitics or biopower techniques such as the police power is to establish kinds of human social relations by acting on spaces or environments, Foucault also describes the essence of biopower as a type of power exercised by the State in the form of power over life. He contrasts this power over life with that held by a sovereign in the classical sense, who exercised the direct right “to take life or let live” on the subjects of rule. He explains this sovereign power in detail in his analysis of public executions and capital punishment (Foucault 1995). In contrast, through biopower, modern states evolved to routinely exercise the “right to make live or to let die” (Foucault 2003: 241). While it can be argued that some modern states continue to exercise the sovereign’s power to take life in a classical sense – as is evident in genocidal campaigns, war, and killings directed by certain governments against their own population, and as in the exercise of capital punishment notwithstanding the establishment of deliberative criminal justice processes – modern states claim the principal function of promoting the general population's health, safety, and welfare. But there is an inherent contradiction in the exercise of biopower in that the State does not aim to be absolutely effective and completely comprehensive in its protection. It does not aim to secure the health, safety, and welfare of the entire population. Instead, the State seeks to normalize the human population so that specific acceptable outcomes can be achieved as measured by statistical and demographic calculations. In its exercise of biopower, the State therefore tolerates

certain threats to the health, safety, welfare and quality of life brought upon subsections of the population and, one might add, the assault on the environment.

This dark aspect of biopower (the “to let die” part) seems to emerge in Foucault’s work from his critique of sovereign power, and more specifically in his analysis of egregious cases of State racism. Cases of State racism contradict the assumption of unity and universality in the theory of sovereignty (Foucault 2003: 60-81, 257-258). He argues that the subjugated knowledges released in discourses of ethnic difference or “race struggle” deployed by subjugated social groups in their historical struggle against oppression represent one of the first challenges to power mounted against the State in a non-juridical manner, as these discourses did not take for granted the claim of equality under sovereign rule and the fair application of laws and institutional power precisely because sovereignty did not grant equal rights to all (Foucault 2003: 69, 76). The discourse of ethnic difference by subjugated social groups represents a “counter-history” where sovereignty “no longer binds everything together into a unity – which is of course the unity of the city, the nation, or the State. Sovereignty has a specific function. It does not bind; it enslaves” (Foucault 2003: 69, 75-76). He therefore attempts to reconcile the claims of biopower with cases of State racism by asking, if the stated goal of biopower is to ensure the health, safety, and welfare of the population, how can the State turn itself against members of its own population and enlist other members into the violent, indifferent, exclusionary, and deadly projects of State racism. He concludes that State racism serves a functional component in the exercise of biopower, as it allows the State to justify its own violence. Foucault argues that the State’s exercise of biopower is dependent on rationalities

such as racism in order to operate, and in a way racism makes it possible for this contradiction of life versus death to be condoned (Foucault 2003: 254, 258). This is so because rationalities such as racism divide the population into categories of difference, and then that division is used to create hierarchies of human beings that are in turn used to determine who will live and who will be let die, with killing and death used in egregious cases to maintain the existence and purification of those higher-ranked racial groups (Foucault 2003: 254-256). Under less extreme circumstances, “death and killing” are interpreted to also include “... every form of indirect murder: the fact of exposing someone to death, increasing the risk of death for some people, or, quite simply, political death, expulsion, rejection, and so on” (Foucault 2003: 256). This dark side of biopolitics suggests that there is room in Foucault’s analysis of governmentality for both egregious and mundane applications of power that result in oppression and exclusion of certain populations. The key is, however, to examine how these oppressions and exclusions are obscured by, but co-articulated with, the productive aspect of biopower – when biopower produces the conditions of health, safety, and welfare and dazzles the viewer with clean and shiny spaces, performances, and monuments.

Neoliberal forms of governmental power are targeted to human beings conceived as free subjects operating within the context of the market and political economy. Foucault argues that the concept of freedom in liberalism represents a mutation in the exercise of power first seen in connection with the deployment of biopower and specifically the police power, which had to facilitate and ensure the free, unbounded, or unrestricted circulation of people and things in space (Foucault 2007: 48-49, 72-74). However, this concept of

freedom has now evolved into a direct challenge to the police power in the form of a presumed self-regulation of the market, with the market becoming the main source of knowledge for the State (Foucault 2007: 341-358). Neoliberalism is now based on the premise of less government and the belief that things should run their course based on the self-regulating processes and relations of the economy and the market (Foucault 2007: 347; Rose and Miller 1992: 198-201). Within neoliberalism, social processes are understood as having a certain naturalness that can be subjected to analysis and calculation using the scientific methods of political economy (Foucault 2007: 349-350). The relationship between power and knowledge continues within neoliberal governmentality, but what changes is the kind of knowledge sought and brought to bear in the analysis of social problems judged as amenable to State intervention. The State relies on political-economic knowledge that is fundamental to the exercise of this new governmentality, and this kind of scientific economic calculus “claims the right to be taken into consideration by a government that must model its decisions on it” (Foucault 2007: 351). Government will continue to intervene in the population through mechanisms of security, such as social medicine, public health and hygiene campaigns, as something that also, like the economy, operates through natural processes (Foucault 2007: 352-353). However, under neoliberalism, the traditional police power of the State is greatly limited to its negative functions, namely the prevention of disorder, while the respect for freedoms and the governing in the model of the market and for the market has become the main underlying rationality of government without which government could not legitimately govern (Foucault 2007: 353-357).

The key point of this discussion is to show that through the governmental modalities of sovereignty, discipline, biopolitics, and neoliberalism, the State has been able to adopt different strategies in order to remain relevant over time. Although much of Foucault's discussion of these governmentalities traces their sequential emergence in time, one modality does not replace the other. These governmental power modalities are not mutually exclusive but rather work together and build on each other simultaneously. While biopolitical governmentalities are targeted to human populations, they actually depend on individual disciplinary micro-practices, some of which may be entirely self-imposed, in order to succeed. For example, biopolitical measures such as health and sanitation campaigns, spatial land use planning, census taking, the regulation of racial relations, risk management and insurance, immunizations, reproductive planning, retirement policy, and assistance to the poor are founded on the micro-practices that individuals will perform in their day-to-day lives, as people must, respectively, wash their hands, drive their cars on roads and not on sidewalks, complete and mail back their census forms, associate with people classified as being of a different "race," purchase flood insurance, get their children immunized, use contraception and practice safe sex, save for retirement, support public assistance programs, and other micro-practices. To provide another example, Foucault illustrates how the governmental activity of town planning involves both disciplinary and biopolitical elements at each scale of implementation (Foucault 2007; Huxley 2006; Elden 2007a). He argues that spatial planning activities such as laying out rooms in each home, assuming who or which members of the family will occupy them, predisposing these spaces in relation to activities that will be performed in each room, laying out these homes

in space, styling and pricing these homes as for the wealthy or the poor, and laying out the streets, all establish kinds of disciplinary social relations at each scale, and that these relations are coupled with more general biopolitical policies targeted at the population as a whole concerning home ownership opportunities, rental guidelines, insurance requirements, public hygiene and sanitation infrastructure, and other elements which involve the combined exercise of disciplinary power and biopower (Foucault 2003: 251). As these examples suggest, disciplinary power and biopower have opposite but complimentary functions concerning human conduct, space, and social relations. While discipline regulates and attempts to control the smallest of details and micro-practices of human behavior by outlining a code of permitted and forbidden activities within delimited spaces, biopower simultaneously allows events to unfold and people and commodities to circulate over an unbounded geographical and economic space (Foucault 2007: 44-47; Elden 2007a).

The governmental modalities of sovereignty, discipline, biopolitics, and neoliberalism also act simultaneously and build on each other in a spatial manner. Foucault argued that one can examine how each of these modalities has a different space as the target of power. Sovereign power is aimed at the space of the territory, disciplinary power is aimed at individual human bodies, and biopower or security is aimed at human populations however they may be spatially bounded (Foucault 2007: 11-12). At the same time, this rigid outline can be relaxed because the spaces targeted within each of these modalities are relational and co-articulate one another (Ettlinger 2011). For example, although sovereign power rules over the territory, it also rules over the multiple individual bodies within that



space; while discipline targets bodies, it targets them in the context of their relation to or membership in the larger population within which they exist (such as the workplace, school, military, medical, and penal system populations); and so these modalities of power share the problem of space and use and treat spaces differently but in a co-articulated manner (Foucault 2007: 12, 20-21, 29-30; Elden 2007a, 2007b; Ettlinger 2011). These multiple spatial aspects are highlighted in Foucault's analysis of the changing nature of the space of the town over time, first as a juridical and legal designation within a walled-off space, then as a thoroughly planned space in a disciplinary manner, and finally as a space of circulation that would enable the free movement of people and commodities (Foucault 2007: 12-23). The town as a political unit within a sovereign territory represented a governance challenge, and biopolitics made possible a way for power to intervene in the governance of the town especially as towns grew in population (Foucault 2007: 63-64). The problem of circulation (of people, commodities, air and water, miasma-causing agents) was of paramount importance in the governance of the town, and represents a new exercise of power in space compared to that under traditional notions of sovereign power (Foucault 2007: 65-66; Huxley 2006). The goal is not to seek the obedience of subjects, but rather to act in the physical and natural processes or elements of life in a way that does not say no but that allows things to occur within acceptable levels (Foucault 2007: 65-66). The goal is also the governance of the population and of phenomena at that level, and not necessarily of each individual subject in an exhaustive fashion or rigorous individual surveillance (although there are specific forms of individualization involved) (Foucault 2007: 66).

Importantly, although the power modalities of sovereignty, discipline, biopolitics, and neoliberalism can be said to dominate particular time periods or specific examples of governmental policy, at any given time and with respect to any kind of governmental policy or effort, sovereignty continues to justify the State's right to intervene into matters considered private; discipline serves to establish the micro-practices that must be performed by individual human bodies with respect to any State policy; and biopower regulates the effect of these micro-practices for human beings as a population through societal-scale measures. Although predicated on less intervention by the State, neoliberalism also depends on these other forms of governmental power operating simultaneously in order to exist, because it too is facilitated by interpretations of the State's limits under sovereignty; disciplinary micro-practices that people impose upon themselves as supposedly free entrepreneurial subjects; and some level of maintenance of the health, safety, and welfare of the population through things like proper road maintenance and sanitary infrastructure albeit under completely privatized or public-private partnership models of infrastructure and service provision rather than solely performed by the State. These articulations of sovereignty, discipline, and biopower within neoliberalism therefore make possible the enjoyment of freedoms that are predicated as emerging solely from an alleged self-regulation of free individuals and markets (Foucault 2007: 103-108). Just as other governmentalities, neoliberalism also engages in the constitution of subjects, now as enterprising, free, and allegedly autonomous kinds of individuals who are responsible for their own provision and their own choices in life (Miller and Rose 1990: 23-27; Lemke 2002: 59-60). For example, as Sam Binkley illustrates, even the performance of the

neoliberal subject as a self-regulated consumer necessitates disciplinary techniques, some of which must be self-imposed, in the face of the carnivalesque, impulse-driven nature of much product marketing and the easy extension of consumer credit (Binkley 2006). Even political units are said to be responsible for their own fate in the face of funding cutback and calls for local political units and districts to be economically self-reliant (Raco and Imrie 2000; Raco 2003).

Foucault's development of these various forms of governmentality helps us understand how governmental power is exercised today as an activity that is shared and enacted among members of the social body, extending beyond power as sovereignty to include its exercise in disciplinary, biopolitical, and neoliberal modalities. In turn, these modalities are constituted by specific elements that reflect Foucault's notion of power in general and governmental power in particular. One can conduct an analysis of power and governmentality that includes not only its modalities, but also the specific elements of governmental rationalities, technologies, subjects, practices, and spaces deployed by the State in connection with any given governmental effort.

#### *Rationalities, Technologies, Subjects, Practices, and Spaces*

The elements of governmentality can be applied in the analysis of any kind of governmental effort or policy to decipher how the collective exercise of power is undertaken to produce human social relations and to shape the relation between people and their environments. One may analyze the relation between power and knowledge by examining the governmental *rationalities* behind the effort or policy. One may identify the

material and discursive *technologies* acquired, developed, and deployed in achieving the governmental goals of the effort or policy. One can examine how people have become targets of the effort or policy, and how they are constituted and enrolled as *subjects* in actually enacting and achieving its ends, without which the effort or policy would fail. One can identify the actual *practices* people are being asked to undertake at various scales. Finally, one can map the *spaces* within which these practices are undertaken and how these spaces are conceived and shaped by the governmental effort to achieve the continuity necessary to make things function. In all, an analysis that deploys the concept of governmentality highlights the “how” of governmental power and its multiple elements and, in so doing, shows how current conditions are produced and maintained through the collective and diffused exercise of governmental power.

Just like the governmentalities of sovereignty, discipline, biopolitics, and neoliberalism work together, the governmentality elements of rationalities, technologies, subjects, practices, and spaces build on one another as part of a comprehensive governmental effort. It is therefore difficult to discuss the governmentality elements as independent of each other, as in fact these elements operate simultaneously. The goal of this discussion is therefore to briefly capture the basic function of each element, drawing from their discussion or elaboration in the scholarly literature of governmentality studies.

*Governmental rationalities* involve the discursive activity of defining social problems and the ends toward which society will be led in the resolution of those problems, and exemplify the relation between power and knowledge within governmentality. A governmental rationality is developed by the continued acquisition of knowledge by the

State in order to produce “truth,” measure social reality, how to intervene into that reality, and evaluate whether its goals are being accomplished. In this process, the State deploys experts and their expertise, and often uses the specific knowledge and methods of statistics, mathematical measurements, and surveillance techniques. As the State favors some knowledge and expertise while it disqualifies others, making them either dominant or subjugated knowledges, the State plays a central role in the competition among knowledges. In this process, diverse knowledges compete, each having different effects. A genealogy of knowledge investigates this competition, in political and economic terms, by analyzing discursive practices and clashes of power (Foucault 2003: 178-179).

The concept of *governmental technologies* refers to the tools used to get to know and address specific problems defined by governmental rationalities and to continue to monitor, assess, and address these problems. These technologies may be material or discursive (Miller and Rose 1990). Technologies may be used by the State but also by the actors involved in the implementation of the policy as governmental subjects. Examples of governmental technologies in the governmentality literature include the development and use of performance indicators, such as the environmental indicators of sustainability examined in Yvonne Rydin’s work on local community development in low-income neighborhoods of London (Rydin 2007).

The element of *governmental subjects* involves the production of people and subjects to achieve desired conduct, or the “conduct of conduct” through self-steering mechanisms. In this process, subjects will either submit to power and accomplish the goals of a policy or instead go against it by performing counter-conducts that challenge their

subjection. Miller and Rose capture the process of subject formation when they state that in so far as:

“authoritative norms, calculative technologies and forms of evaluation can be translated into the values, decisions, and judgments of citizens in their professional and personal capacities, they can function as part of the ‘self-steering’ mechanisms of individuals. Hence ‘free’ individuals and ‘private’ spaces can be ‘ruled’ without breaching their formal autonomy. To this end, many and varied programmes have placed a high value upon the capacities of subjects, and a range of technologies have sought to act on the personal capacities of subjects – as producers, consumers, parents and citizens, organizing and orienting them in the decisions and actions that seem most ‘personal’, and that confront them in the multitude of everyday tasks entailed in managing their own existence” (1990: 18-19).

What Miller and Rose capture in the above quoted part of their work is the governmental subject as the subject of freedom. However, another way in which the exercise of governmentality by the State produces subjects is exemplified in the work of Barbara Cruikshank concerning the "subject of welfare" and the strategic production of the "welfare queen" stereotype for political purposes (Cruikshank 1997). In her analysis of how the administrative practices of State welfare programs produce a calculation of welfare cheats who collect benefits for which they are ineligible under program rules, Cruikshank argues that the focus here is not the self-governing citizen, but rather a subject of "*eligibility* to receive public assistance, which is quantifiable and calculable" (Cruikshank 1997: 114). In the process of program administration, and notwithstanding their diverse conditions and experiences, the recipients of public assistance are categorized and grouped together using calculations and numbers to determine their eligibility, and they become a unified population only in that administrative context. Welfare applicants become subjects as they agree to the program rules and become subject to them through voluntary and involuntary

program requirements. In great part, what made possible the production of the “welfare queen” stereotype was precisely the quantification and calculation of welfare recipients using sophisticated databases, and this ability to produce the numbers of “welfare cheats” was used strategically by politicians to create the stereotype of the “welfare queen” as an ineligible subject and the cause of government waste and inefficiency (Cruikshank 1997: 117-120).

Governmental efforts also involve the specification of *governmental practices* or the actual behaviors to be undertaken by the targets of rule in order to accomplish the policy goals. Key in the analysis is also the *governmental spaces* deployed in the governmental effort. Spaces include not only the various spatial scales where subjects will perform governmental practices using technologies, but also how these various spatial scales will be coordinated to achieve continuity in the performance of the policy even when different practices are enacted within each space, and how these spaces themselves will be thought, created, transformed, and maintained during the implementation of the collective governmental effort. Foucault’s work highlights how technologies of rule are targeted to different spaces and that space is a common concern of different forms of governmental action, with sovereignty corresponding to the territory, discipline to bodies, biopolitics to populations, and neoliberalism to people operating within increasingly unbounded spatial circulation processes, although this correspondence of space and governmentalities should not be taken as a rigid schema because these spaces and the practices undertaken within them are relational (Elden 2007a; Ettliger 2011). A key notion about space in the governmentality literature is that spaces do not precede the application of power, but rather

power creates spaces in order to operate, whether in medical facilities, schools, homes, corporate boardroom, towns, territories, and international spaces. This point is made by Ferguson and Gupta in their analysis of State spatiality, finding that practices performed by actors ranging from program implementation staff to so-called non-governmental organizations operating on a multi-national scale actually help to constitute a State's spatiality and even give the State the qualities of spatial encompassment and verticality that are so readily attributed to the State as an inherent quality (Ferguson and Gupta 2002). In addition to bounding and producing spaces, governmental practices and techniques render spaces calculable and governable. This notion has been widely illustrated in the geographic literature, especially in Margo Huxley's work concerning the rationalities of urban renewal and slum clearing (Huxley 2006). With detailed examples of urban renewal efforts either planned or implemented, and making connections to Foucault's discussion of Bentham's panopticon, Huxley develops the concept of "spatial rationalities" to highlight different examples of urban reform efforts manifested as dispositional, generative, and vitalist spatial planning techniques which sought to order space to achieve specific human comportments, public health, and spiritual goals (Huxley 2006). For Huxley, these rationalities exemplify "possible configurations of space in the thought of government" (Huxley 2006: 784). Mariana Valverde's discussion of the nuisance logic in the government of urban spaces connects with Huxley's concept in the sense that, for Valverde, nuisance constitutes a way in which space and the relations between people and their environments exemplify what she calls "seeing like a city," a so-called pre-modern form of urban management as opposed to the grand visualizations of space captured by James



Scott's concept of "seeing like a State" (Valverde 2011). Another relevant conception of space in the geographic literature on governmentality is Elden's concept of "calculable territory" or the ways in which territory in Foucault's work "is more than merely land, but a rendering of the emergent concept of 'space' as a political category: owned, distributed, mapped, calculated, bordered, and controlled" (Elden 2007a: 578). Multiple examples of calculable territory are developed in the geographic literature on governmentality, notably in works such as Matthew Hannah's study of the United States Census and its role in State formation projects and social exclusion; Jeremy Crampton's studies concerning the evolution of the State practice of crime mapping and criminality using geographic information systems, statistics, and surveillance techniques, and also the cartographic mapping of racial or ethnic populations in the Balkans; Rueben Rose-Redwood's studies of the practice of house numbering in cities as a technique to organize urban space, making space more navigable to further commercial and other efforts; Jonathan Murdoch and Neil Ward's study of the production of a governable agricultural sector in Britain through the statistical construction of a "national farm" that could be managed as a coherent economic sector; and Bruce Braun's study of the spatial representations made by geologists in their exploration of Victorian Canada for resource extraction purposes (Hannah 2000; Crampton 2003, 2006; Rose-Redwood 2006, 2008; Murdoch and Ward 1997; Braun 2000).

### *Governmentality and Environmental Justice*

In this chapter, I have argued thus far that environmental justice studies have put forth several models of power where the relation between the State, power, and

environmental justice is reduced to a conflict model of confrontation or struggle over environmental quality that emerges in response to class, race, or State oppression, with the State playing the various roles of oppressor, arbiter, managerial agent, judge, and potential liberator in that conflict. This analysis yields predictable actors, practices, and spaces which further confine the problem of environmental injustice into a conflict model where communities rise in struggle against their environmental oppressor in specific instances of environmental injustice conflict over a local disposal site and demand action from the State. By adopting the power models of the racial, capitalist, managerial, and judicial State, the environmental justice literature has bypassed important aspects of how the State rules and governs today. These analyses therefore do not consider the diffused exercise of governmental power captured by governmentality, with its modalities of sovereignty, discipline, biopolitics, and neoliberalism, and its elements of governmental rationalities, technologies, subjects, practices, and spaces. Approaches to environmental justice can be informed by the governmentality framework through the adoption of a diffused notion of governmental power where the production of environmental injustice involves multiple actors, practices, and spaces among the social body; the production of subjects; the deployment of disciplinary, biopolitical, and neoliberal elements of rule in addition to how environmental injustice emerges from the State's exercise of its sovereign power; and an analysis of the specific governmental rationalities, technologies, subjects, practices, and spaces deployed in the production of instances of environmental injustice. This section proceeds to elaborate on these points.

In order to inform environmental justice analyses using Foucault's approach to power, it is clear that one must step away from the typical power frameworks used in environmental justice studies to describe the relation between the State, power, and environmental justice, as these frameworks exemplify what Foucault refers to as the "economism" adopted in power analyses. It can be argued that environmental justice studies have mostly asked "Who has power in environmental justice struggles?" The answer to that question is therefore predictable: wealthy and white individuals and populations, corporations, and the State have power, while the low-income and people of color communities who are victims of environmental injustice do not, although they fight their oppression through social movement strategies. Although I do not wish to deny or call into question the validity of these frameworks, I do believe that to focus environmental injustice analyses overtly or by implication using only this conception of power and conflict elides important and fundamental processes and practices implicated in the production of environmental injustices. These processes and practices have colonized our everyday lives as part of projects that seek to govern socially-burdensome materials. What Foucault teaches us about power in general and governmental power in particular leads us to ask in the analysis of environmental justice a series of "how?" questions. One must ask, for example, "How has the production of environmental injustice become 'capillary' by moving beyond the formal institutions of the State to get invested into everyday life in non-judicial, mundane ways throughout the social body as part of efforts to govern socially burdensome materials? How are conditions of environmental injustice produced through individuals' exercise of power and through their enrollment as subjects in the production

of environmental injustice? How have intelligible social relations been formed among the various diverse elements and spaces involved in the production of environmental injustice? How does the production of environmental injustice transcend institutional and State centered frameworks to be enacted as part of disciplinary, biopolitical, and neoliberal projects of rule? How are governmental rationalities, technologies, practices, subjects, and spaces implicated in the production of environmental injustice?” In answering these questions, one must therefore take a step back from the visible conflict so that one can place the production of environmental injustice not solely in particular expressions of conflict over specific instances of environmental injustice, but within larger projects of State power concerning the governance of socially-burdensome materials. In this endeavor, one can examine the production of environmental injustice as part of larger biopolitical projects that have the general population’s health, safety, and welfare as their stated goals, but that are founded on specific knowledge and rationalities, disciplinary behaviors that individuals must perform in their day-to-day exercise of power, and that are also increasingly governed by neoliberal rationalities. One must examine how conditions of environmental injustice are actually produced and perpetuated through the collective exercise of power.

One may argue that, in environmental justice studies that deploy a model of power where the relation between the State, power, and environmental justice is reduced to class, racial, economic, or State oppression, the question of how knowledge gets developed and used in the production of environmental injustice remains underexplored. Although some studies have noted that State institutions define, measure, and bound environmental

injustice conditions using quantitative analyses that then limit what environmental justice means and what it would take to achieve it, this would represent a preliminary approach in a more robust analysis of the relation between power and knowledge. For example, an analysis of the knowledge gathered and used in addressing environmental injustice can only capture how the State and other actors define environmental injustice and respond to environmental injustice claims, conditions, and outcomes, but cannot capture the knowledge gathered and used in the actual production of environmental injustice and that continues to sustain it once it occurs. In environmental justice studies, the perspectives, understandings, stories, and experiences of affected communities represent examples of subjugated knowledges brought to the fore through environmental justice struggles in order to challenge dominant knowledges. However, these subjugated knowledges also emerge in response to environmental injustice once it has occurred, and so a deeper analysis must examine how, in the hierarchical organization and subjugation of knowledges, certain knowledges became disqualified. Could these disqualified knowledges have prevented the production of environmental injustice with respect to the governmental management of socially-burdensome materials?

The concept of biopower as the power to make live through measures that promote the general population's health, safety, and welfare, or to let die by not aiming for full effectiveness, is a dark and contradictory aspect of biopower that can help us understand instances of environmental injustice and oppression. What Foucault refers to as the right to make live or to let die resonates with both the race and class oppressions identified in the environmental justice literature, where members of environmentally burdened

communities routinely pay with their lives (think Bhopal and other communities experiencing death and threats to their health, safety, and welfare) the State's lack of protection as we collectively look the other way as a society and as we benefit from clean spaces that would otherwise be dirty absent our ability to send our waste to those communities. This means that, in some way, we have accepted the State's biopower as not trying to achieve a full effect, but a "just enough" effect, in its pursuit of the protection of the population's health, safety, and welfare.

Governmentality allows us to examine environmental injustice conditions beyond the traditional frameworks of power, actors, and their qualities, decentering the analysis away from a burdened community in struggle, an oppressor entity deploying their race or class privilege, and the State variously as oppressor or arbiter. Doing so opens up the possibility to examine how a larger multiplicity of actors, processes, practices, and spaces are implicated in the production of environmental injustice through mundane day-to-day activities in the context of a larger technology of power or a broader societal effort to govern socially-burdensome materials. This analysis is essential for understanding how environmental injustices develop in the first place and continue to be perpetuated through everyday life. In the next section, I examine how environmental injustice emerges from the collective exercise of power illustrated by the social science literature on garbage as a social material and as the subject of governmental interventions that not only involved disciplinary, biopolitical, and neoliberal governmentalities, but also the development of specific governmental rationalities, technologies, subjects, practices, and spaces that facilitated the collective governmental effort.

### **2.3 Garbage Governmentalities and Environmental Justice**

This section discusses the social science scholarship on garbage, specifically municipal solid waste, to highlight garbage in its main duality as a resource and a burden in society. In both of these aspects, garbage is a material around which social relations and human-environmental relations are constructed, and is something that has been subject to significant State intervention. My main argument is that these State interventions have been crucial in shaping pre-existing or subsequent socio-environmental relations surrounding garbage, and these relations include the production of environmental injustice associated in the environmental justice literature solely with the location of disposal sites and the marginalization of burdened communities where those sites are located. Rather than just emerging in connection with the final disposal site of the landfill or the incinerator, environmental injustice is itself a social relation which has been ingrained within each historical governmental effort and that can be identified in the evolution of governmental intervention into the garbage problem. This progression goes from the pre-State rationalization and governing of garbage as a material to be discarded outside for nature, animals, and other humans to break down, metabolize, or bring back into productive economic use; to a nuisance first requiring State governmental intervention as the negative aspects of garbage became a source of conflict among people; to a sanitation problem necessitating a more formalized and expert-driven governmental intervention effort in the context of densely populated urban environments and threats to the health, safety, and welfare of urban residents; and finally, in its most recent governmental articulation, as an

environmental problem requiring extremely sophisticated experts and technological facilities.

Rather than disembodied interventions into garbage as a social problem, these State interventions can be understood as governmentalities that come to be deployed primarily as part of the stated biopolitical goal of protecting the general population's health, safety, and welfare, while simultaneously deploying disciplinary and neoliberal techniques of rule. These garbage governmentalities unfolded within a system of political economy, and deployed configurations of power/knowledge in the way each intervention variously defined garbage as a problem and devised the ways of measuring and knowing the problem so that a plan to intervene could be put into practice; engaged in subject formation efforts through campaigns that in a capillary fashion dispersed throughout the social body an understanding of what the State wanted people to know about garbage and how they should properly behave with respect to it; specified the practices or the specific day-to-day conduct people would have to enact with their bodies with respect to garbage; favored certain technologies as opposed to others in the management of garbage; targeted spaces, which went beyond the spaces of disposal to include the designation of clean homes, streets, alleys, and cities, etc., while at the same time co-articulated clean spaces with the selection of disposal sites and the movement of garbage to those sites; and also had political-economic aspects as a central piece of the governmental effort, which manifested as payments for professionalized collection and disposal services, a State regulated and controlled garbage industry, the dispossession of scavenger and farmer communities and others who had previously claimed usage rights to the garbage, and in the gradual



transformation of garbage from a resource having use value to a commodity having exchange value in a free-market system. The point here is that this literature shows how the problem of environmental injustice emerges from our accepted and enacted garbage governmentalities as part and parcel of them, and that through these governmentalities we are collectively implicated in producing environmental injustice conditions. In that way, environmental injustice cannot be understood only as a visible and local conflict. Environmental injustice is an everyday practice.

#### *Garbage as Resource and Burden*

The garbage social science literature, composed of studies by historians, anthropologists, sociologist, geographers, political scientists, and others, discusses garbage in cross-cultural and historical perspective. Scholars of garbage in the social sciences situate the material of garbage, rubbish, or refuse within the context of human experience and relations in the economic, cultural, political, governmental, and other social realms (Moore 2012). Although these studies may employ different theoretical perspectives, garbage emerges in this literature as a complex social material, the general nature of which may be categorized as either a resource or a burden. As a resource, studies examine how humans in various geographic contexts engage in practices of waste picking from public areas such as streets and open dumps as an economic and subsistence strategy (Tevera 1994; Paiva 2006); reuse, repair, and refurbish discarded objects, or hand them down as charitable donations (Strasser 2000); and use kitchen and food scraps to feed their farm and domestic animals both in rural settings and urban environments, as a practice of

ecological and urban metabolism (Haynes and El-Hakim 1979; Richardson and Whitney 1995). As a burden, studies examine how humans both cause and experience the environmental impacts of garbage, such as the contamination of land, water, and air from practices of garbage dumping and disposal; human health impacts, which in certain contexts include the propagation of pests and deadly diseases such as cholera; and other negative social impacts, ranging from worker health and safety to the burdening and stigmatization of communities and neighborhoods burdened with garbage disposal facilities against their will (Cimino 1975; Ward and Li 1993; Seldman 1989; Pellow 2004; Melosi 2005; Myers 2005; Moore 2008, 2009). As garbage has evolved to be treated in our modern society as an article of free-market commerce, it has become the basis of entire industries at various levels of formalization. The modern garbage economy provides direct employment and income for thousands of people in any given geographic context (in the governmental, private, or informal sectors). At the same time, garbage as a resource and money-making enterprise has been monopolized by fewer and fewer multinational corporations (Pellow 2004). In this respect, garbage is the subject of claims or the establishment of “rights to the garbage,” which become acknowledged (or not) in some way by the State, with the groups that make claims deploying their political party loyalties to those who can guarantee sole access to their resource and, sometimes, involving organized crime groups (see Haynes and El-Hakim 1979 for an example in Cairo; Castillo, et al. 1987 and Alvarez Martin 1998 for an example in Mexico City; and Reuter 1993 for an example in the New York-New Jersey-Philadelphia metropolitan region). While the economic benefits of garbage have accrued to fewer corporate actors, its burdens have been

routinely distributed along wealth and racial lines as poor and colored communities are targeted to receive garbage from other places with its associated noxious garbage transport and disposal infrastructure (Pellow 2004; Moore 2008, 2009).

### *Pre-State Garbage Governmentalities*

When garbage is revealed as a material around which social relations are constructed, and having a dual nature as a resource and a burden, governmental interventions into the garbage problem can be understood not only as ways of distributing the benefits and burdens of garbage, but also and perhaps more importantly as restructurings and articulations of a range of social relations and the relations between people and the environment. The nature of garbage as a social material means that, prior to formal State interventions into the garbage problem, people were governing garbage as part of their social relations and the relation between people, environment, and economy. Governing garbage was part of people's everyday life wherever they may be. The relation between people and garbage is understood as fundamental to the human condition itself. For hunter and gatherer societies that were continuously on the move, garbage was simply left behind or discarded into nature (Rathje and Murphy 2001: 32-33). Garbage became more and more of a problem once humans started to settle permanently year-round into urban environments. Various early urban societies devised practices to handle garbage accumulations. Documented examples of early urban garbage management approaches included dumping outside in mounds that archaeologists today call *middens*, which are dug out and studied for clues about human cultural practices; burying garbage under one's own

household flooring, which caused the city's elevation to grow over time; or designating a space outside of city limits for the garbage of the city (Rathje and Murphy 2001: 32-38; Melosi 2005: 1-4). The natural environment – land, fire, air, water, domesticated animals, scavenger wild animals, and bacteria – aided considerably in receiving the garbage and in metabolizing it. However, both the composition of garbage and the volumes of it produced by humans changed over time, which brought about a range of problems and conflicts and thereby prompted formalized State intervention into the governance of garbage.

Scholars of garbage as a social material in the United States find that the garbage problem fundamentally emerged from economic and cultural changes that accelerated the production and consumption of things, and which specifically involved processes of human deskilling, economic reorganization from an agricultural to an industrialized society, and the settlement of people into densely populated urban spaces. In the United States, these processes took hold and accelerated since the early 1900s. For example, in the space of the household economy, historian Susan Strasser documents how a strong culture of reusing, handing down, mending, repairing, repurposing, bartering, and trading of used objects and products prevailed in the United States prior to the twentieth century, which effectively meant that very little garbage was produced (Strasser 2000). There were also gendered, racial or ethnic, and class aspects to this process. Strasser finds that, in the United States prior to the 1900s, housekeeping books, journals, and manuals encouraged women to sew and adapt clothing for themselves and others to wear; to make quilts; use rags to make rugs; repair household china and pottery; purchase food in bulk; and conserve leftover food or feed it to farm or domestic animals, even in urban settings (Strasser 2000:

21-67). In the space of the formal economy, men employed as peddlers visited households door to door, bartering goods such as tea kettles and buttons for all sorts of household items, especially rags, which they in turn sold as raw materials for industrial processes such as paper-making (68-109). Children and the poor, who were usually recent immigrants, scavenged on the streets and city dumps for all kinds of materials, such as bones, rags, and metals, which they returned into the economy for reuse and recycle (114-118). People donated materials that others could use to charitable organizations, such as Goodwill Industries and the Salvation Army, or separated materials for city governments to resell and profit from (114). These day-to-day practices required skill and imagination, the ability to see that something that no longer had its originally-intended use could be repurposed, and the ability to actually make that happen, either with one's own hands or by mediating between the source or the household and the dress maker, crafter, or factory with one's own knowledge, trading ability, or labor (Strasser 2000).

However, around the early 1900s, consumer culture in the United States began to change into the era of mass production, high consumption, and individualized product packaging of all kinds of consumer goods. According to Strasser, high consumption levels driven by the continuous replacement of old possessions with new ones "created unprecedented quantities of trash that disturbed private citizens and plagued city administrations" (Strasser 2000: 17). The rising consumption levels led to increasing piles of trash gathering in homes, alleys, and city streets. Confronted by the large amounts of garbage generated by the new consumer culture, urban residents and local governments began to define and address the problem. However, the garbage problem was and continued

to be defined not as one of unfettered production of garbage fueled by consumerism, human deskilling, and separation from an agrarian lifestyle, but rather as one of accumulating and mounting piles of trash and their associated negative effects, tensions, and conflicts.

*State Interventions as Governmentalities: Nuisance, Sanitation, Environment*

Both Strasser and environmental historian Martin Melosi describe how garbage and its associated problems came to be viewed by people and governments in the United States over time (Strasser 2000; Melosi 2005). Prior to formal State governmental intervention, garbage was defined as a material to be discarded to the outside for nature, animals, and others to break down, metabolize, or return to use. Once garbage began to accumulate in homes, backyards, alleys, streets, empty lots, and other parts of the city, garbage came to be viewed as a nuisance warranting individual, community, and formal State intervention as it was a source of conflict among people and as it began to interfere with the normal flow of city life. When experts such as public health officials, medical professionals, and engineers shared their understanding of garbage as a source of epidemics and disease, garbage came to be viewed as a hygiene, health, and sanitation problem needing scientific expertise and massive public investments in service and physical infrastructure. In its more recent definition, garbage came to be viewed as an environmental problem once the concept of the environment enters the social conscience following the 1960s. With each redefinition of the problem have also emerged individual, community, and governmental approaches to garbage as thusly defined. In this trajectory, garbage has evolved from an individual problem originally to be addressed by people left to their own devices, to a

collective problem to be addressed through a formalized governmental effort which involved the establishment of new governmental entities such as street cleaning and health departments, the use of specialized forms of expertise such as public health professionals and engineers, and massive infrastructural investments in sewage systems and garbage disposal facilities such as incinerators and landfills (Melosi 2005).

A key aspect of this collective approach to garbage governmental management is that it was not limited to an internal restructuring or growth of State entities, but that it involved everyone in society as part and parcel of the process. The history of governmental intervention into the problem of unfettered garbage production is characterized by discussions of how individuals; urban reform movements and sanitarians; professional experts such as doctors, public health officials, engineers, and eventually environmental scientists; garbage contractors; and local governments worked together to elicit, mandate, and undertake certain specific practices so that the desired public effort could be achieved. The urban population had to achieve the removal of garbage from homes, buildings, and nearby areas, city streets, and public spaces (Strasser 2000: 118-136; Melosi 2005). The space of the city had to be cleansed not only of garbage itself but of the throw-away practices that had been undertaken by people in agricultural environments and that did not translate well into the urban setting, which was itself inhabited not only by humans, but also by hogs, horses, and other animals that humans kept and used, as well as wild animals and pests that thrived on garbage, such as rats and flies (Melosi 2005: 5, 20-21). The trajectory documented by both Strasser and Melosi is complex. However, the history reconstructed by both of these scholars shows that garbage as nuisance in the early 1900s

and thereafter meant that city residents were to be convinced to stop dumping refuse behind homes and buildings, or in alleys, streets, empty lots, and waterways through anti-dumping ordinances and appeals to good civic conduct emerging from organized campaigns conducted by civic groups and government entities alike. Garbage as a public health and sanitation problem meant that city residents were to stop their practices of urban animal husbandry, and that regular garbage collection from households as a municipal service funded through the municipal budget was to be instituted instead of a private contractor, scavenger, or other service considered as less comprehensive and not up to the task. Garbage removed from these places meant that new and various methods of disposal were to be devised by sanitary experts and engineers, including the city dump and the incinerator, which would replace the haphazard dumping and burning of garbage by individuals and communities. More recently, garbage as an environmental problem meant involvement from federal government entities and attention to the impacts of garbage on the environment as an ecological concept, while necessitating sophisticated expertise and technologies to handle skyrocketing volumes of garbage, such as large high tech sanitary landfills (lined dumps) and resource recovery facilities (incinerators that produce energy and also hazardous ash and emissions as byproducts). However, at no time during this evolution of collective garbage governmental management have garbage production volumes been challenged. Instead, such volumes have increasingly “demanded complex systems and huge investments in sophisticated equipment, promoting the notion among citizens that refuse was a technical concern, the province of experts who would take care of whatever problems trash presented” (Strasser 2000: 113).



This evolution of formal State intervention into the garbage problem highlights how an entire system of garbage governmental management which we today take for granted, including the practices we perform with respect to garbage in our daily lives, were once non-existent and were the subject of new mandates and campaigns. These new mandates and campaigns were accompanied by spirited appeals to proper conduct and civic duty from government leaders and civic groups such as urban reform leagues and public health associations. These mandates and exhortations were attempts to elicit desired conduct from individuals in homes and public places alike with respect to the garbage problem. This process can be understood as an attempt to produce subjectivities, or to shape us as garbage governmental subjects.

The challenge to institute what we today may consider mundane garbage-related rituals and habits is evident in the remarks of Luther E. Lovejoy, Secretary of the Detroit Housing Commission, in his 1912 address to the Academy of Political Science in New York City. In his speech, Lovejoy provided an early typology of municipal garbage in the United States by differentiating between garbage (decomposable wet animal and vegetable matter) and rubbish (household items, ashes, dust); outlined the aesthetic and health reasons why cities needed to implement a system of garbage and rubbish removal; discussed various methods for disposal adopted by different cities in the United States; and lamented the various reasons why an efficient and effective waste collection and disposal system was still largely a failure (Lovejoy 1912). Chief among his reasons for failure was the lack of cooperation among individuals, households, and municipal officials, especially “... how to shade smoothly the domestic function off into the civic, how to avoid ... friction

between householder and public official...” (304). He pointed to a lack of cooperation “...between the householder and the city departments, cooperation between the departments themselves” and noted that a workable garbage collection and disposal system would depend on the enactment of routine collection practices by the municipality, the collaborative conduct of city officials amongst themselves and with the public, and crucially a “... thorough introduction to the entire city of a well published plan, outlining the duties and privileges of householders, the method and time of collection and any law covering the subject” (304-305). Of the behavior desired from individuals and households, Lovejoy raised those practices and conducts to the level of a civic duty, stating that the householder:

“can seek to learn his duty as a cleanly citizen. He can display a spirit of obedience to law. He can treat with common politeness the requirements of those who perform the pleasant function of removing his refuse. He can take an interest in the welfare of his city as a political entity. He can cultivate such altruism as will embrace the poorest of his fellow citizens. And he can charge himself with sufficient energy and gumption at least to make a heroic attempt to keep himself and his environs clean” (306).

Lovejoy’s description illustrates how the goal of government was precisely to establish the practice of garbage governmental management as a collective process, requiring not only the performance of specific conducts and practices from individuals, householders, communities, local administrations, garbage collectors, and others in society, but also their consonance and continuity across relations and spaces. This process was a herculean effort which, in hindsight, seems to have established something that we today take for granted in most communities in the United States as a mundane part of life. The conduct and practices of individuals, households, garbage collectors, government

officials, and others that Lovejoy desired have now become commonplace in most places. People participate in daily rituals of garbage making, disposal in trash bins, the placement of garbage in plastic bags in outside trashcans, and the moving of trashcans to the curb for collection by either municipal authorities or private collection and disposal companies. This collective ritual and the roles played by the various entities has over time become highly regulated in formal laws, statutes, regulations, ordinances, executive orders, and other mandates, but the actual performance of these practices is ingrained in daily lives in a non-juridical and disciplinary manner. Participants in the collective effort of garbage governmental management conform to the desired garbage collection and disposal practices to achieve household and neighborhood cleanliness, practice one's civic duty, and keep the neighbors happy. This is not to say that the production of garbage governmental subjects has been entirely complete. For example, there is still plenty of dumping and littering occurring. However, this is to say that garbage governmental management as a collective process is widely accepted in our society today as a dominant part of structuring our lives and shaping our socio-environmental relations. In this process of keeping our spaces clean we participate without questioning.

### *Garbage Governmentalities and Environmental Justice*

Part and parcel of the effort to establish the collective exercise of garbage governmental management was the dispossession of certain communities from their use of garbage as a resource and a process of alienation and burdening of poor and ethnic communities who became associated with garbage as the dirty, smelly, obsolete, or

putrefying material that everyone produced but no one wanted. Strasser finds that the production of trash created class associations, with the poor being associated with garbage. This is an ironic condition in that garbage is essentially a problem of affluence, with those of more means participating more as consumers and generating more garbage in the process, an outcome seen from the local to the international scale (Beede and Bloom 1995; Johnstone and Labonne 2004; Melosi 2005: 8; Medina 2008). With the rise of consumerism, new language in the housekeeping journals now advised women on what to do with the jars that contained the household products they purchased and sought to make them conscious of their class status should they appear to be poor as signaled from a mended piece of pottery or an article of clothing (Strasser 2000: 112). According to Strasser, the throwaway lifestyle “was promoted for its ability to make people feel rich: with throwaway products, they could obtain levels of cleanliness and convenience once available only to people with many servants” (9). At the same time, “rubbish took on new meanings in an emerging consumer culture, as it became identified with the poor, people who stood outside that culture” (17). The association of garbage with the poor remained during the establishment of formal governmental approaches to garbage management, and continues to this day. Marginalized people continued to scavenge for salvageable, saleable, and usable materials to sustain themselves. Although most garbage was actually produced by the wealthy, the poor were often blamed for the problems that garbage accumulations presented, with urban reformers expressing special disdain for the practices of children waste pickers and immigrants (Strasser 2000: 136). These subsistence practices were largely taken away from the poor with the establishment of formal municipal collection,

the proliferation of private garbage collection contractors, and the growth of the formal salvage industry (Strasser 2000: 114-118, 139-140). In their zeal to prevent garbage as burden, governments and formalized garbage collection and disposal industries monopolized garbage as a resource, dispossessing farmers, scavengers, and others who had established usage rights to the garbage. At the same time, along with the formalized and collectivized solid waste management approach to keep homes, streets, neighborhoods, and cities clean by moving garbage into designated dumps and incineration facilities, there emerged new ways of associating garbage with marginalized people and places. Melosi notes that “many cities, especially those not situated along waterways, dumped refuse on vacant lots or near the ‘least desirable’ neighborhoods, that is, those occupied by the poor, the working class and / or ethnic and racial minorities” (Melosi 2005: 34). As urban scholars have noted, comparatively whiter or wealthier residents have been able to move away from those neighborhoods and cities, leaving behind a concentration of low income and ethnic minority populations coexisting with a range of environmentally undesirable land uses and contaminated sites.

It can be argued that the evolution of garbage governmental management has rested on the production of us as garbage governmental subjects. The garbage subject is first and foremost a consumer subject, a deskilled human being who has been removed from the agrarian lifestyle and who must purchase everything in the market because the garbage subject does not know how to make things or how to fix things. When something breaks, it must be thrown away and bought anew. The garbage subject buys everything, including the garbage subject’s own garbage, and uses the technology of garbage containerization

into a garbage can to manage the disposal of things which can no longer be cast away inside or outside the home, or in streets, alleys, empty lots, or in rivers and streams, or burned in one's backyard. The things the garbage subject throws away into the trash can are very personal. When one examines the garbage subject's trash can, it contains:

“the daily newspapers, the telephone books, the soiled diapers, the foam clamshells that once briefly held hamburgers, the lipstick cylinders coated with grease, the medicine vials still encasing brightly colored pills, the empty bottles of scotch, the half-full cans of paint and muddy turpentine, the forsaken toys, the cigarette butts ... , the discards from thousands of plates: the noodles and the Cheerios and the tortillas; the pieces of pet food that have made their own gravy; the hardened jelly doughnuts, bleeding from their side wounds; the half-eaten bananas, mostly still within their peels, black and incomparably sweet in the embrace of final decay... [,] sticky green mountains of yard waste, and slippery brown hills of potato peels, and brittle ossuaries of chicken bones and T-bones ... [,] the vast connecting mixture of tiny bits of paper, metal, glass, plastic, dirt, grit, and former nutrients that suffuses every landfill like a kind of grainy lymph” (Rathje and Murphy 2001: 9-10).

The garbage subject gladly and unquestionably distances herself or himself from these very personal items. The garbage subject uses garbage bags to keep the garbage can clean and to keep the decomposition juices emerging from the garbage from spreading onto and outside the container, and the bag safely contains the garbage once the garbage subject takes the full garbage bag out to place it into the outdoor trashcan. Based on the routine garbage collection schedule distributed by the municipal authority, the garbage subject moves the outdoor trashcan to the curb, for it to be picked up by the garbage truck. The garbage subject surveys his or her street to see how his or her neighbors conducted the same practice, and sometimes it is that quick surveillance that reminds the garbage subject to comply with the ritual at the time required. The garbage subject finances, through his or her household income, the garbage collection and disposal service costs provided by the

municipal authority or the private contractor. The population is composed of garbage governmental subjects, who perform all of these functions and rituals individually and collectively. The collective effort to remove garbage from spaces that must be kept clean by putting it into its “proper place” means that someone somewhere will be burdened with living in close proximity to this unwanted material that structures our lives. This implicates us into producing and perpetuating the burdens imposed upon low-income and people of color communities where landfills, incinerators, and transfer stations are located.

In the following chapter I discuss how New Jersey’s population became enrolled into our collective efforts to govern garbage over time and how, in the process, we have become certain kinds of garbage governmental subjects who participate in the production of environmental injustice.

### **Chapter 3**

#### **The Evolution of Garbage Governmentalities in New Jersey 1870s through 1970s**

Formal municipal and State government interventions into the garbage problem in New Jersey have been founded on the rationality of protecting the health, safety, and welfare of the general population, or what is referred to as the police power of the State. Under this overarching rationality, at least three interrelated but distinct governmental rationalities have evolved over time since the 1870s to govern garbage. These include the rationalities of nuisance, environmental sanitation, and finally environment, the latter of which emerged more strongly during the 1970s as a governmental rationality in its own right and which brings us to current times. These rationalities were used by formal governmental institutions to establish garbage governmental plans that contained as elements specific relations among governmental subjects, desired practices, favored technologies, and clean or dirty spaces. Over time, each rationality was implemented to remedy the problems that resulted from the practices of garbage governmental management that preceded it. Garbage dumping and burning, and various practices of bringing discarded materials into productive uses by feeding garbage to farm animals, extracting grease for further sale, and other practices, can be understood as forms of garbage governmental management implemented by human populations. Municipal and State government entities sought to modify or end these practices altogether. In New Jersey, local boards of health, the State Board of Health which later becomes the New Jersey Department of Health, and the New Jersey Department of Environmental Protection (NJDEP) from the 1970s onward,



have orchestrated ambitious garbage governmental management plans under the police power and its various rationalities.

This chapter traces the evolution of these formal governmental interventions into the garbage problem in New Jersey from the 1870s through the 1970s to better understand the context within which current conditions evolved. By tracing the evolution of formal government interventions into the garbage problem in New Jersey, this chapter suggests that, at each wave of intervention, the formal institutions of municipal and State government have sought to define the garbage problem in a specific manner and, based on these definitions, to construct social relations among people, garbage, and environments. In an attempt to solve the problematic effects of increasing garbage accumulations emerging during each period, formal governmental institutions sought to shape the behavior of households, garbage contractors, farmers, scavengers, and municipal governments, and to institute and promote desired governmental practices to be undertaken by each of these governmental subjects. Formal governmental institutions also sought to shape the various public and private spaces that were to be designated as either clean or dirty. But behaviors and spaces were elements of various social relations, of which economic relations became predominant. These basic elements of the governmental effort with respect to garbage took various forms under the governmental rationalities of nuisance, environmental sanitation, and environment.

Under the nuisance rationality, from the late 1870s onward, the governmental effort focused on enrolling the various governmental subjects into adopting practices that would produce clean, nuisance-free public and private spaces in homes, streets, towns, and

eventually some natural areas such as beaches. These clean spaces were conceptually set aside as a different category from dirty spaces, such as the garbage dump. The environmental sanitation rationality, from the 1950s onward, then focused on shaping the behavior of governmental subjects with respect to the dump, specifically to prohibit the open dumping and open burning of garbage at the dumps to eliminate threats to the public health created by smoke and populations of rats and other vermin originating from open garbage dumps. This effort focused on transitioning the population from dumps to sanitary landfills and incinerators, which were controlled disposal spaces subject to engineering and scientific design and performance standards. Finally, under the environmental rationality from the 1970s onward, the sanitary landfills and incinerators adopted under the previous rationality were no longer acceptable, as they failed to protect the land, air, and water from pollution and, by extension, the population's health. The environmental rationality's effort focused on regionalizing garbage disposal and favoring expensive and high-tech incinerator and landfill facilities that could destroy increasing volumes of garbage from entire regions.

This chapter first situates the rationalities of nuisance, environmental sanitation, and environment that informed collective garbage governmental efforts in New Jersey within the police power rationality from which they emerge. It then discusses each rationality, focusing on how the governmental efforts sought to establish specific sets of social relations, and relations between people, garbage, and their environments. What all of these rationalities have in common is their failure to question the production of garbage in the first place and, because of this failure, the continued approach to increasing piles of

garbage as one of transfer and disposal. In order to achieve this transfer and disposal, specific sets of human social relations, and relations between people, garbage, and their environments are sought through formal governmental interventions.

Conditions of environmental injustice are produced and sustained as an intrinsic part of these social relations and governmental interventions, which are today achieved through increasingly complex economic relations where garbage has become a tradable commodity. The current reliance on high-tech garbage disposal facilities, while it more recently stems from the State's garbage flow control policy of the 1970s, has its roots in this original and persistent failure. The process to locate high-tech garbage disposal facilities within regions of the State unleashed a conflict among communities where these facilities were sought to be placed. In the aftermath of this policy, certain communities exhibit a classic pattern of environmental injustice, where the communities impacted by garbage disposal facilities receive the garbage from comparatively wealthier and whiter neighbors. Furthermore, more and more garbage, not less, had become essential for the financial and mechanical functioning of these facilities, all under the banner of State-sanctioned environmentalism. As this chapter suggests, this pattern is created and sustained through our collective enrollment into formal garbage governmental plans that have failed to question the production of garbage in the first place. These plans enroll us into practices of garbage production, transfer, and disposal, and the placement of burdens on other communities and environments to whom we are related, all embedded in complex financial and economic systems.

### **3.1 The Police Power Rationality**

Broadly speaking, the police power rationality found overt expression in New Jersey around the late 1800s in part through laws and codes regulating a range of human behaviors and the proper use of property, to be adjudicated by formal government institutions such as courts and monitored and implemented by boards of health at various governmental scales. Attorney E. S. Atwater explained to the newly-created New Jersey State Board of Health (NJSBoH or the Board) in the late 1800s, citing justices of the United States Supreme Court, that the police power allowed for the regulation of matters affecting the health, safety, welfare, morals, and peaceful enjoyment of life by the general population or the community, even when such regulation limited the behavior of individuals without infringing upon their personal rights (Atwater 1879:123-124). While given legitimacy by laws and codes, formal governmental institutions implemented the police power rationality by weaving conceptions of the personal, the community or population, and the economy into a logical fabric, and also by incorporating space and environment in the achievement of governmental goals. The environment was important because matters of governmental concern under the police power either emerged or were magnified in the context of densely-settled urban spaces. Urban living facilitated a range of social relations as people enjoyed greater spatial mobility and commerce. But dense cohabitation in an urban setting also created threats to the population's health, safety, welfare, and the peaceful enjoyment of life and property due to the nature of day-to-day biological and cultural life functions and activities. Under the police power, the biological, behavioral, social, and relational activities of the human population directly informed formal governmental approaches to

various problems of life. But these formal approaches typically outlined in the contents of laws and codes had then to be translated for implementation by the population using the essentially non-juridical, informal, multiple, and mundane human social relations, behaviors, practices, technologies, and spaces of everyday life.

*Individuals, Population, Economy, and Environment*

Many areas of life were subject to regulation under the police power governmental rationality. Everything seems to fall under its purview, from monitoring the population, to maintaining clean water, preventing sales of adulterated food and drugs, and ensuring that homes, schools, workhouses, buildings, streets, and the city or town itself were maintained in hygienic condition. Sanitary legislation to be implemented by the Board and by local boards of health in the late 1800s included matters as diverse as the collection of vital statistics on marriages, deaths, births, causes of mortality, spread of diseases, and other indicators; the means with which to exercise its surveillance, and proper methods with which to address unsanitary conditions; the proper training of physicians with the help of the State Medical Society; the regulation of food and drugs to prevent their adulteration or their sale or trade in spoiled conditions; the conduct of vaccination and inoculation programs; the regulation of noxious businesses, trades, or manufacturing processes; the abatement and removal of nuisances, especially ones injurious to the public health; the inspection, sanitation, disinfection, and ventilation of dwellings and public buildings; the enforcement of quarantine laws to prevent the spread of contagious diseases from infected persons to the general population; the maintenance of a clean water supply; the proper

handling of sewage and sewage systems; the regulation of living conditions at tenements; and many other matters (Atwater 1879:124-129).

The general population's health, safety, and welfare was of paramount importance in and of itself, but this aim of the police power was substantially interwoven with concerns about the economic prosperity and productive capacity of the State so that the population itself was viewed as an economic resource. These various elements of the police power rationality - namely the protection of the population's health, safety, and welfare; the view and regulation of the individual and the population as categories in relation to each other; and the connection made with concerns of political economy and space or environment - are evinced in the discourse of the Board. In various annual reports, the Board cited the importance of its mandate to protect the public health by emphasizing that health was vital to the economic development and productive capacity of the State. In one of the most vivid expressions of this rationality, the Board states:

“The healthy man, woman and child are the most valuable of our resources, and are to be fostered and protected with all the forethought and care with which we would guard the honor of the State, or the materials from which it derives its prosperity. They are its productive capital more than the richness of the soil, the value of metals or the constructions of machinery. If there is not a vigor of life among the people, there is a constant constriction upon the power which, foremost of all, is indispensable to the development of the State. In our list of resources, families which have homes of health take the first rank” (NJBoH 1884:5).

This sentiment was echoed in various other annual report introductions, which continued to view the Board's purpose, “the diminution of human ailments and the prolongation of life,” in relation to political economic concerns (NJBoH 1885:6). It was held that “...the greatest material resource of a State is its population” and that “to care for

it is to husband these resources and turn them into channels of successful industry” (NJSBoH 1885:6). The Board's reports would at times cite prominent English sanitarians who mathematically calculated the amount of productive time lost by the English population due to sickness and how that translated into monetary loss (NJSBoH 1887:6). The health of the population was therefore understood as a matter of both governmental and economic importance, and so the Board would state that “the statesman and the political economist are beginning to look to the health of the people as the central idea of happiness, prosperity and wealth” (NJSBoH 1885:6). The health of the population as an economic resource was never too far from the maintenance of healthy spaces and environments. For example, a central concern over time was always the maintenance of a clean water supply, and much effort was spent by the Board on the proper construction of sewer systems for the removal of sewage from homes and towns, and further on regulating the disposal of that sewage into the State’s waters and streams to avoid water pollution. Although the main goal was to protect the public drinking water supply to prevent ill health and the spread of disease among the population, the economic capacity of the State was understood in relation to both the population and the State's natural resources. The goal of maintaining a clean water supply therefore included a concern for the viability of economic sectors, such as the oyster industry, and for the beaches considered as “chief assets” of New Jersey’s summer resorts and the main driver of tourism (NJSBoH 1908:6; 1925:7).

*Juridical, Institutional, and Capillary Power*

The police power rationality and the governmental projects to be undertaken under its purview, however, cannot be understood as originating from, or strictly housed within, formal governmental institutions and the contents of laws and codes. Rather, events such as codifications and the establishment of governmental institutions such as the Board and local boards of health, are better understood as products of social relations which then concretized in such forms and came to spread in a capillary manner, as Foucault argues, through the social body. For example, the Board was formed as a product of successful persuasion of elected officials by concerned members of the community, especially members of the New Jersey Sanitary Association, in the context of prevalent epidemics and other ailments affecting the well-being of the general population and, by extension, the economy. While during the late 1700s and the early 1800s a few New Jersey laws governed the quarantine of passengers aboard ships arriving on shore in order to protect the general population from contagious diseases, sanitary legislation concerning most of the topics that eventually would fall under the Board's purview would not come to pass until the mid- to late-1800s (Godfrey 1892:49). At the request and persuasion of influential members of mainly the medical and judicial professions involved in sanitary matters, among others, the Governor and the Legislature in 1866 passed a law to create a Sanitary Commission to specifically gather information and provide advice pertinent to the problem of "Asiatic cholera," but the report furnished in 1867 went further to also make recommendations on how to address various sanitary conditions prevailing in the State (Godfrey 1892:49-50). Although the Sanitary Commission was eventually disbanded, a similar group of influential members of primarily the medical profession succeeded in persuading elected officials to



create a Health Commission in 1874 with a broader mandate of assessing the sanitary conditions of the State and making recommendations for correcting defects in the existing laws and providing advice on how to best protect public health (Godfrey 1892:50-51). The Health Commission issued its report in 1875, the same year in which the New Jersey Sanitary Association was formed. The New Jersey State Board of Health was finally established by an act of the State Legislature in 1877, and over the years it was progressively endowed with additional powers and duties.

It is also evident that, once these laws, codes, and formal institutions were enacted and formed, they themselves could not govern and accomplish their governmental goals alone. These entities had to find a non-judicial way of spreading the desired governmental practices and becoming understood, embraced, and ultimately implemented – in effect, enacted – by the population in their day-to-day lives. Knowledge and expertise were key elements in this process. Originally, the Board had only information gathering, dissemination, and reporting duties, and it sought to produce and disseminate information to create a common understanding of sanitary matters among members of the community.

According to Godfrey's account, the Board's goal at the time included:

“the diffusion of sanitary information, first among the members of the medical profession, and second, among the people. Next to physicians, the Board enlisted the interest of civil engineers, teachers, architects, chemists, plumbers and members of other allied callings. Even the agricultural population was reached through information given concerning the care of animals in contagious diseases. By its reports and circulars, the use of the press, by conferences with Boards of Trade, Local Boards of Health, Common Councils and Mayors of cities, and by talks on sanitary subjects, the Board has educated a sentiment throughout the State so favorable to sanitary progress that the laws relating to public health have been revolutionized. In the accomplishment of this the New Jersey Sanitary Association ... materially assisted” (Godfrey 1892:53).

The Board also understood that disseminating information was not sufficient. Key to undertaking its mandate was the understanding that the achievement of public health was a collective process. All members of the community, from persons to the formal institutions of government, would have to be enrolled in making sanitary progress. There was the need for individuals to do certain things, even if they may not want to, for the benefit of the general population, and so the Board would inquire “into the modes of maintaining personal health for the benefit of the population at large” (NJSBoH 1885:6). However, as much as possible, individuals would not be coerced into their enactment of the desired conduct, but would be enrolled in that undertaking through education, informed persuasion, and even calls to fulfill their public duty, so as to achieve self-guided conduct. The Board recognized that the actual implementation of its mandate was a collective process, involving many components and people who must be persuaded to work collectively toward public health at all scales. In this regard, the Board would cite that:

“Sanitary progress demands many things - statesmanlike direction on the part of the central authority, a policy of education rather than coercion, a gradual development as against fussy interference, intelligent cooperation on the part of the local authority, a certain knowledge of sanitary cause and effect, a steady sense of public duty. In no part of life is the need of a broad conception of the interdependence of the various bodies of the body politic so pressing” (NJSBoH 1892:5).

Enrolling the “various bodies of the body politic” was key. In pursuing its dual goals of educating and enrolling all members of the community into achieving sanitary progress, the Board employed a number of governmental technologies not only in producing knowledge, information, and expertise but also in achieving collective action,

to be diffused and distributed geographically. Specifically, as empowered by law, the Board gathered and analyzed population statistics, used surveillance through health and sanitary inspectors, helped to establish local boards of health in every municipality, and required them to undertake public health measures and report to the Board on a regular basis. Through these governmental techniques and technologies, the Board sought to exercise “constant and intelligent oversight of the public health...” while informed by “the sciences and the professions, and the knowledge to be derived from expertise” along with “the power of the law and its enforcement under the guardianship of the courts” (NJSBoH 1884:7). Local boards of health had been authorized by law under the Board since 1880, with the law revised in 1887 to require every municipality to establish such a board. Originally, cities with a population of at least 2,000 persons were also required to employ a sanitary inspector, with the Board having the discretion of expanding that requirement to similarly sized cities, and in 1887 all local boards were authorized to employ health inspectors and agents for the purposes of enforcing local health codes and ordinances (NJSBoH 1885:31-34; 1891:112,120). There were also, since 1885, district inspectors employed by the Board, which were each assigned to have jurisdiction in a county for the supervision and guidance of the local boards (NJSBoH 1885:34-35). Members of the medical profession, undertakers, and midwives alike were to be approached by health inspectors for an accounting of births, deaths, causes of disease, and similar vital statistical reports, which were to be filed with the Board for keeping “account with life and health” so that it “with its statistics is able to show where the debilitating and destructive forces of misguided nature are disturbing or destroying mankind” (NJSBoH 1885:6). Similarly,

surveys of teachers and schools and of households in towns were undertaken, with the Board obtaining “a graphic outline of nearly every schoolhouse in New Jersey” and of “parts of some of our cities, in which a plan of house-to-house sanitary inspection and record has been adopted” (NJSBoH 1885:7). Knowledge, surveillance, and expertise all combined in this effort.

These basic elements of the police power of the State governmental rationality were the foundation for specific rationalities that emerged over time to govern garbage and refuse. Nuisance, environmental sanitation, and environment are discussed in the rest of this chapter, with particular attention to how these rationalities were used to frame the nature of the garbage problem, and how, from each of these framings, collective governmental efforts were undertaken through producing specific relations among governmental subjects, practices, technologies, and spaces.

### **3.2 Nuisance**

The problem of garbage was first regulated by formal institutions of government under the nuisance rationality of the police power. The governmental rationality of nuisance is significantly informed by the social relations of property, as it was essentially based on the principle that “one man has no right to use his property in such manner as to injure another” (Atwater 1881:73). Early nuisance categories included nuisances of an offensive character, those injurious to the public health, those contaminating the air or water, those injuring the material property of others, and other categories based on local conditions (Atwater 1881:73-79). Some of the specific activities mentioned to fall under

nuisance regulation were certain agricultural practices such as pig-pens, slaughterhouses, and cattle yards; manufacturing processes such as fertilizer companies; "works which directly deal with decayed or putrescible material ... which are sure to become nuisances unless in the most skilled hands;" and any other type of process or activity which violated the basic principle of property right enjoyment (NJSBoH 1884:20). The Board's early understanding of nuisances evinces a consideration for the notion of separating incompatible land uses, while at the same time believing that certain land uses could be made more tolerable or could completely abate their nuisance character if the best available methods or technologies were employed in undertaking those agricultural, manufacturing, and other practices (NJSBoH 1884:19).

The early rationality of nuisance was a matter of common law, but as nuisances began to be the subject of formal laws, codes, and institutional interventions, the definition and early regulation of what constituted a nuisance were left to be determined at the local level by local governing bodies. As part of its advisory powers and duties, the Board at least as early as 1885 began to provide guidance to local boards of health concerning how nuisances could be defined in order to accomplish their effective regulation to protect the public health, safety, and welfare (NJSBoH 1885:284-285). In the Board's annual report of 1885, a model ordinance for townships suggested a definition that included an emphasis on categorizing specific things as nuisances, prohibiting certain practices with respect to those things, designating nuisance-free spaces, and leveling a penalty to be enforced for a violation. The model ordinance read, in pertinent part:

“That nuisances within the township are hereby defined and declared, and shall include and embrace, the throwing, placing or depositing in or on any place, public street, alley, sidewalk, gutter, open lot or public grounds, within the township, any dead animal, .... putrid meat, manure, or compost; also any foul or offensive or obnoxious matter or substance whatever, whether composed wholly, partly or jointly or entirely of animal or vegetable matter; also any thing, matter or substance, of any nature, kind or composition, in or upon any private land, lot, building, tenement, cellar, pit, well or other structure, whether said matter or substance is mixed or unmixed, compounded or otherwise, composed wholly, jointly or partly of liquid or solid matter or substance, which shall cause or produce, or from which there shall arise or be cast off, any impure or obnoxious or offensive or foul odor, smell or gas, annoying or hurtful or dangerous to any person ....; allowing or permitting any of said substances to leak or ooze out of the cart, wagon, or vessel or other thing in which the same may be placed, while upon or passing along any of said roads, streets, alleys or lanes; also conveying said substances along any of said roads, streets, alleys or lanes of the township, except in air-tight tanks or vessels; also the burning of any thing, matter or substance, within the township (other than coal, wood, charcoal, gas or oils), which shall emit into the air, or cause or produce or cast off any foul or obnoxious or offensive or hurtful or annoying or repulsive gas, smoke or odor of any kind whatever. Any and every nuisance as above defined is hereby prohibited and forbidden within the township, and any person making, causing, maintaining or permitting any of said nuisances shall forfeit and pay a penalty of      dollars” (NJSBoH 1885:284-285).

This approach to the general category of nuisances can be read as specifically tailored to decomposable garbage and discarded rubbish. Under this suggested language, nuisances are defined, clean spaces are demarcated in both public and private settings, and violators are penalized. The specifically-named spaces in the township were to be maintained as nuisance-free and as clean and off-limits to such things or activities which resulted in a nuisance. Even the improper transportation and burning of these nuisance materials is prohibited by this language. This guidance provided by the Board was formalized a few years later through an 1887 law, which delegated various powers to local boards of health, including the power to define nuisances and abate these without judicial

proceedings.<sup>19</sup> Among other powers, local boards of health were empowered to define nuisances in “lots, streets, docks, wharves, vessels and piers, and all public or private places;” to “regulate, control and prohibit the accumulation of offal and all decaying animal or vegetable substances;” and to “regulate, control and prohibit the cleaning of sewers, the dumping of garbage, the filling of sunken lots or marshlands, and to provide for the filling up of such lots or lands” (NJSBoH 1891:115-116; 1898:48). The language allows for the definition of decomposable garbage and discarded materials as nuisances, the demarcation of clean public and private spaces that are to be protected, the regulation and control of various related activities, and also permission for the local authority to provide for the filling of lots or lands, which implies a nuisance-free manner of burying such materials somewhere else not defined as a clean space. This formal delegation of powers to local boards was accomplished recognizing that different experiences and needs may emerge due to local conditions of physical and human geography, such as population density, soil characteristics, drainage, the location of markets, the local businesses and the economy, among other considerations that vary geographically (NJSBoH 1891:114). It was actually expected that local governing bodies would enact local codes that specifically defined not only what constituted a nuisance and a violation of the code, but also the process for abating the violation through formal proceedings and the role to be played by local board of health

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<sup>19</sup> See P.L.1887, c.68.

inspectors and agents within the limits of the legislative authority delegated to them (NJSBoH 1891: 117,120).

A swift and vigorous effort was expected of local boards of health. However, in the effort to define and abate nuisances, complications emerged concerning the limits of governmental authority, the unequal exercise of the power to abate nuisances by the various local boards of health, and the resulting spatially uneven response to nuisances across the State. The distinction made between nuisances that were considered to be merely of an annoying character and that had an indirect relation to health, and nuisances that were certainly injurious to public health, limited governmental authority. The Board and local boards of health were said to have jurisdiction over the latter, and local governing bodies were said to have jurisdiction over the former (NJSBoH 1907:68; 1911:143; 1930:14-15). It was argued that nuisances of smoke, stench, and noise may be annoying, but that they were distinct from nuisances that injure the public health, such as those that produce disease-bearing flies and pathogens (NJSBoH 1907:68-69; 1930:14-15). The Board commented that smoke, stench, noise, and similar nuisances “cannot be successfully dealt with under provisions of the health laws” (NJSBoH 1907:69). Furthermore, in the cases where the nuisance was alleged to impair the public health, citizens and local boards would have to summon evidence to that effect to the court, which often required a finding of fact by an expert opinion, such as a physician who evaluated the sufferer, or testimony from other members of the community similarly affected, in the absence of a commonly-held or sanctioned and undisputed understanding of the connection between the nuisance and ill health (NJSBoH 1907:69-70).



The problem of unequal exercise of power also emerged. This was revealed in comments concerning how nuisances within the broader police power were treated as a less important area of governmental intervention by comparison with the prevention of communicable diseases and the maintenance of a clean water supply. Although nuisances that injure the public health received greater governmental attention, local residents regarded all nuisance abatement as one of the most important roles for the Board and local boards of health (NJSBoH 1911:142-144). The actual ability of private citizens, the Board, and local boards of health was also at times called into question, with the Board recognizing that although an average citizen could, under common law, move to abate a nuisance and seek remedy by the courts, a combination of corporate power and a lack of will from average citizens and local boards, or their lack of knowledge of the powers and opportunities available to them, meant that nuisances actually went unabated (NJSBoH 1884:20-21). In this regard, the Board stated that if:

“the influence of capital and individuals can prevent a public sentiment against such nuisances, or elect Boards of Health who either fear or hesitate to do their duty, the residents of the community must suffer or move into a more correct public sentiment” (NJSBoH 1884:20).

Furthermore, there was the fact that if a private citizen did move to abate a nuisance, as permitted under common law, by destroying property or otherwise causing an activity to cease, the courts could very well find that the activity did not rise to the level of a nuisance, and then the private citizen would be liable (Atwater 1881:77-78).

These problems led to significant geographic variation and lack of uniformity in addressing nuisances across the State, which emerged and was recognized from the

beginning. The powers delegated to local boards of health or local governing bodies were not used in the same way and to the same degree by the various municipalities. This problem was compounded by ineffective regulation of nuisances. Despite the recommended guidance issued by the Board, there was differential treatment of what constituted a nuisance and how nuisances were defined across the various jurisdictions. There were also ordinances simply copied from those of other municipalities without carefully considering whether its provisions would apply locally or served a needed purpose, and so many ordinances were found to have no practical application when adopted so uncritically (NJSSoH 1911:142-144). Geographic unevenness in the meaning and treatment of a nuisance led to nuisance practices and land uses being located in the less regulated areas, including along the New Jersey side of the border between New York and New Jersey, in townships and rural areas just outside of city limits, or in less well-regarded spaces within jurisdictional boundaries, such as marshy areas or abandoned or below-grade lots (NJSSoH 1884:20).

The Board and other State-level institutions took certain measures to try to resolve the problems of governmental authority, unequal exercise of power, and uneven treatment of nuisances across space. Occasionally, the Board intervened in its advisory capacity in situations when a nuisance problem affected more than one sanitary district or otherwise crossed such boundaries, affected public health, or when local boards petitioned the Board for guidance, which then presented an opportunity for the Board to establish a closer relationship with local boards (NJSSoH 1910:134-135). On various occasions, the Board quantified the number and nature of complaints made to it by local boards and citizens

(NJSBoH 1910:134-135; 1915:66-67). A more forceful attempt to address these problems came about in 1915, with the passage of a law that abolished the Board and established in its place the New Jersey State Department of Health (NJSDoH or Department). This law empowered the Department to go beyond an advisory capacity to enforce the health laws under a State Sanitary Code in any municipality in the State.<sup>20</sup> The Department adopted the State Sanitary Code to correct the unevenness and defects with which the state sanitary laws and local ordinances were being implemented. The Department found that, of 494 sanitary districts or one district per municipality in the State, not more than 15% actually had put in place any measure of real health law enforcement and control (NJSBoH 1915:2). Under the State Sanitary Code, the Department now had central responsibility for enforcing the health laws. Chapter 1 of the State Sanitary Code became effective in 1916, specifically establishing a formal framework for nuisance regulation and enforcement in New Jersey.

### *Garbage as Nuisance*

It is within this general rationality of nuisance and its inherent problems that garbage began to be treated as a formal governmental concern in the State of New Jersey. Garbage was defined as unwanted animal or vegetable matter in the suggested language offered by the Board to local government bodies for local ordinances to prevent the accumulation of refuse in homes, backyards, streets, lots, and other parts of the city or municipality. Early in the Board's reports, a distinction was always made between "house

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<sup>20</sup> See P.L.1915, c.288.

offal” or kitchen refuse such as animal and vegetable scraps, which could decay and rot, versus “ashes and dry house dirt” which was more stable if kept dry and separated from the former (NJSBoH 1884:10; 1893:18). The term rubbish was used to denote other discarded objects. It was recognized that the categorization and separation of refuse materials and their handling through different disposal methods and practices was essential for managing the problem of increasing accumulations of garbage and rubbish in spaces to be designated as clean and uncluttered. Such appropriate handling and disposal was also argued to be essential for the future success and proper functioning of expensive sanitary engineering projects, such as the sewer systems which were not to be burdened with types and quantities of refuse they could not handle (NJSBoH 1884:10). Importantly, the nature of house offal as something that could decay and rot within a short period of time was cited as a reason for having a regular and comprehensive system of garbage collection and disposal in each municipality (NJSBoH 1884:10-11). The decomposable nature of garbage therefore came to greatly influence the rhythm of regular collection that became essential for maintaining a clean urban environment for the protection of the population's health, safety, and welfare.

In its advisory capacity to local boards of health, the Board itself sought the advice of experts who outlined methods being employed to date for the removal and disposal of garbage and rubbish (NJSBoH 1885:114-117; 1887:144-146). Various methods were cited at the time, grouped into either four or five categories for disposal, which today sound quite rudimentary. Refuse could be removed and disposed of by dumping at sea; dumping on land; feeding to animals or producing compost; burning at a proper location; and disposing

within the home (NJSBoH 1885:114; 1887:144). It was argued that these methods were not mutually exclusive, but could be employed at the same time in various geographic contexts. For example, it was considered acceptable for municipalities located near the ocean to dump their refuse at sea, while municipalities located away from the ocean were limited to land-based disposal methods. The Board explored the viability of available methods and technologies, such as incineration and utilization (or the extraction of saleable products from garbage), in order to advise local boards of health.

In addition to researching the various disposal methods and technologies available, the Board recommended ways for local boards of health to enroll local governing bodies, households, and other subjects such as contractors, farmers, and scavengers into a comprehensive system of refuse management in each municipality. Private garbage and rubbish contractors would become the targets of requirements, and were argued to be replaced altogether by a collection service run by municipalities under their own department or entity separate from existing governmental bodies (NJSBoH 1887:144; 1891:160). A comprehensive garbage and rubbish management system would include specifications for both householders and collectors concerning the implements to be used to store and transport the garbage and rubbish, the separation of house offal from house dirt, down to the specific types of garbage cans and wagons preferred, to the regularity of collection, the place and method of final disposal, and other detailed matters. In this, householders were to be enrolled in sorting, storage, and removal practices so that the refuse management system could work seamlessly across scales. Also, contractors, farmers, and scavengers were increasingly seen as undesirable groups of people, who often

mishandled the garbage and rubbish they collected for their own purposes in violation of the desired collection, transport, and disposal methods. All of these subjects - householders; contractors, farmers, and scavengers; and local governing bodies - were targeted by the Board using laws, codes, and requirements that they were to embody and perform in their day-to-day lives.

### *Households and Householders*

In the Board's effort to govern garbage and rubbish, households and householders were primary governmental subjects. The household as a space and its inhabitants were a central target of the Board in enticing desired conduct concerning refuse management. The Board stated that because:

“the sanitary condition of each house has to do with the health of its inmates, and as a pest-house, even in its most moderate definition, cannot but have effect upon localities adjoining it, or persons passing it, the healthy character of each building becomes a public concern” (NJSBoH 1884:11).

It was believed that garbage and rubbish management was a matter of far too much importance for the public health for it to be left to each household's own devices, especially as the majority of New Jersey's population was by the late 1800s already residing in densely populated cities, and therefore city governmental authorities must step in to regulate some aspects of refuse management even if such management practices took place inside the home (NJSBoH 1884:12). Making a connection between different parts of the household generating different kinds of garbage, and in turn connecting the thought with the spread of communicable diseases, T. R. Chambers, in a paper published by the Board in 1893,

stated that:

“Garbage not only refers to the kitchen animal and vegetable refuse, but to the sweepings from rooms, which at times contain most dangerous elements. It has happened that the sweepings from a room, contaminated by some contagious disease, have found their way to the muck heap on a back lot, where ordinarily no one goes. But the children in their romping and play have exposed themselves to contagion on this heap. The house dog or domestic cat has conveyed the germs from this heap into innocent, unsuspecting households” (NJSBoH 1893:317).

It was therefore argued that proper management of garbage at the home would keep clean areas of the house, including cellars and yards, would protect the public health by preventing the spread of disease, and would connect well with municipal plans for the removal and disposal of garbage and refuse. Certain practices had to be adopted by households. It was recommended that households adopt proper technologies and implements, such as the use of standard and appropriate receptacles for storing the refuse, and separating its dry and wet components (NJSBoH 1887:144). Some experts recommended the adoption of the “galvanized iron pail, furnished with a tight cover” (NJSBoH 1885:114; 1887:144). These pails were said to properly contain the decaying garbage without any odors or liquids escaping, thereby allowing for the regular garbage collection schedule to be two or three times a week in the winter time, or daily in the warmer months, and be easily cleaned by the householder and otherwise handled by collection services (NJSBoH 1887:144). Addressing the Board in 1891, Dr. Godfrey of Camden succinctly summarized the requirements that should be applied to households by law:

“Housekeepers should be required to keep dry refuse, like the peelings of vegetables, apart from ashes and liquid refuse of any kind... They should be obliged to provide proper receptacles for both dry and moist refuse, and place them upon

the sidewalk at specified hours. For moist animal and vegetable substances, vessels of galvanized iron with proper covers and large enough to hold the accumulations of two or three days, will be found to be the best and most serviceable. Cleanliness of the receptacles should be insisted upon” (Godfrey 1891:160).

Special advice was directed to rural households. By 1887, the Board had published a Circular directed specifically to households in the smaller and sparsely populated rural areas of the State not yet having sewer services, outlining the practices they should adopt for the proper management and disposal of household waste. The Circular was titled “Care of Household Wastes. What the Householder Can do With Impure Liquids and Refuse,” and was published in the Board’s 1887 annual report (NJSBoH 1887:235-240). In contrast to the broad distinction made in the Board’s previous reports concerning the separation of refuse into decomposable garbage or house offal from the kitchen and more stable dry ashes and dirt from other parts of the home, the circular includes a more expanded list of wastes and some that were more connected to practices of washing and cleansing of both the home and the human body. The Circular outlined five categories of wastes emerging from “ordinary household life... for which some outside receptacle must be found” as constituting dry ashes from fires and fireplaces; regular house dust and other sweepings; waste water left from laundry and kitchen activities; waste water from washing the human body; and finally wastes “voided from the human intestinal or urinal tract” (NJSBoH 1887:235). The Circular emphasized that these several categories of wastes were not to be mixed, and suggested procedures for the proper handling of these as separate wastes to avoid threats to health. Ashes should be removed and disposed outside the home, dust and other sweepings were to be burned on the kitchen range and then disposed outside, noting



that “there is now furnished a close pan or heater in which peelings of fruits and vegetables and bits from all culinary operations are so dried as to cast into the fire and add to the heat...” (NJSBoH 1887:236). Kitchen, laundry, and bath waste waters were also to be disposed outside, especially kitchen waste waters containing “much animal matter in the form of shreds of meat or viscera” which decomposition “may become as disease-breeding as our ordinary secretions” (NJSBoH 1887:236). The human body’s “secretions and excretions” were certainly not to be mixed with any other household wastes, and were to be properly removed from the home and disposed of in properly constructed outdoor devices away from drinking water wells, so as to avoid the spread of “cholera, typhoid fever or other communicable disease” (NJSBoH 1887:236). The Circular proceeded to suggest the disposal of waste waters on well-drained land, trenches, or areas planted with corn or oats, and of human body wastes in properly constructed devices (NJSBoH 1887:237-240). The emphasis placed by the Circular on separating these various wastes, and on properly disposing of them, cannot be overstated, as it was believed that:

“little real trouble or risk results from the small amount of refuse incident to household living *if only some system of separation* and disposal is carried out... The problem is simple unless we ourselves complicate it by combining the materials unduly, so as to increase the bulk or quantity, or by want of system in methods of disposal” (NJSBoH 1887:238, emphasis original).

It was also argued that households, especially in cities, should be enticed to adopt the practice of burning their garbage in the kitchen range, instead of relying on scavengers to periodically collect their refuse. According to Chambers in 1893, a “few householders never employ a private or public scavenger” (Chambers 1893:317). He cited the failure of the local board of health in the municipality of East Orange to convince households to burn

their refuse instead of using the scavengers, stating that it:

“seems impossible to convince the people at large that it is more economical to town and individuals of a town, besides being more cleanly, to consume the refuse of the house in the house. It is a fact that the American people as a class have not been taught to save in little things” and that “having been imbued with the idea that a public scavenger is a necessity, they prefer to keep on the same way” (Chambers 1893:318).

Therefore, it is suggested that in the plans for comprehensive refuse collection in a municipality, the established relationship between householders and scavengers was sought to be modified or entirely severed.

In any context, either urban or rural, householders were to be informed of the expected behaviors and held accountable for non-compliance. For example, in the resort town of Asbury Park, by 1898 householders were receiving from the local board of health a card that informed them that they were required to use galvanized iron trashcans with covers, not to mix wet and dry materials, to put out their garbage and rubbish on designated days, comply with special requirements or services concerning the removal of rubbish or dead animals, and to let the local board of health know if any householder had a complaint against the contractor hired by the municipality to collect the refuse (NJSBoH 1898:248). At the same time, as part of periodic reports, contractors could let the local board know if they had a complaint against any household and thereby failed to remove the refuse due to improper handling by the householder (NJSBoH 1898:246-247). In 1900, the refuse collector in Asbury Park reported to the local board that 21 households violated the municipality's ordinance for using leaky receptacles; 29 for using wooden receptacles; 3 for placing too much liquid in the receptacle; 1 for mixing ashes with garbage; and 14 for

placing “foreign substances” in the receptacles (NJSBoH 1900:171). The local board kept track of these mutual complaints from year to year, published them in tables, and used such data in connection with conclusions that it desired to institute a specific requirement in the law for households to use designated kinds of trashcans, and to evaluate whether a particular contract with a collector should be renewed (NJSBoH 1901:185-189; 1903:135-136; 1904:128-129; 1906:216-218; 1907:232). The intervention effort therefore involved the establishment of requirements, the provision of information with respect thereto, the seamless enactment of such requirements by all involved, and a system of common surveillance among householders, contractors, and members of the local boards of health.

#### *Contractors, Farmers, and Scavengers*

Just as households were to be enrolled into the desired collective refuse governmental plan, garbage and rubbish contractors also became targets of specific requirements. Garbage collectors were generally not seen as having the best interest of the municipality or public health at heart in doing their trade. It was argued that, as far as feasible, municipalities should reject private collectors and institute their own municipally-funded and run collection services through a department of public works. However, when collectors were to be employed, they were to be required to comply with a range of requirements and practices, to be stipulated in the form of a written legal contract. That contract would legally bind the private garbage collector to performance specifications and requirements, and would subject the collector to penalties for the failure to perform as agreed. In an attempt to help municipalities in obtaining appropriate performance from

private garbage and rubbish collectors, the Board in its 1898 report suggested model language for municipalities to use in drafting a contract that would clearly specify the requirements for the collection and disposal service (NJSBoH 1898:49-53).

Likely modeled on Asbury Park's contract with their private garbage collection service, and enumerating 18 separate provisions, the model contract required the awarding of the contract through a competitive bidding and bonding process; the collection and removal of garbage and rubbish in a nuisance-free manner consistent with public health protection; proof that permission has been obtained from the municipality where the garbage will be disposed before making such disposal; proper payment to the contractor's employees; liabilities born by the contractor for failure to commence work or perform it as agreed; non-transferability of the contract without the local board's approval; definition of terms such as "garbage" and "refuse," what such terms included and excluded, and who had the power to define such terms; the types of uniforms and badges that must be worn by employees of the contractor; the regularity of the garbage collection schedule, down to the specific days, times, and areas of collection; a prohibition against collectors picking or sorting through the refuse; the requirement for an English-speaking member of the contractor's staff to phone the board's office each day to receive special orders for the removal of certain garbage or dead animals from designated areas within a reasonable period; the imposition of fines for failure to perform; the use of specific metal carts, to be kept clean by the contractor, and to be subject to inspection and labeled "Public Garbage Service," some of which may be provided by the municipality for use by the contractor for a fee; the number of staff who must conduct the collection, at least one of whom must speak

English; a prohibition against the contractor charging any money to individual householders for service; the provision of regular reports by the contractor to the board, containing information such as the types and amounts of refuse collected and complaints against households violating ordinances concerning the proper storage of garbage and rubbish on their premises; and the proper handling of householders' trashcans, including their return to an appropriate place on the curb or near the house, and the contractor's liability to householders for any damage caused by the contractor to any household trashcans, among other requirements (NJSBoH 1898:49-53).

Similarly, scavengers, farmers, and slop gatherers were also governmental subjects to be brought into compliance with a nuisance-free garbage governmental plan. Some local boards of health tried to sever the relationship that city households had established with scavengers, at times unsuccessfully. The example noted earlier for the municipality of East Orange led Godfrey to conclude that the:

“public scavenger is here and has come to stay. Since he is part of the machinery of a town, he should be compelled to use sanitary carts and have regular, systematic collections. He should collect only garbage, and be expected and compelled to go to the rear of each house for his collections” (Chambers 1893:318).

Scavengers also visited disposal sites, where they rummaged through the refuse pile for reusable items and food to feed farm animals (Godfrey 1891:161). Echoing the desire expressed to at least regulate the activities of scavengers, and in this statement combining the categories of scavengers and farmers, the local board of health in Camden described the slop gatherers as:

“a numerous class of small farmers and pig raisers in the suburbs, who, with nearly every description of vehicle from the barrow to the close box wagon, almost daily

are seen on our streets collecting slops. These scavengers are not governed by any enacted rules or laws, and probably not sufficiently under control of the contractor to do their work properly, and, as a matter of course, the rejected slops are carted off in the ashes as described, but much of it finds its way to the hog-pens. Here our ordinances are again defective, and nothing short of a specific enactment can regulate this work as to make it effective, and save our under-grade lots from a filling-up with garbage mixed with ashes” (NJSSoH 1884:120).

Municipalities adopted measures to control the practices of scavengers and garbage-feeding pig farmers, who used garbage as a resource. Pig farmers, especially those operating in the rural areas of the State, relied on garbage to feed their swine herds. Even among produce and dairy farmers who did not raise swine as a primary source of income, pig raising was a common way of using leftovers from their farming operations to produce meat for consumption or for sale as additional income. Many pig raisers relied on garbage for the “economical feeding and successful management” of the farmers’ herds (New Jersey Livestock Commission 1912:5). Farmers who collected garbage from homes and businesses, however, had to contend with potentially dangerous substances that could injure their swine herds. Substances such as powdered soaps contained alkali and caused lesions in the internal organs of pigs, which was sometimes mistaken for hog cholera (New Jersey Livestock Commission 1912:14-15). It appears that pig farmers who did not have vegetables left over from other farming operations would collect directly from trustworthy homes or from food processing establishments, hotels, and restaurants. Testimony from Mr. Reginald A. Bennett, a pig farmer from the municipality of Marlton, in 1954 referred to the distinction made by garbage-feeder pig farmers between restaurant or canned household garbage and street garbage (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:54). Municipalities sought to

regulate such collection during the early 1900s due to its nuisance character. For example, in Asbury Park, scavengers, farmers, and contractors would have to obtain permits to lawfully remove the garbage and refuse from any city or town residence or business outside of the garbage collection contract (see permits issued to contractors, farmers, and scavengers by Asbury Park in NJSBoH 1901:189; 1903:137; 1904:130; 1906:216; 1907:232-233; 1908:464).

*Cities, Townships, Towns, Boroughs, Villages, and other Municipalities*

Municipalities and municipal authorities were also governmental subjects and the targets of efforts by the Board to institute comprehensive refuse management, collection, and disposal plans. Municipal governing bodies and local boards of health were crucial in that they were responsible for adopting and enforcing a local plan and particularly targeting households and other subjects such as contractors, farmers, and scavengers, to achieve compliance with the plan. All of these elements had to work together. A refuse governmental management plan would be enacted in the form of an ordinance, and would be implemented through a collection service either provided by a private contractor under a written contract with the municipality, or provided by the municipality itself under a separate public works department created for that purpose. Of these two collections systems, the first termed the “contract system” and the second “municipal collection,” the latter was argued to be superior for various reasons:

“The contract system is usually objectionable, especially in large cities, where the requirements of health are greater than financial considerations. Under the contract system, there is not that direct responsibility that should be required. The collector

is not responsible, as a rule, to any single official, but generally to a committee, where division of interests leads to lax discipline. The contractor is more apt to look to his financial interests than to the health of the city; neither does he provide, as a rule, for the transportation of garbage, the best implements in use. It seems best, therefore, if collection of garbage is conducted for the maintenance of health, that the collection should be done under a special department of city government, where the collector is directly responsible to and under the supervision of an official of that department. Then regular collections will be made and garbage removed while in a fresh state, before decomposition occurs, which is a material point; the admixture with ashes and other dry refuse, which greatly complicates both the collection and disposal, can be prevented; reports of neglect of collection can be quickly investigated; leakage along the street remedied; bad odors disinfected; housekeepers held to a strict accountability, and the Supervisor will know where all the garbage is dumped, which is by no means an insignificant point” (Godfrey 1891:160-161).

Experts who advocated for municipal refuse services often cited Boston as a good model where employees were now serving long term and therefore carried out their trade with the utmost respect for the promotion of public health (NJSBoH 1885:114). In addition to the contract system and municipal collection, there was also a system in place in some municipalities where households themselves would individually contract with a private collector or scavenger for a fee, which was criticized for some of the same reasons the contract system was, adding the critique that only persons with means could afford to pay for such collection, and therefore to rely on such a system would yield very uneven results when a comprehensive plan was desired (see the thorough analysis conducted on this matter by a special board appointed by the Montclair local board of health to evaluate a uniform collection and disposal plan for that municipality in NJSBoH 1896:82-88).

However, regardless of whether a municipality adopted the contract or municipal system, the desired practices, technologies, spaces, and economic considerations were the same. These included regular and uniform garbage collection for designated places on



designated days, the use of galvanized iron trash cans with lids by householders, the use by garbage collectors of barrels or wagons made of non-absorbent material so that garbage would not escape or leak out as the garbage cart went by collecting and transporting the garbage, the designation of a final disposal site or technology, and the specification of how the entire system would be funded (NJSBoH 1885:115; Godfrey 1891:161; see NJSBoH 1896:65 for Camden, p.67 for Merchantville, pp.81-88 for Montclair, and pp.142-145 for Asbury Park; also NJSBoH 1898:243-256 for Asbury Park). The issue of proper trash cans, carts, and wagons in which to store and collect the garbage under the comprehensive plan became a central focus. The preference was for metal garbage cans, and carts on two wheels which could be easily pulled by a horse and tipped over or unloaded at the final disposal site (NJSBoH 1898:48; NJSBoH 1898:243-256 on Asbury Park). With respect to the trashcans to be used by householders, in its 1898 report the Board recommended model language for the municipal ordinance to specifically require that "all garbage and offal which shall accumulate anywhere in the borough, or which is stored, kept, or retained therein, shall be kept in galvanized iron receptacles" which were required to be of not more than 20 gallons in capacity and have metallic handles, "...be water tight..." and also be "...kept tightly covered with closely fitting galvanized iron covers..." and further providing that the owner or householder was responsible for keeping the receptacles in clean condition (NJSBoH 1898:48). Although it was acknowledged that such level of specificity concerning the type of trash can householders should purchase may not be enforceable unless State law so permitted, the irregularity and variation in household preferences for trash containers was seen as an irritating problem. According to the Board's inspectors, the

lack of regulation of householders' garbage storage practices and implements had led to their use of "peach baskets, old boxes and other leaky catch alls" as garbage containers in the absence of a requirement to adopt proper containers that would keep the garbage covered and dry (NJSBoH 1898:48).

### *Ruptured Regulation and Compliance*

In reality, however, the institution of a uniform refuse collection and disposal plan in each municipality was easier said than done. Under the nuisance rationality, the effectiveness and efficiency of the local systems varied geographically. Furthermore, households, contractors, farmers, and scavengers would not always follow an established plan. In Camden, according to the report its local board of health filed with the Board in 1884, garbage disposal was not yet separately addressed under a specific ordinance for that purpose. Rather, the general health ordinance provided that "refuse and garbage is prohibited by fine from being disposed on vacant lots, streets and alleyways" (NJSBoH 1884:119). The local board also reported on the mode of collection by a private contractor; the required collection of dry versus wet refuse and the disposal of the former to fill under-grade lots and of the latter at a designated disposal site within the city; the governmental authority's displeasure with slop gatherers, who did not abide by the stipulations in the contract; and the problem of under-served areas of the city which did not get their garbage picked up at the time (NJSBoH 1884:120). Under the private collection contract, the contractor was supposed to provide curbside collection of garbage, differentiated into dry dust and dirt versus wet decaying animal and vegetable matter, but sometimes households

would not comply with separation and the contractor would have to collect both in the same container (NJSBoH 1884:120). The contract also specified the regularity of collection as twice a week, or more often during the summer season. In Montclair in 1896, lacking a systematic garbage collection and disposal service, only a portion of city households had their garbage removed regularly as they could afford to privately contract with scavengers, leaving without service “those portions of a community living in its most crowded sections” (NJSBoH 1896:83). That same year, the local board of health of Asbury Park reported on the unsatisfactory nature of the garbage collection and disposal service provided under a private contract, citing lack of compliance by the contractor with the requirements to provide regular collections uniformly across the borough in non-absorbent leak-free wagons (NJSBoH 1896:143-145). That board also reported having to take legal action against certain hotels and boarding houses due to their failure to employ the “proper receptacles for the storage of garbage” (NJSBoH 1896:145).

Although the Board advised local boards on contracting principles, having a contract in place did not guarantee compliance by either householders or contractors with all of the provisions, and did not resolve emerging issues, such as the incongruence between increasing garbage and refuse volumes and accumulations and the trashcan and garbage cart choices that had been made to contain these. This incongruence prevented the realization of the guarantee that refuse would actually and uniformly be collected across the municipality. Asbury Park's experience in this is illustrative and well documented in several of the Board's reports (NJSBoH 1896:142-145; 1898:243-256; 1899:169-173; 1900:171-173; 1901:185-189; 1903:133-137; 1904:127-130; 1905:185-188; 1906:214-

218; 1907:231-233; 1908:461-464). In 1898 the local board employed under a comprehensive legal contract a private collector to provide the garbage collection service, and instituted elements of notification to the residents of what was required of them, including a complaints system and the recording of data on how much garbage was being produced. Special metal garbage and rubbish carts were purchased by the municipality, which were thought to be sufficient to do the job. However, by 1899 the local board in Asbury Park recommended expanding the fleet of garbage and rubbish carts as the summer garbage volumes had surpassed those of the previous year due to more visitors, requiring that old “objectionable” wooden garbage carts be temporarily brought back to use (NJSSoH 1899:169-170; 1901:185).

Calculating the number of required carts and wagons to provide a comprehensive garbage collection service had its own challenges in Asbury Park as at the time its population of about 4,000 persons increased to about 30,000 persons during the summer months due to visitors and tourists (NJSSoH 1901:299). It therefore became routine and important for the board to quantify the amounts of garbage produced by the population on a daily and monthly basis, which enabled it to notice in 1903 a significant reduction in the amount of garbage quantified in the contractor’s reports, which it attributed to the “exceeding scarcity and high prices during the season of vegetables which make bulky garbage, such as melons, corn, lima beans” and to the fact that some of the resort town's hotels had contracted for their own garbage collection service with a contractor separate from that of the town (NJSSoH 1903:133). However, the board found that the amount of rubbish that year was greater than that generated in preceding years (NJSSoH 1903:133).

The board also complained of non-compliance by certain householders, hotels, and rooming houses not using the correct number, size, and material of trash cans required by ordinance, thereby preventing the collector from removing cans that were too heavy, or garbage stored in “miscellaneous receptacles, such as baskets, boxes, tin pans, etc.,” thereby hindering “the satisfactory conduct of the work,” leading the local board to argue that the health laws should be amended to empower the local boards to require households and businesses to use the specified trash cans (NJBoH 1899:170; see also 1900:171-173; 1901:185-189). Because garbage escaped and was found on the resort town’s streets when households and others did not use the right receptacles with lids, the local board also recommended the adoption of an anti-littering ordinance to require households to take care in properly securing the lids of garbage cans to prevent rubbish from escaping (NJBoH 1903:134).

In some cases, the contract was simply a total failure. Asbury Park awarded its garbage collection and disposal contract to a new contractor in 1905, and it had to take over collection itself for some time and then re-award the contract to another non-compliant contractor (NJBoH 1906:214-218). The local board took over when the contractor failed to collect the garbage even in the tourist or hotel district (NJBoH 1906:215). A new contract was awarded in 1906 for the remainder of the term, and the new contractor then proceeded to violate numerous provisions of the contract. The contractor not only failed to collect the garbage, but also had not secured permission to dispose of the garbage in other districts outside of Asbury Park; did not specify the disposal sites; its employees failed to wear the required uniforms and badges; minors about 10 years of age were employed; the

wagons used were unsightly and dirty, and had no covers to prevent the garbage from spreading all over town; the rubbish scattered all over the place; and the contractor also failed to submit to the board the required reports of garbage volumes collected (NJSBoH 1906:215-216). The local board's inspector found out that the garbage was being disposed of in various localities outside of town, given to specified farmers for hog food, taken to specified farms for ground disposal, and taken to a rendering plant (NJSBoH 1906:216). These problems continued for the next two years until a previous contractor was again hired, and in the meantime the neighboring districts where the garbage was disposed were threatening to bring a complaint against the contractor to stop its practices or find a nuisance-free method of disposal (NJSBoH 1907:231-233; NJSBoH 1908:461-464).

In some municipalities, there had been no attempt at all to establish any plan whatsoever. In 1901, the Board found that some municipalities in the State did not even have a comprehensive refuse management plan at all upon conducting a survey on municipal garbage and rubbish management practices and reporting on the results of the survey for 52 of them (NJSBoH 1901:97-101). In its survey, the Board sought to determine whether the municipality had a system under its supervision for garbage and rubbish collection, transportation, and disposal; whether it employed the contract system or municipal collection; the methods and sites of disposal being used; and the disposition made of dead animals. The Board tabulated the results, which showed that about 35%, or 18 of 52, of the municipalities from which completed surveys were received did not supervise the collection and transportation of refuse, and seemed to have no comprehensive system given that all 18 of them also reported not to have a private contract for such service

in place (NJSBoH 1901:98-101, Table 23, columns 1 and 2). However, 65%, or 34 of 52, of the municipalities did exercise such supervision (one of these partially), and only 16 used a private garbage contractor hired by the municipality, and another 2 hired a contractor only part-time or to collect only ashes (NJSBoH 1901:98-101, Table 23, columns 1 and 2). In one municipality exercising supervision, it was indicated that householders themselves contracted with private collectors for the removal of garbage and rubbish from their residences (NJSBoH 1901:100, Table 23, column 2).

#### *Disposal Spaces, Methods, and Flows*

The demarcation of clean or refuse-free spaces in homes, back yards, streets, alleys, and public areas of the municipality under the nuisance rationality inherently meant the insinuation of a space that would receive that garbage and rubbish being cast away. A problem of great significance in garbage management plans involving households, municipalities, and other subjects such as contractors, farmers, and scavengers, was therefore the selection of a final disposal site. Early on, cities resorted to dumping garbage and rubbish on vacant lots or open spaces within city limits. Of this problem, Godfrey would remark to the Board that the practice of dumping garbage on empty city lots "... is so reprehensible that it does not admit of discussion..." adding that instead dumping grounds should be located "outside of city limits...at a point where they will give the least disturbance, for they are sure to cause, in a greater or less degree, contaminations of the air, water and the soil" (Godfrey 1891:161). But dumping outside city limits as Godfrey recommended would soon also be recognized by the Board as reprehensible, noting that

the “habit which some cities have of dumping it [garbage] in adjoining townships or on vacant lots or marshy places within city limits, is strongly to be condemned” (NJSBoH 1892:17; 1893:20; 1896:32). The Board would go as far as to argue that local boards of health were morally responsible to ensure that the garbage of their municipality did not cause a nuisance in a neighboring town (NJSBoH 1896:32).

In addition to empty city lots and sites outside of municipal boundaries, undergrade, marshy, or farmland areas were also selected sites of waste disposal. For example, in Camden around the late 1880s, garbage was deposited as required under a contract signed by the city and its private garbage collection contractor “either along the river front for filling up to grade, or, as now ordered, on a lot of ground owned by the city, that is bounded by Cooper’s creek, Market street and the Pennsylvania railroad, within city limits, and near occupied streets. This ground is about four to five acres in extent, and is entirely under water at high tide...” (NJSBoH 1884:120). In 1896 Montclair, the local board made available a farm on which the garbage collected by private scavengers was buried (NJSBoH 1896:81). The empty lots, undergrade, marshy or farmland areas used as disposal spaces existed and were co-articulated with areas of the city or municipality that were kept clean of refuse, and areas that were kept dirty not necessarily because they were selected as disposal sites, but because they were simply not served by the refuse collection service the city contracted for. In Camden, the local board reported that:

“there are certain portions of the city never visited by the gathering carts, i.e., portions of the Seventh ward, and a greater part of the Eighth ward, where the unpaved streets and undergrade lots are the recipients of ashes, and, in not a few cases, of garbage. In those portions of the city, it becomes a question of the greatest importance, 'How to dispose of the refuse and garbage?' The drainage is all surface,



and too frequently the undergrade lots and streets are converted into shallow cesspools by this debris” (NJSBoH 1884:120).

Municipalities, in implementing their refuse governmental management plan, therefore had to make choices about underserved areas and populations, disposal sites, technologies, and methods. The choice of disposal technology and method was in part informed by financial and budgeting concerns, but also in some cases by the volume of garbage being produced within the municipality by the residents and, in some cases, the tourist population. Some municipalities therefore decided to institute a careful accounting and measurement of how much garbage was being produced within the municipality at different times of the year. For example, Asbury Park, at least since 1898, began to quantify the daily loads of garbage being collected and disposed under its private disposal contract over a number of months and seasons, and the costs of the system, which was important to it being a resort town (see tables in NJSBoH 1898:249-256; 1899:169-173; 1900:171-173; 1904:127; 1905:188; 1907:231-232; 1908:462). Nonetheless, it appears that even with accounting and planning, the available disposal methods were not a panacea.

#### *Dumping at Sea and on Land*

The available methods of disposal were rudimentary. Municipalities routinely disposed of their refuse by dumping at sea; dumping on land; burning; producing materials for further use or sale, such as grease and compost; and feeding garbage to swine. All of these disposal methods created a nuisance. Dumping at sea was seen at the time as a viable and appropriate option for cities near the water, with Boston, New York City, and Brooklyn

cited as practitioners of this method by which boats would dump the garbage and rubbish far from shore into the ocean (NJSBoH 1885:114; 1887:145). This practice resulted in a nuisance when the refuse disposed by New York City would wash ashore in New Jersey and along the Hudson River banks, particularly in coastal resort towns which depended on a clean beach for enjoyment and tourism revenue during the summer months (NJSBoH 1885:116; 1887:146; 1888:198; Godfrey 1891:161; NJSDoH 1925:7). This matter was brought by the Board to the attention of the New York City Board of Health through a resolution and a special committee appointed for this purpose to see what could be done to remedy the problem of garbage and rubbish washing ashore (NJSBoH 1887:146; 1888:198). Disposal by land similarly resulted in nuisances across space, as it required the selection of an approved site for that purpose, which became a problem when municipalities decided to deposit the garbage on vacant lots or other unapproved sites outside of municipal boundaries (NJSBoH 1885:116). It was recognized that disposal of decomposing garbage on land led to the pollution of underground water wells (NJSBoH 1887:145).

#### *Feeding to Swine and Utilization*

Garbage was also being fed to swine, and cited as producing income in Boston as the city would sell garbage to the farmers. However, this practice was evaluated with caution by the authorities in New Jersey as there had been reports of a few hundred pigs dying in the municipality of Ocean Grove after having been fed garbage without first ascertaining its unspoiled condition (NJSBoH 1885:115-117). It was argued that this

method “is used to the best advantage in the country, where kitchen and dairy refuse is carried twice a day to the hog-pen...” as opposed to in the city, where “during hot weather, the condition of the average swill-pail becomes such that the contents are frequently full of living animal matter, thus rendering them utterly unfit for food” (NJSSoH 1887:145). The sale or use of decomposing garbage as farm feed was therefore viewed by some as an objectionable practice (Godfrey 1891:161; Chambers 1893:318). The feeding of garbage to swine also led to numerous reports of stench nuisances created by this method when conducted without proper care for cleanliness. According to the local board's report in Asbury Park, the:

“method of feeding in some instances, where many swine are kept, is to fence in a large space in an open field and to dump the garbage in this enclosure, where the swine devour a portion and the remainder is left to decompose, until the ground in the enclosure is so defiled and filthy as to necessitate the removal of the pen to a new part of the field. The stench which arises from these swine-yards can at times be detected for a half mile distant from the farm” (NJSSoH 1896:143).

That local board also reported the disposal and burning of rubbish in an Ocean township location, outside of Asbury Park, and its disposal near Deal Lake (NJSSoH 1896:143). By 1899, the local board of health in Asbury Park continued to report the following concerning the disposition of rubbish and garbage generated by its residents and tourists under a private contract:

“The final disposal of these waste-products is conducted upon a farm in Ocean township, two miles from the city limits. Rubbish is burned in open fires, and it is found that after a rubbish pile is lighted the fire continues to burn until all organic matter contained therein has been consumed. The residue which is left, consisting of tin cans, glass, crockery, &c., is used for filling low lands. There is no objection to this method of final disposal of rubbish when conducted in a locality far enough removed from habitation so that the smoke from the fires will not prove a nuisance....

... Garbage is disposed of by feeding to hogs. It is spread over the surface of newly-cleared woodland, where it is left to decompose and eventually disappear into the soil, and portions of it are also spread broadcast upon cultivated land and plowed under. The last-named method of disposal, when the garbage is spread upon the land as soon as gathered and at once plowed under, is attended with but little nuisance, and the land, thus treated, is found to be very much enriched. The other method referred to, from a hygienic point of view, has nothing to recommend it, but very much to condemn it” (NJSBoH 1899:173).

Although, as indicated above, garbage was used to fertilize fields in some areas, the use of garbage as compost or fertilizer was argued to be economically inefficient, as not enough quantities of the product were produced to warrant the effort (NJSBoH 1887:145-146). One of the methods for producing fertilizer was discussed by Chambers in 1893 as an option, along with incineration, for disposing of garbage within city limits. Under the “utilization” method, the fats would be extracted from the garbage through a chemical process or through the separation of solids from liquids, and the final product was sold as fertilizer, except that a complex financing of the system through bonds and contracts accompanied this technology (Chambers 1893:319-320). The Board concluded that the costs of the utilization method could not be matched or surpassed by the scale of operations and the small profits to be realized especially in small localities (NJSBoH 1896:31). However, some localities did institute utilization plants.

In the Board's 1904 report, the local board of health of Atlantic City provided a report of their newly-acquired utilization plant for the disposal of garbage, with illustrative photos, and discussed the financing arrangement it had undertaken with the private operator to have the plant functioning (NJSBoH 1904:83-87). The local board introduced this method as an improvement over other methods they had tried, and the Arnold utilization

plant as a cutting edge technology in the United States given that only nine utilization plants of various models, including one in Newark, were in operation in the country at that time (NJSBoH 1904:83). The marketable end product of the utilization process was grease, which the plant operator sold “abroad” where it was used to produce glycerin, candles, soaps, and other products (NJSBoH 1904:84). In the utilization process, garbage was deposited into 25 tanks or “digestors,” where the garbage was sealed and boiled for up to twelve hours. The resulting mush would be formed into so-called “cheeses,” which were in turn pressed to separate the liquid from the solid matter. The grease was then separated from the resulting liquid. Although the remaining cheeses were not sold, they were used in the same plant as fuel for the boiling process. The brown water was used to clean the floor following the operation, and then disposed in the city's sewer system. The utilization plant came at a significant expense to the city, given that it added disposal costs on top of collection expenses, which service was contracted for separately with a private garbage collection company, and cost the city about \$16,000 per year (NJSBoH 1904:84). The board reported that the plant operator spent \$100,000 in capital costs, and the city rented the land on which the plant was constructed to the operator for very little money (NJSBoH 1904:83-84). Under the 10-year arrangement, the city would pay the operator \$20,300 during the first year, and that payment would increase by \$1,000 annually. The board reported that the plant consumed over 1,500 tons of garbage that June, and more than 6,900 tons in August, given the city's soaring tourism population during the summer months (NJSBoH 1904:84). This utilization plant was certainly high-tech, when compared to a similar operation described by the Asbury Park board of health.

In 1905, Asbury Park awarded a new contract for both the removal and disposal of garbage and rubbish, and the contractors had a utilization or reduction plant of their own making which, compared to that of Atlantic City, seems low-tech indeed (NJSBoH 1905:185-187). The garbage was collected by the contractors and taken to a location on the contractor's property outside of Asbury Park, "located near Corlies avenue, about two miles from the city limits, on the borders of a brook flowing into Shark river" and Musquash cove (NJSBoH 1905:185). As in the Atlantic City plant, the marketable end product of the reduction operation was grease. However, the operation in question here involved the placement of garbage in "eight open wooden vats" where the garbage was boiled without covering the vats, which were heated from below using two steam boilers and a system of steam pipes, and then another eight vats to receive the resulting mush after boiling. The operation also received more garbage than it could handle in a timely manner, and therefore garbage accumulated on the premises for days. In this case, the grease was sold after extracting it from the liquid product, but the remaining mush was also sold to local farmers for pig's food, and any remaining mush or untreated garbage was deposited on the grounds of a farm in the county. The local board provides a vivid description of the disposal methods and sites associated with the reduction operation, and the unhealthful nuisances created in the process:

"...the refuse not removed by the farmers is carted by the contractors to the county farm and dumped upon the surface of the ground,... where it is left to decompose. This mass of decomposing organic matter serves as a breeding place for flies, which swarm about the place in countless numbers. The ground beneath and around the vats in which the garbage is cooked and the residue is stored is grossly polluted from leakage, from the vats and slopping over from the vehicles carting the material to and from the place, in loading and unloading... At the time of this inspection

there were approximately one hundred cubic yards of uncooked garbage upon the ground, probably due to the lack of facilities to cook the material as fast as it is received. The method of unloading the carts upon arrival at the plant is by shoveling the garbage from the carts into the vats, during which time considerable culling is done to remove tin cans and that portion of garbage containing little or no grease: this manner of unloading and culling consumes considerable time, while dumping the carts would require but a few seconds; at the time of this inspection, three loaded vehicles were waiting to unload, thus losing more time and preventing the use of the carts to their full capacity in removing garbage from the city” (NJSBoH 1905:185).

The description continued, indicating that the contractor was also accumulating rubbish on the premises and thereby providing a breeding place for flies, in violation of the contract which required that rubbish be burned. The final disposal site in Neptune township, where farmers took the garbage to feed to hogs, also created nuisances. The local board of Neptune lodged a complaint with the Asbury Park board, including the disposal site nuisances and the sloppy manner in which the garbage taken was transported through the township. It was reported that in some hog farms, where pigs were not moved from place to place to maintain sanitary conditions, garbage and wastes amounted to “one inch to three or four feet” (NJSBoH 1905:186). This situation led the Board, in its 1906 annual report, to issue a sharply-worded message to local boards of health, concluding that only destruction by fire seemed to be the best disposal method, and also raising to the level of a moral duty of local boards of health the prevention of nuisances in other districts arising from garbage transported there from the originating district:

“No satisfactory method for the disposal of garbage in the more thickly populated districts, and in places of resort, has thus far been devised except by destruction by fire in a properly constructed furnace. Every city is morally bound to so conduct the disposal of its refuse materials that they will not create a nuisance in any other locality, and the experience of Asbury Park during the past season in permitting its rubbish to be strewn broadcast, and then burned in open fires, thus liberating smoke

in large volume, and annoying all residents within a radius of at least one mile, should serve as a warning to other municipal authorities, but the nuisance caused by burning rubbish was trifling compared with the nauseating stench which attended the treatment of the garbage. The residents of the city itself did not suffer from the offensive odors, for the refuse was removed by the contractor to a point about two miles distant from the western boundaries of the corporation, but the reduction plant was the center of the trouble. The garbage was boiled in large open vats to obtain the grease, and the residue was sold to seventy-five farmers who carted it to their respective pig-pens, thus filling the atmosphere of the entire neighboring region with the odors of garbage, and rendering a large district unsuitable for pleasure riding, and repellant to all who were not engaged in raising hogs. The numerous complaints which followed this unwise distribution of decomposing refuse led to the withdrawal of the contractor from his attempt to perform the service, and resulted in the assumption of the duty by the city itself, through the health department. The city is now considering the erection of an incinerating plant where both garbage and rubbish can be reduced to ashes without causing a nuisance” (NJSBoH 1906:80-81).

#### *Destruction by Fire*

In light of the problems raised by the above-mentioned disposal methods, burning of garbage and rubbish at a proper location was increasingly seen by the Board as the best method of them all, in one report stating that “there is almost universal agreement that fire is the only reliable means for converting rubbish and garbage into a safe and harmless material” (NJSBoH 1894:10; 1896:31-32). In reaching this conclusion, fire was discussed as the only method that could truly render null the threat of contagious diseases being spread from garbage and rubbish (NJSBoH 1896:32). Fire also was seen to resolve the annoyances produced by the other methods. This conclusion was expressed by Chambers in 1893 when he stated that since:

“garbage may not be stored up, nor used as food for cattle; cannot be dumped on the neighbor's land; may not be thrown into rivers, nor cast into the sea to be thrown back upon the shores; may not be used as filling for sunken lots in populous districts



- there is only one alternative. It must be destroyed within the city or town producing it” (Chambers 1893:319).

There were several scales at which the destruction by fire method was viewed possible and acceptable. People could burn some of their garbage at home, in the kitchen range or fire place. The Board recommended the use of a “garbage destroyer” which could be attached to the kitchen range without producing offensive odors (NJSBoH 1892:18). Also, a system of mass burning using incinerators or so-called garbage crematories could be adopted. It was argued that burning “offers a good solution of the disposal of garbage when it has no marketable value, or cannot be carried out to sea” and that garbage should “be burnt in the kitchen stove or range, when this can be done without annoyance to the household, but in summer this method is often impracticable” (NJSBoH 1887:145). Citing cities which had adopted incineration technologies, such as Montreal and Glasgow, it was argued that the use of incinerators in:

“large inland cities is only a matter of time. The growth of these cities, the constantly-increasing distance from their business centers to the open country, and the higher standards of cleanliness now being enforced in other directions, are strong arguments in favor of crematories for garbage” (NJSBoH 1887:145).

Incinerators were gradually appearing to be the preferred and recommended disposal method when properly constructed and used, being employed in more and more cities across England and the United States (NJSBoH 1887:35; Godfrey 1891:161; NJSBoH 1893:18-20).

The ability of incinerators to consume great quantities of refuse must have seem impressive indeed. In further recommending the mass incineration method of destruction of garbage by fire, the Board cited the experience of incineration in Findlay, Ohio, where

the incinerator operating day and night had mightily consumed in 1891 garbage and refuse amounting to over 3,400 loads of garbage, over 3,700 loads of night soil, 130 dead horses, 24 dead cows, 119 dead dogs, and 44 dead hogs, destroying even more than these figures the year after (NJSBoH 1893:19). In the same report, the Board cited a paper written by W. F. Morse of New York City, which held that incineration technology had spread in Great Britain and was expected to continue to spread in the United States given the early success of the technology, its ability to destroy large quantities of garbage and rubbish, and better and improved incineration methods and models being developed which allowed for the generation of power, some of which were shown at the Colombian Exposition (NJSBoH 1893:19-20). Incinerators were at the time cheaper than the utilization method described earlier for fertilizer or grease production, but still involved capital and operational costs, including the use of fuel such as oil and crude petroleum (Chambers 1893:322-324).

As of 1894, Atlantic City and Paterson had adopted incinerators (NJSBoH 1894:10) and Camden followed in 1895 (NJSBoH 1896:65). According to H. S. Scull, Secretary of the Atlantic City board of health, that city established an incinerator that consumed about 75 tons of “animal and vegetable waste” per day at the peak of garbage production during the summer months (Scull 1894:29). As much as 150 tons were collected on Mondays during the summer months when the population of the resort town soared, leading Scull to remark that “it is a proud record for a health resort to be enabled to successfully collect and destroy this vast amount of household waste” (Scull 1894:32). The ability of this technology to consume such large amounts of waste was therefore seen as greatly desirable for the interests of the resort town, and greatly appreciated by businesses such as hotels,

which had readily “provided convenient receptacles, and introduced easily-handled sanitary garbage cans, and in other ways assisted the contractor in his work” to gladly have their kitchen garbage taken away (Scull 1894:32). In subsequent reports, the local board of health would praise the incinerator as the “ideal method” for the disposal of garbage, and considered expanding the plant's capacity (NJSSoH 1896:45).

### *Dumps Entrenched*

Yet, notwithstanding the availability of technologies thought to be the panacea for destroying by fire the increasing piles of garbage and rubbish being produced by New Jersey's population by the early 1900s, actual disposal methods and practices remained rudimentary. In the survey of municipal garbage collection and disposal practices the Board conducted in 1901, 52 municipalities indicated their multiple methods of final disposal of garbage, rubbish, ashes, and dead animals, and the types of disposal sites used for these purposes (NJSSoH 1901:98-101, Table 23, columns 3, 4 and 5). The most common manner of disposing of garbage and refuse was some form of dumping on land, by filling surface lots or depositing it on surface grounds, with some municipalities expressly indicating disposal by dumping garbage and rubbish outside of city limits. Similarly, ashes were used to fill lots, low places, streets, and other surface grounds. Dead animals were mainly buried, but large animals such as cows and horses were sent to a fertilizer factory or rendering plant somewhere in the State. The municipalities surveyed at times indicated more than one method being used, but by and large, dumping by filling lots or burying on land was the most utilized method for the disposal of garbage, rubbish, ashes, and dead animals at

the beginning of the 1900s. Essentially, the dump as a space of disposal was entrenched.

The dump's entrenchment as a disposal site constituted a problem that belied governmental attempts to protect the health, safety, and welfare of the population. While garbage and rubbish removed from private and public spaces of the municipality meant that some nuisances were prevented in those spaces, it also meant that final disposal sites were creating a new and significant nuisance. The disposal methods of choice, and the spaces selected as disposal sites, quickly became the subject of complaints to the State authorities, which since 1915 was organized as the New Jersey State Department of Health (NJSDoH, replacing the Board). In the Department's 1915 annual report, it documented the twenty complaints it had received from local citizens or boards of health in that year, half of them related to the improper disposal of garbage and rubbish (NJSDoH 1915:67). Four complaints concerned nuisances from a rendering plant, and six concerned improper disposal of ashes, household waste, or nuisances at garbage and rubbish dumps (NJSDoH 1915:67).

Under its newly delineated powers and the adoption of a State Sanitary Code, the Department could now intervene to seek remedies to local nuisance conditions when local boards had failed to do so. But the problem was overwhelming. The Department referred to the nuisance problem as a "State-wide" problem, emerging in all parts of the State, and not knowing for sure whether "such annoying conditions are becoming more common or people are growing more conscious and intolerant of them" (NJSDoH 1930:14-15). Showing a lack of evolution in the concept of nuisance, the Department made a distinction between common nuisances and nuisances that affect the public health, citing "smoke from

burning dumps” as being on the border between the two categories (NJSDoH 1930:15). The health impacts of smoke had not yet been fully recognized at the time in New Jersey. While the Department could investigate the nature of complaints and intervene to resolve nuisance conditions, in reality it took further action only in severe cases, a situation the Department itself found unsatisfactory (NJSDoH 1917:54). The Department simply did not have all of the resources necessary to fully and thoroughly accomplish the multiple demands made upon it, and specifically cited the lack of sufficient funding, properly trained personnel and expertise, and the deficiencies in local health administration in the majority of the State's municipalities, as impediments to the advancement of public health in the State (NJSDoH 1924:13-15; 1925:23-25; 1926:7-10).

To strengthen the governmental institutions responsible for the population's health, safety, and welfare, the Department argued for the establishment of regional health districts to fortify the ability of local boards, especially those of the 466 municipalities having less than 10,000 inhabitants, to enforce the health laws (NJSDoH 1924:14). It called for a regional system of health administration as a more effective and efficient system when compared to the system established by law where:

“each municipality - no matter how small or meager its finances - is a sanitary unit; hence, it is impossible for the boards of health in sparsely settled or small communities to employ a trained staff to look after the sanitary projects, and the members themselves are without the necessary knowledge and experience” (NJSDoH 1926:8).

The Department called attention to the special problems faced by rural communities, which it viewed as a problem not only of the rural population's concern, but also of the urban residents, as “the city dweller's water supply, his milk supply, and green vegetable supply

usually come from farming districts; and he goes into the country when motoring on vacations” and is therefore directly affected by the lack of rural sanitation measures (NJSDoH 1926:7-8).

It is telling that the Department’s annual reports from 1915 through 1947 are otherwise largely silent on the issue of garbage and refuse collection and disposal. It is as though the nuisance rationality as a governmental rationality to govern garbage was being given a chance to operate at the local level, and through its related garbage governmental subjects, technologies, practices, and spaces. But problems related to the uncontrolled space of the dump became overwhelming, and the governmental systems in place thus far proved inadequate to contain them in the long run. This situation gave rise to the rationality of environmental sanitation as the next wave of governmental intervention into the garbage and rubbish problem.

### **3.3 Environmental Sanitation**

By the 1950s, the governmental approach to garbage was in the process of undergoing a transformation from a rationality strictly founded on the concept of nuisance to a rationality of environmental sanitation which rested heavily on the concept of nuisance but incorporated various new elements in its institutional and capillary implementation of power. While the original nuisance rationality had at its center the designation of nuisance-free private and public spaces, the main goal of the environmental sanitation rationality was to abate the problems created by the dump as a disposal site, a space that had been insinuated under the plain nuisance rationality but never directly addressed with sustained

effort. The problems of the dump had to do with increasing populations of rats, flies, and other vermin that fed from the garbage at the dumps and began to plague cities and to carry pathogens that threatened human health; the danger to both life and property posed by uncontrollable fires caused by the widespread practice of burning refuse at the dumps or by its spontaneous combustion; the air pollution and health impacts of smoke that emanated from the burning of that refuse; and other nuisances related to the dump as an unregulated disposal space.

The environmental sanitation rationality sought to transition from dumps to “sanitary landfills” the entirety of New Jersey’s population, its municipalities, and its garbage dump operators. It would do so through various new elements of governmental management. The environmental sanitation approach to garbage governmental management attempted to regionalize the provision of public health as the Department established regional health districts. It gave authority to new forms of expertise to address the problem of garbage and refuse disposal, especially by incorporating the scientific and highly technical knowledge and expertise from engineering and the physical sciences. It delineated new requirements for disposal spaces, specifically fancier engineering and design specifications and the daily practices to be followed at disposal sites, such as compacting the garbage and rubbish each day and covering that refuse with a top cover of soil. It favored new technologies for disposal sites to adopt that could crush and compact the deposited refuse, thereby providing a market to heavy equipment manufacturers. It diffused and implemented its power by enrolling municipalities and garbage dump operators as subjects into compliance with new sanitary landfill requirements, using

various new techniques: developing and imposing new codes and standards; creating stages of disposal site progress in a site's evolution from dump to sanitary landfill; quantifying such progress; and using demonstrations, conferences, inspections, persuasion and, as a last but available resort, prosecutions to enforce compliance.

In the network of capillary power, the New Jersey Department of Health occupied a privileged role. It was legitimized by law as the State entity responsible for protecting and promoting the health, safety, and welfare of New Jersey's population; charged with overseeing a network of local boards of health in each municipality, along with a staff of inspectors; and empowered to enforce the health laws and directly intervene through inspections and prosecutions when local boards failed to uphold them. Its organizational structure evolved substantially in connection with the sanitary rationality. The Department was reorganized by law in 1947 (NJSDoH 1947:7; 1959:6-9).<sup>21</sup> This constituted a major reordering along the lines of previous major reorganizations of the State's formal public health institutional structure, which began with the establishment of the New Jersey State Board of Health as an advisory body in 1877, its empowerment as an administrative body in 1887, and then the creation of the Department in 1915 with enforcement powers and a State Sanitary Code (NJSDoH 1947:7). There was also a streamlining of responsibility. Originally, the Board oversaw a Director of Health. Since 1915 the Director of Health oversaw the Department's functioning. In 1947, the Board became the Public Health Council and the Director became a Commissioner who answered directly to the Governor

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<sup>21</sup> See P.L.1947, c.177.



(NJSDoH 1947:7). Also, the Public Health Council was charged with any revisions of the State Sanitary Code (NJSDoH 1953:16).

The term “environmental sanitation” appears within the Department's reports following the 1947 reorganization, ushering in an era of refuse sanitary reforms informed more strongly by forms of expertise of a highly technical, scientific, and engineering orientation. By 1956, the Department consisted of seven Divisions, including the Division of Environmental Sanitation with jurisdiction over garbage and refuse disposal matters, and the Division of Local Health Services, which assisted and advised local health boards in the implementation of sanitary matters (NJSDoH 1956:7). Evincing the desire to regionalize public health implementation, the Division of Local Health Services was organized into four State Health Districts, named the Northern, Metropolitan, Central, and Southern districts, with the first three districts comprising five counties each and the last district comprising six counties in their respective regions of the State (NJSDoH 1953:139-140; 1959:124-125). The cited goal of that Division was to provide “consultant, advisory and certain direct services to local boards of health through correlation of the other Division programs” (NJSDoH 1953:139-140; 1954:155-156; 1956:175-180). Public health resources and capabilities at the local level were dire. In 1953, the Division of Local Health Services reported that there were 571 local boards of health in the State, collectively having at their disposal an expenditure per capita of only half of the amount recommended for the proper conduct of health administration, and with almost 70% of the municipalities or almost 30% of the State's population lacking licensed health officers (NJSDoH 1953:141). The environmental sanitation rationality's geographic spread was facilitated by these

institutional arrangements.

*Environmental Sanitation, Populations, and Space*

The Department's new Bureau of Environmental Sanitation was created following the 1947 reorganization. This Bureau became the Division of Environmental Sanitation, then the Division of Environmental Health, and in 1967 its outdoor environmental components were transferred to a new Division of Clean Air and Water. The work of this unit was framed by a broad notion of the concept of environmental sanitation, including elements of both the natural and the built environment. Specifically, the Bureau addressed matters of "housing, plumbing, the control of pollens which cause hay fever; swimming pools and lake sanitation, private sewage disposal, the disposal of garbage and the control of rodents and insects" (NJSDoH 1950:51, 51-55; 1953:7-17; 1959a:71). The objective of the Division of Environmental Sanitation was described in the Department's 1953 report as:

"to influence the planning, design, construction, maintenance and operation of the physical elements upon which individuals and communities depend for healthful living and to protect them from animal diseases that are transmissible to man. Such elements include water supplies, sewage disposal systems, garbage and refuse disposal, food establishments, housing, and those activities which disturb the soil and change the topography of the land when such activities adversely affect public health and control of the zoonoses including the control of insects and rodents" (NJSDoH 1953:101).

Specifically, with respect to garbage and refuse disposal, the Division lamented the lax and unplanned approach taken by many municipalities thus far in garbage collection and disposal matters, stating that "this fundamental sanitary work is too often undertaken

without engineering status and technical direction” (NJSDoH 1950:55). The Division therefore found it important to consider and evaluate disposal methods and technologies, and how to implement them through planning and promotion efforts (NJSDoH 1950:55). In subsequent years, the Division would conduct demonstrations in various parts of the State to showcase and promote the use of the “sanitary landfill” as a disposal method and the equipment used in connection with that method, sold by manufacturers such as Caterpillar Corporation, for municipal officials to view and consider adopting (NJSDoH 1951:113). Both incineration and sanitary landfill technologies were the subject of consultation conferences at the annual conference for health officials in the State (NJSDoH 1953:21). The sanitary landfill method was also promoted by the Division using motion pictures and meetings with local officials and at annual conferences (NJSDoH 1954:125; 1958:17-18). In addition, under the Division, an Advisory Committee on Garbage and Refuse Disposal was appointed in 1952 to produce a report and develop standards on garbage and refuse disposal methods (NJSDoH 1953:101, 113-114). By 1954, a report of the “Advisory Committee on the Preparation, Storage, Collection and Disposal of Garbage and Refuse” was submitted for review and consideration by the Department (NJSDoH 1954:124). By 1955, such standards were ready for adoption and implementation by municipalities (NJSDoH 1955:136).

The issue of garbage management standards was closely related to two other areas of expertise that fell under the Department's purview. One was the program of rodent and insect control, which also came in as a new theme in the Department's reports following the 1947 reorganization. Rodent and insect control measures were closely connected to

garbage and refuse disposal because local dumps were major breeding and feeding grounds for rodents and other vermin (NJSDoH 1950: 55). Explosions of rodent and insect populations were common in New Jersey cities and other municipalities at the time, and garbage dumps became a major target of eradication campaigns, as were food warehouses and restaurants. Rodents and other vermin ate, lived, and reproduced at all of these establishments. In connection with the United States Public Health Service and their experts, the Department conducted rodent surveys in various municipalities to ascertain the origins and prevalence of rodent infestations, and to determine whether such rodent populations carried pathogens that could harm human health (NJSDoH 1951:113). The use of sanitary landfills, instead of dumps, was seen as a key solution to the rodent, insect, and vermin problem (NJSDoH 1951:14, 99; 1957:9).

The other area of expertise of the Department, which also emerges as a new theme in the Department's reports, is the concern for "atmospheric pollution," a more sophisticated language to describe what may have previously been described simply as a smoke nuisance. However, the often-cited split between common nuisances that were merely annoying and nuisances injurious to the public health continued in the context of discussions regarding the impact of atmospheric pollution on human health (NJSDoH 1951:11-12). The Department noted that "we are still vitally handicapped by incomplete knowledge of this newer health hazard..." and that it faced the problem of "establishing in each air pollution case the presence of a hazard to the public health as distinct from the fact that the pollution is undoubtedly a public nuisance" (NJSDoH 1951:12). Thus, there was the need to ascertain the health impacts of air pollution, to which end the Department

deployed a team of experts composed of a physician, an industrial engineer, and a nurse to undertake investigations of specific sites (NJSDoH 1951:11). The Department conducted indoor and outdoor air pollution studies, taking air samples using a mobile laboratory, at sites where air pollution was generated from manufacturing processes and from burning dumps (NJSDoH 1951:12). Dumps, specifically the open burning of garbage and refuse at dumps, were increasingly of concern with respect to air pollution, especially in the densely populated parts of the State (NJSDoH 1954:163; 1955:182).

*Garbage and Knowledge, Codes, and Standards*

In addition to legitimizing the formal administrative structure by law and facilitating the spread of the sanitary rationality through local networks, strengthening of the formal sanitation infrastructure also involved the preparation of additional, more specific codes and standards. In 1950, the “Public Health and Sanitation Codes Adoption by Reference Act” authorized local boards to adopt by reference uniform model codes approved by the Department (NJSDoH 1953:17). Various model codes were subsequently developed and became available for adoption by municipalities in this manner, including the “Public Health Nuisance Code” (1953), the “Smoke Control Code” (1953), the “Maintenance of Swine Code” (1957), and the “Solid Waste Code” (1959) (NJSDoH 1953:17; 1958:10-1; 1964:59-60). The adoption of these model codes was meant to facilitate public health regulation and its diffusion at the local level. These codes would also save municipalities money in that they could adopt the codes by reference and save on printing costs, and were to encourage uniformity in the health and sanitation standards

across the State (NJSDoH 1958:10-11). Other codes, however, were required by law and were not optional. These codes included the “Air Pollution Control Code” (1956, with revisions in 1961) and Chapter VIII of the State Sanitary Code specifically concerning “Refuse Disposal” (1957, with revisions in 1970). Each one of these codes had garbage, rubbish, and the dumps as main concerns. Their contents became important in regulating practices being undertaken by people, farmers, municipalities, dump site operators, and other governmental subjects, who were considered to be improperly handling garbage and refuse materials in their day-to-day activities and practices.

*Open Burning and the Air Pollution Control Code*

One of the first attempts to regulate what people did at dumps under the sanitary rationality framework had to do with reducing air pollution. At the time, burning the garbage and rubbish deposited at the dumps was a common and accepted practice implemented by municipalities and dump operators. The problem of air pollution led to the enactment of the “Air Pollution Control Act,” which became effective in September of 1954 (NJSDoH 1955:12-13; Cowan 1955; Moran 1955).<sup>22</sup> An Air Pollution Control Commission would promulgate codes, rules, and regulations to implement the act. The Air Pollution Control Code became effective in 1956, but by 1955 the Commission had already fit the causes of air pollution into four major categories of human or biological activity, the first two closely related to the disposal of garbage and rubbish. Air pollution was caused

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<sup>22</sup> See P.L.1954, c.212.

by: (1) “smoke and odor from open burning dumps;” (2) “smoke, fly ash and odor resulting from incomplete combustion... including incinerators;” (3) industrial operations; and (4) pollens (NJSDoH 1955:12-13; 1958:69-75; New Jersey Air Pollution Control Commission 1957:7). Although it was widely understood that industrial activities were the main cause of air pollution in the State, the smoke resulting from open burning dumps received special attention from the very beginning because it was comparatively easier to tackle (Cowan 1955:620-622; New Jersey Air Pollution Control Commission 1957:7). The Commission held a public hearing on open burning of refuse at dumps (on May 4 of 1955) and moved quickly to regulate that practice (NJSDoH 1955:12-13). Once regulations were drafted, it held another public hearing on their contents (on November 21, 1955) (New Jersey Air Pollution Control Commission 1957:8). The Code adopted in 1956 contained the regulations concerning open burning at dumps and salvage operations, added regulations in 1958 applicable to smoke from incinerators and fuel-burning equipment, and also regulated air pollution from solid fuel combustion (NJSDoH 1958:69-70). By 1968, the code would further address the control of smoke from incinerators and the Department would heavily enforce the incinerator provisions (NJSDoH 1968:89-93).

The Code combined an expected relation between materials and people in their interactions, occupations, and behaviors, so that their practices would not result in air pollution. It defined air pollution as a threat to life and property involving:

“the presence in the outdoor atmosphere of substances in quantities which are injurious to human, plant or animal life or to property or unreasonably interfere with the comfortable enjoyment of life and property throughout the State...” (NJSDoH 1956b).

This definition involved a quantification of air pollutants, a mathematical feature that was new in defining a nuisance. By its outdoor orientation, it did not address indoor air pollution and matters of occupational health and safety, as it specifically excluded “all aspects of employer-employee relationship as to health and safety hazards.” It also specifically excluded the open burning of “plant life grown on the premises.” In addition to defining what did or did not constitute air pollution, the Code also defined the materials of refuse, a category which contained garbage, rubbish, and trade waste. These were the things of everyday life, things which fed, clothed, and comforted the human body, or which originated from indoor and outdoor natural surroundings, or which interacted with the human body in places of labor. These wasted things came from the intimate private spaces, buzzing commercial and public spaces, and workplaces where people carried their social relations and occupations. Garbage was defined as “animal and vegetable matter originating in houses, kitchens, restaurants and hotels, produce markets, etc.” Rubbish was defined as “solids not considered to be highly flammable or explosive including but not limited to rags, old clothes, leather, rubber, carpets, wood, excelsior, paper, ashes, tree branches, yard trimmings, furniture, tin cans, glass, crockery, masonry and other similar materials.” Trade waste was defined as “all solid or liquid material or rubbish resulting from construction, building operations, or the prosecution of any business, trade or industry, including, but not limited to, plastic products, cartons, paint, grease, oil and other petroleum products, chemicals cinders and other forms of solid or liquid waste material.” Salvage operations were defined as “any business, trade or industry engaged in whole or in part in salvaging or reclaiming any product or material, including, but not limited to,



metals, chemicals, shipping containers or drums.”

The Code then defined prohibited behavior by any person, a category which included “corporations, companies, associations, societies, firms, partnerships and joint companies as well as individuals...” and various governmental entities. Open burning was the target regardless of context, with one exception. It outright prohibited any person from causing, allowing, or permitting the open burning of refuse materials, from conducting a salvage operation using open burning, or from disposing refuse in a way that causes air pollution. However, the Code provided that the open burning of trade waste was allowed if there was no alternative hazard-free disposal method, as long as the person intending to conduct the open burning of trade waste filed an affidavit with the Commissioner of the Department containing various information about the person, the trade waste practice, the frequency of open burning, the location of open burning, and why no other hazard-free method was available for disposal.

Implementation of these expected relations between people, materials, fire, and spaces was always a step by step process to gain compliance (NJSDoH 1959a:91-93). The Commission recognized that the contents of the Code would have to be embodied by people, municipalities, and private sector entities working together in order for them to be implemented. The Commission viewed the Code as an assignment of personal responsibility and as creating an opportunity for people to evolve out of a primordial state of being, as it held that:

“Under the provisions of the aforementioned Code, the public is responsible for its own contribution to air pollution. The Code places upon the public an obligation to eliminate the archaic bonfire method of waste and refuse disposal. An awareness

of this responsibility on the part of New Jersey citizens and their municipalities is important in establishing the philosophy of the joint partnership of industry and the general public in attacking the air pollution problem” (New Jersey Air Pollution Control Commission 1957:9).

This quote reverberates in a new iteration the sentiments consistently expressed in the Department’s annual reports from the very beginning of its inception as the Board in the late 1800s, which often emphasized the importance of achieving cooperation among the “various bodies of the body politic” for making sanitary progress. The population is seen in terms of the public, a more political than biological entity, and it is called upon to end its dependence on the archaic “bonfire” technology of refuse disposal. But there is also in this quote a view of the public as operating in partnership with industry to solve the air pollution problem, with the Code as an instrument of the intermediary State. In this specific implementation moment, the Commission documented actions that municipalities had taken in order to comply with the Code (New Jersey Air Pollution Control Commission 1957:13). The compliance actions cited were multiple and embodied. Some practices aimed to increase the public’s appreciation of the local public works department’s important role in waste disposal. Some practices were conducted with respect to the disposal site itself. Municipalities and their employees would change the location of a dump in order to establish it as a sanitary landfill; maintain and compact the landfill with heavy equipment, such as bulldozers; and cover the landfill with a layer of soil at the end of each work day to cover the offending and pest-harboring material. There were also practices that aimed to change certain unwanted interactions between people and disposal sites. Municipalities erected barriers around garbage disposal sites to prevent unauthorized

entry by people who visited the dumps to collect materials, or to conduct illicit activities, or to just jump around in play. For example, municipalities were increasing police patrols of disposal areas:

“to prevent boys and others from shooting rats for sport, who when they tired of rat destruction (not in itself detrimental) would climax an exciting visit by starting a dump fire which caused air pollution and annoyance to the citizens, fire departments, public works departments and even neighboring municipalities for days and weeks at a time” (New Jersey Air Pollution Control Commission 1957:13).

Municipalities also altered their relations with contractors and other municipalities. At times they contracted with private garbage collectors to dispose of the garbage at disposal areas in other municipalities, which “relieved governing bodies of all responsibilities,” and at times they contracted directly with municipalities that had established incinerators for the disposal of waste at those facilities (New Jersey Air Pollution Control Commission 1957:13). In these ways, the embodiment of compliance altered human social relations and the relations between people, their garbage, and disposal spaces.

### *Open Dumping and Chapter VIII of the State Sanitary Code*

The Air Pollution Control Act in 1954 and the Code in 1956 were among the first formal interventions into the garbage disposal problem under the environmental sanitation rationality. Within the air pollution problematic, open burning of garbage at dumps and inside substandard incinerators was the target. Another major intervention followed in the form of an amendment to the State Sanitary Code to include a new chapter specifically addressing open dumping and garbage disposal. Known as Chapter VIII of the State

Sanitary Code, this chapter in 1957 declared that the “open dumping of organic and/or combustible material is an outmoded and unhealthful way of disposing of such refuse,” and clearly and unambiguously declared open dumps to be a “nuisance hazardous to human health” (NJSDoH 1957:8-9). Under Chapter VIII, open dumping was the target. The long-standing division between a common nuisance and a nuisance injurious to human health had ended with respect to the dump. In its rationale, the Department declared that open dumps “are a prolific source of rodents, insects and smoke from fires set deliberately or originating from spontaneous combustion,” thereby connecting the dump directly to smoke and air pollution, the growth in rodent and insect populations, and the continuous production of nuisances that threatened human health (NJSDoH 1957:9). Based on this understanding, Chapter VIII instituted an outright ban on the use of open dumps for the disposal of garbage and refuse. Furthermore, Chapter VIII specifically required the use of sanitary landfills or incinerators designed in a way that would not “harbor or breed rodents or insects” (NJSDoH 1957:9). The Public Health Council held a public hearing on Chapter VIII (on March 11, 1957) and moved quickly to promulgate regulations and sanitary landfill standards more than one year ahead of the Chapter's operative date set for July 1, 1958 (NJSDoH 1957:9). During that intervening period, the Department communicated directly with municipal officials to educate them on their required compliance and advise them on measures they could take in order to comply with the ban on dumps and the transition into either a sanitary landfill or an incinerator (NJSDoH 1958:10). However, in 1959 a law allowed municipalities facing a financial hardship or rural municipalities not having a refuse collection service to extend by ordinance the effective date of Chapter VIII,

subject to the Commissioner's approval (NJSDoH 1959a:83-84; 1960a:96).<sup>23</sup> While 17 municipalities applied to be granted the ability to extend the deadline, only eight were permitted to do so (NJSDoH 1960a:96).

In 1958, the contents of Chapter VIII of the State Sanitary Code consisted of two brief sections which simply banned open dumps and required instead sanitary landfills or incinerators operated in accordance with standards to be developed by the Department. It specifically excluded from the code the "disposal of family garbage or family refuse on the premises where the family resides," perhaps accommodating to the needs and geographic circumstances of rural households (NJSDoH 1959b:12; NJSDoH 1960b). The sanitary landfill standards at the time consisted of four brief sections, which simply defined a sanitary landfill; required their planning by a qualified engineer and their operation and maintenance by trained personnel; specified various requirements for their design, daily operation, and maintenance; and also completely waived these specific requirements altogether when a landfill could be designed, operated, and maintained in a vermin-free manner (NJSDoH 1959b:13-14). Under these standards, a sanitary landfill was defined as both a controlled space and a controlled process:

"Sanitary landfill means the controlled process of depositing refuse. Refuse is deposited, frequently in trenches dug specifically for that purpose, compacted thoroughly in layers of approximately one-quarter of the original refuse volume and all exposed surfaces are completely covered at the end of each day's operation with at least six (6) inches of earth. When no further refuse is to be deposited, the final cover is twenty-four (24) inches of earth fill having such composition that it will support equipment and not shrink and crack open when dry. Equipment used is that

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<sup>23</sup> P.L.1959, c.20.

which will properly perform the necessary digging, compacting, and covering” (NJSDoH 1959b:13).

By 1970, Chapter VIII consisted of ten sections, comprising not only these prohibitions and requirements, but also more specific operator registration requirements, landfill design standards, general and specific operational standards, and provisions concerning disrupted landfills, burning landfills, closure and changes in ownership, and periodic reporting (NJSDoH 1970). It is here that a solid waste disposal site is straightforwardly described as a business. Persons engaged in solid waste disposal were required to file a registration statement, containing personal information, the business location, information on proprietors and partners, the names of those having administrative responsibilities, a description of the type of business and the solid waste types being handled, a specification of who would receive orders served from the Commissioner, and the types of collection, storage, or other systems the operator used while handling the solid waste. In addition to requiring the registration of operators, Chapter VIII established more specific spatial and design standards applicable to the landfill space. In terms of its design, a landfill space must be designed by a professional engineer. The plan would be submitted to the Department for approval, including a “plot plan, topographical, geological and hydrological maps of the site and surrounding areas, filling procedures, proposed final elevation of the fill, and detailed drawings of any dikes, berms or other pollution protection devices as may be necessary” (NJSDoH 1970). The plan would also be evaluated for compliance with local land use ordinances and, if the landfill would be located near streams or flood plains, would require a permit from the State Department of Conservation and

### Economic Development.

The operational standards for landfills were both general and specific. Under the general standards, an operating face of the landfill could not be wider than 150 feet, and an individual compacted layer could not be deeper than 12 feet, and both of these attributes would have to be designed so that heavy trucks, bulldozers, vehicles, and other heavy equipment could operate properly. There were grading, slope, drainage, and distance-from-water requirements. Various kinds of heavy machinery for “digging, spreading, compacting, and/or covering” were required, and backup equipment must be on-hand in case of a breakdown (NJSDoH 1970). After each working day the operator must cover the landfill with a layer of inert material that must be 6 inches deep. Under no circumstances could solid waste be left uncovered for longer than 3 days. If not more disposal was planned for a while within 6 months, then the cover would have to be 12 inches deep along all faces of the landfill. Movable fencing or other technology was required to prevent the wind from spreading materials outside of the landfill space. Similarly, measures had to be in place to control dust, fires, and rodents and insects. Spraying the landfill with water was typically acceptable to control dust and fires, while rodenticides and insecticides could be used to kill vermin populations. When no more garbage was to be disposed at the landfill, a 24-inch final cover of inert material must be spread along all faces of the landfill.

Additional standards were specific in nature, addressing the disposal at the landfill of sewage sludge and other fecal material, bulky items such as “junk automobiles, household appliances, demolition material, tree parts, etc.,” and hazardous or chemical waste (NJSDoH 1970). The specific guidelines concerning raw or untreated sewage sludge

and other feces prohibited the disposal of that material in “direct or indirect contact with surface or ground waters of this State or near any river, stream or tributary leading into a river or stream which is a source of potable water...” and prohibited its disposal in a landfill located in “tide water, swamp, or marsh land” that could lead to water pollution (NJSDoH 1970). But Chapter VIII allowed for the disposal of raw or untreated sewage sludge and fecal material in landfills, as long as the material was not “lagooned” there (NJSDoH 1970). Instead, the material was to be “immediately and thoroughly mixed with garbage and refuse to attain maximum absorption” (NJSDoH 1970). If at any time the material was found to leach out of the landfill, disposal of raw sewage sludge and feces was to be immediately stopped.

In addition to sewage and feces, landfills were allowed to dispose of bulky waste. That waste was to be crushed using heavy equipment so that it would not stick out of the landfill surface. Landfills could also accept hazardous and chemical waste, but not radioactive materials. Chapter VIII outlined the responsibilities of shippers, haulers, and receivers of hazardous and chemical waste. Shippers, who were the waste producers, were required to include with the shipment a “bill of lading” and a label on the container or drum to indicate the nature of the waste and the process to follow for its safe handling and proper disposal in order to comply with federal regulations (NJSDoH 1970). These documents included “appropriate warning notations” and other information, such as whether the waste was “flammable liquid, or flammable solid, or spontaneously combustible, or dangerous when wet, or oxidizing agent, or organic peroxide, or poison, or acid, or caustic, or non-hazardous, or emitting a noxious odor, etc.” (NJSDoH 1970). Haulers, who were truckers



or carriers of the waste and transported it to the disposal site, were required to comply with State laws regulating the transportation of dangerous articles on the State's roads and highways. Receivers included the operators of landfills, chemical incinerators, recovery, or treatment sites, who were required to comply with all applicable State laws.

Chapter VIII also specified regulations for “disrupted” and “smoking, smoldering or burning” landfills (NJSDoH 1970). A disrupted landfill was either an open or dormant landfill undergoing excavation for any purpose, including the removal of deposited materials. Before any disruption could begin, the operator was required to submit a plan for the Commissioner’s approval, including measures for controlling “dust, odors, fires, rodents, insects, and blowing litter” and ensuring that a proper cover was applied to the landfill at the end of the disruption (NJSDoH 1970). Municipalities also had to approve the disruption activities. The code also specified that the operator was answerable to the governing body of the municipality in the event a landfill began to smolder, produce smoke, or burn. The local fire department could be called-upon for assistance, but fire-fighting equipment had to be available and always at the ready and on site.

Under Chapter VIII, the Department could not grant a permit to run a landfill operation to any person who could not meet all of the standards and requirements. While under the nuisance rationality anybody with some land could operate a dump, under the environmental sanitation rationality the requirements for land area, site engineering and topography, equipment, maintenance, and closure were such that only those with sufficient land, equipment, and know-how could operate a landfill properly. In its annual reports, it is evident that the Department recognized that a significant level of know-how and

expertise was necessary to operate a landfill and that there was a need to develop this kind of expertise at the local level. It remarked that key components of a successful landfill operation included “Land, equipment, trained labor, and an understanding of sanitary landfill requirements” (NJSDoH 1963:107). Part of the successful transition from open dumps to sanitary landfills therefore involved the training and development of expertise not only to design the landfills, but also to properly collect, dispose, and manage the garbage and rubbish on site using heavy equipment and following the required specific daily practices and procedures to the letter. To develop expertise, the Division partnered with entities such as Rutgers University and the New Jersey State Municipal Contractors Association, and rewarded and recognized advanced expertise by issuing certificates which reflected a trained person’s bona fides and entitled the holder to membership in the Society of Solid Waste Technicians (NJSDoH 1963:107; 1964:90). Suddenly, the garbage disposal trade was professionalized, and the activity of disposing refuse had all the elements of a sophisticated production operation: land, labor, capital, equipment, and expertise, all regulated by the State.

#### *Inspections, Surveillance, and Stages of Landfill Progress*

The requirements to stop open burning and open dumping, and to transition New Jersey's population from dumps to sanitary landfills to alleviate air pollution and eliminate vermin populations and other nuisances injurious to the public health, were spread geographically through working with the Department’s Division of Local Health Services at four regional districts. The environmental sanitation and local health divisions worked

closely with local boards of health to eliminate open burning and to promote the use of sanitary landfills instead of open dumps (NJSDoH 1956a:181). The local implementation program involved inspections, investigations, and advisory actions concerning local dumps across the State (NJSDoH 1956a:188, 207, 211, 229; 1957:192, 211, 230, 243; 1958:181, 200, 223, 240). The Department noted that “Much of what has been accomplished in air pollution control has been through conference, conciliation, and persuasion” (NJSDoH 1960a:109). Surveillance through direct inspections and complaints from the public would reveal non-compliance. Concerning open burning alone, the Department reported in 1958 that more than 1,960 air pollution investigations were made, with about 34% of these involving open burning at municipal dumps and 23% at salvage operations (NJSDoH 1958:71). In 1959, the Department reported that 400 municipal, commercial, and industrial air pollution code violators were cited, and that to date about 1,120 such citations for violations had been made (NJSDoH 1959a:91). Each year, the Department continued to conduct inspections and cited non-compliant municipalities and private entities with a violation. In 1960, the violations amounted to 475, and by then constituted 1,595 total citations for violations issued since the ban on open burning at dumps and other locations became effective (NJSDoH 1960a:108-109). Compliance sometimes necessitated more forceful legal or administrative action to be taken by local and State institutions. For example, some open dumps were being subject to legal action by the New Jersey Attorney General, sometimes at the request of the Department (NJSDoH 1955:143; 1958:201; 1960a:97; 1961:101). On other occasions, the Department took action to enforce the laws in order to abate the practice of open dumping and regulate the manner of raising swine

(NJSDoH 1956a:144; NJSDoH 1958:148).

The outright ban on open dumps certainly was a strong incentive for municipalities to adopt the sanitary landfill method, which began to become more popular in the State during the early 1950s. In 1953, the Department noted that seven sanitary landfill operations had been instituted in the State, with nine additional sites in progress, to serve an increasing percentage of the State's population (NJSDoH 1953:15, 113-114). By 1960, 141 sanitary landfills were in operation, used by 294 municipalities containing 54% of the State's population, with the rest of the municipalities (about 256) using landfills not necessarily "sanitary" (NJSDoH 1960a:101). Compliance was achieved mainly through a system of conferences, persuasion, surveys, inspections, and ratings. The Department advocated for, developed, and implemented a "rating system" by which dumps being converted into sanitary landfills were given a score, charting in that way the progress made in their evolution from dump to sanitary landfill (NJSDoH 1961:101; 1962:122). The rating system was an implementation tool used by the Department in getting compliance, stating that:

"Progressive improvement in the proper operation of a refuse disposal area is being made through an educational process of rating refuse disposal areas. The use of the rating method measures the transitional stages of a refuse disposal area from a dump to a landfill and ultimately to a sanitary landfill operation with a high rating. Use of a rating system has stepped up progress in sanitary landfill development. Refuse disposal areas are progressively improved by frequent inspection and appropriate field conferences on the site" (NJSDoH 1961:101-102).

The Department also surveyed refuse disposal areas and tabulated such data to create a more State-wide picture of the garbage disposal landscape. In 1962, these surveys allowed the Department to know the total number and location of disposal areas (396); how

many of these were operated by municipalities (215) or by private entities (181); how many municipalities did not have a refuse disposal area (307); how many incinerators were in use (13); and how many municipal (59) and private (71) disposal areas had been closed (NJSDoH 1962:122; see also survey results at 1963:107; 1964:89-90; 1965:103). The disposal area rating system allowed the Department to state that 70% of the disposal areas were ranked in the upper quartile of the rating system, and therefore received satisfactory rankings (NJSDoH 1962:122). Surveys also allowed the Division to estimate how much refuse was being produced in the State, in 1966 citing that New Jersey residents each day produced about 12,600 tons of refuse from households and about 7,500 tons from commercial and industrial processes (NJSDoH 1966:123). In subsequent years, surveys would also evaluate disposal conditions in each municipality using standardized forms to increase uniformity in the evaluation process (NJSDoH 1967:78).

### *Disappearing Dumps and Incinerators*

That the environmental sanitation sub-rationality targeted the space of the dump as a hazard to human health cannot be understated. This means that the focus of governmental intervention was to end the undesirable effects of dumps by instituting in their place a different disposal technology that performed comparatively better with respects to those effects. This also means that whatever shortcomings the sanitary landfill or the incinerator had were to be left for addressing in the future. Smoke from burning garbage at dumps and explosions of rat and other vermin populations were hazards now recognized to harm human health, and the dump was a source of spreading hazards. Much of the governmental

effort therefore focused on highlighting both open burning and open dumping of garbage as archaic practices, and elevating the controlled dumping and burning done at sanitary landfills and incinerators as advanced practices and technologies that could eliminate these hazards and take the population from prehistory into the future. Disposal sites and processes were targeted and new practices were to be instituted.

The Department's discursive and promotional effort to elevate the controlled dumping at sanitary landfills above open dumping and the controlled burning at incinerators above open burning is well evinced in its 1959 publication titled "In New Jersey, Open Dumps Are Disappearing," which sought to showcase and differentiate sanitary landfills and incinerators from open dumps (NJSDoH 1959a:84; 1959b). This publication sought to create a sharp contrast between these archaic and modern technologies with some definitions, focusing on the dump as a backward and harmful place when compared to the sophisticated and advanced technologies of the sanitary landfill and the incinerator. Dumps were represented as spaces dangerous to the public health, emitting smoke from fires set either by humans or from spontaneous combustion. A dump was also a "smelly, unhealthful eyesore. It propagates rats, flies, and mosquitoes capable of transmitting certain diseases to humans" (NJSDoH 1959b:i). In contrast, sanitary landfills where garbage and rubbish were compacted and covered daily with dirt were held to be safe, despite the fact that sanitary landfills were permitted to contain not only garbage, but also sewage, hazardous materials, pesticides, and rodenticides, which were permitted to be mixed together with the regular household refuse. Nonetheless, the publication held that when conducted properly:

“the sanitary landfill has none of the unhealthful characteristics of the open dump. There are no smelly fires, no open cans to catch rainwater and encourage mosquito breeding, no fly breeding, no food or safe harborage for rats or other vermin. When it is covered and well maintained, all that has gone into it is safely disposed of and out of sight” (NJSDoH 1959b:i).

Incinerators were described as “a device for burning material under cover. It produces smoke and leaves an ash residue that requires disposal” (NJSDoH 1959b:i). In this publication, open dumping and open burning were despicable and archaic, while garbage and rubbish that are covered and compacted or burned under cover were out of sight, away from human senses, and a sign of sanitary progress.

The publication also documented various data on the transition from dumps to sanitary landfills and incinerators. It reported on the growth of sanitary landfills in the State, the decline in the use of incineration technology because the facilities built thus far were more expensive than landfills and also could not comply with the new air pollution standards, the municipalities using such disposal technologies, the percentage of the population served by these disposal methods, the general costs of landfill disposal operations, and the municipalities with disposal sites, including a Statewide map of those locations by county (NJSDoH 1959b:1-11). The circular also attempted to educate municipal governments on why they must adopt the sanitary landfill technology, emphasizing in a persuasive manner that “open dumps cost more than one would guess!” when considering the damage to equipment due to improper compaction, the need for constant monitoring to prevent clandestine dumping by unauthorized persons, the negative impact on property values (while a sanitary landfill would eventually become a ratable in the form of a “park, parking area, ball field, etc.”), the need to have adequate equipment

and resources to stop intermittent fires at dumps, and the fines sure to result from enforcement of current laws and codes banning open dumps and open burning (NJSDoH 1959b:10-11). The problem of dumps or improperly maintained landfills causing fires, either set on purpose or emerging from spontaneous combustion, which could burn for months, was well cited in various Department reports (NJSDoH 1963:108; 1966:123). The publication also replicated in their entirety the pertinent provisions of Chapter VIII of the State Sanitary Code, the Standards for the Design, Operation and Maintenance of Sanitary Landfills, and Incinerators, and the provisions of Chapter II of the New Jersey Air Pollution Control Code which banned open burning at dumps (NJSDoH 1959b:12-15).

The contrast between archaic and modern disposal technologies made at the beginning of the report was repeated at the end of the report, “in the final analysis,” now including contrasting pictures. The photo of the dump site is headlined with the caption “Do you want THIS?” and followed by a paragraph that states:

“Can’t you almost smell this one? Note the decaying vegetation, attractive to rats and flies. Note the empty tin cans which catch rain water to foster breeding of mosquitoes. Note the papers, boxes, and wood which add up to a combustible, long-burning, unhealthful mess” (NJSDoH 1959b:16).

On the page opposite to the dump picture is a picture of a sanitary landfill, and readers are asked to contrast it with the dump, with a heading that continues the heading for the dump with the final question “...or THIS?.” The sanitary landfill picture shows a heavy piece of machinery compacting the garbage deposited in a trench and covering it with a fresh layer of dirt. Next to the area still to be covered is an area freshly covered where no garbage or rubbish can be seen. The words accompanying the picture highlight the sanitary landfill as



a site of economic and development promise, where the mess goes underground and remains unseen and gone, and as a place where heavy equipment heroically triumphs over rats:

“This is a well maintained sanitary landfill. It is also a reclamation project. Note the compacted garbage in process of being covered. Other garbage in parallel trenches has already been covered and is out of sight. There is no open, decaying vegetable matter to attract rats and flies. Any rats deposited in early deliveries of garbage are killed by compaction. Because of compaction, there are no open tin cans to catch rain water and thus propagate mosquitoes. The flattened papers and boxes will be covered with earth before anybody can set them on fire. At nightfall, there is no open dump, no smells, no smoke, no unsightly mess. The landfill operation provides a means of filling in the large hole seen in the photograph and eventually bringing it to a level to make it suitable for some purpose having economic or social benefits” (NJSDoH 1959b:17).

The drive to evolve New Jersey’s population away from the “archaic bonfire method of refuse disposal” was decidedly landfill-centered (New Jersey Air Pollution Control Commission 1957:9). In contrast to the meteoric rise of sanitary landfills, the trajectory of incinerators headed in the opposite direction. In 1958, the Department reported that the number of municipal waste incinerators was declining, and that there were only 16 of them serving 17 municipalities, or about 15% of the State’s population (NJSDoH 1958:130). By 1966, only 9 municipal garbage incinerators were operating out of 38 once constructed in the State (NJSDoH 1966:124). The decline in the use of incinerators was attributed to a combination of factors, including that they could not meet air pollution control standards, and that incinerators that could meet those standards were likely out of financial reach by most municipalities. By comparison, it was cheaper to establish sanitary landfills. Therefore, incinerators were disappearing together with open dumps.

*Disappearing Raw Garbage-feeding Hog Farms*

In the effort to transition the State's population from dumps to sanitary landfills, there were also practices that people undertook with respect to garbage that also were bound to be discredited, labeled crude, and proven dangerous to the public health, and therefore done away with. Most notably, the practice of farmers feeding raw garbage to swine was to be heavily regulated and eventually banned all together under the environmental sanitation rationality. In that case, garbage itself was understood as a hazard that carried animal disease to healthy swine and people. The way people consumed and disposed of pig meat in their biological and their commercial relations which connected country and city was understood as a centrifuge that spread disease precisely through the garbage and its travels from swine farm, to city, and back to swine farm.

Just like the open dump, the practice of feeding raw garbage to swine in New Jersey was also disappearing by the 1960s, particularly following an outright ban on such feeding unless the garbage was cooked for a certain length of time at a very high temperature. Several outbreaks of swine diseases in the United States over the years since the early 1900s were understood over time to either be caused by the swine consuming contaminated garbage, or at least were strongly suspected to be connected to the raw garbage. One such disease during the 1930s was vesicular exanthema (VE). Several outbreaks of this disease had been reported across the United States during the 1950s, causing the federal government to require quarantines, commerce restrictions, and destruction of infected animal herds, and leading the vast majority of states in the United States to institute bans against the feeding of raw garbage to swine by the mid-1950s. Although VE affected only

pigs, an outbreak of disease was seen as a threat to the cattle and dairy industries because, in its early stages, it was difficult to distinguish it from foot-and-mouth disease which could spread to cattle and wreak economic havoc.

In this process of dispossessing garbage-feeder hog farmers from a resource they had relied on for economically feeding their herds, the farmers argued their position in contention with the State's cattle and dairy farmers and the New Jersey Veterinary Medical Association. In their 1954 testimony to the New Jersey State Legislature's Assembly Committee on Agriculture, Conservation and Economic Development, garbage-feeding pig farmers from various parts of New Jersey and representatives of the cattle and dairy industries argued their respective positions (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954). The pig raisers opposed a ban on raw garbage feeding, mainly citing that links between the garbage and VE outbreaks were still uncertain, the expense of the equipment and operation required to cook the garbage to a high temperature, and even concerns about whether the pigs would want to eat the mush that resulted from boiling (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:16-22). They also cited that the requirements would impose a burden on municipalities that relied heavily on the farmer's collection of garbage as, for example, in Cape May County "several of our beach cities do not have tank trucks and personnel for collecting garbage and do not have land on which to bury garbage if not able to sell collected garbage to a feeder able to cook it" (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:32-33). In their view, these requirements would make pig raising

economically unsustainable, even though the link between raw garbage and VE disease was not solidly established.

But an economic argument was also made by the cattlemen and dairymen in favor of the requirements for cooking the garbage. They mainly argued that the threat of just not knowing early on whether a presumed outbreak of VE was in fact an outbreak of foot-and-mouth disease would wipe out their entire industry (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:6). They cited that, in dollars, the swine industry in the State was only 8% of the dollar value of the cattle and dairy industries (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:25-26). They also argued that the United States Bureau of Animal Industry had already established the connection between disease and garbage in its publication “Raw Garbage Spreads Animal Diseases,” that other states had already instituted garbage cooking requirements to protect both pig and cattle farmers, and that New Jersey should follow suit (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:27-31).

The Secretary of the New Jersey Veterinary Medical Association weighed in favor of instituting the garbage cooking requirements to protect the public and all farm animals and the respective industries, citing a spatial mechanism for the spread of disease in which infected pig meat meandered from infected farm, to city, and back to other garbage-feeding farms, thereby spreading infection asunder (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:34-42). The Secretary unequivocally declared that VE spreads “...through the feeding of raw garbage and through

unorderly movements of infected or exposed swine and through other channels...” (34) in that during the early stages of disease “affected swine may have been sold and slaughtered and scraps of meat from the affected swine returned in raw garbage to be fed to swine in entirely different areas to set up new centers of infection” (35). He advocated for a preventive approach by boiling the garbage, stating that:

“...the practice of feeding raw garbage in itself is one of the most perfect methods that could be devised for the spread of foot and mouth or any disease affecting swine. Thousands of tons of garbage containing meat scraps fan out all over our country from all of our cities daily. Thus the danger is twofold – vesicular exanthema being visibly a perfect copy of the dreaded foot and mouth disease, and raw garbage containing meat scraps the perfect disseminator of either vesicular exanthema or foot and mouth disease” (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:36).

The Secretary’s authoritative testimony therefore described as a centrifuge for the spread of disease the cycle of commercial activity that involved a farmer feeding raw garbage to his swine herds, the farmer selling and the consumer buying pig meat, the city dweller’s discard of that meat into the garbage pail, and a farmer’s collection of that garbage for feeding it to swine herds. He used two maps to bolster his spatial diffusion argument. One map showed a connection between the incidence and spread of VE disease in the United States and the practice of raw garbage feeding from 1952 to 1954, and the other map showed disease-free areas following the institution of quarantines and garbage cooking requirements (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:36). Although at other times the Secretary allowed for other possible means of cross-contamination and spread of disease, and although he acknowledged that garbage cooking alone would not eradicate VE completely, he

supported the institution of requirements to cook the garbage as a “big step forward in interrupting its transmission” (New Jersey General Assembly, Committee on Agriculture, Conservation and Economic Development 1954:38). In 1957, the New Jersey State Legislature did just that. By law, after January 1 of 1958, it became unlawful to conduct a garbage-feeding hog farm operation without a license.<sup>24</sup> To obtain that license, a hog farmer would be required to obtain the equipment necessary to heat the garbage to a temperature high enough to kill any organisms it may contain. The license would cost \$10 each year, and the farmer would be required to agree to annual inspections to ensure the presence of the necessary equipment for garbage cooking and other sanitary conditions. There was also a system of complaints, hearings, and penalties, including a farmer's punishment of imprisonment for a period of time at a county jail for the failure to pay a fine. A committee of five hog farmers would be set up to periodically advise the Department of Agriculture on matters of concern to the swine industry. Municipalities retained their power to regulate garbage-feeding hog farms as long as they did so in a manner consistent with the law, and could ban a garbage-feeding hog farm all together and also prevent the importation of garbage to such a hog farm.

### *Remnants*

At the end of it all, the environmental sanitation rationality ushered in a reshuffling of human social relations with respect to garbage in its attempt to change certain practices

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<sup>24</sup> P.L.1957, c.140.

of handling the garbage. The environmental sanitation rationality focused on disposal spaces and practices. Through the air pollution and sanitary codes, the open burning and open dumping of refuse were targeted. Through those codes, and their embodiment by people, the State sought to eradicate archaic methods that humans had used for ages to manage and control refuse accumulations. But burning and dumping could still occur, as long as this was done within the controlled and regulated spaces of a properly-designed sanitary landfill or incinerator. The smoke from burning refuse, and the rats, flies, mosquitoes, and other vermin and insect populations which fed, housed, and reproduced at the dumps and spread from them were the nuisances to be targeted and eliminated. For similar reasons of preventing the spread of disease, the practice of feeding raw-garbage to swine was banned. Farmers would now have to cook the garbage at high temperature before using it to produce meat by feeding it to their pigs. Municipalities were to close their dumps and transition them into sanitary landfills or incinerators, thereby moving the population from uncontrolled burning and dumping to controlled versions of those practices elevated from prehistory by fancier technology. Furthermore, the disposal space could later be reclaimed into productive development as a park, housing, retail, or other site.

But this elevation of the sanitary landfill site as the hallmark of progress soon faced its own blemishes and contradictions. There was first the problem of local control. The establishment of sanitary landfills was still under the control of municipal governments, which fragmented garbage disposal planning in the State. Compounding this patchwork was that the establishment of sanitary landfill design, operation, and maintenance standards created economic effects which transformed the regulated and controlled sanitary landfill

space into a limited resource. While some municipalities did not have a landfill for so-called aesthetic reasons, some did not have one because there was no space, or because they could not afford to establish one as the landfill operational and maintenance costs could not be sustained by the local population's wealth or level of refuse production (Somerset County Planning Board 1966). As the in-State permitted landfill space was becoming a limited resource, municipalities which did have a sanitary landfill were banning others from disposing refuse in it because the municipalities understood their own landfill space as a precious limited resource which should be preserved for municipal residents (Somerset County Planning Board 1966:6; Rutgers University Bureau of Government Research and University Extension Division 1969:15). In some parts of the State, there were also undesirable behaviors by some operators in the garbage collection and disposal trades, which sought to profit from garbage collection and disposal activities by establishing captive markets for themselves using anti-competitive and even criminal practices. In addition, the idea that just burying, mixing, and compacting garbage, rubbish, sewage, hazardous waste, pesticides, and rodenticides in a sanitary landfill protected the health, safety, and welfare of the population was itself problematic and called into question. The environmental sanitation rationality would soon become inadequate and would lead to new crises and an iteration in governmental thinking and action about refuse governmental management which brings us to current times.

By 1968, the desire to begin to institute some kind of regional refuse management planning emerged as an overtly cited goal, especially at the county level and driven by data, projections, and forecasts concerning garbage production volumes and the life span of



authorized disposal sites (NJSDoH 1968:119; 1970). Some counties had already begun to study the issue of garbage collection and disposal using their planning commissions (Camden County Planning Board 1953; Somerset County Planning Board 1966). A Statewide plan for garbage governmental management was in the works as early as 1969, including surveys of disposal operations, production levels, tons of waste produced, types of wastes produced, flows of wastes as determined by their origin and final disposal destination, and also an evaluation of the “rate at which current landfills are being expended” (NJSDoH 1969:40). A new rationality of garbage governmental management was emerging, but it was not until 1970 that the State began to name, treat, and understand the garbage problem as an “environmental” problem. This was a transformation in thinking marked not only by the State's transference of central regulatory authority over garbage governmental management from the Department of Health to the newly-created New Jersey Department of Environmental Protection (NJDEP), but also by its regulation of garbage and its social relations within more sophisticated scientific, economic, and financial systems.

### **3.4 Environment**

The era of environmentalism brought about the State's implementation of a new police power rationality to govern garbage in New Jersey which took hold during the 1970s. In that year, the New Jersey Department of Environmental Protection (NJDEP) was

established as a new department of State government.<sup>25</sup> It became responsible for developing:

“comprehensive policies for the conservation of the natural resources of the State, the promotion of environmental protection and the prevention of pollution of the environment of the State.”<sup>26</sup>

This centralization of State functions under the banner of environmentalism combined new and old understandings. The NJDEP absorbed various powers, duties, and functions that historically had been agricultural, natural resource conservation, development, and air, water, and public health protection functions performed by other departments, commissions, or councils, and which were now to be understood as environmental functions. But what was distinct about the environmental rationality was a much greater emphasis on highly technical approaches considered to be more environmentally protective, and the measuring of the impacts of pollution on the water, air, and land resources of the State using scientific data and methods.

The NJDEP became responsible for the aspects of the State’s regulation and control of garbage collection and disposal activities and sites previously under the purview of the Department of Health. Under the environmental approach to refuse disposal, protecting the air, water, and land became a goal in its own right, in addition to their protection being a means for protecting the population’s health, safety, and welfare. In this context, the sanitary landfills and incinerators of the past were no longer adequate, and new standards

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<sup>25</sup> See the “Department of Environmental Protection Act of 1970,” P.L.1970, c.33 (C.13:1B-71 et al.).

<sup>26</sup> See N.J.S.A.13:1D-9.

and technologies would be instituted in their place. For example, during the 1970s the regulations governing solid waste management grew to include definitions of “environmental impact statement,” “impermeable liner,” “leachate,” and “resource recovery facility.”<sup>27</sup> Within the imperatives of environmental protection, a sanitary landfill which merely contained and covered garbage, sewage, and hazardous waste was not sufficiently protective, because it left pollutants able to leak into the air or percolate through the soil and run off outside of the landfill to contaminate the air, land, and water, thereby potentially threatening the human body. New landfill facilities would be required to install gas and ground water monitoring systems, and would have to conduct baseline and then annual assessments measuring a range of pollutants from Arsenic to Zinc.<sup>28</sup> Similarly, an incinerator that burned garbage was no longer environmentally protective. An incinerator would now be evaluated in terms of whether or not it met the air pollution control standards,

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<sup>27</sup> See N.J.A.C.7:26-1.4 (1977-78).

Environmental impact statements would typically be required for new solid waste facilities. An “environmental impact statement” was defined as “a statement as to the probable impact of the proposed solid waste facility upon the air quality, water quality, water supply, hydrology, geology, soils, topography, vegetation wildlife, aquatic organisms, ecology, demographic conditions, land use, aesthetics, history and archaeology; a listing of adverse environmental impacts which cannot be avoided; a description of the steps to be taken to minimize adverse environmental impacts during construction and operation both at the project site and in the surrounding region; a listing of alternatives to all or any part of the project with reasons for their acceptability or nonacceptability; and a reference list of pertinent published information relating to the project, the project site, and the surrounding region.”

New high-tech landfills would have to be specially lined. An “impermeable liner” was “a layer of natural and/or man-made material of sufficient thickness, density and composition so as to have a maximum permeability for water of 10+ 7cm/sec at the maximum anticipated hydrostatic pressure.”

Contaminated liquids would have to be kept from leaving a landfill. “Leachate” was defined as a “liquid that has been in contact with solid waste and contains dissolved or suspended materials from that solid waste.”

Now disposal facilities would be called resource recovery facility under certain circumstances. A “resource recovery facility” was defined as “any place, equipment, device, or plant designed and/or operated to separate or process solid or liquid waste into usable secondary materials, including fuel and energy.

<sup>28</sup> See N.J.A.C.7:26-2.5 (1977-78).

how efficiently and effectively it burned garbage, and whether it was capable of producing fuel or energy. Incinerators were now called resource recovery facilities or RRFs, even though they still produced a toxic ash residue that had to be disposed of at a landfill.

The requirement to adopt incinerators that produced energy was closely related to the desired decentralization of energy production precipitated by the energy crisis of the 1970s. The oil embargo imposed on the United States in 1973 by the Organization of Arab Petroleum Exporting Countries (OAPEC) led to fuel shortages and an increase in oil prices. In this context of an energy crisis, the concept of waste-to-energy and the technologies to accomplish it gained ascendancy (Pellow 2004: 47-48). Waste-to-energy facilities were to be located in areas of high energy demand that would readily constitute a market for energy (Port Authority of New York and New Jersey 1978; Essex County Office of the County Executive 1979).

As the 1970s environmentalism became a way of understanding the garbage problem, the State's formal governmental approach to garbage was framed in terms of a "garbage crisis" of increasing solid waste volumes produced by New Jersey's population and of decreasing sanitary landfill space. As a solution to the garbage crisis, the State sought under the environmental rationality to eliminate the disposal patchwork at the municipal level by regionalizing garbage collection and disposal activities. It did so by requiring each of the State's 21 counties and the Hackensack Meadowlands District to establish a high-tech and massive garbage disposal facility, and requiring the garbage generated by the population within each county or district to be flowed to the facilities within the same county or district. The high-tech and massive garbage disposal

technologies preferred under the environmental rationality, which could process the garbage of an entire regional district, were a key difference between the environmental rationality and the nuisance and environmental sanitation rationalities that came before. The favoring of these technologies partly stems from the emerging concern for the environment itself as an entity that must be protected from pollution.

But something else was coupled with the environmental rationality which perhaps emerged due precisely to the reliance on high-tech and massive garbage disposal technologies to achieve the desired level of environmental protection. The favored garbage disposal technologies were very expensive in and of themselves. To go along with them and accomplish regionalization, a constellation of garbage transfer stations was also required to be established in order to achieve efficiencies in the transportation of garbage from the municipality where it was generated to the final disposal site within the county or district (or to out-of-State facilities). In order to ensure the construction and profitable operation of these transfer and disposal facilities, the State immersed the environmental systems fully within economic rationalities and processes. In this economic context, garbage became essential to the facilities, and the State's orchestration of its movements and flows and the commercial relations that came with that became a focus of the governmental effort. The State sought to modify existing relations among residents, municipalities, counties, and garbage collection and disposal companies by reconfiguring them and their garbage into new spatial and economic flows, processes, and spaces. This was accomplished through the regionalization of garbage disposal around the high-tech facilities and the specification of commercial and market relations among residents,

municipalities, counties, and garbage collection and disposal companies.

The aims of environmentalism, when they failed to question the production of garbage in the first place by instead relying on high-tech, massive, and expensive technologies with which to destroy it, led to inherent contradictions between the environmental protection rationale and the systems and infrastructures that were favored under its logic. The environmental protection goals were subverted by the economic rationalities within which they were immersed. The garbage crisis was itself brought about by problems that emerged from the environmental sanitation rationality's production of the permitted, regulated, and controlled sanitary landfill space as the only solution to increasing quantities of garbage. One of these problems was that by the 1970s, the production of the sanitary landfill space as the proper and only location for garbage disposal resulted in this space being viewed and treated as a limited resource. At the same time, garbage itself became a coveted material. With increasing quantities of garbage being produced by the State's population and limited sanitary landfill spaces, municipalities with sanitary landfills began to hoard that space. Collection, and at times disposal, companies sought control of the material by establishing and enforcing property rights to collect the garbage, sometimes with the help of organized crime entities. Garbage became a commodity no longer having use value, but having commercial value within the established economic, financial, and infrastructural systems and processes. While garbage became essential for feeding the facilities, for keeping them running at optimal capacity, and for guaranteeing the revenues the facilities depended on for profit and for paying the public debt that had been incurred to construct them, specific conducts by municipalities and

garbage collection and disposal companies had to be modified to conform them to the desired economic and commercial relations through which the new environmental rationality would be achieved.

This section discusses the State's approach to establishing these technologies, which begins with problematic conducts by municipalities and garbage collection and disposal companies. These conducts were addressed by eliminating the fragmented disposal approach to garbage governmental management at the municipal scale, and the attempts to tamp down on the anti-competitive and sometimes criminal conduct of garbage collection and disposal companies. The State's approach materialized in 1970 under the banner of environmentalism through the passage of the Solid Waste Management Act and the Solid Waste Utility Control Act. Each county or district was mandated to become a solid waste management district, establish the high-tech transfer and disposal facilities, and comply with waste flow directives that sought to guarantee the costs incurred to construct the facilities by guaranteeing the flow of garbage to the facilities. In the aftermath of flow control, after the United States Supreme Court eliminated it as a violation to the free market commerce in garbage, waste flow arrangements continued as “voluntary” agreements between municipalities and counties.

In the end, the ways in which infrastructures were favored and constructed led to a reshuffling of the relations among residents in each garbage management district. Although not clearly spelling out their role in formal laws and codes, other than to say that residents had a right to participate in public hearings, this flow control policy relied on the residents of each county or district as producers of garbage, payers of collection and disposal fees,

and financial backers of the billions of dollars in public debt incurred to construct the transfer and disposal facilities. These residents were also bifurcated into two kinds of related groups of people: those who could send their garbage to the designated facility within the district were beneficiaries of greater environmental quality, and those who ended up with a facility located in their neighborhood were burdened by the negative environmental, economic, and quality of life effects of having to live with a facility that received everyone else's garbage. The flow control policy established and magnified conditions of environmental injustice in communities that ended up as the locations of regional facilities. Environmental injustice conditions were developed by establishing reciprocal relations among residents of sending and receiving communities.

#### *Problematic Conduct by Municipalities*

The State's targeting the conduct of municipalities with respect to garbage governmental management was not new. As this chapter has discussed, municipalities had been targets of formal State interventions into the garbage problem for quite some time. In the early 1970s, municipalities still retained the ability to plan for and make important decisions concerning garbage collection and disposal activities within their boundaries. With respect to collection, municipalities could decide what kind of garbage collection service they would provide to their residents, either municipal (through the municipality's public works department), municipal contract (by contracting with a private collector), or private collection (leaving it to each household to directly contract with a collection service of their choice). A few municipalities offered none of these collection options, and residents



would drop off their garbage at a disposal site themselves. Municipalities could also permit or forbid certain other persons from engaging in garbage collection, such as farmers seeking to pick up slops for their swine herds, and scavengers seeking to collect materials for use or further sale. With respect to disposal, municipalities for quite some time had a designated lot, farm, open dump, or eventually a sanitary landfill within their boundaries on which garbage was deposited. If not, municipalities would contract with another municipality to accept their garbage or simply turn a blind eye to the final disposal site chosen by the private collector, as long as the garbage was disposed of outside of municipal boundaries. Municipalities located along the ocean, rivers, or other waterways, for some time permitted the dumping of garbage in the water. Some municipalities also had, at some point or another, a fancier disposal technology such as an incinerator or utilization plant. However, when open dumps and dumping were banned and incinerator standards were established by the State through formal laws and codes under the sanitary rationality, sanitary landfills designed and operated in compliance with the State's standards became the primary disposal method in the State.

But under the environmental rationality, the municipality's centrality for making some of these important governmental decisions was significantly challenged. Various conducts at the local level were of concern to the State authorities. With respect to collection, reputable studies by commissions and State government entities found that there was no uniformity among the State's 567 municipalities concerning the requirements imposed on garbage contractors with respect to bidding criteria, performance bonding, and permit fees (New Jersey State Commission of Investigation 1969; Rutgers University

Bureau of Government Research and University Extension Division 1969). The municipal bidding and bonding process for garbage collection services was fraught with incompetence and inefficiencies, and many municipalities often received only one bid for the contract, raising the prospect of collusive bidding practices. By 1969 some municipalities had complained to State authorities that contractors were indiscriminately increasing the price for collection services, in egregious cases by as much as 80% (Rutgers University Bureau of Government Research and University Extension Division 1969). With respect to disposal, municipalities with a sanitary landfill were increasingly seeking to “conserve” that resource for their own residents. Even if a contract was in place to dispose at another municipality's sanitary landfill, it was uncertain just how long that arrangement would last. The Somerset County Planning Board summarized this problem in its study evaluating the solid waste disposal problem in that county:

“At this time the domestic solid waste of more than 55 per cent of the County's population is exported to disposal sites in neighboring counties. However, residents of Somerset County cannot expect to have other counties indefinitely continue to be the recipients of Somerset's refuse; especially considering the growing trend for municipalities in this state to bar, through ordinances, other communities from disposing of solid waste within the confines of their borders. A contributing factor to this enlarging prohibition undoubtedly is the realization by a municipality, ‘fortunate enough’ to have its own disposal site, that it had better conserve this site for the current and future use of its own inhabitants” (Somerset County Planning Board 1966:6).

This behavior was a kind of hoarding of the properly permitted and regulated sanitary landfill space which, with the progressive elimination of other disposal methods, became a limited resource. The days of freely dumping on wetlands, oceans, and city dumps, or openly burning the trash or feeding raw garbage to hogs without fear of being

found out were over, leaving only the sanitary landfill space as a sink for garbage. This did not eliminate illicit dumping, but it did eliminate the uncontrolled dumping that had been part of municipal refuse disposal up to that point. While sanitary landfills were being conserved and hoarded, data gathered by various reputable State and county study commissions documented the rapid growth of solid waste volumes produced by the State's population. This information was paired with analyses of the "life expectancy" or "useful life" of sanitary landfills in the State, leading to the framing of the garbage problem as an impending disposal crisis due to the "disposal gap" (County and Municipal Government Study Commission 1972). Overall, the State found the municipal scale of decision-making in all of these aspects to be a messy, fragmented system for garbage collection and disposal that was unsustainable in the long term. Under the environmental rationality, the State sought to address these inefficiencies and fragmentation at the municipal level by regionalizing garbage disposal at the county level and by directing the flow of garbage generated within each county to designated county facilities (NJSDoH Division of Clean Air and Water 1970; County and Municipal Government Study Commission 1972).

#### *Problematic Conduct by Garbage Collection and Disposal Companies*

The State also sought to address the behavior of garbage collection and disposal companies. Like municipalities, garbage collection and disposal companies had also been the targets of governmental intervention for various reasons. Up to this point, formal governmental efforts to affect the behavior of these companies could be categorized under requirements for prevention of nuisances, contracting, and professionalization. As

discussed in this chapter, State entities and municipal governments alike have historically derided the private garbage collector as someone who acted in his own self-interest and who provided an inferior service when compared to a municipal department of public works. For quite some time, much formal governmental effort was expended to either institute public works departments in each municipality or, as a less desirable alternative, to contract with a private collector by having that person sign a contract containing all of the personnel, service, performance, and pricing specifications. Disposal for some time was an afterthought, and it was only when nuisances began to be unsustainable that more attention was paid to the selection of disposal sites and technologies by a municipality. However, during the years approaching the 1970s, what the State considered to be undesirable behavior by certain collection and disposal companies grew to include anti-competitive and, in some cases, criminal activity in the garbage collection and disposal trades. This threatened the State's smooth orchestration of garbage commerce and economic calculations now understood as necessary for environmentally-protective and regional collection and disposal planning. Various reputable State institutions identified two main areas of undesirable behavior by entities in the garbage collection and disposal trades. One area was the establishment of rights to collect the garbage among members of collection trade associations or unions. A second area was the involvement in various ways of members of prominent La Cosa Nostra organized crime families in certain garbage collection activities. Behaviors in both of these areas resulted in negative market effects that the State found undesirable, including lack of choices and high prices for consumers of collection and disposal services and the erection of artificial barriers for new collection

companies seeking to enter the market.

The establishment of “property rights” to the garbage by certain collectors became a problem that, in the State’s view, distorted the garbage collection and disposal economy. Several reputable entities had conducted studies of this practice in the garbage collection trade, including the New Jersey State Commission of Investigation (NJSCI). The NJSCI summarized its findings in “A Report Relating to the Garbage Industry of New Jersey” in 1969. In that report, and in subsequent follow-up reports over the years, the NJSCI found that certain trade associations or unions of garbage collectors in the State operated under a property rights allocation ethic in which specific garbage collectors who were association members were entitled to collect the garbage at specific sites or locations within specific service areas or territories (NJSCI 1969:4). This ethic was written within the association’s bylaws, and it was applied among collectors with respect to commercial, industrial, municipal, and individual residential contracts (NJSCI 1969:4; 1989:3, 23). If a collector attempted to move into another’s collection area or site to collect the garbage from those customers, the trade association or associations would conduct an arbitration process to settle the disagreement among the competing collectors. In those disputes, whomever could show having serviced the site first, using an invoice or other document, was entitled to service the site. If a collector retired or closed his business, he was entitled to sell his customer list to a new collector, and was entitled to charge the new collector a fee in an amount representing a multiple of the monthly garbage collection fee charged to the customer. The trade association could impose penalties on any member who violated the property rights rule.

The involvement of members of La Cosa Nostra in aspects of the State's garbage economy was related to the property rights allocation ethic of collector trade associations, but its involvement eventually grew beyond that. In its 1969 report, and in subsequent reports over the years, the NJSCI found that members "of the New York-based Genovese/Gigante and Gambino/Gotti crime organizations have assisted solid waste haulers – for a fee – to maintain illicit property rights agreements" through coercion, threats of violence, and at times murder (NJSCI 1989a:3; see also Reuter 1993). While initially the so-called garbage mobsters brokered property rights disputes among certain members of collector trade associations, their involvement eventually grew beyond that role. In 1969, their role was somewhat limited and pertained "almost exclusively to the commercial collection of garbage from factories and businesses rather than to the collection of garbage from homes" (NJSCI 1969:5; 1989a:3-10). Arbitration meetings of certain collector trade associations were often conducted in a restaurant setting. When necessary, disputes were brokered using the threat of violence. In several occasions, such disputes devolved into actual murders. Eventually, the involvement of organized crime elements transcended the settling of disputes through intimidation and violence, and included the entry of La Cosa Nostra members or associates as landowners, investors, consultants, business brokers, or providers of equipment to certain garbage collection and recycling companies (NJSCI 2011:1-7). Today, the NJSCI has found that members or associates continue to derive great profits from the work of companies they have legally established by proxy in the construction, demolition, and hazardous waste sectors of the industry, and especially in waste recycling (NJSCI 2011).

In 1969 these behaviors, whether the property rights allocation ethic or the involvement of organized crime entities in certain sectors of the garbage collection trade, became problematic for the State because of the multiple undesirable effects on the economics of solid waste collection and disposal the State sought to direct. There were documented undesirable effects for municipalities, customers, and collection businesses seeking to enter the market (NJSCI 1969, 1989a, 2011; Reuter 1993). For example, evincing the existence of a property rights or customer allocation ethic, municipalities (those without a municipal public works department) seeking to contract for garbage collection services often received only one bid in response to their request for proposals. For individual customers (whether home owners or businesses), the property rights ethic effectively removed a customer's ability to solicit offers from multiple garbage collection services in order to compare among the companies and select better prices for services, and at times subjected the customer to price gouging. Finally, for new garbage collection companies, the property rights ethic that was enshrined within the trade association bylaws effectively erected an artificial barrier to market entry. These bylaws provided that new companies could become part of the association only upon the approval of a vast majority of the current members and, once a member, the new entrant would have to abide by the property rights ethic. The involvement of organized crime groups in certain sectors of the industry casted a shadow over the entire industry, and this had both real and imagined effects that made customers afraid to challenge garbage collectors for better service or pricing, regardless of whether the customer was a municipality, business, or individual home owner. New companies seeking to enter the garbage collection market would think

twice about convincing a customer to drop their existing garbage service, as retaliation for this kind of behavior had included arson of the new company's garbage trucks, beatings of the company's employees, and even murder of the company's owner. Although the NJSCI's focus was on garbage collection and not so much on disposal, it also found that certain private garbage disposal site operators routinely offered special disposal pricing to members of certain trade associations, and therefore applied their disposal rates unevenly among their customers.

The State found this situation untenable and counterproductive to effective and efficient garbage collection and disposal planning, and it could not simply look away from anticompetitive and criminal behavior which affected both customers and new companies. In its 1969 report, the NJSCI recommended to the Legislature the enactment of laws to eradicate the property rights ethic that had been embraced by the State's garbage collection associations, including their ability to allocate amongst their members specific service areas or locations and to set their collection rates. The NJSCI also recommended laws to require the State (to the exclusion of municipalities) to license all waste collectors in the State, and to prohibit solid waste disposal companies from discriminating among their users by either price or availability (NJSCI 1969:6-7).

The Legislature responded in 1970 by enacting the Solid Waste Management Act and the Solid Waste Utility Control Act, along with an anti-trust statute that prohibited restraints of trade. But these laws were not just a response to the NJSCI's report. These laws attempted to end the municipal-level fragmentation of garbage governmental management by requiring a regional planning approach. This involved the State



establishing control of the garbage flows in order to secure, through the garbage and the fees paid to dispose it, the financing of the desired high-tech, massive, and expensive disposal facilities and technologies now considered to be more environmentally protective. This approach was described as simultaneously regulating both the environmental and economic aspects of garbage collection and disposal planning.

*Environment and the Solid Waste Management Act of 1970*

The fragmented nature of municipal scale planning was addressed through requirements in the “Solid Waste Management Act (1970)” (SWMA).<sup>29</sup> This law was predicated on the police power rationality of protecting the health, safety, and welfare of New Jersey’s population, but its role as a vehicle for State intervention into garbage governmental management was framed by “the current solid waste crisis.”<sup>30</sup> That crisis was to be addressed through the law by strongly regulating the solid waste collection, disposal, and utilization activities of private service providers, but key to addressing the crisis was first encouraging and later mandating an end to the municipally-based systems of garbage governmental management in favor of geographically broader State, regional, county, or inter-county systems. The language in the law evinces a sharper categorization of waste and activities. This law for the first time uses the term “solid waste,” which becomes a catch-all for the previously-used categories of “garbage” and “refuse” and now contains them. The activities of “collection” and “disposal” are separately defined

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<sup>29</sup> P.L.1970, c.39 (C.13:1E-1 et seq.).

<sup>30</sup> See N.J.S.A.13:1E-2.

categories of garbage management, and the multiple human activities that generate solid waste are categorized separately as industrial, commercial, agricultural, domestic, and community origins. The SWMA empowered the NJDEP to supervise collection and disposal activities for compliance with environmental regulations, and to require the service providers or operators to register with the State. In granting a registration, the NJDEP was to consider whether these services or facilities conformed to the State, regional, county, or inter-county plans. The department would also conduct research on best practices for solid waste collection, disposal, and utilization; develop a Statewide solid waste management plan and be involved in developing the regional, county, and inter-county plans; and could also acquire property and establish solid waste management facilities for demonstration and research purposes. The SWMA also created an Advisory Council on Solid Waste Management to study solid waste programs and advise the NJDEP Commissioner on ways to improve those programs, and to conduct public hearings on the legal and regulatory frameworks and on the promise and limitations of cutting-edge solid waste management technologies. The NJDEP was also empowered to impose monetary penalties and settle claims with violators or non-compliant garbage collection or disposal companies.

Under these 1970 SWMA provisions, the State, municipalities, and counties were prompted to somehow come together to devise solid waste management plans at a regional, county, or inter-county scale. However, as early as 1975 it became clear that municipalities and counties were not going to come together voluntarily to decide how garbage was going to be disposed of beyond a fragmented municipal model. The SWMA was amended in 1975

to actually require such cooperation among municipalities and counties in order to accomplish regionalization. The law now mandated each of the State's 21 counties and the Hackensack Meadowlands District to become a solid waste management district. The Hackensack Meadowland district had already been operating as such for some time, with the municipalities within that district dumping their garbage at designated landfills that filled the area's wetlands. The municipalities in each district and the county would develop a solid waste management plan that included an analysis of the solid waste stream generated within the district, projections of the amounts of solid waste to be generated in the future, an inventory and life expectancy analysis of solid waste disposal and transfer facilities within the district, and the collection and transportation systems and routes currently used. Each district was also required to establish certain solid waste facilities, specifically an incinerator, or a landfill, and various transfer stations that would route and handle the garbage produced by the municipalities within each district. To finance these high-tech, massive, and expensive regional facilities, counties would issue public sector bonds. Under each solid waste management plan, the municipalities within each county or district would be required to enter into long term contracts on which they guaranteed the garbage produced by its residents for service or disposal at the designated transfer and disposal facilities within each district. The NJDEP had the power to establish waste flow directives that told each municipality and garbage collection company which specific waste transfer and disposal facilities they were required to use.

The SWMA requirements, especially following the 1975 regionalization mandates, therefore significantly altered the scale of formal decision-making concerning garbage

governmental management from a municipality-based system to a county-based or regional system. In doing so, the State modified the nature of the existing relations between municipalities, counties, private sector collection and disposal companies, and bondholders. It also very explicitly included in the law the residents of each delineated solid waste management district as persons entitled to voice their concerns and provide input on the solid waste management plan at required public hearings. But what the law did not have to explicitly state was the inclusion of these residents into the solid waste management system as garbage producers, payers of garbage service fees and backers of bonds, and as either impacted or non-impacted persons with respect to the negative environmental impacts of the facilities depending on the final transfer and disposal sites selected within each county through what was bound to be a contentious and conflict-ridden facility siting process. With respect to garbage collection and disposal companies, the State sought to achieve their proper registration, supervision, and control by the NJDEP for environmental protection purposes, with their registration contingent upon their compliance with the department's environmental protection regulations. The State would play a regulatory and supervisory role, would have the power to approve each district plan and, if rejecting a plan, to approve a plan on behalf of a district that would be binding on that district, and would also act as arbiter of disputes among districts. The NJDEP also retained the ability to use the public health infrastructure of the NJSDoH and local boards of health to investigate complaints at solid waste facilities and inspect these facilities for compliance with the environmental laws.

But these provisions were only half of the effort to regulate garbage collection and

disposal. The other half of that effort had to do with establishing the State's ability to intervene to secure the financial and economic foundations of the solid waste management systems by establishing predictable rates for garbage collection and disposal services.

*Economy and the Solid Waste Utility Control Act of 1970*

The problematic conducts of certain solid waste management companies and other economic aspects of solid waste management were attempted to be addressed in part by the "Solid Waste Utility Control Act of 1970" (SWUCA),<sup>31</sup> which was the companion legislation to the SWMA. These two legislative measures moved together through the legislative process and were passed in immediately sequential order. This was not a coincidence, but rather a reflection of the fact that the State sought to regulate simultaneously the various actors in solid waste governmental management in an economic manner. The SWUCA was predicated under the same police power rationality as the SWMA, but it expressly sought to regulate what it considered to be the "economic aspects of solid waste collection, disposal and utilization service" by establishing certain requirements applicable to companies, services areas, and rates.<sup>32</sup> Under the SWUCA, solid waste collection and disposal services were to be defined and regulated as "public utilities," which meant that the New Jersey Public Utility Commission and its Board of Public Utilities (NJBPU) would be empowered to supervise and regulate those services and the "property, property rights, equipment, facilities and franchises" of garbage collection and

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<sup>31</sup> P.L.1970, c.40 (C.48:13A-1 et al.).

<sup>32</sup> See N.J.S.A.48:13A-2.

disposal companies.<sup>33</sup>

The regulation of solid waste collection and disposal activities as public utilities was considered to be a curious and novel concept. At the time, public utilities was a category which included various kinds of services to the public that were subject to natural or geographic constraints or limitations, such as the movement of people or goods through railroads, subways, buses, canals, and pipelines, and also the provision of gas, electricity, heat, power, water, oil, sewer, and telephone or telegraph services.<sup>34</sup> Experts on public utilities argued that these were traditionally considered to be natural monopolies, and that solid waste collection and disposal did not fit this category. Nonetheless, it seems that by treating solid waste as a solid waste stream the State strategically imbued it with natural properties which gave the NJBPU various tools at its disposal to intervene into that stream. By treating solid waste as a public utility, the NJBPU required a garbage collection or disposal company to obtain a “certificate of public convenience and necessity;” could set geographic service areas for garbage collection and disposal; and could set prices or rates for such services. A certificate of public utility was like a license to operate or to provide the service. A solid waste collection or disposal company was now required to apply to the NJBPU for a certificate, which was contingent upon that company’s proper experience, training, or education to conduct the business, having sufficient proof of financial responsibility, and having registered with the NJDEP for environmental regulation. The NJBPU could also designate franchise areas, which were geographic areas within which a

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<sup>33</sup> See N.J.S.A.48:2-13.

<sup>34</sup> See N.J.S.A.48:2-13.

garbage collector or disposal company was permitted to operate. Finally, the NJBPU could also establish maximum rates or prices the companies could charge their customers for the garbage collection or disposal service in those franchise areas, which were to be specified in tariffs or contracts and to be filed with the commission. To enforce compliance, the NJBPU was empowered to request from a garbage collection or disposal company proof of compliance with the established rates. The law also required operators or service providers to post a performance bond, and expressly prohibited operators or service providers from establishing monopolies in collection or disposal. The NJBPU was empowered to request records and conduct proceedings, levy penalties, and suspend or revoke a certificate for non-compliance. The SWUCA also established imprisonment terms for violators.

*Counties, Contractors, Commerce, and Communities*

Following the passage of the SWMA, and especially the 1975 requirements in that law mandating each county to become a solid waste management district containing a high-tech, massive, and expensive disposal facility, counties began to issue their solid waste management plans (see, for example, Bergen County Board of Chosen Freeholders 1979; Essex County Office of the County Executive 1979; Middlesex County Board of Chosen Freeholders 1979; Morris County Board of Chosen Freeholders 1979; Ocean County Board of Chosen Freeholders 1975). Each plan generally assessed what each municipality in each county was doing with respect to solid waste production, collection, and disposal. This included data documenting the amounts of waste produced by each municipality's

residents, the composition of that waste, and estimates of future production. It also included the kinds of collection services offered, which could be municipal public works, municipal contract, private household contract, or self-service when residents directly delivered their waste to a disposal site. In terms of disposal, plans included the types of disposal technology used by each municipality, whether these facilities were located inside or outside of the county, and the estimated life expectancy of the facilities. Reports often also included historical information, such as the previous disposal of garbage at a local dump or at a farm for feeding to swine. Finally, each plan specified the kind of technology that would be adopted in the county to fulfill the requirement for a regional facility that would handle the waste of the entire county. Several county reports outlined various options, such as a regional landfill or an incinerator, now called a resource recovery facility or RRF. Reports also often cited the desire to institute programs for “source separation” or recycling, which had already been done by some municipalities by ordinance. Mandatory recycling would not come to pass in New Jersey until the 1980s.

What is new about this kind of planning is the discussion of garbage as a “waste stream” and the further fragmentation of it for study and for handling into materials of different composition, whether that be glass, paper, food waste, metals, and other materials. This knowledge of the waste composition was necessary in order to comply with environmentally protective imperatives. But these imperatives were still within commercial and market logics. Recycling, and incineration with resource recovery, were both discussed as needing to be thought about in relation to markets, as these markets were seen as determinants of the disposal technology that was to be put in place. There were also



in these plans a discussion of the potential sites and communities where the facilities could be placed. Some discussed the need to optimize the site selection for distance, topography, and other attributes to minimize costs. And yet others made a case for locating the facilities in urban areas as a redevelopment tool for distressed communities, and as an optimal location for recycling and energy markets. In either case, communities would be given the opportunity to voice their concerns in public hearings. Furthermore, municipalities selected for disposal sites would be given a package of “host community benefits” which could include free or reduced fees for garbage disposal, facility payments to the municipalities, or both.

As required by the law, regional landfills were eventually established in 13 counties or solid waste management districts, incinerators or RRFs were established in 5 counties, and dozens of transfer stations were established throughout the State (NJDEP 2006:A-5, F-1). Counties incurred almost 2 billion dollars in public debt to construct these facilities, and depended on the tipping fees generated from waste disposal in order to pay these public bonds (NJDEP 2006:F-1). However, the facilities themselves were operated by private companies. The waste flow directives aimed to guarantee the flow of garbage to the facilities, but contractors did not like them. Although the NJBPU had been empowered to establish franchise areas for designated collectors, it did not use that power and instead continued to allow collectors to retain their own service areas. The NJBPU focused, instead, on establishing collection and disposal rates, along with working with the NJDEP to establish the waste flow directives. But enforcement was a challenge from the beginning, as some contractors found creative ways to avoid compliance with the tariffs and the waste

flow orders. Because customers did not know that collectors were supposed to comply with NJBPU tariffs, collectors charged their customers more than they were entitled to (NJSCI 1989:35-36). Collectors also increased their profits by avoiding the waste flow orders. A practice involved collecting different kinds of garbage from multiple sites in multiple counties, and then using a transfer station or disposal facility in a way that yielded a cheaper disposal cost, pocketing the difference between the service fee charged to a customer and the disposal or tipping fee paid at the transfer or disposal facility, which was sometimes out of State (NJSCI 1989:37-44). Also from the beginning, in certain counties, the amount of waste that had been expected to be generated for certain facilities from the waste flow directives was less than projected. Some contractors argued that this was due to increasing rates of recycling and not their own creative waste sorting and mixing practices.

Contractors were eventually successful in challenging the mandated flow of waste. The flow control policy was invalidated in the late 1990s by the United States Supreme Court.<sup>35</sup> The mandated flow of waste to designated facilities was found to be a violation of the Commerce Clause of the United States Constitution, and was seen as a barrier to the free-market commerce in garbage (NJDEP 2006: F1-F2; McCauliff 1995; Stickney 1995). But the solid waste transfer and disposal facilities and the public debt that had been incurred to construct them were left intact. The counties have been mired in debt as the facilities are unable to institute competitive disposal rates and generate the revenues necessary to pay

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<sup>35</sup> See *C&A Carbone v. Town of Clarkstown, New York, and the United States District Court for the District of New Jersey's ruling in the case of Atlantic Coast Demolition and Recycling, Inc., et al., v. Board of Chosen Freeholders of Atlantic County, et al.*

the publicly financed bonds that were issued (see Rao, 2010a, 2010b, for an instance of crisis concerning the Pollution Control Financing Authority of Camden County and its inability to make a \$25 million scheduled bond payment on its own). The State has had to give grants to certain counties to pay for these bonds when they periodically become due.

For communities, the impacts of flow control involve a bifurcation of the State's population into sending districts and disposal districts, with differing levels of environmental protection. Communities have been brought into a set of social relations that we today call environmental injustice. The environmental rationality of the 1970s with respect to garbage governmental management in the State unleashed a conflict among the State's residents, within each county or district, concerning where the final disposal sites would be located. In the formal law, communities were inscribed as being entitled to voice their concerns about these decisions in public hearings. Communities that ended up with the facilities would also be entitled to a set of "host community benefits" that could be in the form of payments to the municipality, a free or reduced garbage disposal service, or both. However, what the law did not have to say was the production of these residents as economic subjects under the flow control law and the co-articulation of these residents into a relation of environmental injustice. Residents were not only producers of garbage, but also the payers of collection and disposal fees, the backers of the public debt that had been incurred to construct the facilities, and either beneficiaries of greater environmental quality or recipients of the negative environmental impacts and stigma associated with having a massive garbage management facility in their neighborhood. During the 1970s implementation of the flow control policy and in the years that followed, residents would

fight their inscription as garbage governmental subjects through social movement strategies.

### **3.5 Conclusion**

This chapter examined the evolution of formal intervention by municipal and State government entities into the garbage problem in New Jersey from the 1870s through the 1970s to examine their implication in producing modern day patterns of environmental injustice. The goal of this chapter was to trace how these governmental approaches changed over time by examining the specific governmental rationalities or problem definitions, tools and technologies, governmental subjects, practices, spaces, and political-economic concerns that characterized each governmental effort. Through the police power governmental rationality, and the evolving rationalities of nuisance, environmental sanitation, and environment, governmental interventions sought to eliminate, perpetuate, or newly institute social and environmental relations among the population with respect to garbage. But while each rationality and wave of governmental effort had its own characteristics, they all had in common a failure to question the production of garbage in the first place, thereby making each wave of governmental effort one of primarily garbage transfer and disposal, rather than reduction. From this failure, specific sets of human social relations, and relations between people, garbage, and their environments, were produced within each rationality. One wave of the effort led to the other, and by the 1970s one of the characteristics of the environmental rationality is the immersion of garbage collection and disposal activities within complex financial and economic systems and processes that could

destroy and handle the garbage from an entire producer district. In this context, more garbage, not less, was desired as garbage became the resource that feeds the high-tech, massive, and expensive disposal facilities and guarantees their operational and financial survival. This feature represents a perversion of the environmental protection goals, which highlights how garbage has come to be defined as a commodity that has value only in the context of free market commerce. Economy rather than environment characterizes this condition. Another perversion of the environmental protection goals is how its approach to garbage as a disposal problem bifurcates the population into protected and impacted communities. Conditions of environmental injustice are produced, magnified, and sustained as an intrinsic part of this kind of governmental intervention and the social and environmental relations it promotes.

## **Chapter 4**

### **Environmental Injustice in the Ironbound**

The Ironbound neighborhood has a population of about 30,000 people and comprises the East Ward of Newark. For years the Ironbound has been an enclave for Portuguese immigrants and a community where working class families of diverse ethnic backgrounds could afford to live. Immigrants from Portugal, Spain, and other European countries, African Americans, and Hispanic residents with heritage from various Latin American countries have settled in the Ironbound. The neighborhood's ethnic and cultural diversity is on display along Ferry Street, the main commercial thoroughfare, extending from the Newark Pennsylvania Station up to the northernmost parts of the Ironbound. Past Peter Francisco Park along Ferry Street are some of the most characteristic businesses that distinguish the Ironbound from other Newark neighborhoods. Restaurants serving Portuguese and Spanish dishes are accompanied by Mexican, Brazilian, and other Latin American food establishments. The Portuguese imports store Portugalia and several bakeries like Teixeira's stand out among other commercial establishments. From the intersection of Ferry Street and Wilson Avenue, where the majestic St. Stephan's Church rises, begin the comparatively less invested and more industrial parts of the Ironbound. Near the intersection of Ferry and Raymond Boulevard is the part of the neighborhood known as the Island Area, where the garbage incinerator is located on Blanchard Street. In this part of the neighborhood, bordered by the Passaic River, public and private housing and a few commercial establishments exist along with old abandoned industrial sites,

current facilities, and the convergence of a weave of major roads, highways, and railroad tracks.

The governmental approaches to garbage we have over time implemented in the State of New Jersey, which took the form of the flow control policy since the 1970s, directly impact the Ironbound neighborhood. The garbage incinerator in this community receives garbage from Essex County and other jurisdictions in the region, most of its garbage coming from New York City. The proposal and efforts to locate the incinerator in the Ironbound unleashed strong community opposition during the 1980s, and the Ironbound residents were a key part of the Statewide social movement opposing the incinerators. In their opposition, the Ironbound residents also became key participants in the budding environmental justice movement.

The Ironbound's story illustrates the struggle of communities fighting for environmental justice. This chapter first provides a general outline of the multiple environmental burdens that affect this community. It then discusses how the proposal to locate the incinerator in the Ironbound unfolded as the neighborhood was being targeted as the site for three other major detrimental facilities, and as it sought the cleanup of contaminated sites and protection from the negative impacts of the airport and the port. It then discusses how the Ironbound residents organized as the Ironbound Committee Against Toxic Wastes (ICATW) to demand governmental protection from environmental assault and to hold corporate polluters accountable. The fight against the incinerator illustrates how community opposition involved both social movement strategies of protest and formal participation in the public hearings required through the formal facility siting process. As

the formal process failed to protect them and yielded governmental approval for the facility, the community has continued to oppose the facility and maintains its vigilance, recently achieving an agreement from the incinerator company to install better pollution control technology.

This chapter argues the conditions of environmental injustice in the Ironbound cannot be explained solely by the visible conflict and outcome of the facility location process, but must be understood as the product of the governmental approaches to garbage which we have collectively implemented and internalized over time, which today are reflected in the elements of the flow control policy. As was the case with the previous garbage governmentalities that preceded its implementation, the flow control policy accepted the production of garbage by the state's population as a given and did not challenge it. Instead, it relied on establishing the incinerator facilities that would serve entire regions. As with the previous governmentalities, this effort incorporated a spatial component, a new version of the traditional designation of clean versus disposal spaces. It necessitated the selection of sites for the facilities and neighborhoods to put them in. Now, the members of the population would be brought into a set of relations among themselves and their garbage which relied heavily on complex economic systems in order to finance these facilities. Guaranteed tonnage of garbage for the incinerator became such an element, along with the financing and bonding of the infrastructure, all of which are founded on the household economy and budget. At the same time, the perpetuation of environmental injustice conditions in the Ironbound through the disposal of garbage at the incinerator facility through mundane, day-to-day life practices, reflects an ethical challenge.



#### **4.1 Ironbound's Multiple Environmental Burdens**

The Ironbound is in many ways a classic case of environmental injustice, where low income or people of color populations live, work, and play in an environment contaminated with pollution. Across the generations, residents have encountered both a legacy of environmental burdens and the continued targeting of their neighborhood for new environmentally degrading facilities. Bordered by the Passaic River, residents face the challenges of living in a historically flood-prone area. Industrial activities have left behind contaminated sites. The neighborhood is also bordered and crossed by major roads, highways, and railroad tracks. The community is impacted by airplanes arriving at and departing from Newark International Airport. It bears the burden of thousands of trucks each year going to the Port of Newark or, if a garbage truck, to the garbage incinerator. As if these impacts were not enough, the community constantly advocates for the cleanup of contaminated sites and works to prevent the location of additional polluting facilities. Over the years, the location of detrimental facilities near homes has been of great concern to the residents. All of these factors lead to multiple environmental burdens simultaneously affecting the Ironbound residents' quality of life. The basic elements of water, land, and air have been polluted.

Water contamination in the Ironbound is exemplified by the Passaic River. The Passaic used to be a resource for the community. People could swim in the river and catch fish and shellfish for their own consumption. But the river became a dumping site for industries such as the Diamond Shamrock facility on Lister Avenue, which manufactured

Agent Orange for use during the Viet Nam War. At the bottom of the river are pollutants such as dioxin from that factory, which have rendered the river and its water unsafe for human recreation and consumption. The USEPA declared the Newark portion of the Passaic a Superfund Site. Cleanup is currently underway. But until cleanup is completed the river is an environmental hazard. People who continue to fish in the Passaic River are warned about the dangers of consuming the fish, which are contaminated by heavy metals and chemicals. Also, because of the water contamination, flooding events become more dangerous to the residents. During Hurricane Sandy, the river flooded various parts of the Ironbound, bringing into people's homes not only water but also the pollutants from the river and from other contaminated sites on land which were carried as runoff by the flood waters.

Land contamination is exemplified by the patchwork of contaminated sites left behind in the neighborhood from the various kinds of facilities and manufacturing practices that once existed in the Ironbound. When dioxin was discovered at the Diamond Shamrock site during the 1980s, further testing of the surrounding area revealed that the chemical had migrated off the site, likely on the wheels of trucks that spread the contaminated soil and dust along nearby residential streets. Other industrial activities in the Ironbound became threats to the residents' health, safety, and welfare. Ironbound warehouses and abandoned industrial properties became sites for the rampant illegal storage and dumping of hazardous waste, often exploding, catching fire, or leaking onto the land and sewer system (Ironbound Voices 1981a, 1981b, 1983b; Kruszewski 1983; Cifrodella 1983; McManus 1983). A number of sites where hazardous wastes had been stored or dumped were of great concern

to the community, which brought these issues to the attention of the local and State governmental authorities, and especially to the fire department that had to respond in the event of an explosion or fire (Ironbound Voices 1981d). For example, in 1981, 12 sites of high priority for cleanup were identified in Newark by the Mayor's Task Force on Hazardous Waste. Of these, 9 sites were located in the Ironbound near residential areas or in the Port of Newark area which borders the community. These sites included Tress Chemicals on Ferry Street, Breyer's Surplus on Raymond Boulevard, Conrail on Frontage Road which was storing 3M Corporation chemicals, Newark Stamp and Dye on McCarter Highway, All County Environmental Services Corporation on Christie Street, Conrail on Hawkins Street, Albert Steel Drum on Avenue L, Scientific Chemical Processing on Wilson Avenue, and an abandoned warehouse on Port Street (Hoffman and Cohen 1981). An explosion occurred at the site of a Texaco facility, which broke the windows of St. Alloysius school during a weekend when, luckily, no children were present. Another chemical company, McKesson, also exploded. On Thomas Street there was a warehouse where corporate owners had illegally stored thousands of drums of toxic waste. The same story of explosions and the illegal storage of hazardous waste repeated itself in other parts of the neighborhood. Residents feared not whether, but when, the next explosion or chemical release would occur.

Air contamination is exemplified by the emissions released from industrial and transportation activities. The legacy of contaminated waters and lands combines in the Ironbound with the continued quality of life impacts of the transportation and commercial infrastructure which contributes to air pollution. The New Jersey Turnpike, Routes 1 and

9, Newark International Airport, the Port of Newark, and the railroad infrastructure surround the Ironbound. Airplane noise, emissions, and other effects from the airport, seaport, and road traffic have been problems significantly affecting the community's quality of life. The problem of airplane noise has been particularly aggravating, as there were times when residents living along the flight path heard and felt an airplane flying above their homes every two to five minutes, with the noise disturbing the peace and quiet at home. The trucks release a daily load of tail pipe emissions which pollute the air. Ironbound residents suffer from high rates of asthma and other respiratory illnesses.

As if these sources of water, land, and air pollution, and their burdens on the local community were not enough, the Ironbound has been continuously targeted by corporate and government entities as the location of choice for new polluting facilities. Counting only since 1980, these proposed facilities have included a hazardous waste incinerator at sea, another hazardous waste incinerator on land, a sewage incinerator complex, and the garbage incinerator (Cartwright 1982). The hazardous waste incinerator was to be located on a ship off the coast operated by At-Sea Incineration, Inc. The proposed incinerator would have received hazardous waste from other states in the Northeast region and parts of Canada, which would have been transported to the area by trucks and perhaps also by rail and then stored on Doremus Avenue in Port of Newark until loaded to the incinerator ship for burning beyond 100 miles off shore (Cohen and Cartwright 1980; Ironbound Voices 1980d, 1980f, 1981e). In addition to the proposal at sea, another hazardous waste incinerator was proposed to be located on land on Lister Avenue and operated by the SCA Chemical Services corporation. The company already had permission to store and process

hazardous waste at that location, but it was seeking to expand the facility to store more barrels of waste and to incinerate that waste on site (Cohen 1980e). This location was near the farmers' market and homes consisting of 70 single family residences and 200 public housing residential units, and people in the neighborhood worried about the kinds of hazardous waste to be stored and burned at that location and the greater truck traffic and increased potential for accidents and exposure (Ironbound Voices 1981g).

It is in the context of these multiple and simultaneous environmental burdens that the proposal to establish the garbage incinerator unfolds in the Ironbound. The garbage incinerator proposed under the State of New Jersey's flow control policy as required by law, and implemented by the state and Essex County, the Port Authority of New York and New Jersey, and American Ref-Fuel corporation, later Covanta Energy, was eventually established on Blanchard Street. This proposal and the multiple environmental burdens affecting the community propelled its residents to form various groups to advocate for the environmental cleanup of their neighborhood and the protection of their health, safety, and welfare. They also rose to oppose their continued targeting for additional polluting facilities. These efforts to achieve a better quality of life position the Ironbound as a key part of the nascent environmental justice movement in the 1980s.

#### **4.2 Environmental Justice Activism and the Ironbound Committee Against Toxic Wastes**

Environmental activism in the Ironbound took many forms. Residents affected by airplane noise organized under the Ironbound Community Health Project. During the

1980s, community residents demanded that the Federal Aviation Administration protect their community by maintaining noise control standards and requiring the airplanes at Newark Airport to reroute their flights so that they would not fly over people's homes (Ironbound Voices 1980a, 1980e; Cohen 1980a, 1980c). Residents also routinely met with Newark Airport and Port Authority of New York and New Jersey officials to try to ameliorate the airplane noise by securing a different flight path for planes. These meetings were part of a long-term effort which also included other actions and demonstrations. After periods of missed deadlines by the federal and local authorities, Ironbound residents undertook various actions in protest, which included a release of small balloons, a slow caravan drive at one of the airport terminals, and a concert of Christmas carols at one of the airport gates (Ironbound Voices 1980b, 1981b; Cohen 1980b, 1980d).

Other residents seeking protection from the pollution created by nearby industries or by illegally stored hazardous waste organized as distinct groups bearing the name of their street, like the Thomas and Delancey streets associations. They demanded that industries minimize the noise, air pollution, and land contamination their practices created, and put pressure on local and NJDEP inspectors to address these harmful practices (Ironbound Voices 1980c, 1982g, 1982i, 1982j). Residents took various actions to get the city and state authorities to protect them from the dangers to health and safety that chemicals posed, putting pressure on these authorities to enforce environmental laws and regulations and raising questions about the responsibilities of companies to pay for the cleanup costs (Hoffman 1981). During the 1970s and 80s, residents also fought rezoning proposals that would have made their neighborhood even more industrial and amenable to additional

polluting land uses, and which threatened their ability to hold on to their homes (Ironbound Voices 1981k). There were also tenant rights groups, occupational health and labor groups, senior citizen clubs, and peace movement organizations, among other collectivities emerging in the Ironbound.

During the 1980s, the community organized to more directly and holistically demand their protection from pollution. Confronted with a legacy of polluting facilities and contaminated sites, and the continued targeting of their neighborhood for new environmental hazards, Ironbound residents formed an organization to advocate for the environmental protection of their neighborhood. On February 18 of 1981, this organization became the Ironbound Committee Against Toxic Wastes (ICATW). The organization was first driven by a demand for urgent action addressed to both corporations and government entities: "stop dumping hazardous wastes in Ironbound and clean up all toxic wastes already here immediately" (Ironbound Committee Against Toxic Wastes). This demand was informed by the many cases of illegal dumping, storage, and disposal of hazardous wastes occurring in the neighborhood and the threats to the residents' health and safety these activities posed. However, the ICATW also took on the responsibility of organizing residents to learn about and oppose the continued targeting of the community for the location of additional detrimental facilities, and galvanized residents to not only participate in protests but also testify in public forums and hearings (Ironbound Voices 1982f). The ICATW gave a unified voice to the residents' concerns and worked to protect their health, safety, and interests while confronting powerful corporations and governmental entities at the local, state, and federal levels.

The ICATW's work was focused on the issues affecting the Ironbound, but it also built coalitions with other local, national, and international organizations which assisted the community and the organization in their mission. In the community, the organization had the support of residents, businesses, religious organizations, civic and ethnic clubs, schools, and other organizations, and this translated into vigorous participation by the community at educational events, demonstrations, and public hearings. There were card parties and dances to raise funds. The ICATW was also partnering with other organizations in New Jersey that had organized to advocate for a cleaner environment. This partnership was done in great part through the New Jersey Grass Roots Environmental Organization (GREO), of which ICATW was a founding member. GREO was founded in December of 1983 at a meeting of community groups from various parts of New Jersey that took place at St. Stanislaus Kostka Church in the Middlesex County town of Sayreville, with the goal of creating solidarity among communities so that they could join together against corporate polluters and the NJDEP (Ironbound Voices 1983a). This organization understood that too often plans proposed by the NJDEP pitted communities against one another while favoring the corporations' interests, and the founding members believed that GREO should foster solidarity among communities and provide common and permanent knowledge to be shared among them:

“The new organization is calling itself New Jersey Grass Roots Environmental Organization (GREO). A griot, (pronounced the same as GREO), according to Alex Haley in his book *ROOTS*, was the member of the tribe responsible for remembering stories and the history of the tribe so they could be kept alive from generation to generation. This organization will make sure that the history of health affects [*Sic*] from air and water pollution in New Jersey are not forgotten but instead are corrected” (Ironbound Voices 1983a).



With this goal, and with the motto of "working together from the grass roots," GREO became an umbrella organization to which local organizations or individuals from over 100 New Jersey towns belonged (Grass Roots Environmental Organization a, b). It served not only as a link among community organizations such as the ICATW and the Independent Residents Against a Toxic Environment (IRATE) in East Brunswick, but also as a source of technical knowledge and expertise from supporting "doctors, nurses, lawyers, and scientists" and residents who were fighting for environmental protection in their communities so that "one community's solution should not become another community's problem" (Grass Roots Environmental Organization a, b). GREO routinely held meetings and statewide conferences where people could share their experiences with others (Ironbound Voices 1984c, 1985h, 1986g; Hoffman 1986). There were also several conferences organized by GREO and other environmental groups during the late 1980s under the banner of "New Jersey Is My Back Yard (NIMBY)," which brought together organizations across New Jersey and adopted resolutions for collective action, including a resolution opposing the State of New Jersey's plans for garbage incinerators and instead calling for policies to achieve vigorous recycling, composting, reductions in packaging, and final disposal of the remaining materials at safe landfills.

The ICATW was also an instrumental part of the statewide movement to oppose the incinerator proposal in New Jersey through a group called the Statewide Movement Opposing Killer Environments (SMOKE). This group was composed of local residents from various counties that were fighting incinerators, especially in Essex, Morris,

Middlesex, and Camden counties (Hoffman 1982a; Ironbound Voices 1983c, 1983g). Among other activities, SMOKE called for a moratorium on the garbage incinerator proposal and demanded that the State develop stringent air pollution control regulations for garbage incinerators and appropriate siting criteria that would protect residential neighborhoods. Closer to home, and as opposition to garbage incinerators grew, a group of Essex County residents who did not live in Newark organized as the Essex Residents Against Garbage Burning. This group opposed the incinerator because it would be a major source of air pollution, detrimental to the Ironbound, and argued in favor of recycling (Ironbound Voices 1984b). In addition, other Newark neighborhoods came together to oppose the garbage incinerator in the Ironbound. Some of these efforts in Newark were led by the People's Organization for Progress (POP) (Ironbound Voices 1985c).

In addition to working with other local organizations within New Jersey, the ICATW collaborated with several organizations that had national, and sometimes international, campaigns for the protection of health and the environment. Because of the dioxin pollution in the community which was a legacy of the Diamond Shamrock company manufacturing of Agent Orange for use in the Vietnam War, the ICATW worked with the Vietnam Combat Veterans Coalition and Agent Orange Victims of New Jersey to demand that the federal government treat and compensate the combat veterans and their families who were exposed to dioxin and continued to suffer the health impacts of exposure (Ironbound Voices 1983h). In their opposition to the hazardous waste and garbage incinerator proposals, Greenpeace was a consistent partner of the community, which collaborated with the ICATW on various protest, educational, and scientific actions

(Ironbound Voices 1986j). In one protest action against the at-sea hazardous waste incinerator, some people gathered on land at the Hudson County Park in Bayonne while others sailed along the Passaic River into Newark Bay as part of a flotilla led by a Greenpeace boat and Pete Seeger's boat the Clearwater to show the path the hazardous waste cargo ship would take, passing some of the most densely-populated towns in the state (Ironbound Voices 1983d, 1983f). Scientists recognized within the mainstream environmental movement, like Barry Commoner and Paul Connett, were regular speakers and supporters of the community's efforts, lending their professional expertise and name recognition (Ironbound Voices 1986i).

Ironbound residents and the ICATW were an important part of the budding environmental justice movement in the United States, intersecting with events, individuals, and communities who shaped and gave rise to the movement. The environmental justice movement is described as a river that has been fed by many streams, such as the farm worker, anti-toxics, and civil rights movements in the United States (Cole and Foster 2001). In Ironbound Voices, parts of this developing movement are chronicled through the community's linkages to other communities and their solidarity with them. The actions of farm workers in the United States organized under the Farm Labor Organizing Committee (FLOC) were covered by Ironbound Voices. During the 1980s, FLOC was fighting for higher wages for farm workers by trying to get Campbell's soup at its headquarters in Camden, New Jersey, to pay a decent price for vegetables so that the farm workers could earn a decent wage. The farm workers were also trying to put pressure on a Prudential Insurance Company executive who sat on the Campbell's Soup board to hear their plight

and accede to their demand. Prudential is headquartered in Newark. The FLOC launched a boycott of Campbell's products and encouraged others to join in. FLOC's leader, Baldemar Velasquez, was in Newark in May of 1985 to protest outside of the Prudential building, and Ironbound residents attended the protest in support of the farm workers. Ironbound Voices continued to cover the farm workers' struggle, when the farm workers began their campaign and when they won it (Ironbound Voices 1985d, 1985h, 1986e). The Ironbound's efforts also converged with the anti-toxics stream of the environmental justice movement. At the ICATW's invitation, Lois Gibbs visited the Ironbound and New Jersey on several occasions during the 1980s. As Gibbs developed a prominent leadership role in the U.S. anti-toxics movement following her family's experience of contamination in Love Canal, New York, as president of the Love Canal Homeowners Association, and later as the founder of the Citizen's Clearinghouse for Hazardous Waste, she assisted other communities in New Jersey and the Ironbound in particular (Ironbound Voices 1982k, 1984c, 1985j; Hoffman 1982b, 1986). In one of her many visits to the Ironbound, Gibbs offered words of encouragement to the community. Gibbs said:

“There is only one thing that is going to move the government and move the companies to clean up our environment and that is people. Stand together, tell them no not in our backyard, and join together across your whole State!” (Ironbound Voices 1982k).

Ironbound paid it forward at every opportunity. Critically, and as an example of the solidarity across the country that characterized the environmental justice movement, when the largely low-income and African American residents of Warren County, North Carolina rose to oppose a landfill for PCBs in their community, Ironbound Voices not only covered

their cause, but members of the ICATW and other Newark residents traveled to North Carolina in solidarity:

“A group of people from Newark made the 10 hour journey to North Carolina. Four people from the New Jersey Committee On Occupational Safety & Health (NJCOSH) went to participate in a national rally. They talked to community folks about the similarity between what people in North Carolina are facing and people in Ironbound, Elizabeth, Jersey City and other parts of New Jersey are facing. In each case, the government and the companies are making ordinary working people suffer and die because of the toxic madness of the corporations” (Ironbound Voices 1982h).

The linkage of the Ironbound to the budding environmental justice movement continues in the religious pastoral actions of the churches in the Ironbound and their connections to the United Church of Christ (UCC) and its civil rights activism. Churches had been allies and central participants in the Ironbound’s efforts to demand environmental protection. The Ironbound Ecumenical Association, a coalition of churches, formally opposed the various incinerator proposals, including the garbage incinerator in the community. Religious leaders David Burges, Lin Powel, John Dolberg, David Robinson, and Don Clark often spoke at public hearings, wrote letters, and participated in or led demonstrations, often representing the position of a collectivity of religious organizations. They also encouraged environmental stewardship in their pastoral practices and sermons (Ironbound Voices 1986c, 1986d). The churches routinely hosted conferences and gatherings of religious leaders and organizations from other states to share their experiences of environmental contamination in the Ironbound and discuss how churches can be involved in the efforts to improve these conditions in their respective communities (Ironbound Voices 1987a). In November 1984, the churches in the Ironbound participated

in the first Signs of Hope Conference in Newark, which was organized by the Metropolitan Ecumenical Ministry and focused on economic justice issues and included a significant emphasis on the environment and the notion of an ecological justice (Ironbound Voices 1985b). At the Signs of Hope Conference, they intersected with Benjamin Chavis and Charles Cobb of the UCC Commission on Racial Justice, which again placed the Ironbound at the center of the budding environmental justice movement. The UCC must have been in the process of commissioning the seminal Toxic Wastes and Race Report of 1987 which, among its several important contributions, offers the concept of structural racism to understand the concentration of polluting facilities and the lack of environmental protection in low-income and people of color communities. In their words at the Signs of Hope Conference, Chavis and Cobb contributed their unique perspectives, emphasizing structural inequalities and the need for people of different ethnic, racial, and socioeconomic backgrounds to work together to achieve justice. Charles Lee of the UCC testified on behalf of the Ironbound community at a public hearing on the incinerator held by the NJDEP in December of 1984. In his testimony, the classic racial and class inequities of environmental injustice come to the fore. Lee said:

“We do not think it to be an accident that the most contaminated areas in New Jersey happen to occur in the poorest or predominantly minority areas. What is the logic of building a giant incinerator which will burn 2200 tons a day less than half a mile from 2 housing projects? What is the logic of building a facility which could potentially put tons of dioxins, hydrochloric acid and heavy metals into an area already suffering high rates of cancer and other health effects of toxic chemicals?” (Ironbound Voices 1985a).

The ICATW, the community, and their allies were able to defeat the sewage and hazardous waste incinerator proposals. The proposal to incinerate hazardous waste at sea

was widely opposed by local community organizations, labor groups, religious organizations, health experts, and elected officials at the city and county levels (Ironbound Voices 1982b). The ICATW worked with organizations of residents from other towns bordering the proposed site at sea, including the Greater Newark Bay Coalition and the Coalition for a United Elizabeth (Ironbound Voices 1981f). The land-based hazardous waste incinerator in the Ironbound was also defeated. The opposition to this facility was driven by Ironbound residents, who were joined by a range of religious organizations, city and county elected officials, and the Metro-Newark Committee on Occupational Safety and Health (COSH) (Ironbound Voices 1981m, 1982a, 1982c). It certainly helped the resident's effort that SCA Chemical Services and its corporate partners had a horrendous record of environmental compliance. Also, the company accidentally released a green mist of chromium into the air, which covered several residents, their cars and homes, and damaged the leaves of nearby trees (Ironbound Voices 1982d, 1982e). The residents put pressure on both the company and the permitting authorities following proof of the corporation's involvement in illegal hazardous waste storage and dumping practices at other New Jersey sites and in other states (Ironbound Voices 1981h, 1981j, 1981n). Both of these efforts to defeat the hazardous waste incinerator proposals developed into a larger action by Ironbound, Bayonne, Elizabeth, and nearby community residents to create an Alternative Siting Commission, a group of members who held formal meetings and hearings and developed more protective criteria for locating hazardous waste facilities than those of the NJDEP (Ironbound Voices 1981d). Prominent State legislators from the area and elected officials at all levels of government, forcefully acted on behalf of the

community to prevent the establishment of the hazardous waste facilities. The Mayor of the municipality of Bayonne went even further as he made available the council chambers for the Alternative Siting Commission to have formal meetings. The sewage incinerator complex proposed by the Passaic Valley Sewerage Commission, which would have expanded the county's sewage treatment infrastructure already located in the Ironbound, was also defeated. But despite their best efforts, the community was not able to defeat the garbage incinerator.

#### **4.3 The Garbage Incinerator Conflict**

The proposal for a garbage incinerator on Blanchard Street was preceded in 1981 by an NJDEP proposal to establish a landfill on Doremus Avenue in the Ironbound for the disposal of Essex County garbage (Ironbound Voices 1981c). As early as September of that same year, the Essex County Board of Chosen Freeholders was considering the basic elements of the incinerator proposal. In the context of all of the environmental burdens affecting the local residents, this incinerator proposal went against the community's efforts to improve their quality of life. As expressed in an article about the proposal in Ironbound Voices, the proposal would aggravate local conditions to the detriment of residents and would bring few economic benefits to the area:

“Ironbound already receives all of the county's sewerage, a lot of illegal toxic wastes, and there are 2 proposals to bring more toxic chemicals here to burn. The proposal for the garbage incinerator includes burning the sludge left over from the sewer plant. According to scientists, the sludge will contain toxic chemicals. The Essex County Government probably thinks that Portuguese people, Black people, senior citizens and ordinary working people will let them get away with putting the incinerator in the Ironbound. They say the incinerator will provide jobs. The reality



is that this incinerator will probably convince clean companies that the air is *too polluted* here and that they shouldn't locate in Ironbound. It's also true that two out of three jobs in Newark are held by people who live outside of Newark" (Ironbound Voices 1981i, emphasis original).

ICATW organized residents to speak at council meetings and to attend the various public hearings on the garbage incinerator to express the community's concerns and demands (Ironbound Committee Against Toxic Wastes). Residents also marched several times to oppose the incinerator proposal and show their determination outside these formal settings and into the streets of the Ironbound. Prior to the hearings that were formally required to be held by law, the Essex County authorities held a meeting at Our Lady of Fatima Church on February 24, 1983, to try to convince the residents that garbage incinerators were safe. That meeting was attended by more than 800 residents, many of whom spoke against the proposal (Ironbound Voices 1984a). Hundreds of residents also marched on the streets on June 1, 1984, showing their numbers and their diversity, including children and older residents, members of religious institutions, scientists, laborers, housewives, teachers, and people from all walks of life (Ironbound Voices 1984e). On October 17, 1984 about 100 Ironbound residents composed of "Portuguese, Black, White and Hispanic, young and old, church, ethnic and community organizations," attended a meeting of the Newark City Council so that they could bring the incinerator issue to the council's attention, even though the issue was not on the agenda on that day (Ironbound Voices 1984g). Members of the ICATW, SMOKE, the ICC, the Newark Coalition for Neighborhoods, the Portuguese American Congress, religious institutions in Ironbound and Montclair, and other residents presented testimony to the city council

against the incinerator. About 50 residents also attended a meeting of the Essex County Board of Chosen Freeholders held on October 31, 1984, at which one of the Freeholders introduced a resolution against the garbage incinerator in the Ironbound (Ironbound Voices 1984h). At this forum, these organizations, religious leaders from the Ironbound and Essex County, and community residents again spoke against the garbage incinerator proposal. These formal channels and many educational events and demonstrations were pursued even before the opposition was expressed at the officially-required public hearings on the subject.

When the NJDEP held its official hearing on the proposal on December 17, 1984 at Essex County College, over 1000 Ironbound residents attended (Ironbound Voices 1985a). Residents found that the rules that had been set for the conduct of the hearing were unfair to them and favored the interests of the county and the incinerator company. For example, a pro-incinerator banner was allowed to be hung on the wall by a county official, and the NJDEP panel conducting the hearing allocated 10 minutes to each county and company speaker, who would speak first, while only 5 minutes to each member of the community, who would speak last (Ironbound Voices 1985a). The list of speakers was so long that some residents were scheduled to speak long after midnight, at which time the residents convinced the NJDEP officials to schedule the second part of the hearing for the next day. The Newark City Council hearings on the garbage incinerator followed those of the NJDEP. But before those hearings, on February 20, 1985 the council awarded a recognition to the ICATW for their work and successes in the fight against pollution and hazardous waste facilities, and especially because of how the organization:

“has given new meaning to the term ‘participatory democracy’ through their unending efforts to protect all of us from the perils of toxic waste and pollution symbolized by their battle cry ***Don’t dump on the Ironbound!***” (Ironbound Voices 1985e, emphasis original).

After a public hearing on April 10, 1985, the Newark City Council approved the incinerator facility on April 22, 1985 by a vote of 6 in favor, 2 opposed, and 1 abstention (Ironbound Voices 1985f). A broad cross section of Ironbound residents of all ethnic backgrounds and ages, of various professions including teachers and business people, religious leaders, mothers and fathers concerned for the health of their children, homeowners who have invested in their homes and their community, and others testified in front of their city council. Members of other community groups and neighborhood organizations also testified against the incinerator, and scientists provided expert testimony, to no avail. Just a few days later, the Essex County Board of Chosen Freeholders, in a vote of 8 to 1, approved the garbage incinerator on April 24, 1985 at a public meeting at the Irvington Town Hall in Irvington, despite multiple testimony presented again by Ironbound residents and others in opposition to the facility. The formal public hearings required by law had then been exhausted.

At these formal hearings, and through other public forums, educational presentations at churches, schools, ethnic and civic clubs, demonstrations, and in Ironbound Voices, the community residents and the ICATW challenged the standard rationalities offered by the State and county authorities in support of the incinerator (Cartwright 1983; Ironbound Voices 1983e, 1984f). They challenged these rationalities in two main ways: by bringing forth their own environmental experts who possessed what

were considered legitimate professional credentials, and by speaking the truths of their own experience of environmental oppression and official neglect of their community by the governmental authorities who failed to confront bad industries and corporate actors. The State and the county authorities promoted the incinerator as a “resource recovery facility” that would protect the environment by eliminating the need for landfills and preventing air pollution by the use of sophisticated technologies to capture particulate matter from incinerator combustion. But this representation contradicted all of the research the community and its experts had done on the environmental and public health impacts of incinerators and alternatives to garbage disposal. The ICATW’s researcher and engineer, Bob Cartwright, brought to the community analyses of scientific research on incinerators and their negative impacts on communities that had them. Experts augmented the community’s scientific knowledge. High-profile figures like Barry Commoner, Karen Shapiro, and Paul Connett, and New Jersey scientists including doctors Theodore Goldfarb, Jim Hilbert, Steve Stoldt, Marc Lavietes, and Ted Flynn, offered on behalf of the community an understanding of epidemiology, combustion chemistry, public health, and garbage disposal alternatives that contradicted the governmental authorities’ claims and gave credence to the community’s health and safety concerns.

Based on scientific knowledge and other information, the community knew that landfills would continue to be used because not all garbage could go to the incinerator. Their scientists advised that, of the garbage that could be burned, a large portion of it, which could be as much as 30-40% of the original weight, would result in toxic ash that would need to be disposed of as hazardous waste at one of the few landfills that could or

would accept it. They also understood that, because the smokestack would have to be shorter than usual so that it would not interfere with the airplane traffic from Newark Airport, the pollutants being emitted would be quite close to the nearby area and not completely dispersed, as the state and county officials claimed. The residents, and the scientists who supported them, put forth evidence of the dangerous chemicals that come out of incinerator stacks, including dioxin, lead, cadmium, mercury, vinyl chloride, and formaldehyde, and how other jurisdictions in the United States and Europe had decided not to build incinerators because of these emissions (Cartwright 1985b; Ironbound Voices 1986a; Lavietes 1987). There were serious doubts about the company's promise, or even their ability, to use pollution control technology that would sufficiently protect the health and safety of residents by properly capturing the small particulates that would come from the stack. As if the air pollutants to be emitted from the facility were not enough, the disposal of garbage at the incinerator would routinely bring into the neighborhood thousands of trucks and their tailpipe emissions would further contaminate the air. The phrase "resource recovery" was called into question by the community, especially because burning garbage went against what they saw as the real resource recovery - recycling. As Vic De Luca of the ICC stated in front of the Newark City Council, there is:

"a contradiction between recycling and building this garbage incinerator. Once you build this incinerator monster, the monster has to be fed. You are going to have to continue to feed it, so there will be no incentive to reduce garbage by recycling" (Ironbound Voices 1984g).

The failure of the governmental authorities' scientific arguments to stand up to the scrutiny of the community's experts further delegitimized these authorities and the

incinerator proposal in the view of the residents. It is evident that the community saw the authorities as making insincere assurances that ignored their experience of environmental oppression, how the governmental entities responsible for protecting the community had not done their job in the past, and how the authorities were now just seeking to somehow legitimize the location of the facility in an already burdened neighborhood. As documented in *Ironbound Voices*, when residents spoke at the many public hearings and forums they came to testify with the heavy weight of experiences of contamination from local industries, dioxin manufacturing, toxic waste dumping sites, airplane noise, and similar environmental indignities bearing heavily on their shoulders. These indignities were compounded with the lack of prompt, or even any, action by the governmental authorities to protect them. Their testimony was therefore often a show of outrage at their situation and the failure of the governmental authorities to do their job of protecting them against the polluters. Comparisons to environmental disasters like Bhopal, Three Mile Island, and Love Canal were made on the record, accompanied by recriminations about how the Ironbound continues to be targeted for all kinds of bad facilities, and now a garbage incinerator, perhaps because of the government's assumption of their powerless status because they are working class, immigrants, and people of color. The community's testimony is sprinkled over various articles in *Ironbound Voices*, but the testimony of Elvira Rodrigues at a meeting held by the county authorities on February 24, 1984 at Our Lady of Fatima Church was printed in full, and deserves to be quoted here because of how well it represents the community's sentiment. Rodrigues said:

“Walk out this door, into the streets of the Ironbound and what you see is a neighborhood which has flourished, despite this city’s general state of urban decay. Our houses are clean and well kept. They have been renovated by our own hands and with great personal sacrifice. Yet, our neighborhood remains a tiny island in this city surrounded by chemical factories, an airport, and other pollution producing industries. When our Governor last came to the Ironbound, to inspect the dioxin sites surrounding our Farmer’s Market, he wore a special suit which enabled him to breath clean, unpolluted air. The dioxin remains here for us to breathe. However, despite what we have endured here, you now come to us to suggest that we will be better off once another large industrial complex invades our backyard: this time a Garbage Incinerator. You tell us that the environmental impact will be slight, that traffic on our streets will increase by less than 1%, and beyond this, you suggest that our property values may increase and that there will be more jobs. May I suggest then, that if this plant is such a potential gold mine of garbage, you would do better to offer this prize to the people of Millburn, Summit, or perhaps Short Hills. Can you understand that what we want here in the Ironbound are more parks and less pollution? Can you understand that we are tired of our houses quaking because of already heavy truck and jet traffic? And further, we find it hard to believe that a Garbage Incinerator in our backyard will increase property values more than safe streets, good schools, and a few decent parks would. And, if it is jobs your project offers, we will take them. There are many of us who travel great distances to work each day. Put this plant in the suburbs and we will get there. The laborers’ hands of the Ironbound have built many a suburban home and road. If you want to help us, help us to survive and remake the environmental catastrophe which is the Ironbound. Give us clean air, safe streets, new parks, better schools, and less garbage. We have enough already” (Rodrigues 1984).

The end of the formal public hearings and governmental approval process cleared the way for the next steps to be taken by the governmental and corporate entities in establishing the incinerator. The site selected on Blanchard Street was owned by the Newark Housing and Redevelopment Authority (NHRA), which is the entity that administers federal Department of Housing and Urban Development (HUD) public housing programs in the city. The NHRA would sell the land to the Port Authority of New York and New Jersey (PANYNJ), which would then lease it to American Ref-Fuel corporation which would operate the incinerator. But the facility itself would be built by

the PANYNJ with public debt. The closure of formal public hearings did not stop the community from continuing to take actions against the siting of the incinerator. Residents continued to organize, educate others, and participate in demonstrations. They marched at the Portugal Day Parade on June 9 and 10 of 1985, where members of the ICATW had a float which represented the home of an average Ironbound family with banners rejecting the garbage incinerator (Ironbound Voices 1985l). Many other demonstrations followed, including one on October 23 at the Portuguese Sports Club (Ironbound Voices 1985n).

While more demonstrations continued on the streets, the community also filed a court case to try to stop the facility from being built. ICATW's attorney, Michael Gordon, and his associates Tim Haley and Bill Sullivan, were at the forefront of representing the community in cases against the NJDEP and polluters. For the community, there were so many irregularities in the establishment of the facility that they believed that the judges interpreting the law could stop the facility from being established. It seemed to the Ironbound residents and their lawyers that the incinerator proposal had been implemented without compliance with State and federal laws that should have applied in this case; that the site selected on Blanchard Street was not an appropriate location for an incinerator; and that some of the government entities involved did not have the authority to establish these kind of facilities (Ironbound Voices 1985g, 1985k). Specifically, it seemed to the community that the proposal should be treated as a hazardous waste facility because it would be practically impossible to keep hazardous waste from being mixed into the garbage going to the incinerator, and also because both the air emissions and the ash resulting from burning the garbage would be hazardous. If so, they believed the facility



should comply with the siting criteria specified in the state's Major Hazardous Waste Siting Act. Complicating matters further, the county had not yet identified a landfill that would accept the toxic ash residue remaining after combustion. Aside from the State law, the community felt that federal law should prevent the incinerator from being located in Newark because this area already exceeded air pollution levels for emissions of pollutants such as lead, and adding more pollution to these emissions by placing an incinerator at that location would violate the federal Clean Air Act. They understood that, because of its proximity to the airport, the stack would have to be lower than what is usually considered appropriate for a similar facility, and therefore this would locally concentrate the dispersion of pollutants. They also identified problems with the proposed site, which not only was located on a flood plain, but was also contaminated and located next to two other contaminated sites - the Diamond Shamrock site contaminated with dioxin and the old Otilio landfill site contaminated with toxic wastes (Ironbound Voices 1985m). The community challenged the legitimacy of the PANYNJ to be involved in a project like this, when its mission is that of a regional transportation planning agency. It also raised questions about the appropriateness of the NHRA acquiring and selling contaminated sites in the area near its public housing projects which are funded by HUD. They questioned why the Blanchard Street site was being cleaned up and remediated for an incinerator that would create more pollution in the community, while nothing was being done to clean up other contaminated sites in the Ironbound. Apparently, the other contaminated site that was receiving a speedy cleanup was the one proposed for the Newark State Prison, a State correctional facility (Ironbound Voices 1985m).

When filed in 1986, the court case actually focused on six main points, some of them concerning lack of appropriate action by the NJDEP, and some of them concerning air pollution and land site issues (Ironbound Voices 1986b, 1986g). The court case argued that the NJDEP had not developed the necessary regulations to prevent incinerator pollution, was underestimating the quantities and risks of pollutants such as dioxin, and had not properly vetted the incinerator company to make sure it had no ties to organized crime groups and other criminal elements, as it was required to do of other garbage collection and disposal companies. The case also argued that building the incinerator would violate the federal Clean Air Act, which would require that existing pollution is offset before a new pollution source could be built. Furthermore, the county had not yet identified a landfill that could accept the resulting toxic ash, the site had not yet been cleaned up, and the Army Corps of Engineers had not completed its review of the site, and could not issue a permit, as it had originally intended the location for flood remediation efforts.

As the community waited for the court case to move forward to address these issues, of great concern were also the costs associated with building and operating the incinerator facility, and how these costs would impact their household budgets and those of their fellow Essex County residents through increased property taxes and garbage disposal fees (Cartwright 1985a; Ironbound Voices 1987f). All of the evidence they had from experts and well-researched sources told them that incineration was, by far, the costliest garbage disposal method. Recycling and composting as much of the garbage as possible, and sending the remainder to landfills, was much cheaper than building an expensive incineration plant, which still required the use of landfills for non-burnable garbage and

the resultant toxic ash (Cartwright 1985c; Cohen 1986; Ironbound Voices 1986i). They had seen how other jurisdictions, most notably the city of Philadelphia, had found it difficult to dispose of their incinerator ash. After New Jersey's Kinsley landfill in Gloucester County stopped accepting Philadelphia's incinerator ash, the city was notoriously shipping its incinerator ash to various developing countries because no other location in the United States would take it (Montague 1987). They now saw the Essex County authorities negotiating with several out-of-state landfills to secure a disposal site for the ash, with the costs to be borne by the county's taxpayers (Ironbound Voices 1987b).

The project to establish the garbage incinerator continued to move forward despite these concerns and the pending court case. The Essex County Board of Chosen Freeholders approved the garbage disposal contract between the PANYNJ and Essex County (American Ref-fuel had responsibilities under the contract but was not a party to it) on May 7, 1986, after again receiving testimony opposing the incinerator from Ironbound residents on April 19 (Ironbound Voices 1986f). On February 20, 1987, a three judge panel who heard the community's court case ruled in favor of the NJDEP, deferring to the agency on its compliance with state and federal laws, and refusing to delay the siting of the facility even if key aspects of site remediation and ash disposal had not yet been resolved (Ironbound Voices 1987c). The ICATW, the community, and their lawyers decided to appeal. In the meantime, the Freeholder board moved forward to approve the Essex County Solid Waste Management Plan on April 29, 1987 (Ironbound Voices 1987d). The ICATW filed a lawsuit a month later against the Essex County Executive and the Freeholder board to stop the plan from being implemented because it failed to provide an assessment of basic

costs and information about ash disposal to the public (Ironbound Voices 1987e). While the plan was being challenged, the garbage disposal contract between the governmental authorities and the corporation was signed in 1987, and was submitted for review to the New Jersey Board of Public Utilities as required by law. The Public Advocate also reviewed the contract, and raised concerns about the high incinerator disposal and ash disposal rates, the lack of technical guarantees by the incinerator company in case of facility breakdowns, and the impacts of these provisions on the county's taxpayers (Ironbound Voices 1987g). In any eventuality, the county's taxpayers were required under the contract to continue to pay the agreed-to disposal fees for garbage and ash.

#### **4.4 The Garbage Disposal Contract**

The contract is significant because it inscribed onto a legally-enforceable document key terms of the relationships among the municipalities, the City of Newark, the county, the PANYNJ, the NHRA, American Ref-fuel Corporation, waste haulers in the county, and the county's residents. The material of garbage, of course, was at the center of those relationships. Under the first contract, titled the "Amended and Restated County Service Contract Between the County of Essex and the Port Authority of New York and New Jersey," and dated February 28, 1986, the PANYNJ purchased the site from the NHRA, made funds available to American Ref-fuel to construct the facility on the site, and leased the land to that corporation.<sup>36</sup> But the PANYNJ's role is often described in the contract as

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<sup>36</sup> This contract and its subsequent amendments were provided to me by the ECUA via personal communication.

that of an intermediary between the corporation and the county, as often the paperwork and transactions were required to go through the authority, and the authority retained ownership of the site and the facility. The corporation operated the facility. The county was to ensure that specific types and portions of the county's municipal waste were sent to the incinerator, part of which was to be accomplished by establishing requirements for municipal governments to flow their garbage to the facility, and for municipal waste haulers to dispose at the facility and to pay the calculated tipping fee to an escrow account agent at a designated bank (1986:70-96, 160-167). Under a separate host municipality agreement entered into by the county, the authority, and the city of Newark on May 15, 1985, the city was to receive a payment in-lieu-of taxes and other payments and benefits for having the facility within its boundaries (1986:30, 63-64). The foundation of this interconnected system of relations was the county's residents and their garbage. Not explicitly, but by implication, residents were at once a mass of people having biological, political, and financial attributes and functions.

Within the language of the contract, the complex nature of the garbage was simplified in terms of waste categories and quantities, and in limited reference to required actions with respect to the garbage by both the county and the incinerator company. Garbage was described in the contract in both qualitative and quantitative terms, reflecting the nature of the waste, and the responsibilities of the company and the county with respect to that waste. One of the several qualitative attributes given to the garbage was in the definition of "acceptable waste," which describes the categories of waste permitted and required to be sent to the incinerator. The term was defined, in part, as:

“... that portion of Solid Waste which (a) is collected and disposed of as part of municipal waste collections, including garbage, trash, rubbish and refuse, (b) is commercial and industrial Solid Waste that can be Processed, (c) is branches, leaves, twigs, grass and plant cuttings collected as part of municipal waste collections and (d) is described in the identification numbers 10, 23, and 27 ...” (1986:4).

In the above definition, language went on to exclude certain oil spill, pesticide, asbestos, chemical, and contaminated wastes from being sent to the incinerator. But this same acceptable waste took other forms, depending on actions or inactions by either the company or the county. It became “bypassed waste” if for some reason the company had to shut down the facility and failed to accept that waste for disposal (1986: 13), and became “contract waste” when referring to the amount of waste the county was required to guarantee to deliver to the facility (1986: 18). The qualitative definition of contract waste was also expressed quantitatively as the county’s “guaranteed tonnage.” This was defined as:

“... 680,000 Tons of Available County Waste in any 52-week period (as such amount may be adjusted in accordance with this Agreement and ... the Service Agreement) ...” (1986: 29).

Beyond the guaranteed tonnage amounts, the company was permitted to receive at the facility any “excess contract waste” delivered to it by the county in accordance with their agreement. Together, the categories of contract waste, excess contract waste, and bypassed waste comprised the “available county waste” cited in the above definition of guaranteed tonnage. Aside from these various categories of county-sourced waste, the contract also defined any other waste received by the company from any source in excess of the guaranteed tonnage as “company waste,” then inserting into the definitions of waste

an attribute of property (1986: 18). But the references to waste as property went further in the contract, specifying when the county held the legal title to the waste and when the company did so, and the same with respect to the ash residue which was the product of incinerator combustion (1986: 81-83, 87-88, 91). This was a waste product that needed to be disposed of. The county was responsible for collecting that waste from the incinerator, and disposing of it at a disposal site.

The county's residents were, in reality and by implication, a biological mass of people producing the waste on which these transactions depended. Politically, they were a mass of constituents for whom the county and city governments spoke. Financially, they were also the ratepayers, supporting with their household budgets these contractual relationships and costs. In their day-to-day lives the residents performed all of these biological, political, and financial functions, and with their labor complied with the disposal and collection demands, specifications, and schedules.

Once the residents performed their day-to-day functions, the haulers took over to collect the waste placed on the street curb, and to deliver the collected waste to the facility. Outlined in a "Haulers' Handbook" produced by American Ref-fuel were a number of procedures that haulers had to follow as they delivered waste to the facility (American Ref-fuel 1996). Safety procedures advised haulers on what to do while delivering the waste to avoid injury to the truck driver and others, including requirements to obey all traffic rules and to not be under the influence of drugs or alcohol. Procedures concerning rules of conduct prohibited drivers from using profanity at the facility and especially toward the scale house personnel, urged them to use the portable toilet facilities, and required them to

prevent the release of the truck's solid contents or leakage into the storm drains in order to protect the Passaic River. Procedures on environmental considerations reminded haulers that only the acceptable waste types were permitted at the facility, to the exclusion of other waste. Truck routing procedures specified the roads that the haulers were required to follow to get to the facility from each municipality in the county, to be monitored by the County's police. There were also procedures for weighing each of the trucks, first when full, and then after the contents are deposited on the tipping floor, while verifying the hauler has all of the required NJDEP permits. There were procedures for waste acceptance and truck acceptance, specifying the hours of operation of the facility and reminding that any hauler "found to be in violation of the district recycling plans will be reported to the designated enforcement agency from the municipality where the waste was generated" (American Refuel 1996: 17). There were specified tipping hall procedures and waste inspection procedures, including random visual inspections of the waste going into the refuse pit and inspections of the waste on the tipping floor. There were violation procedures, bypass procedures, invoicing procedures, and maps of the neighborhood showing the location of the facility.

Municipal governments of the municipalities within the county were also an integral part of enacting these contractual and day-to-day relationships. For example, in Montclair, the Township Council adopted a "Resolution Regarding Solid Waste Disposal Facility" on April 29, 1986, urging the Essex County Board of Chosen Freeholders to



approve the garbage contract for the construction and operation of the incinerator facility.<sup>37</sup>

In its findings, the resolution cited the impending end of the county's use of the landfill at the Hackensack Meadowlands district, and the subsequent proper use of the planning process by the county to develop a solid waste management plan since 1979, including a county recycling program in 1983, a "soundly conceived and carefully implemented" incinerator project, the county's signing of a host municipality agreement with Newark in 1985, and the issuance by the NJDEP of final permits for the incinerator construction in 1985. Based on these findings, the resolution expressed support for the county's desire to move forward with executing the contract to ensure waste disposal services at the facility. Once the incinerator had been operating for several years since the early 1990s, and the original 1986 contract was up for renegotiation, Montclair again expressed its commitment to continue to use the facility in a "Resolution of Intent for Township of Montclair to Participate in the Essex County Utility Authority's Proposed Voluntary Contract System for Use of the Essex County Resource Recovery Facility," adopted on July 6, 1999. The reference here to a "voluntary" system was necessary to allow the flow of waste to the facility to continue, given a court ruling against waste flow requirements and in favor of the free market commerce in garbage. The resolution emphasized that the Township's Manager and Attorney were responsible for negotiating acceptable terms on behalf of the municipality and presenting that contract to the Council.

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<sup>37</sup> These Montclair resolutions were provided to me by the Township via personal communication.

The period from ratification of the first waste disposal contract and the opening of the incinerator facility was marked by continued critique and opposition, with the ICATW filing a lawsuit to challenge the temporary permit issued by the NJDEP to American Refuel (Romano 1990). Much of the conflict now related to the injustices made explicit in the contract, especially with respect to the required amount of waste the municipalities sent to the incinerator. From the opening of the facility in the early 1990s, the waste generated in the county was not sufficient to meet the guaranteed tonnage of garbage required by the contract to keep the incinerator running at optimal capacity and to pay for \$340 million in construction costs, which led the incinerator company to temporarily accept garbage from Bergen County in New Jersey, and to seek imports from Brooklyn in New York (Hanley 1991). But the requirement for Essex County residents to have to pay anyway, or the so-called “put or pay” clause, infuriated some people in the county, coupled with the fact that the county’s tax payers were also responsible for the ash disposal cost resulting from all garbage burned in the facility, regardless of where it came from. In the meantime, the incinerator company was trying to lure other jurisdictions to dispose of their garbage at the facility by offering them rates that were better than those being paid by the county’s residents. In this manner, county residents would pay for part of the disposal costs of these jurisdictions while allowing the company to retain profits from that influx of waste.

The subsequent renegotiations of the garbage disposal contract have gradually addressed some of these issues. The 1986 garbage contract was renegotiated in 1999 for a period of 10 years, to be in effect from 2000 to 2010. The 1999 contract, titled “Waste Disposal Agreement By and Between the Essex County Utilities Authority and the Port

Authority of New York and New Jersey,” dated as of July 15, 1999, preserved many of the original provisions, but included several changes. The county’s involvement was now through the Essex County Utilities Authority (ECUA) created by the county in 1993 to implement the solid waste management plan. Therefore, the ECUA was now party to the waste disposal agreement with the PANYNJ. The new agreement also stated that the municipalities would be entering into the disposal agreement on a “voluntary” basis as market participants, so as not to violate the decision of the United States Court of Appeals, Third Circuit, in the Atlantic Coast case, that upheld the free flow of garbage in the market economy. The waste flow directives within the county to dispose at the incinerator would otherwise be subject to challenge, threatening the payment of the bonds that had been taken by the county to build the facility. The definition of acceptable waste now made an explicit reference to recycling, as such waste would mean municipal waste that was “non-recycled” (1999: 3). The new contract also specifically referenced that “designated recyclables” separated from the waste stream by municipalities should not be included in the acceptable waste to the facility, and would be considered “unacceptable waste” (1999: 6, 15, schedule pages 2-3). Perhaps because of the new mandatory recycling programs being implemented following the enactment of a mandatory recycling law in the state, but more likely due to the increasing use by New York City of about 50% of the incinerator’s disposal capacity, the new contract significantly reduced the county’s guaranteed tonnage to 350,000 tons per billing year during the first three years, and 375,000 tons per year for the remainder of the agreement (1999: 7, 38). The ECUA would still have to pay the tipping fees even if delivering less than the guaranteed tonnage, but these amounts could be offset by any

“mitigation revenues” to the facility from waste originating from other sources (1999, pp.43-44). ECUA would continue to be responsible for the disposal of the resultant ash through a separate agreement with a disposal facility, which at this time was the GROWS-Wills, Inc. landfill in Morrisville, Pennsylvania (1999: 21-23). However, the ECUA would no longer have to pay for the disposal of ash generated at the incinerator from the burning of waste from other non-Essex-county jurisdictions, as the PANYNJ would now pay for that portion of the ash disposal costs. ECUA could now inspect the facility and the activities undertaken in the facility, including the tipping floor (1999: 31-33). The PANYNJ could inspect the scale house where garbage trucks were weighed twice, before tipping and after tipping, to calculate the accuracy of the tipping fees, and could also inspect American Ref-fuel’s books and records (1999: 33). Covanta Energy replaced American Ref-fuel as the incinerator company operating the facility in 2005.

The contract was renegotiated and extended from 2010 through 2015, and then again for a 7-year period through 2022 (Essex County Board of Chosen Freeholders 2014). The current contract in effect includes language that “all” municipal solid waste generated in the county will be flowed to the facility, citing a recent court decision that more favorably views the flow of municipal garbage to government-owned facilities. The contract also specifies the tipping fees for each year of the contract, increasing annually for the duration of the contract from a low of \$62 per ton of garbage in the first year to \$69.99 per ton on the last year, inclusive of a \$3 per ton recycling tax imposed by the state. The contract also now refers to a “maximum tonnage” of 370,000 tons per year from Essex County, rather than a guaranteed tonnage, but allows the county to have priority and not be

locked out of capacity, and expressly allows the county to send more garbage to the facility if necessary. The county must still ensure that its municipalities flow their waste to the facility through directives or local waste agreements, and also make reasonable efforts to have its commercial establishments send their Type 10 waste to the facility at or above 2013 levels. But the contract eliminates the “put or pay” clause that formerly required the county to pay the tipping fee for any shortfall, unless the county breaches the contract. Additionally, with respect to the ash disposal, the PANYNJ is now responsible instead of the ECUA.

What is important about these subsequent renegotiations of the contract is the extent to which the new battleground for conflict is precisely the contents of the contract, so that the relations among the parties can be modified only within those legal confines. It is interesting that the ordinance adopted by the Freeholder board makes reference to the company installing new bag house technology to capture pollutants from the incinerator stack. What is not mentioned is that this adoption of the pollution control technology was a direct result of the settlement of a lawsuit filed by the community to require the incinerator to do so, as the facility had routinely failed to control emissions of various chemicals. Working on behalf of the ICC and GreenFaith Interfaith Partners for the Environment, in 2005 and 2007 the Eastern Environmental Law Center (EELC) filed a lawsuit against Covanta Energy for, among other issues, failing to control emissions of chemicals such as lead, mercury, and fine particulate matter in violation of the federal Clean Air Act. The lawsuit was settled in 2010, and one of the conditions of the settlement

is that the company will install the pollution control technology (GreenFaith 2010; Eastern Environmental Law Center).

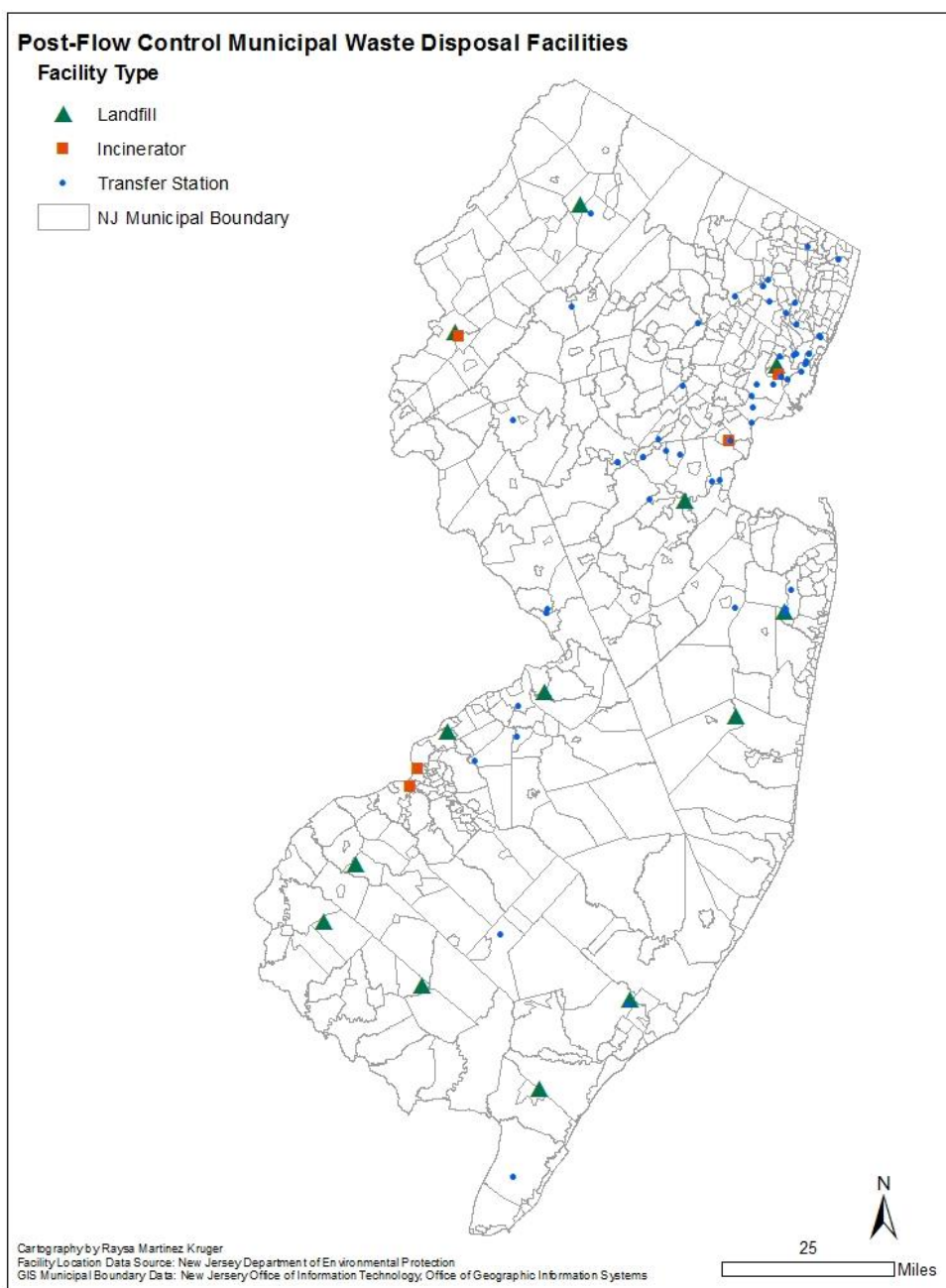
#### **4.5 Demographic and Facility Location Aspects of the Distribution of Garbage in the State and in the Ironbound**

An outcome of our collective enactment of the garbage governmental management plans has been the production of a classic pattern of environmental injustice in the Ironbound. In Essex County, the visible conflict over the location of the incinerator facility was waged through formal and informal political institutions and processes. But underlying this conflict is the day-to-day production of garbage and the collective enactment by the population of the garbage governmental plans that support the incinerator facility. The following tables and maps illustrate some of the distributional outcomes of these processes and practices in space. This section first presents a statewide context consisting of the locations of current garbage transfer and disposal facilities and the demographics of neighborhoods where these facilities are located. It then presents the garbage flows, facility locations, and demographic data for the case study community of Essex County and the Ironbound neighborhood. However, as further discussed in Appendix 2, it should be noted that these results are not a claim of statistical significance.

##### *Statewide Context of Post-Flow Control Facilities and Demographics of Population Near 2 Miles of Landfills, Incinerators, and Transfer Stations*

The garbage governmental management plans we have enacted in New Jersey are

manifested in the geographical landscape, affecting the communities where landfills, incinerators, and transfer stations are located.



**Map 2. Post-Flow Control Municipal Waste Disposal Facilities**

As Table 2 shows, about 10% of New Jersey's population is below the poverty rate, and the median household income for New Jersey's households is estimated to be \$75,147. The population residing within or near a two-mile distance of a landfill, incinerator, or transfer station generally exhibits a rate of poverty that is higher than the statewide rate, and a lower median household income. The aggregate data for the census tracts where landfills are located is one exception to this general assessment.

<b>Table 2. Median Household Income and Poverty Status of New Jersey Population Near 2 Miles of a Landfill, Incinerator or Transfer Station</b>								
	<b>All Census Tracts</b>	<b>Host</b>	<b>Centroid</b>	<b>Areal</b>		<b>Host Difference</b>	<b>Centroid Difference</b>	<b>Areal Difference</b>
<b>Poverty Status Percent Below Poverty</b>								
<i>Statewide</i>	<i>10%</i>							
Landfills		6%	12%	10%		-4%	2%	0.32%
Incinerators		18%	17%	16%		8%	7%	6%
Transfer Stations		13%	16%	14%		3%	6%	4%
<b>Median Household Income</b>								
<i>Statewide</i>	<i>\$75,147</i>							
Landfills		\$75,811	\$60,900	\$66,860		\$664	-\$14,247	-\$8,287
Incinerators		\$49,477	\$51,106	\$54,955		-\$25,670	-\$24,041	-\$20,192
Transfer Stations		\$67,461	\$59,941	\$67,315		-\$7,686	-\$15,206	-\$7,832

The population residing within or near a two-mile distance of a landfill, incinerator, or transfer station tends to be more racially or ethnically diverse than the Statewide figures,



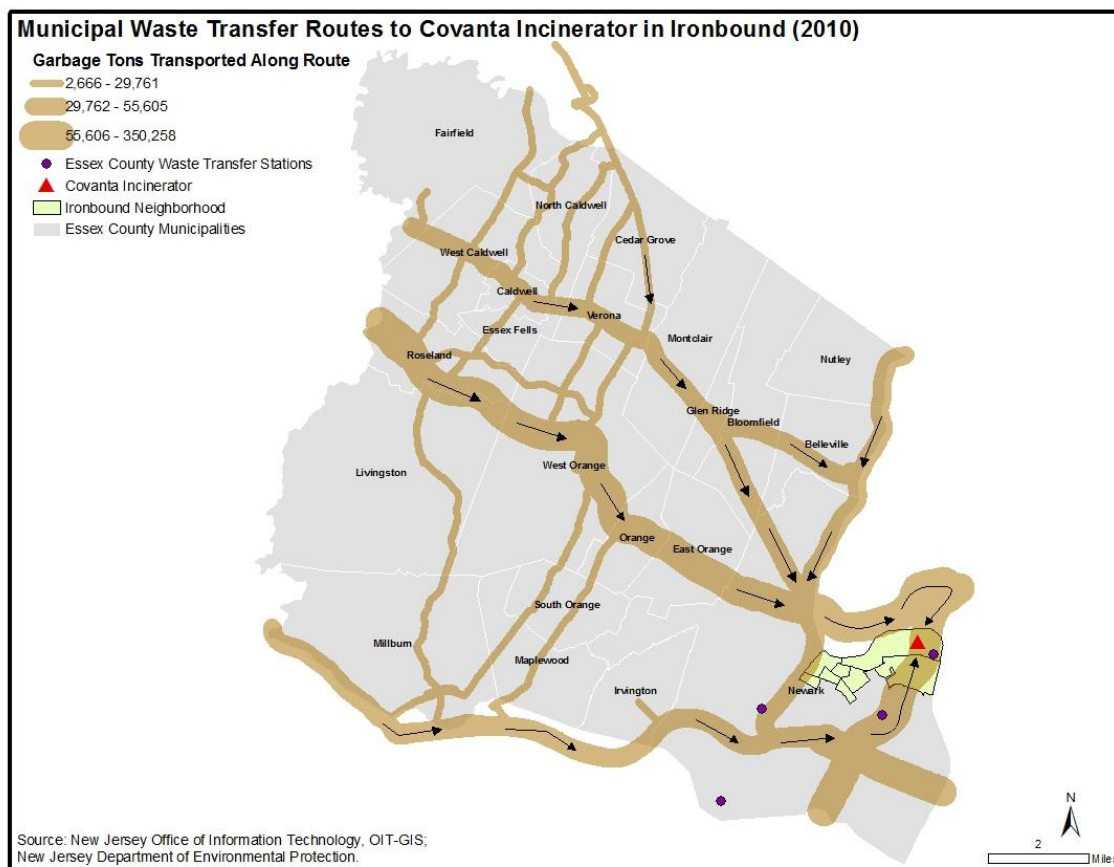
containing a higher percentage of people of color.

<b>Table 3. Racial or Ethnic Characteristics of New Jersey Population Near 2 Miles of a Landfill, Incinerator or Transfer Station</b>								
<b>Hispanic or Latino / Not Hispanic or Latino by Race</b>	<b>All Census Tracts</b>	<b>Host</b>	<b>Centroid</b>	<b>Areal</b>	<b>All Census Tracts %</b>	<b>Host %</b>	<b>Centroid %</b>	<b>Areal %</b>
<b>Statewide</b>								
Total Population	8,784,605				100%			
Hispanic or Latino	1,555,144				18%			
White	5,214,878				59%			
Black	1,125,401				13%			
Asian	719,827				8%			
People of Color	3,569,727				41%			
<b>Landfills</b>								
Total Population		54,923	213,002	528,508		1%	2%	6%
Hispanic or Latino		6,327	54,376	114,283		12%	26%	22%
White		39,948	120,241	308,840		73%	56%	58%
Black		5,226	21,160	57,541		10%	10%	11%
Asian		2,300	12,226	34,660		4%	6%	7%
People of Color		14,975	92,761	219,668		27%	44%	42%
<b>Incinerators</b>								
Total Population		15,435	206,336	350,357		0.18%	2%	4%
Hispanic or Latino		3,803	53,059	83,015		25%	26%	24%
White		6,722	94,159	164,540		44%	46%	47%
Black		4,045	42,282	65,800		26%	20%	19%
Asian		396	10,337	26,506		3%	5%	8%
People of Color		8,713	112,177	185,817		56%	54%	53%
<b>Transfer Stations</b>								
Total Population		234,500	2,154,978	3,167,011		3%	25%	36%
Hispanic or Latino		61,401	750,189	902,932		26%	35%	29%
White		119,888	793,739	1,387,752		51%	37%	44%
Black		28,071	374,950	398,680		12%	17%	13%
Asian		19,386	188,451	309,056		8%	9%	10%
People of Color		114,612	1,361,239	1,779,259		49%	63%	56%

As Table 3 shows, 41% of New Jersey's total population identify as either Hispanic or Latino, Black, or Asian. In contrast, most of the census tracts near landfills have a higher percentage of people of color, with 44% or 42%, depending on the calculation. The exception are the census tracts that contain a landfill, which average at 27% people of color and 73% White. In contrast, census tracts near incinerators and transfer stations exhibit greater percentages of people of color, with calculations upward of 53%, with the lowest percentage being 49% people of color and 51% White for the average of census tracts that contain a transfer station.

*Flows of Garbage from Essex County to the Covanta Energy Incinerator in the Ironbound*

The city of Newark bears all of the garbage facility infrastructure in Essex County, including four garbage transfer stations and the Covanta incinerator. The Ironbound neighborhood in particular has the incinerator and one transfer station. This representation does not include other waste management facilities, such as recycling centers. The following map shows the location of these facilities and the flows of garbage through the county-approved routes for 2010.



**Map 3. Municipal Waste Transfer Routes to Covanta Incinerator in Ironbound (2010)**

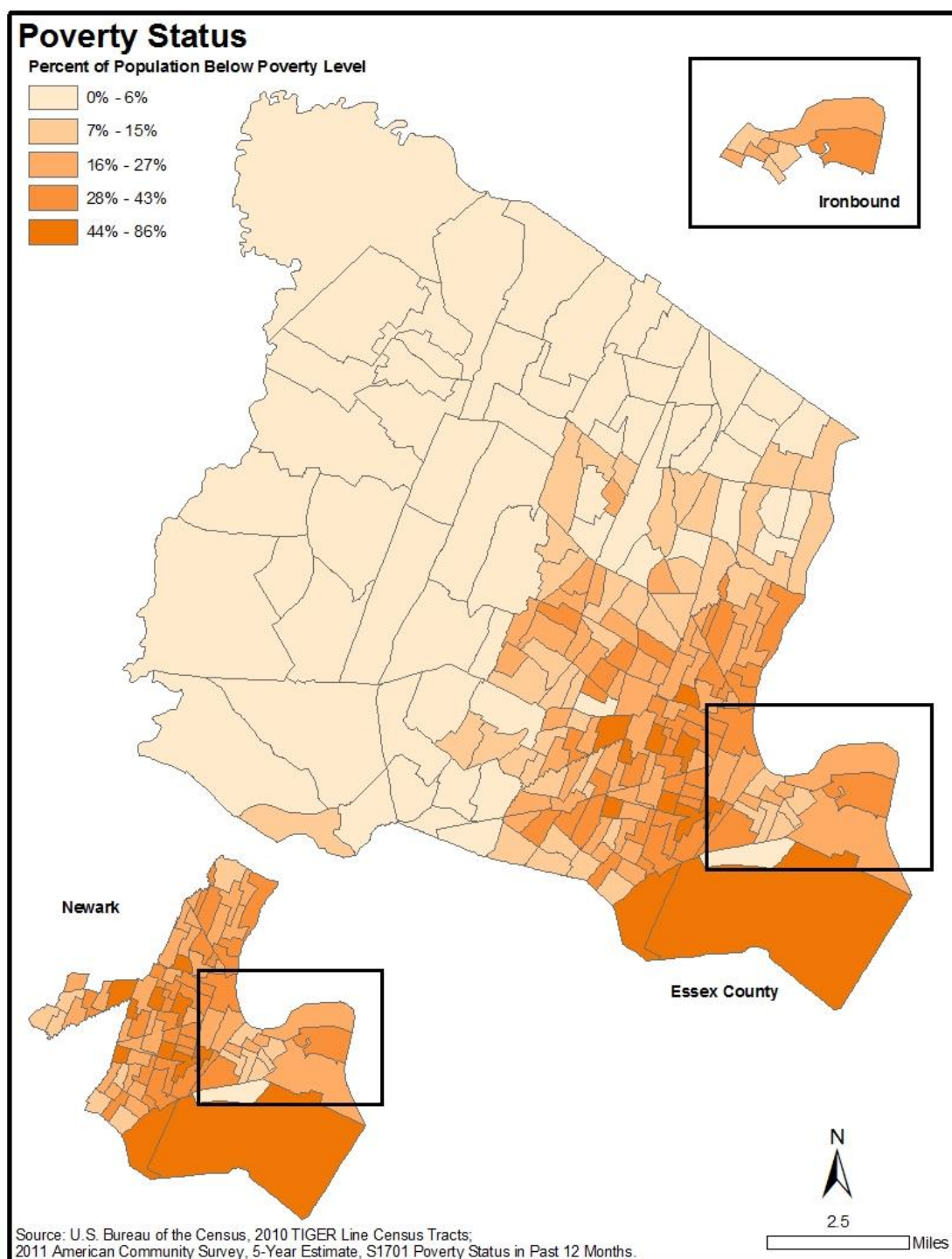
### *Income and Poverty Status*

The population of Newark, and of the Ironbound, experiences a lower median household income and greater incidence of poverty compared to the state as a whole and Essex County as a whole. For the state as a whole, the median household income is estimated to be \$75,147, and for the county as a whole, the median household income is estimated to be \$61,170. The population residing near the Covanta incinerator have a median household income of \$29,731 for the host census tract; an average of \$35,816 for

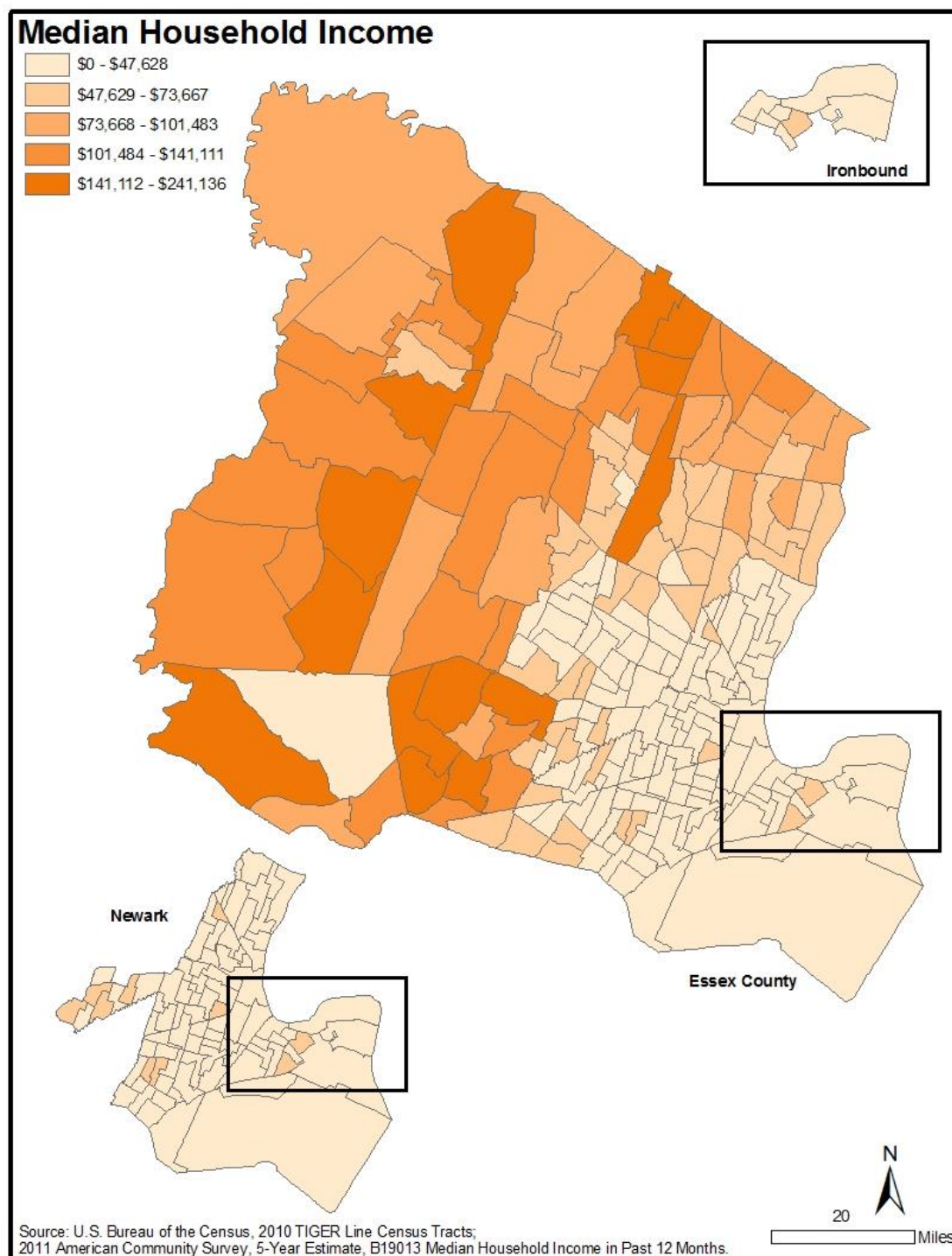
census tracts completely or partly within the two-mile area; and an average of \$41,334 for census tracts having their geographic center inside the two-mile area. As shown by Table 4, the median household income, as a census tract average, of the tracts within or near two miles of the transfer stations is even lower.

Similarly, the poverty status of the population as a percent below poverty is about 10% for the state and 18% for Essex County. The census tract hosting the incinerator has a 20% poverty rate, census tracts having their geographic center within 2 miles of the incinerator have a census tract average poverty rate of 18%, while the average for the census tracts completely or partly within the two-mile area is 23%. This poverty rate is more pronounced for the tracts hosting the transfer stations or located near them, where the host tracts average is 41% below poverty, the average for those with their center within the two-mile distance is 30%, and those partly or completely within the 2-mile area at 29%.

<b>Table 4. Median Household Income and Poverty Status of Essex County Population Near 2 Miles of Incinerator or Transfer Station</b>				
	<b>All Census Tracts</b>	<b>Host</b>	<b>Centroid</b>	<b>Areal</b>
<b>Poverty Status Percent Below Poverty</b>				
<i>Statewide</i>	<i>10%</i>			
<i>Essex County</i>	<i>18%</i>			
Incinerator		20%	18%	23%
Transfer Stations		41%	30%	29%
<b>Median Household Income</b>				
<i>Statewide</i>	<i>\$75,147</i>			
<i>Essex County</i>	<i>\$61,170</i>			
Incinerator		\$29,731	\$41,334	\$35,816
Transfer Stations		\$28,044	\$33,881	\$34,447



**Map 4. Poverty Status in Essex County**

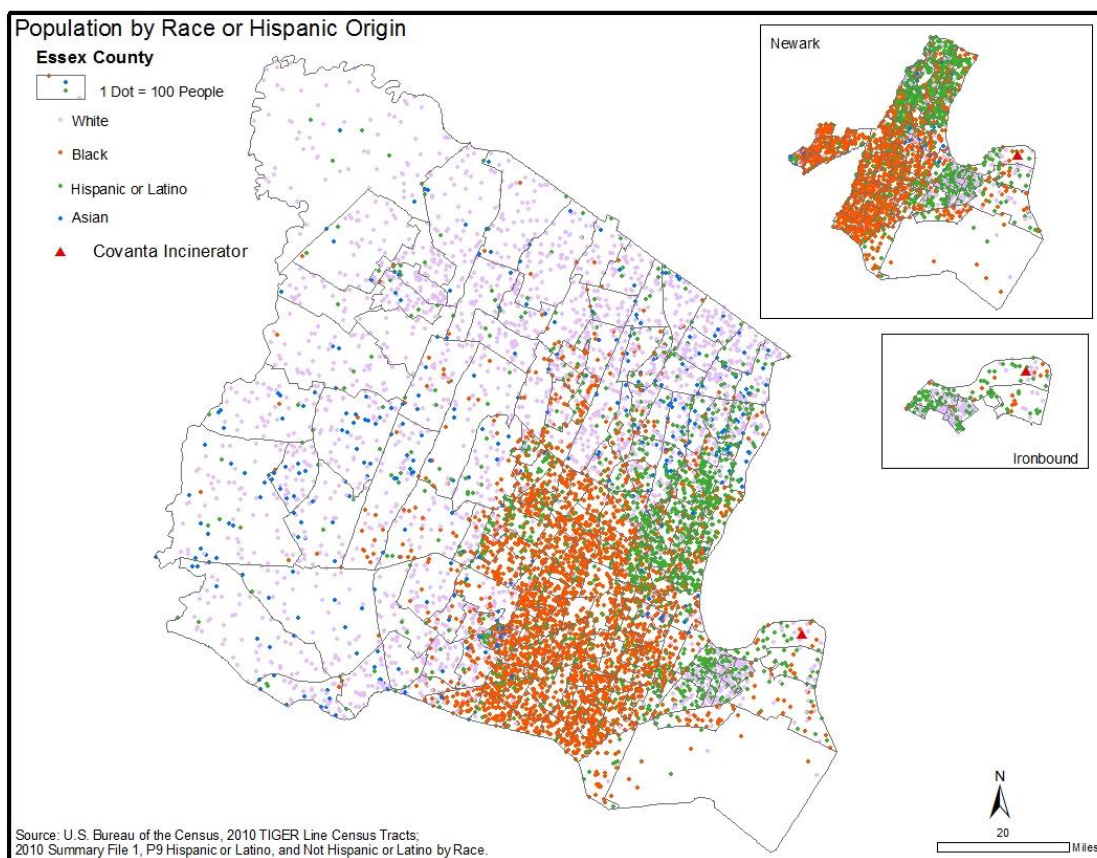


**Map 5. Median Household Income in Essex County**



### *Racial or Ethnic Characteristics*

The population of Newark and the Ironbound also exhibits more diversity in terms of race or ethnicity. In the county, the population becomes more diverse the closer one travels toward Newark.



**Map 6. Population by Race or Hispanic Origin in Essex County**

In Essex County, 67% of the population are people of color who identify as either Hispanic or Latino, Black, or Asian. The county's percentage of people of color is greater

than that for the State as a whole (41% as shown in Table 3). The results of the census tract analysis in Table 5 show that the census tract where the incinerator is located is 74% people of color. That percentage is reduced to 61% or 64% depending on the average of the census tracts either completely or partially within the two-mile analysis area. For the transfer stations, the percentage of the population who are people of color is even higher, with the average for host census tracts at 75%, and 85% and 86% for the census tracts completely or partially within the two-mile area, respectively.

Table 5. Racial or Ethnic Characteristics of Essex County Population Near 2 Miles of Incinerator or Transfer Station									
Hispanic or Latino / Not Hispanic or Latino by Race	All Census Tracts	Host	Centroid	Areal		All Census Tracts %	Host %	Centroid %	Areal %
Essex County									
Total Population	783,969					100%			
Hispanic or Latino	159,117					20%			
White	260,177					33%			
Black	308,358					39%			
Asian	35,292					5%			
People of Color	523,792					67%			
Incinerator									
Total Population		4,240	30,237	48,198			1%	4%	6%
Hispanic or Latino		2,092	12,219	17,204			49%	40%	36%
White		1,114	11,900	17,267			26%	39%	36%
Black		722	3,345	9,500			17%	11%	20%
Asian		43	200	779			1%	1%	2%
People of Color		3,126	18,337	30,931			74%	61%	64%
Transfer Stations									
Total Population		13,220	165,925	185,564			2%	21%	24%
Hispanic or Latino		4,862	37,987	39,885			37%	23%	21%
White		3,246	25,035	25,355			25%	15%	14%
Black		4,149	94,441	111,455			31%	57%	60%
Asian		90	1,903	1,988			1%	1%	1%
People of Color		9,974	140,890	160,209			75%	85%	86%



#### **4.6 Conflict, Distribution, and Environmental Injustice in the Ironbound**

As this chapter has discussed, the Ironbound's struggle against the garbage incinerator facility is a classic case of environmental injustice. In this already burdened community a visible conflict ensued to try to reject this additional facility, using both social movement strategies and formal governmental channels. However, in the context of the longer history of garbage governmental management in the state, it is evident that this conflict was more than just a struggle among Essex County communities over where the facility would be located. This case of environmental injustice emerges from various aspects of our collective governmental intervention into the garbage problem over time. One key aspect is the failure to question the production of garbage. Another aspect is to designate clean spaces off-limits to garbage, and disposal spaces that are to receive the garbage. Although the flow control policy had called for the facility location to be determined within each county, it does not appear from the records reviewed in this dissertation that any other location within the county was even considered. Yet another key aspect is the alignment of the commercial actors and elements of collection and disposal into the garbage governmental plan, from haulers to disposal facilities, and the financing of the entire system with household budgets. In this context, garbage becomes essential to the incinerator facility. All of these aspects of the governmental plan are founded on the production of the population as garbage governmental subjects.

## **Chapter 5**

### **Garbage Governmental Subjects**

A key premise of this dissertation is that environmental injustice conditions are produced not only from the visible struggles and conflicts over the location of detrimental facilities or environmentally noxious land uses, but also and fundamentally from the accepted and mundane governmentalities we enact in our day-to-day lives. These governmentalities continuously feed and support the larger power structures and infrastructures we typically point to as the culprits of environmental injustice. As part of these governmentalities, and with respect to garbage in particular, we have adopted understandings and rationalities about what garbage is and how we should manage it. In connection with these rationalities, we have designated specific implements, tools, and technologies, and enacted specific practices and comportments considered acceptable for waste management. Through these governmentalities we shape our relations with one another and with respect to the garbage. As has been shown in this dissertation thus far, these governmentalities are precisely about shaping social relations with garbage at their center, and formal institutions of government play a role in fostering the governmental roles we play. In an effort to elucidate the garbage governmentalities operating in connection with the production of environmental injustice in the Ironbound, this chapter discusses the results of the focus groups conducted with selected residents of the Ironbound and selected residents of Montclair, who are served by the garbage incinerator. The focus group questions were designed to promote discussion of the mundane day-to-day practices participants undertake concerning the garbage, how they define and understand what

garbage is, how they view garbage as an environmental problem and, finally, how they make sense of the garbage flows from the rest of Essex County and other areas to the Ironbound and the sharp racial or ethnic and wealth differences between the garbage sending communities and the Ironbound.

A total of six focus groups were conducted, three in the Ironbound and three in Montclair. The Ironbound focus groups (cited here as IRON1, IRON2 and IRON3, respectively) consisted of three population subsets. The first focus group consisted of six Spanish-speaking women, the second focus group was composed of nine Ironbound residents of mixed gender and ethnic backgrounds and included residents of both public and private housing, and the third focus group consisted of nine mainly African American residents of primarily public housing. In Montclair, the three focus groups (cited here as MONT1, MONT2 and MONT3, respectively) were heterogeneous in terms of gender and age, but were homogeneous in terms of race as most participants were White with only one Hispanic participant. All of these Ironbound and Montclair participants contributed to lively discussions about their understanding of garbage, how they manage this material in their day-to-day lives, how they view the municipal government's role in the task of managing garbage in their community, and how they understand and make sense of the conditions of environmental injustice within which they are found. The diversity of perspectives and experiences expressed in these focus group discussions can be understood in terms of the participants' subjectivities as garbage governmental subjects who enact garbage governmentalities in their day-to-day lives and who, through these subjectivities, shape conditions of environmental injustice.

*Dominant Themes*

Within the overarching concept of garbage governmental subjectivities, various themes emerged in each set of Ironbound and Montclair focus groups. Convergences and differences among the lived experiences of Ironbound and Montclair focus group participants emerged from the very first question they answered, which asked them to name the best aspects of their neighborhood. The IRON participants raised several great qualities about their neighborhood, such as the proximity of parks and schools, public transportation options, the many shops available that place all kinds of goods and services within residents' reach, the presence of the ICC with its many resources and programs, and their neighbors and the diversity of the people who call Ironbound home. One participant mentioned the art around Newark as a great community benefit. Similarly, the Montclair participants mentioned accessibility, green spaces, and diversity as the best characteristics of their respective neighborhoods. Upper Montclair, the Walnut Street area some residents refer to as “Waho,” the Watchung Plaza area, and the Fourth Ward were specific neighborhoods mentioned. Each neighborhood’s centrality and connectivity were cited as great benefits that made it easy for residents to walk to shops, restaurants, and other amenities, and to train stations and bus stops to access transportation to New York City and Newark. The availability of parks, green spaces, gardens, and Montclair's tree-lined streets were also commonly mentioned. Specific green areas mentioned were Edgemont Park, Glenfield Park, and the Iris Gardens. The demographic diversity of their respective neighborhoods was also highly praised. This included diverse ethnic, generational,

gendered, and sexual orientation backgrounds, combined with the independent and non-conformist nature of their neighbors.

The key difference between the Ironbound and Montclair participants is that, in each Ironbound focus group, participants did not limit their comments to the good aspects of living in the Ironbound. Residents talked about quality of life problems that affect them day-to-day. Across all of the Ironbound focus groups, the participants expressed great concern for the health of the children in the neighborhood, who experience a high incidence of asthma. They cited high rates of respiratory diseases affecting not only children but also the adults in the community, and attributed these impacts on health to the bad air quality in their neighborhood. In turn, they understood the bad air quality as exacerbated by the garbage truck traffic and the garbage incinerator emissions. The first question therefore revealed a key difference in the lived experience of these community residents when compared to that of the Montclair participants, which directly pointed to the disparity in the environmental quality and the quality of life of these two communities. This served as a meaningful backdrop to the discussions about garbage.

As discussed in detail in the rest of this chapter, the overall narrative of the Ironbound and Montclair focus groups highlights participants as garbage governmental subjects, and garbage as a burdensome material that is intimately bound with the practices of everyday life and with formal and informal economies. These practices are both private and communal, and are found within the domains of both informal governmental systems enacted at home and outside the home, and formal municipal requirements. Their discussion highlighted their role as garbage governmental subjects as they provided details

about their daily mundane practices of garbage making and management in their homes, what they view as the improper behavior of their neighbors and fellow community residents with respect to the garbage, and the municipal government's provision of garbage services that are substandard in participants' opinions. This discussion connected the personal and mundane to the structural and institutional, and involved the various subjects and sites of governmental power. Within this discussion, participants responded variously with dignified silence, outrage, and surprise to the pattern of environmental injustice in the Ironbound represented on maps showing the location of the garbage incinerator, the garbage flows to it from all of Essex County and other areas, and the racial or ethnic and wealth disparities of the population. But these commonalities among Ironbound and Montclair focus group participants expressed themselves differently along two main dominant themes.

### *Ironbound and Dumping*

Dumping was the dominant theme across all of the Ironbound focus groups, which referred to both the behavior of individual actors illicitly dumping materials in the neighborhood and the collective, sanctioned, and controlled dumping of garbage in the incinerator by the rest of Essex County and other sending communities. Specifically, and evincing the performance of their garbage governmental subjectivities, participants discussed how they produce garbage in their daily lives from mundane activities such as cooking meals and cleaning the home. They proceeded to discuss with displeasure the behavior of neighborhood residents who routinely do not use proper trash cans to

containerize the garbage and who place bags full of garbage out on the curb on days that are not the designated garbage pickup days, which leads to tearing of the garbage bags by animals and a lack of cleanliness in the streets. The irritating behavior of neighborhood scavengers and their participation in the informal garbage economy was part of this discussion. Concerning Newark's garbage collection service, a common theme was the lack of care shown by the city's sanitation workers while undertaking their work. According to the participants, the garbage men do not properly handle the trash, do not pick it up if it spills from the bags or the trash cans, even when they themselves cause the spill, and do not take proper care to return the cans to the curb in front of each residence. In the participants' experience, the city does not provide trash and recycling receptacles to its residents, while in other areas of Newark, such as the downtown, the city supplies trash cans on every block. The residents consistently raised the problem of illegal dumping, as all kinds of junk get illicitly dumped in the neighborhood streets, empty lots, and public housing trash containers. Finally, the map display showing the flow of garbage from all over the county and other geographic jurisdictions to the Ironbound was variously met with a sense of dignified silence and outrage. Some of the participants did not know that these conditions existed in their neighborhood, while some were more knowledgeable. The truck traffic that comes to the Ironbound to dispose of the garbage at the incinerator, and the presence of that incinerator near public and private housing, were viewed by the participants as one more aggravating condition that worsens the residents' quality of life. In the context of the broader discussion of dumping in the Ironbound, the garbage flows to

the Incinerator can be interpreted as a collective insult and as a collectivized and normalized form of dumping.

*Montclair and “Good Environmental Citizenship”*

The dominant theme in the Montclair focus groups was how in performing their garbage governmental subjectivities participants continuously shape their conduct as what they consider to be “good environmental citizens.” This garbage governmental subjectivity included the conduct of day-to-day life practices, the understanding of the garbage problem using mainstream environmental movement rationalities, and the recognition of the interplay of governmental policy and market forces that prevent them and their community from achieving a fuller realization of what participants consider to be good environmental citizenship with respect to garbage. Specifically, participants perform their garbage governmental subjectivities through their day-to-day practices which, as good environmental citizens, consist of vigorous composting and recycling activities that significantly reduce their garbage piles. They also attempt to lead a less consumerist and more environmentally-conscious lifestyle both at home and in public places. In addition to their day-to-day practices, their understanding of garbage as an environmental problem helps to shape their garbage governmental subjectivity. They mainly embrace standard environmental movement understandings of the garbage problem as that of increasing piles of non-biodegradable garbage that goes to landfills and stays around forever. In their discussion of garbage as an environmental problem, this understanding generally excluded the production of environmental injustice conditions. With respect to the municipality’s



role in garbage governmental management, participants generally resented the ways in which the municipal government in Montclair was failing to embrace what they consider to be truly progressive policies of garbage management. A common theme was how too often the municipality's policies, such as single stream recycling, reflect more a response to market forces rather than truly progressive environmental protection values. Another common theme was that the municipality does not reward them for their efforts as good environmental citizens given how little garbage they put out because of their vigorous composting and recycling practices. In response to the location of the garbage incinerator in the Ironbound and the conditions of environmental injustice within which they exist, the main reaction by these participants was surprise and an admission by many of them of their lack of knowledge that these conditions existed. Only one participant was aware of this problem specifically, and only one other participant was aware of the municipal garbage contracts requiring disposal at the incinerator. In total, a maximum of four participants knew something about the incinerator being located in Newark. Some of the participants viewed environmental injustice conditions as a reflection of society's ethical shortcomings and expressed a desire to address these issues.

#### *Limitation of Participants' Knowledge and Garbage Governmental Subjectivities*

The discussions among both the Ironbound and Montclair focus group participants concerning the environmental injustice conditions within which they exist revealed the limitations of the participants' subjectivities as garbage governmental subjects. One obvious limitation was the fact that many of the participants did not know that these

conditions existed at all. While the disposal arrangements practically result in clean environments for Montclair residents and garbage truck traffic and incineration for the Ironbound, contributing to the disparities in environmental quality, participants did not know their place in the environmental injustice constellation and their respective roles within it. For both sets of participants, not knowing about the environmental injustice conditions limited the possibilities for expressing an alternative garbage governmental subjectivity that could challenge environmental injustice. But these limitations were also reflected in both the theories the participants put forth that in their view produce environmental injustice conditions, and in what they think should be done to ameliorate these conditions.

Interestingly, both sets of focus group participants offered essentially the same theories that in their mind account for environmental injustice. For the Ironbound participants, the money and power held by sending communities, compared to that of Ironbound residents, were seen as key explanatory factors for the environmental injustice outcomes. The Ironbound participants believed that they are targeted for these facilities because they are poor, and that is the reason for environmental injustice. For the Montclair participants, the initial surprise at these conditions was followed by an understanding that urbanization, relative political power, and relative ability to fight detrimental land uses by residents of municipalities like Montclair versus the Ironbound account for the environmental injustice outcomes. Given this assessment, an initial expression of surprise was followed by an expression of not being that surprised after all. Concerning what should be done to ameliorate or eliminate the environmental injustice, a common response across all

Ironbound focus groups was that the sending communities should “get their own” incinerator because Ironbound has already “enjoyed” it enough. To that end, the Ironbound participants felt that the Ironbound residents should organize in protest to get the mayor, the governor, the senator, and the president to act to remove the facility and to stop the garbage flows to it. In the Montclair focus groups, although participants expressed grave concern for the affected residents and raised this problem as a serious ethical challenge that we must face, possibilities for how to address environmental injustice remained unstated. When all was said and discussed, what remained from both focus groups is that money and power account for environmental injustice, in a somewhat inevitable status quo kind of way and that, for Ironbound residents at least, redistribution of the facilities is a solution to the injustice.

### *Sense of the Inevitability of Injustice*

This discussion was informative for what was raised, but also for what was not said. In terms of what was said, both Ironbound and Montclair participants suggested that money and power are determinative of the environmental injustice outcomes. Even after the participants spent much of the discussion talking about the garbage and everything they do to manage it, and the municipality's role and the municipal requirements they must comply with, the production of more and more piles of trash was generally not described by the focus group participants as a key condition for producing environmental injustice. Therefore, garbage reduction as a collective strategy to ameliorate environmental injustice conditions was not conceived as part of the solution. There was a lack of faith that fellow

residents could or would take action by either organizing against the injustice or adopting garbage reduction strategies. This reveals a limitation in the participants' subjectivities as garbage governmental subjects and a significant barrier to achieving environmental justice through shaping and fostering an alternative and collective garbage governmental subjectivity that could challenge the existing power structures and infrastructures.

### *Chapter Outline*

The rest of this chapter summarizes the results of the focus group discussions, first for the Ironbound and then for Montclair. Within each section, the discussion is organized by themes, within which the results of the first, second, and third focus group in each community are discussed. Following this discussion, the chapter concludes with what the discussions reveal as limitations for achieving environmental justice in the Ironbound.

## **5.1 Ironbound**

### *Day-to-Day Garbage Governmental Practices and Conduct*

The ways in which participants enact their subjectivity as garbage governmental subjects emerged in the discussion of their day-to-day practices and behaviors that have to do with garbage, either at home, work, or at the other places they frequently visit in their daily lives, and whether they had tried to reduce their own garbage production. Their discussions focused on their mundane activities of living and cleaning, of complying with the city's garbage and recycling collection schedules, and of the practices they undertake

that are different from the expected disposal behaviors, such as reusing and donating items. The discussions also highlighted the participants' view of the non-compliance of neighborhood residents concerning appropriate garbage management behavior, and the common surveillance that takes place concerning garbage collection and disposal activities, especially as participants monitor and assess the unpleasant and non-compliant behavior of some of their neighbors and the scavengers who try to make a living by rummaging through the garbage.

The women in IRON1 mentioned day-to-day activities such as cooking, cleaning, taking out the garbage, and "selecting" or separating items for recycling. The discussion was a bit comical and light as they discussed mundane actions, such as peeling potatoes, frying an egg, and unpacking their groceries and items after a trip to the market, as examples of how they produce garbage just from conducting their basic daily activities. Cleaning with paper towels, ending up with an empty container of cleaning liquid, using pre-moistened disposable wipes for cleaning surfaces and furniture, or eating takeout food from a Styrofoam container were also mentioned. Most did not use disposable plates at home on a daily basis, but did use them as a convenience when having people over, as they did not have sufficient plates for everyone visiting, and also would not want to do the labor of washing that many dishes. They mentioned the garbage and recycling collection schedules, which they had memorized, and discussed who is responsible in their households for separating the recycling, containerizing the garbage, and moving cans to the curb on the designated days. Many of them undertake this work themselves or closely supervise their husbands or their children when delegating the work, because if the work

is not done well they could get a fine from the city or from the landlord. Several of them said that they educate their children on proper recycling, and one of them thought that recycling behavior should be continuously instilled and practiced at school. This idea caused some debate, as another participant firmly believed that this ethical and responsible behavior falls first and foremost on the parents at home, who must instill that kind of comportment in their children. Some of them were displeased with the behavior of some of their neighbors, who do not comply with the collection schedule and place garbage out on the streets on days that are not the designated garbage pick-up days, and who do not clean their garbage cans. The following quotes reflect exasperation with residents' non-compliance:

“... Also there is no adequate handling of garbage. The trash cans, people don't wash them, and they do not help so that there is a better environment” (IRON1\_F4).

“Sometimes, people themselves put out their trash at night. On Pulaski Street, every day you see one or two bags of trash. People put out their trash on the curb. They know it is not garbage day, but they put their trash out on the curb anyway. Sometimes the birds, the pigeons, cats, spill it and it remains there on the street” (IRON1\_F5).

Echoing the themes raised in the first focus group, participants in IRON2 also mentioned everyday mundane practices they undertake that lead them to produce garbage, such as cleaning and eating. Several of them discussed using disposable plates at home to avoid having to wash the dishes, especially when the kids at home will create quite a bit of dirty dishes but refuse to wash them, leaving the mess in the sink attracting vermin, to the parent's displeasure and added labor. But participants also raised various practices they are undertaking to counter garbage production, such as reusing containers in the garden;

changing their purchasing behavior to avoid Styrofoam; composting at the ICC community garden on Courtland Street; recycling; donating clothing and toys to family members, friends, the Salvation Army, or Goodwill; and launching beautification efforts to improve the aesthetics of the neighborhood.

In her enactment of an acceptable garbage governmental subjectivity that embraces recycling, one of the participants in IRON2 who is a mother teaches her son to recycle, and at the same time he teaches her as he has become the little recycling police at home. This mother and son enact recycling practices in their home despite the fact that at Hyatt Court, the public housing complex where they reside, there is not recycling service. Once they put the recycling in the complex's dumpster the effort is lost. This discussion also revealed that several of the IRON2 participants did not have a lot of hope that the city's residents, either in public housing or not, would embrace a stronger effort to recycle, either because residents would not comply with the required practices or because it would be too costly to institute recycling in public housing. The discussion unfolded as follows:

IRON2\_F5: "... I've been teaching my son, I have a small child, I am teaching him about recycling, even though we don't recycle in my area, I have been teaching him about recycling, but he has kind of been teaching me, and we've been, you know ..."

VARIOUS VOICES: (Laughter.)

IRON2\_F5: "... working together, no, because I would throw something in the garbage and he would be like 'No mommy, that goes in the blue bin...'"

VARIOUS VOICES: (Laughter.)

IRON2\_F5: "... so I put it on the side of the can, but once I take it outside it's kind of like it all goes in the same trash can and there's not much I can do about it after that."

IRON2\_M9: "So do you think Hyatt needs like a recycling container?"

IRON2\_F5: "They are not going to do that. To get everybody to do that, it's not happening."

IRON2\_F4: "That's what I said, when you say about recycling and separating the garbage, it's not going to happen in Newark here, let's face it, it's not going to happen."

IRON2\_M9: "It doesn't happen anywhere. You could go to Livingston, and everybody in Livingston is not going to recycle. You just can't single out a certain city. We just have to get the good people that want to do it get the ball rolling, that's all it is."

IRON2\_F5: "But there's also certain areas where the recycling trucks go, so if you are recycling and the recycling truck doesn't come there ..."

IRON2\_M9: "But they pay for that stuff, though. Those residents pay for that kind services, though."

IRON2\_F4: "Yeah, they do, they do."

IRON2\_M9: "You know, we are in a low-income area. I can't expect that somebody from Hyatt to pay an extra \$50 a month."

IRON2\_F5: "For a special garbage, 'cause I wouldn't do that."

IRON2\_M9: "You understand what I'm saying? It's not going to work."

Part of the discussion above referred to the lack of faith in residents' compliance. The non-compliance with proper garbage management and the garbage collection schedule by neighborhood residents was a sore point. One participant complained that neighbors routinely put out their recyclables in the wrong manner. He would go out there and properly stack and tie the cardboard boxes so that they would not blow all over the street. Residents also routinely failed to comply with the garbage collection schedule. In this context, the



behavior of Waste Management Corporation is seen as part of the status quo. This discussion illustrates a common sentiment:

IRON2\_F2: "Yes. The thing that I hate the most about the Ironbound is the lack of respect when it comes to garbage, people just dump, and they don't care, and the garbage is in front of their house, and nobody...., I shouldn't generalize and say nobody, but a lot of people don't even have the decency to clean in front of their house, you know, and they let filth just pile up, and this is why I get out of here every weekend. I hate the Ironbound for that. And it reeks because, also, Waste Management, you know, I guess they figure, you know, people here are poor, they are not going to say anything, they let these smells just linger on into the neighborhoods, that could be affecting our health, too. But I also can't stand the fact that citizens in this area just think it's Ok to throw garbage on the streets."

VARIOUS VOICES: "Yeah." "That's true." (Agreement, contemporaneously as F2 speaks).

IRON2\_F4: "Then, what comes? The animals, the rats, that carry diseases."

Some of the exasperation the participants felt had to do with the neighborhood scavengers, the "homeless people" and "junkers" who routinely go around "scrapping," digging through the garbage for saleable metals and cans. The following quotes illustrate this sentiment:

"And then you got the poor people, they'll go and scrap, so then you got all this junk because people are digging in your trash, taking out the cans, taking the copper in the middle, so you then get back and you say 'I didn't put my trash out like that last night!' Well, somebody was in your trash all day" (IRON2\_M9).

This theme was also raised later in the discussion, with exasperation mixed in with a sentiment that people who go through the garbage are simply trying to make a living, and that maybe there should be designated bins where they can access the materials without having to make a mess opening the garbage bags. The discussion was as follows:

IRON2\_F4: "But the only thing about the recycling, you put your recycling, your cans, your bottles, everything else, you have these people coming around dumping your garbage cans to get the cans. I get so mad!"

IRON2\_M3: "They break the bags and everything. So what I do is I separate them in my back yard and I give it to him. I told him 'Don't touch my garbage, there's nothing in there but plastic.' So, when I have a can-full, I dump it into a bag, and if he's not home, I just put it right inside the gate, 'cause I know he collects them."

IRON2\_F1: "That's good because, I mean, I know that they're probably messing around with your garbage, but I feel bad because that's part of their living and a lot of these people, I've seen them, they don't really have like, you know, a social security..."

IRON2\_F4: "I'm sure you wouldn't mind, but pick up the mess afterward!"

IRON2\_M9: "Yeah, don't make a mess up. Exactly. Don't leave a mess..."

IRON2\_F4: "That's just respect, to us!"

IRON2\_M9: "It is."

IRON2\_F1: "Yeah, that's true, I know."

IRON2\_M9: "There's decent ones that would clean up after themselves."

IRON2\_F1: "Yeah, like, the lady that digs in my garbage (laughter), she cleans up. (Laughter.)"

IRON2\_M3: "This is a young guy, the young guy ..."

IRON2\_M6: "But the owner who owns the house can be fined. You got to think about all that too."

IRON2\_M9: "Fine for what, for the mess, like in the front, if there's a mess?"

VARIOUS VOICES: (Agreement. Chatter.)

IRON2\_F1: "Yes, I have already had my fine."

IRON2\_M6: "Yeah, because of the trash out here. XYZ live here. What can we do about it? Or whatever. OK, I'm going to come out there I'm going to fine the landlord, or whatever..."

IRON2\_F1: "Uh hum. Yeah, that's true."

IRON2\_M6: "And it's not even their fault, you know."

IRON2\_M9: "No, it's not even their fault, man. They are probably asleep in the morning."

IRON2\_M6: "They don't know what's going on."

IRON2\_F4: "'Cause you are not at the window 24 hours a day you have things to do!"

IRON2\_M9: "You are probably at work! You are probably at work!"

IRON2\_F4: "You know?"

IRON2\_M6: "You might as well stop your job. You're going to be on block watch. (Laughter.)"

The references to surveillance were echoed in another comment by one of the participants, referring to how there is an ongoing educational campaign in the community to inform residents that they need to report bad smells in the neighborhood to the NJDEP, because *"that way they come out, they send an inspector out, to try to find out what's contributing to the smell"* (IRON2\_F2). The participants also mentioned ways in which the community is trying to improve the sanitation of the neighborhood through beautification efforts.

The themes about compliance and non-compliance raised in the first and second focus groups were echoed by participants in IRON3, who also discussed their day-to-day practices related to garbage. The mundane practices mentioned included the routine cleaning that happens at home, which produces bags of garbage when everything in the home that does not belong there goes into the trash. Sweepings, leftover food, baby diapers,

and disposable paper plates fill up the garbage bags. All of the residents in IRON3 stated that they routinely use disposable plates and cups at home, mainly because it saves labor by eliminating the need to do the dishes, and also because it saves money by reducing the use of dish soap and water. Littering by neighborhood children with the wrappings from their chips and ices, and even adults, also came up in the conversation. In the public housing complex the garbage bags go into the big dumpsters on site. However, there is no recycling service, and the focus group participants were not optimistic about the ability of the public housing complex and its residents to embrace recycling. One participant viewed recycling as a chore imposed on households for the benefit of the garbage man, while others expressed that it would never work because people would not uniformly comply. The following discussion illustrates this sentiment:

IRON3\_F2: "I know, my granddaughter, well, she lives in Hillside, and they have to recycle, and I helped her one day and I told her 'girl, you need to move from here because I can't come over here and help you.'"

VARIOUS VOICES: (Laughter.)

IRON3\_F2: "You have to recycle certain things..."

VARIOUS VOICES: (Chatter.) "The papers, the bottles, ..."

IRON3\_F2: "They were trying to do that down here, but there's too many people where we live at to do that. That would never pass. They would never do it."

MODERATOR: "How come?"

IRON3\_F2: "There's too many buildings. There are 270 where we live at, to have recycling."

IRON3\_F7: "And the reason they wouldn't do that is because some might apply and go do it, but for the most part, the ones outside where you put your recycles in,

it's going to be the other ones coming in, just throwing their garbage in there, mixing it, no matter however way you see it, it's going to be messed up down here."

IRON3\_F4: "Yeah."

MODERATOR: "So you are saying, some people may do it nicely but then...."

IRON3\_F7: "... but the outsiders will come and mess it up."

This discussion in IRON3 echoed sentiments expressed by the participants in the first and second focus groups concerning the lack of faith in the ability of residents to recycle or to obey the proper disposal schedules, in addition to mentioning the common practice of dumping in the Ironbound by various people. In the above comments, "outsiders" take advantage of the public housing dumpsters and avail themselves of them, even though they do not live there. This, in the participants' view, contributes to a lack of recycling services being provided. The topic of dumping continued with other examples of its occurrence.

*Garbage: Illegal Dumping in the Neighborhood and Substandard City Sanitation Services*

While the participants' discussion of their day-to-day activities focused mainly on themselves and their neighbors, the role of the municipal government and outsiders with respect to the garbage was the focus of the discussion about garbage itself. The enactment of participants' garbage governmental subjectivities moved beyond the personal and day-to-day practices to a discussion of garbage as a burdensome material that is out of control in their neighborhood because of the neglectful and even illicit behavior of non-compliant others, coupled with the failure of the municipal government to address these problems. The common associations of garbage as waste, smells, filth, dirtiness, pollution, and

contamination were raised in each of the focus groups, but a dominant theme was the recurring presence of garbage in the neighborhood's abandoned lots and in the streets. Participants attributed this condition to various culprits, including neighborhood residents who carelessly litter or do not handle their garbage properly. But a greater source of the problem was outside people and contractors who illegally dump garbage, and even the city's own public works department and the garbage men who do not take care to do their jobs properly. Overall, the common theme in this discussion highlighted the Ironbound as a dumping ground for garbage and waste.

The problem of people dumping in the Ironbound emerged in each of the focus groups. The following discussion is an example of the problem. Here, IRON1 participants describe how an abandoned lot becomes an attractive place for dumping by people who do not live in the neighborhood:

IRON1\_F6: "For example, I live in a neighborhood where in front of my house there is an empty property. It was owned by a housing agency, but I do not know what happened, they did not get to build. But the grass grows until it can grow no more, and we the neighbors have to be calling so that they come to mow the grass. And there you have cats gathering, you have many things gathering and piling up, you know. And so the grass brings flies and other insects and all that gives a bad appearance to the neighborhood. And then they put things there so that the city can come by later to pick it up when they please, as they say."

MODERATOR: "Interesting. So the words we have are waste, filth, dirtiness, sickness, contamination, insects of all kinds, properties that are not maintained, overgrown grass."

IRON1\_F6: "And many people wait for it to be dark at night and then they go and dump their garbage there, which is the worst, and so things pile up and so that's very bad."

MODERATOR: "I see. And so that also attracts more trash."

IRON1\_F3: "And more waste."

IRON1\_F5: "And that trash is there one day or two days and it smells."

IRON1\_F1: "Yes because if it is not on the edge of the street nobody will pick it up. Nobody."

IRON1\_F6: "And they always wait, in my neighborhood people are very united and we are always checking to make sure that people don't come to dump their waste there because that is worse for us. But there are times that one is resting and that's when they take advantage and dump their trash there. And one cannot do anything. Who are we going to blame. We can't do anything."

IRON1\_F1: "Sometimes people go by driving in their car very fast, they dump their trash, and keep going. Especially when it is the day to throw away the large items, they leave furniture, old chairs, it is awful."

The above discussion by the women in IRON1 raised the issue of illegal dumping in empty lots in the neighborhood. This experience was echoed by another participant in IRON2. She also spoke of the illegal dumping occurring in a lot that has an abandoned house right next to her house, and of other land use issues near her house, in the following comment:

IRON2\_F1: "I think that, for myself, I just got a home through Habitat, and I am blessed. But, right next to my house is an abandoned house and everybody dumps their trash right in front of that abandoned house. And, the smell, I can't take the smell anymore. And I'm glad there's cats lingering around my house because, otherwise, I would probably have, like, 20 rats living along with me. Um, right behind my house, there is a church, and they made everything beautiful, except their part where there is a whole bunch of garbage. And then right behind that is trucking companies that shouldn't be there, and this is what my children have to go through every day. My kids can't go outside, because you have the abandoned house where they are doing God knows what in there because I see people in and out, and then you have the trucking companies that actually, they don't care who is on the road, they just go. And then, they don't even pick up the garbage sometimes 'cause my house is a corner house, and they don't care. It's sad, it's sad and, I don't know."

In addition to people dumping on empty lots and abandoned properties, the discussion about dumping across all of the Ironbound focus groups also included the widespread illegal dumping on neighborhood streets by people who appear to be trucking companies, construction contractors, or garbage disposal companies. This problem was raised by the women in IRON1, as illustrated in the following exchange:

IRON1\_F6: "Also, the truck companies, the big trucks, one day I was going home through Pacific, through the Pulaski, and I saw one of those trucks dumping oil right there on the street, and that is a very hard contamination. And people do it, I think, to do it."

IRON1\_F1: "Because they don't care about the health of others. They don't have a conscience."

The participants in IRON2 discussed the same problem of illegal dumping in the streets, as follows:

IRON2\_M8: "The streets. The streets, because mostly everywhere you walk in Newark there's garbage."

IRON2\_F4: "Yes, it's all over the streets. Sometimes they don't pick up and it's left on the street."

IRON2\_M3: "Very polluted streets."

IRON2\_M8: "And sometimes it's the garbage trucks."

IRON2\_M3: "I live on a dead-end street, like I said. Last month, at the end of my street, they dumped a whole truck full, right on the street."

IRON2\_F4: "Yeah".

MODERATOR: "Who dumped a whole truck full?"

IRON2\_M3: "Nobody knows."

IRON2\_M9: "So like a dumper truck just dumped there?"



IRON2\_F4: "Sometimes it's tires, computers."

IRON2\_M3: "Yeah. Whatever they had left from the job."

IRON2\_M9: "Illegal dumping."

IRON2\_F4: "Yeah."

IRON2\_M7: "I used to live on a dead-end too. They would dump tires, garbage bags."

IRON2\_M3: "I've been living there for 37 years. At first, it was like that, but then for about 30 years nothing happened. But now, last week, I see it, and I say 'Well, what a nerve of these people.' But my neighbor called the city and talked to, I don't know, what's his name..."

IRON2\_F2: "Amador?"<sup>38</sup>

IRON2\_M3: "Amador, yeah. He came the same day and they picked it up."

MODERATOR: "Wow. Who do you think are these people who come and dump something on your street like that?"

IRON2\_M3: "I have no idea."

IRON2\_M9: "Out-of-towners."

MODERATOR: "Why do you think they do it?"

IRON2\_M9: "Because they don't live here, they are dumping in somebody else's backyard."

IRON2\_F4: "Don't you have to pay a fee, to dump certain garbage?"

Various voices: "Yes." "Absolutely."

IRON2\_F4: "That's it!"

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<sup>38</sup> This is a reference to Newark Council Member Augusto Amador, who represents the East Ward district, which includes the Ironbound.

IRON2\_M9: "I actually saw one time when I was a kid, construction companies that were known to go around Roanoke Ave., right around the block from Hyatt, they would open the side of their van..."<sup>39</sup>

IRON2\_F4: "And would dump it all out."

IRON2\_M9: "...and just start dumping, dumping, dumping. And that was a common thing for a long time."

IRON2\_F2: "And contractors, too."

IRON2\_M9: "That's exactly who I'm talking about. Construction contractors, exactly who I'm talking about, in particular."

IRON2\_F4: "Yeah."

IRON2\_F2: "It used to be that a lot of truck drivers would come and dump whatever it was..."

IRON2\_M9: "Yes."

IRON2\_F2: "...in abandoned streets, even Manufacturers Place."<sup>40</sup>

The participants in IRON3 also engaged in a discussion of illegal dumping by people who do not live in the neighborhood or in the public housing complex, but who come to the complex to dump garbage and construction debris in the dumpsters.

IRON3\_F2: "The main thing is you have people coming from all over, down our way, and just putting their garbage in there. Monday, there was so much wood in those plastic bags, and big nails, and the maintenance men they were mad because they said they didn't want to get stuck with them. One dumpster was full, somebody had thrown their stuff away, and brought it down and put it in our dumpster."

MODERATOR: "Somebody who doesn't live there, probably."

VARIOUS VOICES: (Agreement.) "That's right!"

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<sup>39</sup> "Hyatt" here refers to Hyatt Court, a 402-unit public housing complex for families administered by the Newark Housing Authority. It is located on Roanoke Avenue a short distance away from the Covanta incinerator, Routes 1 and 9, and the New Jersey Turnpike.

<sup>40</sup> Manufacturers Place is a nearby street in the neighborhood.

MODERATOR: "Does that happen a lot in your neighborhood?"

VARIOUS VOICES: "Yeah."

IRON3\_F4: "If you have dumpsters, yes. You have like across the street, the neighbors, in the private houses, they wait until you leave from in front and come and bring their garbage and throw it in the dumpster, so their garbage cans will stay clean."

IRON3\_F7: "People driving by, they see a dumpster, they stop, and they go load it up."

IRON3\_F2: "Now, they want you to try, you know, and see if you can take pictures or something like that. But when I was telling them the license plate and what kind of car it was, they didn't pay me no mind, so I stopped."

VARIOUS VOICES: (Agreement.)

IRON3\_F7: "Because they want you to call the police department, they want you to take care of that, and we do it and then what happens? Then we have to move. You are not going to move me and protect me."

IRON3\_F2: "So I stopped. I stopped. I stopped."

IRON3\_F3: "They are not going to protect you."

IRON3\_F7: "Not at all."

IRON3\_F3: "They are not going to protect you. I gave them the license plate number. Because they said, 'next time you see them, call the police again,' and I haven't looked for them anymore. I'm giving you the license plate number, you do the rest. You understand what I'm saying? He's in one of those big old trucks."

IRON3\_F2: "There's a man that comes around, with a van. One Sunday I was going to church and he said 'You don't own the projects' and I said 'But I live down here.' They get smart with you, too."

IRON3\_F3: "I said, from now on, I just keep my mouth shut. You just say to the police 'I gave you the information, you find out who it was.' You know ..., they're not going to protect me, you know."

In addition to people and construction companies from outside the neighborhood or the public housing complex coming in to dump their garbage, another common theme was the lack of care shown by the city's public works department. The participants specifically mentioned the garbage men who collect the garbage twice a week and the recycling once a week, as contributing to the problem of garbage in the streets. Many of the focus group participants commented on how the garbage men do not properly collect the trash unless the trash can is visible, do not collect the spilled trash even if they caused the spill, and generally do not do a thorough job. The residents also raised that the garbage men routinely expect tips from the residents. Some of the participants gladly tip the garbage men or give them small gifts around the holidays to build a rapport and improve the service, but some of the participants were offended by the fact that the garbage men would not do their jobs properly unless a tip is provided. In connection with the garbage service and schedule, the participants in each focus group raised that they routinely experience inadequate service in their neighborhoods, such as skipped garbage pickup and no snow removal, and they lament that they do not receive city-issued trash receptacles, which contributes to many residents not having appropriate trash receptacles. They compared their experience with better-served areas of the city, especially the main business district in the Ironbound neighborhood and in downtown Newark. This discussion highlights that, in the participants' experience, the Newark Department of Neighborhood and Recreational Services, Division of Sanitation, is providing substandard garbage services in their neighborhood.

The ways in which the city's sanitation workers conduct their work, and how they contribute to the problem of garbage in the neighborhood, was raised in IRON1 on various occasions, exemplified by the following excerpts from the initial introductions:

"... With respect to the garbage, I do not like it very much because sometimes even the same garbage men who pick up the trash and the same garbage trucks they throw the garbage on the ground, they spill the food from the garbage, and then that turns into a bad smell on the streets and sometimes they throw it on the avenue where the bags are and that is what I do not like" (IRON1\_F5).

"... About garbage, the same department here that is in charge of garbage, as F5 says, the same garbage men throw away, sometimes they leave the plastics all thrown, sometimes the garbage scatters and leaves a very bad odor that contaminates the neighborhood. So, that should be looked into so that a bit more care is taken, because, if supposedly they are here to pick up all of the wastes but notwithstanding they themselves are making it so they contaminate the environment, and so they do not help, as you would say" (IRON1\_F6).

"... as they say, the people who work picking up the garbage, sometimes the garbage falls out, the bag falls out, or some other thing, and they do not pick it up. That is true" (IRON1\_F1).

These initial comments that the participants in IRON1 readily raised as part of their introductions were followed-up with additional comments that provided examples of how the garbage men undertake their work in a sloppy manner. One issue raised by the participants is that good garbage pickup occurs along the main streets in the neighborhood, where restaurants and shop keepers can pay to have their garbage collected regularly and thoroughly by private collectors. However, tipping the city's sanitation workers is apparently common so that the service is performed better in the other parts of the neighborhood. In the following discussion, a participant explains how garbage men routinely skip a house or fail to pick up a garbage can that they failed to see, and how they proceed to leave behind a mess of garbage in the street even when they caused it.

IRON1\_F5: "... sometimes if the trash can is behind a car, they do not take it. They only take what is visible."

IRON1\_F2: "How she said, where they paid them, that's where they pick up. If not, they don't pick up well."

VARIOUS VOICES: (Agreement.)

IRON1\_F1: "If there is a car parked, they don't see it, and they leave it there, as they supposedly do not see it."

IRON1\_F5: "On Pulaski Street where I live there is a man who places his trash right next to the wall of cars, and so I saw the garbage truck come by, and the garbage man came and tipped over the trash can and a container of butter on the street, and you should have seen that. There he left the butter and the spilled garbage. He only picked up the larger items, and the rest he left there. There was a part of the street where all the trash was all spread out and you could not even walk by, because you were afraid of stepping on all that butter. You could have slipped on that butter, and there it was."

MODERATOR: "So, that was the garbage truck that caused that to spill? The garbage man picked up the trash can, he spilled some of the trash, but left it there."

IRON1\_F5: "Yes, the same garbage truck. The trash can turned over, and the trash spilled all over the place, because there was trash at the top that was not inside garbage bags, and so the trash spilled when the can turned over. And the garbage man just picked up the larger items but the smaller ones he left there, and there was a container of butter that spilled on the street. Then with time and heat the butter disappeared. So they do that themselves, the same men who pick up the trash."

Although the comment by IRON1\_F2, "... *where they paid them, that's where they pick up. If not, they don't pick up well,*" in the above discussion was referring to the difference in service between the main street business establishments that pay for their garbage service and the side streets where residents rely solely on the services provided by the city's Division of Sanitation, the participants also referred to the need to routinely tip the garbage men so that they perform their jobs properly. This issue was elaborated in the following discussion:

IRON1\_F3: "The large items they come to pick up once a month."

IRON1\_F6: "There are certain things that they do not pick up, and so we have to find an appropriate place where to go put it."

IRON1\_F3: "Sometimes they do not want to take things. Do you know what I do sometimes when they do not want to take things? I pay them, the ones picking up the garbage, I give them \$10. Ooh, they go and fly."

IRON1\_F6: "My mom, what she does is, she gives them water, gives them juice, and sometimes when my mom has something that they don't have to pick up that day, they come with pleasure and take it away, without complaining or anything."

IRON1\_F3: "Without complaint. And you know another thing. At the end of the year, they know. Sometimes, on the garbage cans, I take a little bag and put in there cookies, a little bottle of perfume, things like that, and I give them that as a gift at the end of the year, and then they know, the garbage in my house, ooh, they ring the doorbell to ask me 'Do you have any more garbage?'"

MODERATOR: "How interesting. Has anyone else had that kind of relationship with the people who pick up the garbage?"

VARIOUS VOICES: "No. We almost never relate."

IRON1\_F6: "My mother does not speak English, but the men who pick up the garbage do. And so she finds ways to understand them. They also, they say to her 'Mami, mami, garbage, garbage?' And then she says, 'yes, yes, yes,' and so they go and pick it up. They are very cool (chevere) with her."

The IRON2 participants also raised the recurring problem of the city's garbage men not conducting their work in a thorough manner, and expecting a tip for the performance of their work. This theme was raised in the following discussion:

IRON2\_M3: "Another thing that I don't like is, every time the garbage comes to pick up, I have to keep my eye on them, because if I don't put the garbage behind my truck on the street they are too lazy to walk on the sidewalk to take the bags. So I have to bring it next to my truck. And if there is snow I can't put it there, so they overlook it. They just like to go right behind the trucks."

VARIOUS VOICES: (Agreement, contemporaneously as M3 speaks.)

IRON2\_M9: "I think it's a lack of pride of people's job. People just want the job but they don't want to do the work no more."

IRON2\_F4: "Yeah."

VARIOUS VOICES: (Agreement.)

IRON2\_M9: "You know, people just want to hide and wait for the check, they don't put in the hard job, the decent work."

IRON2\_M6: "But a lot of trash come off the sanitation trucks. A lot of water, smells, oh my God. It's ridiculous."

VARIOUS VOICES: (Agreement.)

IRON2\_M8: "I see the garbage man like, where, they choose the house, which house they want to throw the garbage out. 'Cause I have seen them multiple times where they skip a house, and they say not this house, they go to the next house..."

IRON2\_F1: "And then they want tip."

IRON2\_F4: "Yeah, yeah, they actually want that."

IRON2\_F1: "'Mami, give me a tip.' And I'm like, 'That's your job.'"

IRON2\_F5: "Where I live, they pick up the trash every two days around six o'clock in the morning, and that's it. But I live in public housing, I don't live in a house, so they do what they got to do in public housing because people are watching them."

IRON2\_M9: "You got to watch the sanitation workers."

IRON2\_F5: "There's a lot of people outside, so they can't, you know, skip over, and so they do what they have to do."

IRON2\_M9: "They're laughing and joking, leaving garbage, they used to scoop up with their broom, they don't even do that."

VARIOUS VOICES: (Agreement, supporting comments and chatter.)

IRON2\_M9: "If that bag rips, it's going to stay ripped, they don't sweep up, they used to have a broom and a dust pan."

IRON2\_M8: "I remember that, yeah, yeah. They don't do that no more."



In addition to the substandard service being performed by the sanitation workers and the differential garbage collection service along the main commercial streets lined by businesses and restaurants versus the garbage collection service available to neighborhood residents, the focus groups participants also raised other issues of uneven and inadequate service provided by the city with respect to garbage collection in the neighborhood. One of the IRON1 women raised the issue of inadequate garbage services by pointing to Newark's failure to provide its residents proper garbage and recycling receptacles, which she thought would help to keep the neighborhood clean by helping residents to properly contain their garbage. Although she praised the more regular collection schedule in Newark, she felt that the city should be providing the garbage receptacles:

"The good thing about living here that I like, because I lived in Connecticut, there the garbage pickup comes by only once a week, not twice a week like it is here where the garbage pickup comes by on Mondays and Thursdays, and also for recycling. But the good thing about Connecticut is that over there the city provides the trash cans for the trash, and here the city doesn't provide any trash cans so that you can recycle. Over there, they give you a can for recycling which is separate, and a can for trash, and per each home they give you two or three depending on how many apartments there are, and so they distribute that. Therefore, that helps because there are many people who do not have trash cans. Also, when they pick up they throw the trash cans and they break them, and so the garbage scatters and contaminates. Then comes the rats, the dogs, the cats, and they break the bags and all that remains thrown outside like that. Then, no one wants to give a hand to pick things up. And so the garbage lingers there, it smells, and that helps to contaminate. If it was required that they provide the trash cans so that we can all do the job that should be done" (IRON1\_F4).

The participants in IRON2 also commented on the city's uneven and inadequate garbage and sanitation services when compared to other parts of Newark, such as the downtown. In a similar discussion to that which developed among the women in IRON1,

where the residents' failure to properly contain the garbage was tempered by the fact that the city does not provide its residents with proper containers, in IRON2 a discussion about resident's littering behavior was immediately followed-up by a discussion of how the city's failure to provide proper trashcans exacerbates the problem, and litter in the streets is therefore affected by the city's inadequate service provision. This discussion evolved as follows:

IRON2\_F2: "Ok. I love people, in general, Ok, but one thing that can make me not stand people is when they litter. I hate people that litter. I can't stand them. I hate litter bugs, I can't stand them, I don't know why, it is like they have a disrespect to the earth or something, and they don't care about, they don't just respect how fortunate they are to be here. I don't know, to me it's just a complete disrespect..."

IRON2\_F1: "I understand what F2 is saying but, as far as Newark goes, I'm sorry, I know that people are responsible for their actions, but then again there is not even garbage cans where people can actually put their garbage. And, yes, they used to have it in the park and now I barely see them, you know, the garbage things, so people just throw them on the ground because there is no garbage can. I am not saying that is an excuse, but it can be part of the problem, you know, if there ..."

IRON2\_M9: "It is part of the solution, the city needs to put in more garbage cans if they care about litter."

IRON2\_F1: "However, in downtown Newark, since they are trying to beautify downtown Newark, they got 20 garbage cans in one..."

IRON2\_M8: "On every corner, there's a garbage can on every corner."

IRON2\_F1: "Exactly!"

IRON2\_M9: "They come down with the cleanup thing, you know..."

IRON2\_F4: "They don't come down this way, though."

IRON2\_F5: "They sure don't."

This discussion about the city's failure to provide basic trash cans to help maintain a cleaner neighborhood, as they do in the downtown areas, was followed by a comment concerning the broader neglect of the neighborhood by the city. In this participant's view, to which other participants expressed agreement, the neighborhood's overall development needs have been neglected:

IRON2\_F1: "I know we are only talking about garbage, but there's other things that this neighborhood needs, instead of having 20 go-go bars, and 20 liquor stores, let's put some Pathmarks and some banks. But anyhow, we are talking about garbage, don't get me started!"

For the participants in IRON2, inadequate garbage collection services also manifested in the city's garbage collection schedule with respect to bulk waste. While in the past the city had collected bulky items twice a month, for some time the city has only been collecting the bulky materials once a month. Participants found this to be inadequate for a city as large as Newark. They also commented on the inadequate collection for electronics and appliances. The lack of proper city services in these two areas was cited by the participants as contributing to, and exacerbating, the illegal dumping problem that affects the neighborhood. The bulk waste collection issue was raised in the following exchange:

IRON2\_M3: "And once a month, the bulk, it used to be twice a month, but now it's only once. The first week of the month. I guess it was costing them too much money, so now they don't want the twice a month."

IRON2\_M9: "I guess there's just cut-backs, so they are trying to, you know..."

IRON2\_M3: "It used to be the first week and the third week, now it's just once a month."

IRON2\_M9: "Now it's just the first week, the first week of the month."

IRON2\_F4: "Yeah, and that's not good. Newark has too many people, and they are dumping it by the old movie theater, under the bridges."

IRON2\_M9: "Exactly that!"

IRON2\_F4: "And its piling up, piling up. I've seen a rat this big (shows size with her hands)!"

IRON2\_F5: "That's probably where that smell is coming from."

IRON2\_M9: "And every month there's people moving, so you get all this new, every month, a whole flux of just new furnitures, every month, new furnitures..."

IRON2\_F4: "Refrigerators, everything under there."

The issues raised in this discussion, and the inadequate services in bulk waste, electronics, and appliance collection, also were raised later in the discussion by participants in IRON2. In this case, huge television sets just appear overnight in front of the resident's houses, just to sit there for a while because the city does not readily come to collect them.

The discussion was as follows:

IRON2\_F1: "Well, somebody put a huge, I don't even know how they got it, a huge TV, one of those old school TVs, right in from on my house. I'm like, 'Where am I going to put this TV?' Like, there's not..."

IRON2\_M6: "And they don't even pick up, though."

IRON2\_M9: "You know why? Because you have to call for the electronics..."

IRON2\_F4: "And refrigerators."

IRON2\_M9: "Yeah, all that stuff with Freon, and all those kinds of things like that, the gases, you have to call the city..."

IRON2\_F1: "Oh my God. I was like, 'What am I going to do with this TV? It's not even my TV!'"

IRON2\_M3: "If you were a bad person, you would take it and you would put it in front of someone else's house."

IRON2\_M9: "Yeah, it sounds like we need a community, a meeting, just to educate people or give ideas about what we can do for the future and what we can do with our garbage."

IRON2\_F4: "Yeah. When you do call for the refrigerators, or the stoves, they don't come when they say they are coming."

IRON2\_M9: "There's been a TV right here on Courtland Street, laying there for about a month now. They haven't picked it up! 'Cause the house the thing is in front of is abandoned, where they put it in front of. But it is still the city's responsibility!"

IRON2\_F4: "But it's still on the street, yeah, to come and get that."

IRON2\_M6: "Yeah, for them to come and get that."

IRON2\_M9: "And somebody came by and just smashed it! It wasn't smashed at first, but someone just smashed it!"

VARIOUS VOICES: (Chatter. Agreement.)

### *Views of Garbage as an Environmental Problem*

The discussion of garbage as an environmental problem was brief, as it was very much related in each of the three Ironbound focus groups to the effects of garbage accumulation in the urban environment and its resultant impacts on health and quality of life of neighborhood residents. These themes had already been discussed by the residents at length in answers to previous questions. The comments consistently discussed the garbage thrown on the streets as attracting vermin and clogging storm drains, and then leading to flooding, and vectors which transmit disease. Participants also mentioned the garbage thrown in the Passaic River or burned as contaminating the water and the air, and then impacting the residents' health, especially children and the elderly. The trucks that

come into the neighborhood were also cited as degrading the local environment. Participants connected the widespread practice of illegal dumping on the neighborhood's streets and in the river and the lack of adequate city sanitation services in their neighborhood to a detrimental environment. One participant raised the issue of garbage treatment and disposal facilities as explicitly affecting the neighborhood:

"Absolutely, I have signs, when we do environmental justice. Garbage is a bad thing that we have in our cities. There is no coincidence that a lot of urban cities in America have incinerators, have garbage landfills, and all those things. That's what we try to fight, to try to minimize these things" (IRON2\_M9).

*Environmental Injustice in the Ironbound: "I do not know what else can be done so that this stops," "They pay us to be the armpit," "We don't pull together"*

When asked to comment on the maps showing the location of the incinerator, the garbage flows to it from other parts of the county and the state, and the income and racial or ethnic demographics shown on the maps for the Ironbound, Newark, and Essex County, the women in IRON1 were silent for about 20 seconds. During that time, they displayed a quiet but dignified demeanor. When I prompted them for their thoughts, they continued to be silent for about another 10 seconds. I sensed that the display confronted them with a stark reality that perhaps they did not know existed to that degree. When this silence finally broke, a conversation ensued which combined various different facets of environmental injustice. In this conversation, the participants indicated their awareness of how the garbage truck traffic and incinerator emissions affect the residents' health and quality of life, again raised the problem of dumping affecting their community, and found it ironic that while

their neighborhood suffers all of the negative effects, their property taxes are at the same time inexplicably high. They particularly expressed great concern for the health of children and adults, and for the community's future well-being. One participant thought that there should be more than one incinerator. The participants also discussed barriers to ameliorating this complex problem, from the apathy of others to unresponsive governmental authorities. The following exchange captures the main discussion:

IRON1\_F6: "Well, in my opinion, in my case, we have been, like some of the other ladies here present, we are informed about what you have just related to us a few moments ago, because we were taken by Ironbound Community Corporation on a tour of the incinerator area. They explained to us the same thing you explained, that areas outside of Essex like New York and other counties bring their garbage here for disposal. They bring it, and they don't charge them, more or less, and when they charge them, that money, how do you say it, the county does not see it. Many things like that. Sometimes people tend to want to run away from the Ironbound, because there is too much pollution from industries. Many people tend to leave, because all the children suffer from illnesses, even us, from allergies, asthma, and it is the contamination that brings this. And the funny thing is, I say, the irony of life is that here taxes are more expensive than if you were to move to another part. The property taxes, they are very expensive, very high, everything is very high, when it should be the contrary because of all the..."

IRON1\_F4: "because of all the contamination..."

VARIOUS VOICES: (Agreement.)

IRON1\_F6: "the contamination..."

IRON1\_F4: "and all the illnesses they are bringing to the city."

IRON1\_F6: "it is ironic."

IRON1\_F4: "For me, I say that instead of there being just this one, this one incinerator for the garbage, there should be another one, not just this one, because everything they bring here contaminates here, and so here people are sicker, they spend so much money on medicine, and for that reason they are poorer."

MODERATOR: "More reactions? Are you in agreement or disagreement?"

IRON1\_F1: "Well, I am in agreement."

(Silence, for about 5 more seconds.)

MODERATOR: "IRON1\_F5, your opinion?"

IRON1\_F5: "My opinion is, as F6 says, there is too much contamination because they come from other places, and you see this area here and this area here, on the routes, there are cars that come from other places, almost none of them with license plates, they come and dump lots of garbage here. If you go by Route 21, you go up higher around 7 or 8 you see the amounts of garbage, like furniture, beds, tables, chairs, piled up on the highway, and here it is the same thing. And that's what brings all the garbage, rats, cockroaches."

IRON1\_F4: "Apart from that, with garbage comes the garbage trucks, and they contaminate also. So it is not just the garbage that contaminates, it is the garbage trucks because they enter here to come to leave the garbage here."

IRON1\_F6: "And there has been a lot of fight with respect to the environment, that it has gone to the White House also, because there is a group here that advocates so that this contamination stops, so that this comes to an end, but it has not been heard. I do not know what else can be done so that this stops, because it is the future of the children we have here. Tomorrow, how will they be, if today they suffer from so many illnesses, how will tomorrow be for them, their future. We ourselves are contaminating ourselves."

IRON1\_F3: "There are many children here who are sick with asthma, too many."

MODERATOR: "Does that have to do with the incinerator?"

IRON1\_F3: "Yes. Because it is right here, it is close."

IRON1\_F6: "And you see more cases of asthma when you go to the other office, in Courtland. There is more in that area because they are closer."

MODERATOR: "F2, Would you like to discuss your opinion?"

IRON1\_F2: "Yes, I agree with them, about the contamination and the illness and all of that, and about the children."

IRON1\_F5: "The children, and also us, the adults, we get sick. When you finish the day you finish with a sore throat, with a headache, because it is also contamination



for us. I live here on Pulaski, I don't work during the day, I work early morning, I begin at 3 AM and come back at 7 or 8 AM, so I spend the day at home, and I am sometimes by the window. In one hour pass at least 10 trucks, and they accelerate with that smoke. One day I was downstairs and I say to one of them, a truck driver who stopped to eat at the restaurant below where I live, I said to him, 'Look, you cannot leave your truck running, you have to turn it off.' And he says, 'Why do you tell me that?' And I said 'Because that truck accelerates and it is harmful, that contaminates, didn't you know?' And he says, 'No, for me that is not a problem. I don't get contaminated.' And I said, 'You don't, but the air.' And he says 'That is not my problem.' I tell you, about 10 to 12 trucks pass by each hour. Sometimes I am on the street, sitting, and they pass, and they answer like that, 'That is not my problem, I don't live here.'"

IRON1\_F3: "Of course, they don't care."

IRON1\_F5: "And the truck was still running and he didn't turn it off, and that truck was right in front. I said, look, there is a school, there is another school, and I said 'That is bad because that air contaminates the children.' And he said, 'Thank God I don't live here.' And he laughed. Just like that. Sometimes that is harmful not just for the children, but for the adults. Sometimes you go to the doctor and the doctor says, no, you have asthma. So that hurts one as well."

The participants in IRON2 responded to the maps not with a quiet and dignified demeanor, as the women in IRON1 did, but with a sense of justified outrage and indignation at the distributional inequities displayed on the maps and experienced by them in their daily lives. There was an expression of disbelief in New York City's use of the incinerator, given the wealth of that city's residents compared to Newark's. There was also discussion about the many aspects of oppression felt by the neighborhood residents, from poverty, unemployment, vulnerability to hazards such as the flooding they experienced from Hurricane Sandy, the comparative underdevelopment of their community, and the neighborhood's historical legacy of dumping in parts known as the Island Area, which used to be a dump, near the incinerator. The participants felt that all of these burdens make it more difficult for residents to get energized to organize to fight against environmental

injustice. At the same time, there was recognition of the fact that the community, through the resident's activism, successfully defeated plans to site various other disposal facilities in the past and ended up with one incinerator instead of the multiple facilities proposed. Some participants were hopeful that more members of the community could be motivated to engage in activism to ameliorate these conditions. At the same time, there was frustration at the apathy of others outside of their community, and some cynicism about the willingness of other Essex County towns to accept responsibility by bearing some of the garbage disposal burdens. The participants felt that New York City and the other Essex County municipalities should agree to accept the incinerator because Ironbound has already "enjoyed it" for decades. The wealth and political influence enjoyed by members of sending communities, when compared to the Ironbound residents', was seen as a key explanatory factor of current environmental injustice conditions. The following is an abbreviated version of the most relevant aspects of this discussion:

IRON2\_M6: "I'm kind of confused because, New York, having as much money as they do, they should have a few incinerators, instead of bringing it to Newark."

IRON2\_M9: "They have one in Queens, they use it for other boroughs, but Newark is, we study this type of stuff, actually, where we are situated, to the bottom of New York, is a lot closer than sending it up into another borough of NY, so it's just a matter of transportation and money. They pay us to be the armpit."

IRON2\_M6: "Um, I understand that, and that's what I'm saying ...."

IRON2\_F5: "But what if there's houses down here?"

IRON2\_M6: "Because they want us to be the ..."

IRON2\_M9: "We have Covanta. Years back they wanted to put four more incinerators next to Covanta. ICC and a lot of us fought against it, and they were only able to put one now. We still fight against Covanta, we just sued the crap out

of Covanta, they got to put these huge bag filters on top of the smokestack for us, which isn't really going to help too much ..."

IRON2\_F2: "We've been waiting for that filter forever."

IRON2\_M9: "That's right, but we are a frontline community. Urban community, where there's people of color, where there's low incomes, there is always that sign of ports, there's always that sign of an incinerator, a landfill, and all kinds of nasty stuff. Our waters is messed up from the dioxins, when they were building Agent Orange during the Vietnam War, so you can't swim in our water. So that messes up the economical growth of our big, once capital of New Jersey."

MODERATOR: "How do you guys react to this. Because I know M9 has seen this issue before, and he is very much informed about what's going on, but how do you guys react to this information? Is this new to you? Is this new knowledge to you?"

VARIOUS VOICES: "Yeah."

MODERATOR: "How do you make sense of it?"

IRON2\_F4: "I mean, it says it all. We have enough of our own! And we are bringing in from somewhere else? And we are polluting our people? And we are getting more trash that's being left?"

IRON2\_M9: "And none of that money cleans our city."

IRON2\_F4: "Yeah, 'cause you can say, Where's that money going that they're bringing in from that? In their pockets."

IRON2\_M3: "Because it's convenient for them."

IRON2\_M9: "Bingo!"

IRON2\_F4: "If you would put this to the community, maybe Newark would be better."

IRON2\_M9: "Yeah, we got the biggest port on the East Coast..."

IRON2\_F2: "It's very abusive... I think it's very abusive and as long as people don't know, the regular citizens, don't know this information, nothing is going to change and they are going to continue to abuse the poor in this area, and make them sick, and we'll have higher cancer rates, and we'll have higher lung problems, and sick babies being born. It is very abusive, and I think we should get the message across

to every citizen in Newark, that this is happening, so that we can organize and fight against it."

IRON2\_F5: "You know, sometimes getting the information out, people are going to worry, 'there's nothing I can do about it, nothing's going to change, why waste my time on that, it's going to be like that forever.' You know, it's sad."

IRON2\_F2: "But we were going to have 4 incinerators, and we only have one now, because people organized at one point, so nothing is impossible."

IRON2\_F4: "Yeah."

IRON2\_F1: "I just think that, I kind of know a little bit about environmental, not that much. I am in the social service field, but I think as people we get tired of hearing the bullshit that comes out of people's mouths, as far as, like, 'we are promising you a better environment, we are promising you that your families and your generations will be better, and yaze, yaze, yaze...' But in all reality, it doesn't get better. And it is always a battle, and a struggle, and at the end of the day, in some circumstances and mostly all circumstances, the minority does not win. And I have seen this in education, I've seen this in, you know, environmental justice, I've seen this in, you know, in our realities as people, that it is not going to change, and it is a battle, and that we have been battling for a lot of years, and a lot of things haven't changed. Down here, for example, there is 4 public housings, and there is not one Pathmark close to these families. There's not one. You have Extra, who has nasty old fruit that is dried up and stuff. And then you have three go-go bars and, like, five liquor stores. The churches, there was one church, it's now almost gone, which is Trinity Church. There is very few things for the..."

IRON2\_F5: "There's nothing down here."

IRON2\_F1: "Yeah. There's nothing down here. Also, I lived by Albert St., there's nothing down there, either. All the resources are in the middle of Ironbound. Nothing against Elm Street, but the outskirts of the Ironbound? We have nothing. There is no parks. There is no nothing, and it is unfair, because we pay taxes, and we are, you know, we are people that deserve the rights, so that's my input on that."

VARIOUS VOICES: (Agreement.)

IRON2\_M6: "That's great. That's wonderful right there. I couldn't have said it better."

MODERATOR: "And you guys said you have been living in this community for many years."

IRON2\_F4: "Forty-five years."

MODERATOR: "Do you remember when the incinerator was put on, in the '80s?"

IRON2\_F4: "Yeah. Everybody protested, but it still went."

IRON2\_M3: "Yeah. My niece was there speaking, on the microphone. 'We live down there. We don't want to die. We don't want the smoke.' They still put it."

IRON2\_M9: "But they were going to put four, though, they still put one, and three lost, though."

IRON2\_M3: "We live down there. 'Go put it by your houses.' No, that didn't happen."

IRON2\_F4: "It didn't happen."

IRON2\_M9: "They didn't put it on Livingston."

IRON2\_M3: "When I moved here, when I first got married, it was 45 years ago, I was in good health. When I moved here, slowly my health began to go. We couldn't figure out, the doctor couldn't figure out what the heck is going on. I moved down here and I was getting breathing attacks. I didn't know why. I went to the hospital 19 days. I had very bad asthma. I got it from smelling my beautiful air in Newark."

IRON2\_M9: "That's not genetic. Asthma, that's because of the environment we live in. It is no coincidence that these frontline communities are the highest in asthma cases too."

VARIOUS VOICES: (Agreement.)

IRON2\_M3: "When we had the 7 feet of water down there from hurricane Sandy, [United States Senator and former Newark mayor Cory] Booker came down. I like him, he was good. He said that this was the forgotten block."

IRON2\_F4: "Yeah, he called us the forgotten block. They don't snow plow by us."

IRON2\_M3: "Because they didn't even know that was down there. But he was good, though."

IRON2\_F4: "... Well, that was a horrible day. But anyway, when Booker came down, he said we were the forgotten block. We don't get the snow plows, they never snow plow our street."

IRON2\_M9: "Never?"

IRON2\_F4: "Never on our street! And we pay taxes."

IRON2\_F1: "That's my street, too. We had to plow ourselves. We had to shovel our streets during these snow storms. They did not plow the whole time."

IRON2\_M6: "So when someone gets snow, or getting out from under the water..."

IRON2\_F1: "All of the neighbors came down with shovels."

IRON2\_M9: "I mean, Ironbound, I think the history of Ironbound was always an industrial city, it was made for the workers in the outer skirts of this place just to live in this community and work, and then after the generations they wind up living and having kids here, and they got stuck. But here's the thing, there is a lot of jobs out here, a lot of jobs out here, but we don't get them. We have the biggest port on the East Coast, but they just don't employ ..."

IRON2\_F5: "That would be the best, if they employed the people who live here."

IRON2\_F4: "Yeah."

VARIOUS VOICES: (Chatter. Agreement.)

IRON2\_M9: "... there's no incentive, for a resident, and that's the problem with frontline communities. A lot of people come into the communities, they sap us for our resources, and then leave us destitute. They dry us out, and then they bring their garbage to us..."

IRON2\_F4: "Yeah."

IRON2\_F1: "And they leave garbage here."

IRON2\_F4: "So they are recycling!"

IRON2\_M9: "Of course, Livingston is beautiful. South Orange is beautiful."

IRON2\_F2: "You know what's really upsetting? That this area is also called the Island Area."

MODERATOR: "Which one is the Island Area?"

IRON2\_F2: "Isn't [Dale?] street considered the Island Area also, or is it Esther street?"

IRON2\_M9: "No, the Island Area is Lister. I don't know if you can see it here. If you take Lockwood, if you go down Ferry and you make a right here, you go down the block after on the way down is Lockwood, you make a left, and you cross over Raymond Boulevard, there's like streets there, Eugene, Lister...."

IRON2\_F4: "Oh, Lister, that's, yeah, where .... Benjamin Moore is down there."

IRON2\_M9: "Well, before you get to Benjamin Moore you saw all these communities. Well, when [hurricane] Sandy came, it wiped out that entire little community. It's done, you can't live there."

IRON2\_M3: "Yeah, that was my job. Thirty-six years, Benjamin Moore got \$40 million dollars' worth of damage, and they only had insurance for \$6 million. So, they are still there, but I'm not."

IRON2\_F4: "They got rid of a lot of people."

IRON2\_M9: "I lost my job from [hurricane] Sandy too."

IRON2\_F2: "The Island Area was a landfill itself, that was built for dumping. So I've been working with the [hurricane] Sandy families for over a year and a half, and so I also found out that, so not only are they being dumped on, but it's like, when the DEP came over to test the soil they said they are testing now because they didn't know what was in there before they built these homes, OK? So, to me it seems like nobody cares. Nobody cares about this area. They figure, because there's so many language barriers, because people are poor, because they don't have money to take things to court, that we'll tolerate. But, you know, people are sick of it already, but they don't feel like they have the power, or the funds to fight it."

IRON2\_F4: "Yeah."

IRON2\_M6: "And they don't. And that's why they keep doing what they are doing."

IRON2\_F1: "And they don't."

VARIOUS VOICES: (Agreement.)

IRON2\_F2: "If we had the funds and the representation, I am sure people would say, OK, maybe there's a chance."

IRON2\_M9: "I think if more community awareness, I think if more residents like us could come to these meetings and quadruple it, and exponentially grow it, I think it would make a buzz, because just for the little time I've worked here, I've just seen what happens with the right mind set, the right petitions, and the right people, and we work in a place where we have so much resources, councilmen, the mayor, and all the way up to the senator. So, once we get a big group of people fighting for something, we know how to do direct actions, we know how to get on the street and get people aware and stuff. We just have to keep doing it. And it's a hard fight, you know, just today we were doing outreach. Some people don't want to hear about this stuff."

IRON2\_F1: "And you know why? Because I wouldn't want to hear about something if my kids are not being fed right, if I don't have the resources to kind of get me day by day, and that's another big issue, its poverty. We are poor. So, if I don't have money, and I don't have the resources, and my kids aren't getting fed, and I don't have a J.O.B., I don't want to hear about no action ..."

IRON2\_M9: "But if everybody's household stays to themselves with these problems and don't come together with a solution, it's always going to be a never ending cycle. We are never going to break the cycle as a community, and address these things, and say 'Listen, Mr. Smith is doing badly, can we all come together and help Mr. and Mrs. Smith still be here? 'Cause they've been here for 37 years and they're great people.' People don't do that no more in these communities, but if you go to Livingston, that community, I've got a friend who lives there, whose family has been living there for who knows how long, and when things are bad they are getting checks, because the neighbors love each other, and they keep each other, the money circulates, and that's one thing that frontline communities have to learn, keep the money circulating..."

MODERATOR: "You know, I want to ask you something. He brought up Livingston a lot and, as you mentioned, when the incinerators were proposed, any town in Essex County could have gotten it, but they didn't. Newark got it."

IRON2\_F4: "Why?"

MODERATOR: "So, you are talking about getting Newark organized. What about these people who live in the rest of Essex County. Is there a role for them to play in this, because it is their trash coming to your city?"

IRON2\_F5: "But their trash is not sitting in their backyard, so ..."



IRON2\_M9: "They could, they could choose which Essex County town wants to hold an incinerator next for the next 30 years, because we did our job for 30 years, let's move the incinerator to another town and let them enjoy it."

IRON2\_F1: "Uh hum."

IRON2\_M9: "We've enjoyed it enough. If they want to be fair and the world is an equal place, let everybody equally hold an incinerator then, for 30 years. But that would never happen, Raysa, come on now!"

IRON2\_M8: "Let everybody have the equal smell."

IRON2\_M9: "It's not going to happen!"

IRON2\_F2: "If this were a rich neighborhood, we wouldn't have all the dumping, we wouldn't have all the chemicals, we wouldn't have all the garbage."

IRON2\_M6: "Send it to New York. Send it back to New York."

IRON2\_F4: "Because we are in poverty, so they figure, 'dump it down there.'"

IRON2\_F1: "Yeah."

The public housing residents in IRON3 had a similar response to that of IRON2, in that their main reaction was a sentiment for organizing their neighborhood and their city to fight and end the influx of garbage to the incinerator. One of the participants, one of two elderly women in the group, firmly believed and emphasized through the discussion that they could achieve everything they wanted if they just "pull together." Other participants agreed, and some felt that various formal governmental levels should be called upon to ameliorate this situation. These participants also felt that the sending communities should get their own incinerator, and understood those communities' money and political influence as key factors that explain environmental injustice. The following is an abbreviated version of the discussion:

IRON3\_F7: "We need to get a petition started. They need to keep their own garbage."

IRON3\_M8: "Let's send a missile." (Jokingly.)

VARIOUS VOICES: (Uncomfortable laughter.)

IRON3\_F6: "No, but, there's only one incinerator and it's in our neighborhood?... So we are all just getting everybody else's garbage, and we all have to ..."

IRON3\_F4: "That's the problem, that incinerator."

ANOTHER VOICE: (Sigh.)

VARIOUS VOICES: (Chatter.)

IRON3\_F7: "I mean, we can't do nothing about this. We need to sign the petition, and get it started."

IRON3\_F2: "What I think, we don't pull together. That's what the whole thing is. We don't pull together to get what we want."

IRON3\_F4: "That is slowly killing us."

IRON3\_M8: "That's right!"

IRON3\_F2: "If we pulled harder, we could get what we want. If we got that started, we could get what we want. It will take time, but we can get what we want."

IRON3\_F6: "Exactly."

IRON3\_M5: "Newark has the highest one of them all, of the municipal waste disposal, by a lot, not by a little bit, by a lot. No other places in there triple."

IRON3\_M8: "This is serious."

IRON3\_M9: "The thing is that our property is so low, that companies come in and do what they need to do. Money talks everything, that's what it is."

VARIOUS VOICES: "Agreed." "Yeah, money talks." "That's all they want, is money."

IRON3\_M9: "I'm sure you guys all have your fair share of living in Newark. Personally, me too. It really is, it's just, people just have to stand up, I mean. I'm not going to sit here and be a hypocrite, because I don't do it, I mean, I don't do it, but, like she said..."

IRON3\_F2: "Well, what I was ready to say is that one person can mess up everything."

MODERATOR: "And where do you get that lesson from? Why do you believe that?"

IRON3\_F2: "In my church."

MODERATOR: "How long have you been living in this neighborhood, if I may ask?"

IRON3\_F2: "All my life I've been here in Newark. I've been down here 41 years."

MODERATOR: "So in the 80s, you probably lived through when they put the incinerator in here. You probably remember that."

IRON3\_F2: "Yes, I do."

MODERATOR: "What else? What are other thoughts about this?"

IRON3\_F1: "Everything is money now. Everything is money. Money. The mayor, the senator, money."

MODERATOR: "I wanted to ask you about the fact that the garbage comes from all over Essex County, and you guys are talking about what you guys can do about this, given that you live in the community. But do you think there is a role that these other people can play, the people who live outside of Newark who send their garbage here, or even NYC residents? Do you think that if we showed them this, they would be bothered by it and they would want to do something? What do you think about that? Do they have a role to play?"

IRON3\_F4: "Me, personally? I don't know why, it's a control thing over Newark, why do they allow New York's garbage to come here?"

IRON3\_F1: "Money."

IRON3\_M8: "Money."

IRON3\_M9: "They pay a higher percentage to send their waste over here."

IRON3\_F4: "So, obviously, we can go and talk until we are bluuuuue in the face, it's not going to do nothing 'cause we don't have the money."

IRON3\_F7: "I think, personally, they should get their own."

IRON3\_F4: "Yeah."

IRON3\_F7: "But, you know what they're going to sit there and think? 'Why should we get our own incinerator here, if we don't have to deal with this garbage? Let it go there?' They are going to think it's not their problem. Their garbage is leaving from them, so that's not bothering them. But, we need to stand together and let them keep their own garbage. We have enough of our own to deal with. We don't need no more, we are tired of it."

IRON3\_F2: "I agree with that."

IRON3\_M9: "I mean, we should just stop sitting and we should go do it, we should just go for it. That's what I think, 'cause if we sit and talk a lot, it really, people out there are going to be like, yeah, yeah!"

IRON3\_F7: "And this right here was in 2010, so you know it grew since then, that's four years. If it was like that then, you can imagine how it is now. That is four years, you know it's worse. And they're not going to care. They don't have to deal with this. But, we need to have some type of meeting, the president, the mayor, the governor, everybody needs to be involved in this. Get it together. The mayor, they shouldn't allow this come into the city."

ANOTHER VOICE: (Agreement.)

IRON3\_M8: "Seriously."

IRON3\_F7: "That should be the mayor's job, it's not even our job. But if we don't push they're going to say 'If they don't care, why should I care?'"

In summary, participants across all of the Ironbound focus groups understood the confluence of the incinerator facility, the garbage flows to it from other parts of the county, and the income and racial or ethnic inequalities as a product of the significantly greater money and power held by sending communities. The apathy of others in other parts of the

county and of elected officials, was another common theme. The inequities presented by the maps motivated participants to feel like they should become more politically organized to fight these conditions. At the same time, participants recognized that conditions of poverty limited people's ability to get involved. The solution put forth by the focus group participants was mainly that the other communities should get their own incinerator and stop sending their garbage to the Ironbound. Reducing the garbage pile in order to ameliorate environmental injustice conditions was not part of the conversation.

## **5.2 Montclair**

### *Day-to-day Garbage Governmental Practices and Conduct*

The shaping of participant subjectivities as, in their view, good environmental citizens found expression in each of the Montclair focus groups, especially in the discussion about their day-to-day practices related to garbage and how those practices are altered depending on the private and public places they frequent in their daily routines. Two dominant sets of practices were the participants' vigorous composting and recycling behaviors. By and large, the majority of the focus group participants are extreme composters and recyclers, both activities that reduced the participants' garbage piles for disposal. Participants also expressed having to adopt an overzealous attitude when leaving their homes for work or for eating out because at those other places the garbage production opportunities are overwhelming, especially when attending family gatherings or eating out. A smaller number of participants further indicated alternative systems they have helped to

establish and routinely participate in, systems that are carefully designed precisely to avoid garbage production at parties among friends, at school, and at church. These two or three focus group participants hailed these alternative systems as workable and, with proper planning and labor, just as convenient as the typical disposable plates, cutlery and cups that many people use to avoid having to wash dishes. In connection with their environmentally-progressive behaviors that result in less garbage, some participants expressed frustration with the municipality because it does not reward them for their garbage reduction practices and their good environmental citizenship.

All four participants in MONT1 confessed to be dedicated composters and recyclers, but one participant had to recently stop composting because a neighbor complained that there were rats in the compost pile. Now, she is pained that all of her food and vegetable scraps must go in the regular garbage. She said:

"Well, this is a little bit specific to me, but I think about my composting stuff. I used to, last year, to compost across the street with my neighbor. I would bring my stuff over. She was a household of one, and my household was bigger, so I was happy to contribute. And then, her neighbor complained that her compost was attracting rats, and kind of harassed her and forced her to shut it down, well, forced her to get one of those plastic bins that you compost in, but it is really unpleasant to use, so I have stopped composting with her and, so I think about that every time I throw away my fruit and vegetable scraps" (MONT1\_F3).

The other members of MONT1 indicated they compost regularly, with one member discussing how she lets the biodegradation of the pile take care of itself, while another indicating that he routinely maintains the pile even though this involves considerable time and labor. This participant collects a variety of biodegradable matter from his own household, yard, and a coffee stand in the neighborhood. He said:

"And also, you know, with composting, it can be very time consuming. Just like you got to take out the trash every week, you got to make sure that you take care of the pile. Or, like F1 said, if you just let it sit it will biodegrade. If you want to speed up the process, then, you know, you just got to turn it once or twice a week, make sure the carbon and nitrogen ratios are fine and all that sciency stuff" (MONT1\_M4).

In addition to composting, most of the MONT1 participants also mentioned how they try to limit producing garbage at home by using real dishes instead of disposables, and even avoiding extra napkins and straws when eating out, although outside of the home it becomes more difficult to limit garbage production. One participant always tries to carry a reusable water bottle to avoid garbage when not home. She said:

"I always try to use reusable china at home, and I try to use reusable water bottles as much as possible, but I am a little guilty of forgetting my water bottle, being thirsty and wanting to buy a water bottle, but, of course, I try to recycle that, but I try as much as I can, to be conscious of it, although I do admit to forgetting my water bottle sometimes. Stuff like that" (MONT1\_F2).

Another participant said that she also regularly uses reusable plates when at home, but sometimes wonders *"whether, you know, by the time you run the dishwasher, if you are using more energy and degrading the environment more than by just using, maybe, paper stuff and throwing it out, I don't know, it's hard to do the computation"* (MONT1\_F3). This comment shows that, as part of enacting her subjectivity as a good environmental citizen, she sometimes attempts to measure the impacts of her behavior using a kind of computational register of potential environmental impacts. Another participant emphasized how difficult it can be not to produce garbage when outside her home or when visiting family, but pointed to a system of "garbage free parties" devised by herself and friends as

an alternative whereby each person is required to either bring their own plate to a gathering, or wash the plate provided at the gathering. She said:

"I've gotten pretty good at carrying my stuff, and it's to the point where I go to a lot of potlucks, and the hosts encourage people to bring their own reusable plates even, so we will have, like, a totally waste free party, but that's just the circle I run in. And then when I go somewhere, like a family member's party where everything is plastic, I get, I mean, I get a party is like, you get to clean up, and there are wonderful conveniences, but I don't know why it is so hard to clean thirty plates, and they have them, they have the plates, so I try and sneak in their cabinet and take a plate and use it and wash it and put it back and it's like "I'll wash my own." (Laughter.) I've gone to parties where there's been like sixty people, not the family parties, the green people parties, where the announcement has been made for everybody to wash your plate" (MONT1\_F1).

The other participants in MONT1 were impressed by this system of the waste free party and confessed that, except for one of them who had attended such a gathering, they had not even considered that concept before. Participants discussed how people find it convenient to just use the disposables to avoid the labor of washing the dishes, but also pointed out that when the number of visitors exceeds the number of plates then it becomes a necessity to have guests bring their own plate or use disposables. The sentiment was that: *"Well, it only works if you bring your own. I don't have service for thirty"* (MONT1\_F3). But the participant who brought up the waste free party system countered by saying that it would be possible to accumulate cheap plates for future use, and that such a system had been instituted at a local school:

"Some people do when they have parties often, you know. They will go to Ikea and buy a box, or go to a thrift store. That's what we do when we are having potlucks a lot. We have accumulated just thrift store plates that were like thin and stackable. Like I had this phase and it was like, people have that much of the disposable, probably, on the shelves, like the big old box from Costco. It just, and, schools, the school my daughter went to, they did it when they had events, huge events, the school invested in, I think each class, each grade, invested in their set of reusables,



and so they would pull it out, they had the, you know, the proper crates, you know, to stack them, when they were dirty everyone would just put them in, and they had volunteers to take them and put them in the dishwasher, run them through, and bring them back" (MONT1\_F1).

This particular quote, and the one above about the waste free party, therefore highlights the intersection of labor (shopping for disposables versus washing dishes), tools and technologies (disposables versus reusable plates / trash can versus sink with water and dish soap or dishwasher), and coordination of collective effort (storage, stacking, crating, volunteer for dish washer versus moving pile of trash to the curb on garbage day for municipal pickup) in the process of garbage making or avoidance.

In MONT2, the shaping of good environmental citizen subjectivities also emerged in a discussion of the participants' vigorous recycling and composting behavior, which leads them to produce only a small bag of garbage with each pickup, even skipping the twice per week pickup in the municipality because they do not produce enough garbage in their respective households. For example, participant MONT2\_M1 brings items home from work for recycling, brings to his place in Montclair the recyclables of a friend who lives in an apartment complex in the nearby town of East Orange where the complex does not recycle, and routinely takes his plastic yogurt containers to Whole Foods for recycling because the town does not recycle certain kinds of plastic. Aside from his occasional trips to McDonalds, he said he produces very little garbage. Similarly, participant MONT2\_F2 reuses and recycles everything, to the point of reusing newspaper bags for picking up her dog's waste multiple times, and also bringing whatever Montclair does not recycle to Whole Foods. Participant MONT2\_M3 also indicated that he takes his recycling very

seriously, although he admitted to using paper napkins at home. This prompted a back and forth with MONT2\_F2 as to why not use cloth napkins, and then a brief debate as to whether using paper may turn out to be better for the environment after considering the water, energy and detergent needed to clean the cloth napkins, raising the same kind of calculation raised by one of the MONT1 participants, which reflects a calculation of environmental impact in connection with shaping the good environmental citizen subjectivity. This discussion also considered the role of municipal government policy in the ability of participants to shape their good environmental citizenship subjectivity. Given their vigorous composting and recycling behavior, one of the participants expressed that people like her and the other participants are not being rewarded by the municipality for their good environmental behavior, stating that the municipality should be incentivizing their behavior through lower taxes. She said:

"I was going to make an interesting observation, you know, having a focus group on garbage, and what I am observing is that the three of us here have admitted that we are very good recyclers and composters and that we take all this pretty seriously, which I find interesting, or maybe it is not really surprising, but it is also interesting for me that I have at times felt a little resentful that I have to pay as much taxes to the town when I produce very little actual garbage ... I don't put my garbage bin, my non-recycle, my non-compost stuff, more than once every two weeks, because there is only two of us in the house, we don't produce that much, we are very careful to minimize it, and I would almost like a credit for not producing a lot of garbage that has to be given up ... You know, when I moved in we had pull up pull down service to our garbage and that has gone away and our taxes have still gone up. So, for me, I'm paying a lot of money for services I don't use, as far as I see it. And I feel like I should be, we should be rewarded for composting, recycling, and producing very little garbage. And I don't think our community is as progressive and aware of those things as they could or should be" (MONT2\_F2).

The participants in MONT2 therefore not only discussed their own vigorous recycling and composting behavior in their day-to-day lives, but also considered the role of the

municipality in providing proper incentives for environmentally-protective behavior. In this area, the municipality was falling behind and not living up to the more progressive values held by some of Montclair's residents.

The participants in MONT3 were also dedicated recyclers and composters, and also shaped their subjectivities as good environmental citizens through these day-to-day practices. Only two out of the six participants did not compost, and one of the two did not do so because she resides in an apartment building and does not have a yard. Participants discussed their compost piles in detail, what to put in and what not to put in, the right amounts and proportions of paper and leaves and grass clipping, and food waste, whether to turn it or not to turn it, and whether or not to use the plastic composting bins that become difficult to turn or the live worms that you can put under your sink to consume your household's food remnants. Again, the recycling and composting behavior led to the participants actually producing very little garbage. One participant commented on how:

"...it's funny, I don't know if we don't consume that much anyway, but we've been taking the stuff and composting it, but when we ... Montclair picks up garbage twice a week, and we would be putting it out, do we have enough to put it out?" (MONT3\_M4).

Another one agreed: *"We barely even have one bag every week"* (MONT3\_F1). The participants' garbage reduction behavior also led most of them, except for one, to regularly use reusable plates at home instead of paper plates. However, one of the participants who did not compost gladly uses disposable plates on a daily basis and hailed the convenience of that practice. As to the use of paper plates at home, the participant indicated that:

"It is so much easier and I can just throw them out. That's mainly why. I got used to them for breakfast. Well not dinner, breakfast. Yeah. I always have the same breakfast" (MONT3\_F2).

After I asked her to elaborate as to why it is easier to use the disposable plates, she explained:

"Why? It just is. I can throw it out afterwards, and I'm used to it, that's all. And, if I use two plates, it really doesn't go through" (MONT3\_F2).

The other participants in MONT3 were already listening attentively to this participant's defense of the paper plate use, but when she said she used not just one, but two paper plates, another participant remarked: "*Oh, now you are using two plates!*" (MONT3\_F5), which caused the rest of the group to erupt into laughter, with one participant gently reprimanding the others with a request for "*No judging*" (MONT3\_F6).

The discussion in MONT3 then turned to their garbage-making behavior when participants visited other places outside of home in their daily routines. A discussion of wastefulness and overconsumption arose when one participant described the overflowing garbage cans at the movie theater. A more interesting discussion emerged when the same participant mentioned how the coffee service at her church was so wasteful because they were still using Styrofoam cups. This prompted another participant to describe an alternative system that had been devised at her church. Similar in concept to the waste free party and the school reusable plates mentioned by a participant in MONT1, this participant explained an alternative system as follows:

"...we have something at my church called Green Sanctuary, so they're always looking for ways to not create garbage, and we moved to total ceramic and coffee hour, and the person who does coffee hour puts everything in the dishwasher, runs it, and then there's no waste" (MONT3\_F6).

This example elicited a discussion of incentives for producing less garbage which, as occurred in the other focus groups, touched upon the role of municipal government policies in the participants' ability to shape their subjectivities as good environmental citizens. This specific discussion involved comparisons between the garbage service and other utility services, and how the garbage service should be regulated for use, as the water and sewage services are, and how this should be related to how much people pay, or the concept of "pay-as-you-throw," so that people have an incentive to produce less garbage and adopt the necessary behavior. The MONT3 participants therefore delved into a discussion of their recycling and composting behavior in their daily lives, considered an example of an alternative system for producing less garbage instituted at a local church, and further discussed the issue of incentives for behavior, especially the absence of incentives in their municipality that would encourage residents to produce less garbage and therefore become good environmental citizens.

*Garbage: Overproduction, Overconsumption, Governing Bodies, and Market Forces*

The theme of participants shaping their subjectivities as good environmental citizens was broadened by their discussion of the material of garbage, and especially by the structural forces that affect the participants' ability to shape their own subjectivity. Participants in each focus group first raised various negative aspects of garbage that were typical and expected, such as bad odors, unrecyclable waste, what is thrown away in accordance with the garbage collection schedule, and facilities like landfills and

incinerators. But these discussions soon morphed into more complex and structural issues related to garbage. These more complex discussions were related to garbage as a sign of wastefulness and overconsumption, how people have become disconnected from the garbage production and disposal process, how activities like recycling and composting remove materials from the garbage pile, and how people's garbage and recycling behaviors are influenced by municipal mandates that are in turn responding to market forces. These discussions therefore connected participants' everyday life practices and their efforts to shape their own subjectivities to the structural forces and processes of production, consumption, governmental policies, and markets.

The four participants in MONT1 began their discussion of garbage by mentioning expected views and responses, with references to smells, recycling, and disposal facilities. But soon the discussion tuned into a critique of wastefulness and of being disconnected from the production and disposal process. In the views of one participant:

"I just feel like we generate too much. I mean, I am just amazed every day at how much stuff we put out. The recyclables, the newspapers, and the bottles and the cans, and the food waste and all the packaging stuff, and, all the stuff we are trying to get rid of" (MONT1\_F3).

Another participant expressed a similar sentiment when she commented about how much bulky waste people put out, wasting things that appear to be in good condition:

"Another big component of garbage, I feel, is very specific here, it is probably everywhere. I am amazed at how much bulky waste people put out, and that is the furniture, huge things, perfectly good things, huge kids' toys, when you are done with it, it just goes to the curb" (MONT1\_F1).

To this comment, participant MONT1\_F3 replied that not all of these things go to waste because people actually drive around and *"pick up the good stuff, you know, it's a*

*way to recycle it.*" But MONT1\_F3 still viewed this practice as wasteful because, even though some people may pick up some of it, that pickup and reuse is not guaranteed, with much of what's on the curb actually going to waste. Yet another participant expressed concern that people are disconnected from the garbage production and disposal process, as whatever happens to the garbage once it leaves the home and the community is still a big mystery in people's minds. He said:

"There is also a disconnect from the process, you know. We release the waste from our homes in whatever form, and it goes somewhere and something is done with it, maybe it is water that is being recycled to put back in the plumbing, or maybe it is recycled to make tomorrow's daily news, lack of knowing where it is going, what is being done with it" (MONT1\_M4).

These four participants also made passing references to the complexities of garbage and labor, and what happens to a city when the garbage is not collected. MONT1\_F2 first raised the topic of garbage and labor:

"I also think of union workers. Strikes with garbage-men. It is portrayed a lot in some TV shows that I've seen ... Whenever they [residents] take all the garbage themselves, because the union workers are on strike they decided to take on the garbage themselves. Not a good idea."

This comment prompted MONT1\_M4 to bring up the garbage riots in New York City during the 1970s: *"I was too young for this, but the garbage riots in the city, you know, what happens when no one takes the garbage."* To this, MONT1\_F3 replied: *"Yeah. I'm not too young to remember that, and the city stunk!"* The discussion by the four participants in MONT1 therefore delved into the connection between wastefulness and garbage, how people are disconnected from the process of garbage production and disposal, and how garbage worker's labor is key to maintaining civic order and the city in good condition

because they provide the vital service of taking the smelly garbage away. Essentially, this discussion framed garbage as the product of wastefulness and overconsumption, the lack of concern by the general population as to the impacts of garbage, and the necessity of municipal intervention in the form of sanitation workers and the garbage service to maintain order in the face of these structural and cultural processes that lead to producing the garbage piles.

The three participants in MONT2 also mentioned recycling, the routine disposal of household things, and what accumulates in the trashcan as typical responses to what they view as garbage. But this group quickly turned to discussing how their recycling and composting behavior helps to distinguish the garbage into recyclable versus disposable materials and how, in turn, the municipal governing body affects the intricacies of residents' recycling and disposal behavior when changing policy in response to market forces. The participants found these policies irritating when they fell short of embodying Montclair's progressive inclination. In the participants' view, Montclair should be striving to achieve full recycling or rewarding residents who are good environmental citizens for producing little to no garbage because of their thorough recycling and composting practices. Participants were displeased with how more progressive environmentally-responsible behavior was not being encouraged because the municipality was responding to market forces. This discussion began when one of the participants distinguished between garbage, recycling and composting. She said:

"Garbage to me is a vague term because, when I think of garbage, I compost my refuse, that's garbage, but there's also the garbage that is not recyclable, not



compostable, that's the extra stuff, and that's how I define what I have, because I am fastidious and try to recycle what I can, so" (MONT2\_F2).

To this, another participant agreed and responded:

"I'm the same way, we've had a compost pile for decades, so all the vegetable waste from the garden and everything it all goes into the compost, so I only have like one small bag of trash every time there is a pickup, pretty much. I mean, we have to recycle everything in Montclair" (MONT2\_M3).

The discussion continued over a controversy in town concerning appropriate recycling behavior, specifically whether residents should continue to separate their materials when the recycling truck is comingling all materials at pickup. The following quote describes the controversy and apparent lack of consistency between resident's behavior and municipal conduct:

"There's been an interesting controversy, I don't know if you guys have followed that, but we have been trained to separate our metal, our tin if you will, and our plastics, and our paper goods, but our garbage trucks, more often than not, put everything into one bin..., and there's been quite a talk on our listserv about why do we have to keep separating and why do we have to make the effort, and, some of my neighbors have actually been yelled at by the garbage man if they comingle because they won't collect it, which is insane, if they are just throwing it into the back of the truck. So, you know, I'm a little frustrated about that. Why is that happening and the communication about that is very inadequate, and I feel that for those of us who are really trying to be as good citizens as possible as far as our garbage use, and lack of, you know, and reuse, we are not being fully respected in our efforts" (MONT2\_F2).

Participants were in full agreement that there is a lack of consistency between what the municipality has traditionally required the residents to do with respect to recycling, and what the municipal recycling collection service is actually doing which, combined with the poor communication by the municipality, showed a lack of respect for the residents and their appropriate recycling behavior. One explanation that was raised by the participants is

that the municipality is responding to the desires of the recycling market, while still wanting to preserve the separation behavior in its residents just in case the market's predilection changes again in the future to prefer separated materials. The following two statements by the same participant illustrate this sentiment:

"But I think that problem, is it because of the better prices they get for the materials, that somehow the town would get less money if the stuff is separated? The way it's done now, but maybe sometime in the future there would be different ways of processing the stuff where you will get more for having it separated?" (MONT2\_M3).

"Well, one of the towns, our town councilman's meeting for the district or ward, it was a ward meeting, one of the town's public works guys was there and that's when they talked about the fact that this comingled stuff, that it was leaving the town money somehow even though we were still separating it, the way it was processed, wherever it goes, it was better for the town to have it all together. At this stage, because of the prices that they get for stuff, but that's kind of changing. You know, it's variable, it changes with the market, and whatever the market conditions are, so I guess they want us to keep separating it because there might be some time when it may pay more for them to process it separately" (MONT2\_M3).

Another participant followed up this argument by expressing that the municipality's comingling the recycling materials may have been adopted because of people's inability to properly separate their recycling items in the first place. She prompted this exchange:

MONT2\_F2: "I think there's another factor that I've learned about, which is, people didn't know how to properly separate, so the Tetra Pack juice boxes, for example, versus the milk and orange juice cartons, some got into...."

MONT2\_M3: "I'm still confused. When it's a cardboard container and it has a plastic spout on it, is it paper or is it plastic?"

MONT2\_F2: "...well I think it's because of that confusion certain things ended up in the wrong two bins, so I think, in the end, it was more cost-effective to comingle, to separate at a plant, than have to throw away and get rid of so much when it was contaminated with the wrong items. I was involved for a little while with an environmental group in town, and we tried to do an educational effort on that. Even I had questions, I made use of the education, so I think that may be a piece of it too,

which makes sense, the costs, the economics of the separating when they weren't properly separated because no one ever really knew exactly which was what, and one item could throw up a whole truckload, so, that could be part of it."

Another participant agreed with these sentiments, and provided additional information to support the arguments about the market economics dictating municipal behavior, especially citing recycling and disposal contracts the municipalities signed. He said:

"I've wondered about some of the economics involved with it because I know, about 20 years ago, or so, there were issues. Certain towns signed contracts for separation plants and incineration plants and towns were tied into those contracts and, you know, with how much is their actual recycling and how much are things done to recycle things and how much are things done to solely for economic reasons that might not lead to as full recycling as could be is something that I've wondered about" (MONT2\_M1).

The comment above stood out because no other participant in any of the Montclair or Ironbound focus groups had raised this contractual issue at all concerning garbage in their communities. I asked him to elaborate on this, and he indicated that he became aware of these contracts undermining more progressive environmental policies by reading newspaper stories in the Star Ledger, a major statewide newspaper. Other participants then remembered reading the same stories. But this participant proceeded to provide another example of how the more progressive policy of bottle reimbursements was recently trumped in Montclair by the municipality responding to the recycling market. He prompted the following exchange:

MONT2\_M1: "And then I was at an environmental thing in Montclair a few years ago and, I forget what the conference was, it was at the high school, but we were talking about a bottle bill, which had been fought over for many years to have deposits on bottles so that there wouldn't be, if it had passed, so that there wouldn't be so many plastic bottles so everything would be glass, and someone with the

Montclair environmental department, you know, it had just been decided finally a few years ago that there would not be a bottle bill, and we would therefore be flooded with plastic things, and this person said something to the effect that Montclair receives money from recycling plastic stuff, and it was almost, as I understood it, a benefit to have the plastic because ..."

MONT2\_F2: "We shouldn't get our five cents back, they wanted to keep our five cents, essentially..."

MONT2\_M1: "... right, and that was part of the economic question I had, but it was reading in the Star Ledger, originally."

When discussing garbage, the participants in MONT2 therefore touched upon the complexity of interactions between the population's behavior, municipal waste policy, and the recycling and disposal market. In their view, their personal behavior and subjectivity as good environmental citizens enacted daily with respect to recycling and composting helped to reduce what is considered garbage, but the policy approaches to garbage being pursued by their municipal government and public works department actually impeded a more progressive and environmentally responsive approach. They understood that the municipality was responding to market forces.

The participants in MONT3 echoed the same themes. They also began their discussion of garbage by mentioning expected associations. Garbage in relation to landfills, uneaten food, and litter were some of the responses. But the discussion also delved into more complex aspects of garbage, especially as it relates to wastefulness, production and consumption issues, and even how in different countries or locations there is a different attitude that leans toward using less materials and producing less garbage. One participant suggested resident's wasteful behavior as accounting for "*Multiple garbage cans outside of somebody's house on pickup day*" (MONT3\_M3). Shopping behavior, related to

production and consumption practices and forces, was also raised in connection with garbage, leading to this exchange concerning the role of consumption and shopping at malls and supermarkets:

MONT3\_F1: "I think we produce too much."

MONT3\_F5: "I think people consume too much, they go to the stores and consume too much, which I try not to do, especially since my children are grown, I go to the stores very infrequently, I mean, department stores. I haven't been to Willowbrook [Mall] probably in about a year and three quarters. To go shop for clothing and something like that."

MONT3\_F6: "I wish..., I thought you were talking about supermarkets."

MONT3\_F5: "Oh no. I go there."

MONT3\_F6: "But, I think about, in the supermarkets, in terms of what gets produced as waste. Everything, I open the package of paper towels, I bought a huge thing of paper towels, and it was plastic wrapped, and inside each roll is plastic wrapped, and sometimes in some supermarkets they plastic wrap the vegetables and I usually I go over to where the potatoes are to get the paper bags so that I can put my string beans in it instead of plastic because plastic makes me crazy, but I think that our packaging, and I know I am guilty, I just gave blood today so I had to bring water, but I usually don't purchase things that are in plastic and I don't use plastic bags, you know, I watched the movie that was made by Sylvia Earle, which I recommend to all of you, she's an oceanographer, she's talking about what we are doing to the oceans with all the plastic and the floating garbage..."

This exchange led participants to comment further on the overuse of plastic bags, with one participant mentioning how in Ireland shoppers are discouraged from using the plastic bags by the store clerk asking whether they want a bag and, if so, charging them a fee for using one. His story led to this exchange, reflecting on the differences in shoppers' attitude in Ireland versus in the United States:

MONT3\_M3: "That's where the plastic bag story, I remember, a couple of years ago, we were traveling in Ireland and we went in to stop to pick up a few things in a little market, and we go in and shopped around and they said, would you like a

plastic bag, and we said, of course, and they said oh well that would be ... and it was only like 10 cents..."

MONT3\_F5: "It's like at Ikea."

MONT3\_M3: "And you know what, we don't need the plastic bag. Why, why do we need plastic bags? It's like a luxury, not a luxury, like..."

MONT3\_F1: "It's a given, it's accepted. It's an automatic."

MONT3\_M3: "It's like, it's just, take it, take it and throw it away."

But this indictment of the plastic shopping bag was not agreed to by one of the participants, who gladly uses the bags while shopping and then finds uses for the bags to pick up her dog's poop and to dispose of the garbage in her kitchen. She said:

"And they're good for the dog, too. Cleaning up... I use the plastic bags in my waste basket, in the kitchen. And that's where I do throw garbage, because we don't have, what do you call it... [a garbage disposal] ... in the sink, so there's a lot of stuff we are throwing out. And it goes down the chute, in the basement, and it gets put out on Wednesdays" (MONT3\_F2).

The participants in the third focus group, therefore, also expressed simple and complex views about garbage, especially with their discussion of wastefulness, consumption and production, and place-dependent garbage-producing behavior, with a condemnation of wasteful shopping behavior, packaging, and plastic bags. At the same time, one participant appreciated the ability to use the plastic bags to collect and dispose of her garbage.

### *Views of Garbage as an Environmental Problem*

Another dimension of the participants' shaping of their subjectivities as good environmental citizens emerged when the participants discussed whether they had heard about garbage as an environmental problem and, if so, what they understood the problem

to be about. This discussion elucidated the environmental rationalities the participants had with respect to garbage, which mainly reflected mainstream environmental movement views and largely excluded conditions of environmental injustice as part of the problem. In general, the participants cited either that they had not heard about garbage in and of itself as an environmental problem, and that it appears that this topic has been subsumed into other environmental narratives such as climate change, plastics pollution, or waste in general. Of those who had heard about garbage as an environmental problem, they cited the great volumes of garbage being produced, the disposal problems at landfills, and the garbage mounds affecting the oceans. In total, four of the focus group participants knew that, in Essex County, garbage does not go to a landfill, but to an incinerator located in Newark. However, only two of these participants referred to affected neighborhoods and communities when discussing garbage as an environmental problem, one referring to the controversial plans affecting certain New York City communities, and one referring to the Ironbound environmental injustice problem in particular. This discussion highlighted the limits of the participants' good environmental citizen subjectivities when it comes to environmental injustice conditions and their place within those conditions.

The discussion in MONT1 included one participant providing an explanation of garbage as an environmental problem that involves too much garbage that is costly to dispose and stays around forever. She said:

"There's too much of it. It is with us to stay. The stuff doesn't degrade very quickly. It's expensive to get rid of. It is polluting our seas and our land, and that's what I think about it" (MONT1\_F3).

The rest of the participants agreed with this statement. However, two participants indicated that garbage does not seem to be separately discussed as an environmental problem, with other environmental issues and narratives taking precedence. One of the participants said:

"I mean, you hear about toxic waste, and you hear about climate change, but the specific topic of garbage? You hear about waste, but waste encompasses a lot of things, I can't really say that I've heard specifically, like .... we know that garbage is a problem, but I've never heard specifically garbage as a talking point like, you know, we have to change the way we deal with our garbage. I can't say I've heard that before" (MONT1\_M4).

This message was emphasized by the other participant, who indicated:

"I think I agree that a lot of the focus is on waste in general. And also, I think plastics, if we are talking specifically, I hear about contributing to the depletion of the ozone, I think that plastics I hear a lot more about as an environmental issue than about garbage in general" (MONT1\_F2).

Only one participant in MONT1 immediately and specifically cited the issue of environmental injustice in the Ironbound neighborhood as a problem she had heard of in connection with garbage. She had attended a presentation in Montclair that was given by Ana Baptista of the Ironbound Community Corporation. Her answer elicited a back and forth with another participant. There was this exchange:

MONT1\_F1: "I was going to say, I went to a talk that was really inspiring and enlightening. I am forgetting the name of the woman, but, it's the Ironbound Coalition?"

MODERATOR: "Yeah, Ana Baptista?"

MONT1\_F1: "Yeah, she was great. So really bringing home of where our garbage is going and, Montclair's, and literally the school kids who are ill because of exactly what we are doing here. That was so powerful for me. To know the elementary school that those trucks sit in front of, and how many of those kids have asthma. So, I was blogging at the time when I heard her speak, and I was writing furiously



about it, and posting on Facebook about it as much as I could. I really burned myself out trying to just get people to care, but, I would not say I have given up, but I have relaxed, I am not fighting anymore. People are going to be aware when they are going to be aware."

MONT1\_F3: "I'm not sure the asthma epidemic is a function of garbage. I mean, it is a function of pollution in our environment, some of which has to do with the way we get rid of garbage..."

MONT1\_F1: "There is a major environmental injustice in that neighborhood with the incinerator and those diesel trucks that sit in front of the school, and I think it can't be denied."

The participants in MONT1 therefore discussed the problem of garbage as an environmental issue mainly offering a typical response of the nature of the problem or acknowledging that garbage does not receive much attention in the environmental discourse when compared to other issues, such as climate change and plastics pollution. Only one participant pointed to environmental injustice in the Ironbound and Montclair residents' role in producing those conditions as a problem. The mentioning of this problem caused one participant to disagree on the specifics of how the garbage disposal relates to the high asthma rates of school children in the Ironbound, and the original participant having to refocus the issue by citing the diesel trucks traffic near the school. This exchange, and the participant's reference to her blog and how people are so difficult to convince, therefore showed that, even among highly conscientious and environmentally-minded residents such as the focus group participants, the issue of environmental injustice can be subject to questioning. It seems that this issue challenges the participants' view of themselves as good environmental citizens and of their community as environmentally progressive, and elicits questioning.

The three participants in MONT2 also expressed a variety of responses concerning garbage as an environmental problem. One participant's response suggested that she had not heard the garbage problem framed as an environmental problem, as she expressed: *"I'm not sure I understand the question. Where the garbage goes?"* (MONT2\_F2). The other two participants responded by citing how they had heard the problem of garbage being covered in newspapers and television and, following those accounts, participant MONT2\_F2 agreed. One of the participants said: *"Sure ... And, I mean, I read and maybe I've seen on TV, it's stuff about the oceans, there are huge dead areas, and mounds of all this stuff"* (MONT2\_M1). The third participant followed up that thought: *"And all this stuff from Japan, from the tsunami time, it's making its way over and washing up on the shore"* (MONT2\_M3). Only one participant raised the issue of affected communities and the controversy over where facilities would be located by referring to an example from New York City. This comment prompted this exchange:

MONT2\_M3: "Exactly. Landfills, running out of room and where are we gonna put all the garbage? And in NY, in Manhattan where they're building that... that... what is it... on the Upper East Side..."

MONT2\_F2: "An incinerator?"

MONT2\_M3: "Where there's a park and a school and they are building this thing to handle the trash, because they can't take it to Staten Island anymore..."

MONT2\_F2: "Right."

MONT2\_M3: "... and the people who live there are all upset because all these trucks are going to be coming in and all this."

MONT2\_F2: "I'd be upset too."

Participants in MONT2 raised examples of how garbage as an environmental problem was being covered in the news. In this discussion, issues concerning where the garbage goes for final disposal and the piles of garbage gathered in the world's oceans took precedence. Only one of them raised the issue of affected communities and the conflicts that ensue when trying to find a final disposal site for garbage and the ways of transporting it to those sites, but providing an example from New York City.

In MONT3, the six participants also expressed various understandings of garbage as an environmental problem. Several of them acknowledged that they had not heard about garbage being discussed as an environmental problem in their community, by their neighbors, or by the municipality. Others mentioned that they had heard about garbage as a problem in relation to landfills, and that the problems of ocean pollution and plastic overuse are routinely discussed in Netflix documentaries they had seen. The discussion turned again to the problem of garbage as one of overconsumption, especially when you see the overflowing trashcans at the movie theater. One saw this overflowing trashcan as a marker of people's careless attitude toward waste, and another mentioned how people should be made to carry in and carry out their garbage as if they were visiting a ship or going camping. But for another participant, the overflowing garbage can was a marker of overconsumption, which in her view relates to garbage as an environmental problem. She said:

"But you know what I think. I think it goes one step beyond the garbage. We over-consume. We. I mean, we all do. We just use so much, so much more than ... 'live simply so others will simply live,' so that's my mantra, just pull back a little bit. So, when I see a big garbage can overflowing at the movies, I don't necessarily think about the garbage fill. I think about ... people ate all that ... people just consuming

these sodas, it's just such an over-consumptive culture that we live in" (MONT3\_F4).

Still others expressed that there is a lack of education for the public, which contrasts with San Francisco's policy of labeling the garbage cans with "recycling," "composting," and "landfill" labels so that people are reminded of the consequences of their throw-away behavior. Another participant followed up that example by referring to the "empties to the river" language now affixed to storm drains. However, only two participants in MONT3 actually knew the final disposal site of Montclair's garbage, challenging apparently common misconceptions about all garbage going to a landfill. There was this exchange:

MONT3\_F6: "Well, it's a, I feel like, where the garbage goes to ultimately is an unappealing landfill, and so when I think about that, you know, it's in there, smelly leaky things that are flowing, they need to be barged out to where I don't even know, so."

MONT3\_F2: "I think we should go and look at the garbage fills, so that we can get an idea of what a problem it is, if it is."

MONT3\_F1: "Oh, it is. There's no place to put it anymore."

MONT3\_F2: "Is it near people's homes?"

MONT3\_M3: "Well, I think in Essex County, and Montclair being part of it, not that it is better, but all our garbage goes to an incinerator."

MONT3\_F1: "It does."

MONT3\_M3: "They don't dump it anymore."

MONT3\_F6: "Isn't that toxic, to burn it?"

These participants considered issues of final disposal, overconsumption, and lack of public education as related to garbage as an environmental problem. The misconception that all garbage goes to landfill was also raised, and corrected by two of the participants

who indicated that Montclair's garbage goes to an incinerator and not a landfill. Overall, the discussion across all focus groups reflected how the participants' subjectivities as good environmental citizens mainly adopted mainstream environmental movement views and narratives, largely to the exclusion of more local knowledge and conditions of environmental injustice within which they are enmeshed.

*Environmental Injustice in the Ironbound: "Surprised, but Not Surprised"*

In their discussion of garbage as an environmental problem, only one of the Montclair focus group participant specifically mentioned the environmental injustice conditions in the Ironbound as part of the problem, and another three knew of the location of the incinerator in Newark. The overwhelming majority of participants did not have knowledge of this problem. The final question in the focus group session presented the participants with the maps showing the demographics and poverty rates of neighborhoods in the county, the garbage flows through the county's roads to the garbage incinerator in the Ironbound toward the poorest and more ethnically diverse neighborhoods, and the disposal tonnage in 2010 emerging from various localities, including Montclair. In each focus group, the dominant reaction to this information was surprise, as this information was new to the majority of the participants. Several participants proceeded to ask a lot of questions about the information, which showed they were trying to make sense of the information and answer the questions arising in their minds, which perhaps challenged their understanding of themselves as good environmental citizens and of Montclair as an environmentally progressive community. At the same time, several of the participants also

indicated, after being surprised by the information, that they were not surprised at all, and proceeded to offer various theories as to why these environmental injustice outcomes were not surprising. Urbanization, relative political power, and the relative ability of communities like the Ironbound to fight detrimental land uses were all cited as potential explanations for environmental injustice outcomes. Only a few of the participants raised this problem as an ethical and moral shortcoming within which they and their communities are enmeshed.

In MONT1, while the participants evaluated the information on the maps, the discussion began by two of them asking a few questions. One participant commented: *"So, basically, what you are saying is that all of our garbage is pretty much going to this one spot to get burned"* (MONT1\_M4). I clarified that this applied to municipal solid waste. The questioning continued with another participant asking: *"Are there incinerators in Essex County?"* (MONT1\_F3). I answered her question by saying that this is the only garbage incinerator in the county, located in the Ironbound, to which she replied: *"It's news to me. I thought most of our garbage went to a landfill somewhere, was trucked to a landfill. I don't know why I had that impression"* (MONT1\_F3). The participant who had previous knowledge of this situation from attending a talk by Ana Baptista of the Ironbound Community Corporation replied: *"That's what most people think"* (MONT1\_F1). Participant MONT1\_F3 continued to ask questions throughout the discussion, focusing on Newark's excessive production and disposal of garbage when compared to the other towns shown, asking whether 2010 figures were the most recently available, how long the incinerator has been there *"because Newark at one point was a pretty industrial place. Most*

*of the industry has left Newark, and you are never gonna find an incinerator in Montclair or Glenn Ridge,"* asking where the incinerators had been prior to this one, and, at the risk of *"sounding like a complete reactionary,"* asking whether Montclair pays *"to incinerate its garbage in Newark, and where do those funds go,"* and whether these are private incinerators. This participant was trying to make sense of information that was new to her by asking for clarifications. The discussion soon turned to a focus on Newark as the largest contributor of garbage on the map within Essex County. Participants paid a lot of attention to Newark's disproportionate tonnage, and provided various theories as to why that is the case. In the following exchange, participants mentioned urbanization, the consumption patterns afflicting low-income populations, and the role of commuters and city workers who consume food in clamshell disposable containers before heading back home to the suburbs as playing a role.

MONT1\_M4: "Oh my god."

MONT1\_F2: "It's just looking at these numbers, 112,741 tons, that's like, unbelievable, I didn't know it was that much. That is ridiculous."

MODERATOR: "That's only for the city of Newark."

MONT1\_F2: "For one city."

MODERATOR: "And, by the way, New York City is not represented here, but New York City sends to the Ironbound double what the entire county of Essex sends to the Ironbound... So I'm only showing you Essex County because that is the community where you live, but other places send to that incinerator as well, like New York City."

MONT1\_F3: "But is the bottom map suggesting that Newark itself generates 112,000 so, by far, more than all of the other places combined? So, I mean, I certainly understand your point."

MONT1\_M4: "Also, I mean, I feel like it makes sense, the more urbanized the space is the more waste there is. East Orange and West Orange have a lot more than, you know, Glenn Ridge."

MONT1\_F1: "I always think about, too, Newark is a part of people making garbage as well, and even the homes where the kids have asthma are making it, and I always think of that as in terms of poverty status issue, like, more dollar stores and more of the cheap junk that ends up in the garbage, or like the cheap stuff is the more wasteful stuff, the cheap food is the more packaged food, they kind of create more garbage because of what they are forced to buy or what they are in the habit of buying because of how they live."

MONT1\_M4: "You said that...., there's like 3 or 400,000 people who live in Newark, how many people live in Manhattan?"

MODERATOR: "Oh, jeez, I don't know off the top of my head."

MONT1\_M4: "'Cause I'm just thinking. You mentioned that New York City exports 700,000 tons worth of waste, and Newark has that much, I was just trying to calculate in my head, you know, the population in Newark versus the population in the city, so if you were to break down waste per individual, Newark would, you know, I was just quickly crunching numbers off the top of my head, but Newark definitely produces more waste per person than the city."

MONT1\_F1: "I also think about, and I say this because I am from New Jersey, so I am speaking as a New Jerseyan, how many people from New Jersey and Connecticut go into New York every day to work and then eat lunch. I feel like lunch is the big thing. When I worked in the city, even if I was eating right there, they only had the plastic clamshells to get your salad and so the amount of waste, every day, of all those workers who don't even live in the city that leave that garbage there and then they go back home and leave garbage home."

Therefore, in this exchange, what impressed the participants the most was the city of Newark's contribution to the problem, and also that of New York City, offering theories as to what accounts for this situation. After much acknowledgement of shock and disbelief concerning the information on the maps, the discussion then turned to how this situation is actually not surprising at all. Several participants argued that these facilities tend to be located in these neighborhoods because of industrialization, the relative inability of people



there to fight these decisions compared to the better politically organized communities. One participant even provided an example of how Montclair residents had successfully rejected an assisted living facility. The theories of industrialization and relative political power were raised by two participants in the following two comments, with the second one elaborating on why an incinerator would never be found in Montclair or Glenn Ridge:

"Not surprising, unfortunately. Might sound ... It may not sound nice to say but it is not surprising because, usually, things of that form of industrial nature seems to happen in places where people have the inability to either be aware of it or to fight it, because if you are too preoccupied with other more personal needs because of your low income, you don't have time to stop Covanta from building an incinerator in your backyard" (MONT1\_M4).

"Because I think incinerators end up there because of politics, because of the activism of places and people like Montclair and Glenn Ridge and the relative lack of power of people in places like the Ironbound. Although the Ironbound is a pretty stable part of Newark. It is probably one of the better parts of Newark. Well, the more prosperous, the more middle class. I think a lot, well, I don't know how long that incinerator has been there, but I suspect it goes quite a ways back. I suspect it hasn't been built recently" (MONT1\_F3).

There was agreement among the participants with the sentiments expressed in these statements. To emphasize his point, participant MONT1\_M4 proceeded to describe an example of recent activism which, in his view, distinguishes Montclair and allows it to reject these kinds of facilities.

"I live in the fourth ward of Montclair, which is like, referred, like the 'bad' part which is really not as bad as people play it out to be. ...there's never been any robberies or things like that, you know. ... compared to the Ironbound in Newark, it is fine. Some company or whatever, some organization, was trying to put an assisted living home or halfway house type of thing..., which we heard about it at the Christmas party, and as it happens in Montclair a lot of this stuff is done in the fourth ward side, so ... once the neighbors found out, they came together, went to the weekly council meetings, found out the tax background on this company and did their homework and legwork, such that they created ... a push that this company backed off. And, to what you were saying before, in order for these things of

moralness or ethicalness to actually manifest, there has to be people with the time, the coordination, and the intelligence to, you know, fight the powers that be, because if not, if you don't have the time to lobby your politician, you don't have time to research these companies that try to do things to your neighborhood that you disagree with, if you don't have that time, that energy, that savvy, they have that 7-to-9-figure budget to figure out how to work their problems, and you have 24 hours in a day and mouths to feed or whatever" (MONT1\_M4).

In this focus group, the discussion was dominated by a focus on Newark's contribution to the environmental injustice problem in its own neighborhood of the Ironbound, and also by theories that apparently explain these outcomes, be they related to urbanization, the lack of power by affected communities, and the comparatively well-organized residents of places like Montclair, who tout their activist inclination. Although there was agreement with these theories, one participant raised the issue of Montclair resident's lack of concern for their role in producing these conditions in the Ironbound, being overly focused on just wanting their garbage removed, and receiving no incentive from the garbage service infrastructure to reduce their garbage piles, as would occur if garbage production were treated as something that should be reduced, such as electricity usage. She stated:

"It's interesting, I don't know what part of your discussion this might fit into, but I don't know if this is surprising to you or not. We have an online water cooler discussion group, Facebook page, and people complain if their garbage isn't picked up for some reason, like, daily, or whatever it is. ... so if it's a holiday and it falls on the garbage day, they just immediately 'where is the garbage?'... immediately, I go right to where it is getting burned and ... 'as long as it's away from me,' and there is no incentive for the guys at the top, you know, making these negotiations to encourage people to use less garbage. Like, PSE&G encourages people to save electricity, right? But they are still a business, they are asking people to use less, I don't know why that is, compared to the garbage people. But, um, there's no, there's like a little bit more awareness about electricity saving but there is none about trash saving" (MONT1\_F1).

In MONT2, the three participants also said they were surprised, but not surprised by the information on the maps. They were surprised because this information was new to most of them. While making sense of the information, participants discussed the location of the incinerator, and whether they would accept such a facility within their community. The discussion also involved the contracts signed by the municipalities for disposal at the incinerator, and the displeasure felt by the participants with this arrangement and the upside down nature of the incentives, where people are not being rewarded for producing less garbage but actually penalized if not producing the expected amounts. The following two quotes represent the sentiments of surprised, but not surprised, expressed by two of the three participants, including a discussion of where the facilities should be located:

"To me, it's expected. It's just how we all operate. 'Not in my back yard' it's kind of like the approach to it. I mean, I certainly would not want to see an incinerator in Montclair, um, although if it were located in a low population area and our taxes went down significantly, I would certainly be happy with that, so, you know, I wouldn't want it coming into my backyard, necessarily, and I wouldn't want it to disrupt anybody else specifically, but I think that we do have some areas of town that could make use of something like that, but, um, I know that we also have a hard enough time trying to identify low-income housing, so if we can't do that, then we certainly can't find a place for an incinerator. You know, and I think the incinerator was probably put into Newark long before we were very self-aware of those kinds of things" (MONT2\_F2).

"I'm just kind of surprised. I wasn't really aware so much about where the ..., that there was an incinerator, where it was, and that there's only one of them. It never really occurred to me. I mean, I think I've heard of it but I'm kind of surprised that all this stuff goes to one place. You'd think that there would be more of them, spread out, even in Newark or wherever. I'm, you know, ... that there's only one place where everything gets sent to. And that none of it goes into other types of disposal, like everything has to get incinerated, there's not place ... landfill it gets buried in or..." (MONT2\_M3).

The reaction of a third participant was essentially in agreement with these sentiments, but his reaction to the maps included citing the contracts municipalities in Essex County were required to sign for disposal at the incinerator facility, and viewed that as a major culprit of this problem by, in effect, forcing residents to participate in this arrangement as waste producers and disposers. On two separate instances during the discussion, he stated:

"Right, yeah, and that brings out to me that is that the system was put in place as a money-making so that the firms, Covanta, so that the money would be processed almost, you know, it's almost tying society into having to be a consumer, waste-producing society ...so that, you know, firms can make their money at the end of town, and, so that there's that aspect of it. And in terms of it being in a low-income area, it kind of is to be expected, although I wouldn't want it in my backyard either, you know, it would be nice if there was an island built specifically for that or something, you know" (MONT2\_M1).

"...I remember being upset at that because I was reading that, and again, it was towns like Orange or East Orange not recycling because they needed to produce enough garbage to fulfill the contract that had been signed with Covanta" (MONT2\_M1).

The discussion in this group also involved what should be proper incentives in connection with garbage production, leading them to question Montclair's reputation as a progressive community when, in their view, these are examples to the contrary, of not being progressive enough. This exchange reflects their views:

MONT2\_M1: "And you want to get a tax break for being a good citizen, but you get fined instead for not producing enough trash. It's in the contract."

MONT2\_F2: "Yes! Exactly! That really bothers me, that we are not more progressive in trying to address that. That's our keg. Ugh!"

MONT2\_M1: "It is. It is. It's sick."

MONT2\_F2: "It is. It's bad."

MONT2\_M1: "It is insane."

MONT2\_F2: "We are backwards in many ways. You know, aren't you, when people talk about Montclair, they think about us being progressive. I don't see it."

MONT2\_M1: "Yes."

MONT2\_F2: "I don't see it in the schools. I don't see it in things like this."

MONT2\_M3: "Well, progressive compared to what?"

MONT2\_F2: "Actually, that's the funniest statement. That's a really good response, OK. That's a very good perspective. (Laughter.) I hadn't thought about that, but now I appreciate that, actually. That's funny."

The discussion in MONT2 touched upon issues of finding a location for garbage disposal facilities, how the municipal disposal contract that required the garbage to go to the Ironbound treats the community as a garbage source for the profit-making of others, and how this situation does not live up to the more progressive values of some of Montclair's residents.

The six participants in MONT3 also expressed amazement, surprise, and not surprise at the information on the maps. Participants were surprised that New York City garbage, and so much of it, goes to the incinerator in the Ironbound. Participants also expressed concern for incinerator emissions and the well-being of the surrounding community. One participant expressed that communities such as the Ironbound get targeted by these kinds of facilities because of their relative industrialization and the expectation that they will not organize in protest. Some of the participants also tried to make sense of how Montclair was faring in terms of garbage production when compared to other neighboring communities, which led them to believe that maybe the town's reputation for being progressive is not quite accurate. One participant raised issues of ethics and morality,

as she viewed the information on the maps as a local example of what Pope Francis is referring to in his encyclical on the environment.

The discussion began with an expression that this issue is to be expected, with one participant elaborating on why, in this exchange:

MONT3\_M3: "I'm not surprised."

MONT3\_F5: "No. It's obvious they put it in a poorer neighborhood because they figure that the people just wouldn't get their act together and complain about it, and didn't know that they could complain about it. So, of course, they put it in a poorer neighborhood, which, has a lot of industry in it too. I'm just imagining where this is, probably near the Turnpike, Raymond Boulevard type of area, which is industrial, you know."

MONT3\_F4: "I remember when it was being discussed, the incinerator, and I remember thinking, now that we have we can burn the garbage, people, it might almost encourage, like now New York is sending the garbage there, like, oh we have this huge incinerator, so."

In this exchange, the targeting of a low-income, industrialized neighborhood is offered as an explanation of why the facility is there, while another participant views the incinerator's construction with such high capacity in the first place as a magnet for garbage which may even encourage wasteful behavior. This information led some participants to try to assess how Montclair was faring. They asked whether the information on waste production was available on a per capita basis, so that they could compare it with the other towns. There was this exchange:

MONT3\_M3: "So, this map here. So it has, this is the tonnage by town. So it shows Montclair at 15,000. South Orange, which is a very similar town, in terms of demographics, is 5,000. Is that just because of population size? I mean, I would be interested..."

MONT3\_F1: "I was just going to say, if you had included the population, that would give us a good idea of which towns are producing too much, or more than others per person."

MONT3\_M3: "Like a per capita figure."

MONT3\_F1: "Because it is hard to compare here, because we don't know all the populations. But that would be a very interesting thing to add."

I explained that when I had mapped garbage produced per capita, my map did not show much of a difference, such as the map of poverty rates in the county which shows wide variation among the different municipalities. This response led these participants to question whether Montclair was living up to its progressive reputation. One participant said: *"So even a town like Montclair which thinks of itself as being green and progressive...."* (MONT3\_M3). Another participant responded: *"And it's not..."* (MONT3\_F1). This issue of living up to one's reputation as a progressive community, and considering the moral and ethical implications of the information on the maps, also emerged in the following discussion:

MONT3\_F4: "Well, as Pope Francis says, as the Encyclical on the Environment states, it is the poor that is impacted by our choices to over consume. It's the Third World countries."

MONT3\_F1: "And this is a very graphic description of that."

MONT3\_F4: "So hopefully we can all read it carefully. Reflect on this message."

MONT3\_F5: "Well, I don't think it's going to change much, I don't think."

MONT3\_F4: "But this is geographically showing what it really is. That globally it is the poor undeveloped countries and areas that are impacted by our pollution."

This particular discussion raised the issue of how the participants are integrated into a system where the poor and people of color are burdened by the wealthier communities,

with one participant viewing the relations of disposal between Montclair and the Ironbound as a local example of that global pattern. This is another way in which the issues of ethics and morality were raised during the discussion. But the overall pattern in this discussion was the expression of surprise at the environmental injustice conditions, soon followed by the understanding of environmental injustice outcomes as almost inevitable because of the burdened community's urbanization, relative political power, and less ability to fight detrimental facilities when compared to places like Montclair. In essence, by and large the participants' subjectivities as good environmental citizens did not include an understanding of environmental injustice, and the ways in which their communities are enmeshed into patterns of environmental injustice with respect to the garbage.

### **5.3 Ironbound, Montclair, and the Power to Challenge Environmental Injustice**

In many ways the discussions by focus group participants in both Ironbound and Montclair echoed the standard theories and understandings of how environmental injustice conditions are produced. Specifically, the ability of the wealthy to get their way because of their money and power, and the inability of communities such as the Ironbound to defend themselves because of their disempowerment and poverty, was the main explanatory framework that both sets of participants raised when making sense of the environmental injustice conditions within which they exist. The themes of urbanization and the relative ability of the various communities to fend off unwanted facilities are also typical explanatory factors which were raised by these participants. In some ways, these factors do not actually reflect what occurred in the Ironbound. As some Ironbound focus group



participants mentioned, the Ironbound community residents did organize to oppose the incinerator and they defeated at least three other proposed facilities. Although they lost their battle against the garbage incinerator, it wasn't for lack of community activism, or due to widespread disempowerment. What is concerning is that the status quo comes to seem inevitable in the participants' minds, leaving little room for an examination of fundamental processes and practices that support the production of environmental injustice.

The problem of increasing garbage production is one such fundamental factor leading to the production of environmental injustice in the Ironbound, but it received no substantial consideration by the participants. In fact, much local knowledge and experience was missing. For example, only one participant among all focus groups really knew of the garbage contracts that have historically required the Essex County municipalities to dispose of their garbage at the incinerator in specified quantities. Therefore, most of the participants did not know that their day-to-day practices of garbage production and disposal are directly tied, in both material and economic ways, to the garbage incinerator which is seen as one of the culprits of the injustice. This lack of knowledge and recognition of the processes and practices that fundamentally underlie conditions of environmental injustice limits the possibilities for the kind of garbage governmental subjectivities that would lead the participants, in both Ironbound and Montclair, to seek the amelioration or elimination of environmental injustice conditions. That alternative garbage governmental subjectivity would not accept a priori the premise that power and money determine all. Instead, it would recognize the diffused and mundane ways in which our day-to-day practices, understandings, and comportments support and feed conditions of environmental injustice,

and the ways in which the power to change such conditions relies on altering our garbage governmental subjectivities so that we can change ways of life.

## Chapter 6 Conclusion

In the preceding chapters, this dissertation presented a narrative for understanding the development of environmental injustice conditions in the context of our collective governmental approach to garbage. In this conclusion, I want to reflect upon this narrative and consider the ways in which this approach can help us inform our discussion of environmental inequalities and what might be done to address them.

### *Expand Analysis of Governmental Power in Environmental Justice Research*

Much of the analysis in this dissertation concerns the exercise of power in connection with the production of environmental injustice. My goal has been to illustrate how the production of environmental injustice in the Ironbound can be understood as a result of our collective enactment of garbage governmentalities, and to expand the typical set of actors implicated in producing environmental injustice. Certainly, the empirical material presented in this dissertation does not deny the importance of the classic State power frameworks invoked in the environmental justice literature to explain how environmental inequalities are produced. For example, the establishment of the incinerator in the Ironbound, in a city with large proportions of people of color and immigrants, raises the question of environmental racism and how environmental injustice may emerge due to the policies of a Racial State. The historical dispossession of people with usage rights to the garbage and the eventual designation of the garbage stream for incinerator companies like Covanta using “put or pay” requirements, and the placement of the incinerator in a low

income neighborhood near public housing, raises questions about the class-based aspects of environmental injustice and how these conditions may be perpetuated by the policies of a Capitalist State. The great limitations revealed by the deliberative public hearing and facility siting process, which proved incapable of yielding to the Ironbound resident's concerns, exemplify how the conceptions of democratic participation adopted by a Managerial State do not provide sufficient or meaningful involvement or protect affected communities. Also, the failure of various courts to stop the incinerator from being sited in the Ironbound at the request of the community shows how the legal frameworks available to a Judicial State limit its ability to deliver justice for affected communities overburdened with pollution. Governmental institutions such as the NJDEP, the NHRA, the PANYNJ, and the Essex county and Newark local government bodies did not protect the community's interest. Within the context of these classic State power frameworks, the environmental justice conflict exemplified by the Ironbound resident's struggle against the incinerator can be understood as the community rising to demand protection from the State.

While acknowledging the explanatory power and importance of these classic State power frameworks, the empirical evidence in this dissertation is primarily summoned to highlight how environmental injustice is a product of our collective and embodied exercise of power. Underneath the visible class, racial, managerial, and judicial aspects of environmental injustice concerning garbage, there is the fundamental day-to-day, embodied, biopolitical exercise of a collective and diffused governmental power, one that supports the power structures and infrastructures we generally point to as culprits of environmental injustice and perhaps makes them appear necessary and inevitable, and one

through which we have been transformed into garbage governmental subjects who perform the garbage governmental plans without question or ethical qualms about it or its impacts on affected communities like the Ironbound. By considering how this exercise of a biopolitical power in relation to our collective governmental management of garbage I have endeavored to reveal the population, ourselves, as participants in the production of environmental injustice. We have enacted, with our day-to-day practices and comportments, the necessary elements of environmental injustice in our lives and with our most intimate things and materials that become the garbage to be distributed to affected communities.

In the rest of this chapter I reflect on how we have been implicated in producing elements of environmental injustice. The historical evolution of our collective governmental approaches to garbage in the State of New Jersey reveals how we have all been implicated in producing spaces of waste disposal and environmental cleanliness. Elements of what we today call environmental injustice have evolved as part of our collective approach. Specifically, these elements include the designation of clean spaces off-limits to garbage; the designation of disposal spaces that were to receive the garbage; the establishment of rights to collect, process, and dispose of the garbage; the contradictory immersion of ecological policy within the garbage disposal economy; and the production of members of the population as garbage governmental subjects who would enact the garbage governmental plans in their day-to-day lives. The fundamental failure to question the production of garbage in the first place is accompanied by the equally fundamental failure to consider the impacts of our governmental approaches on the people and

communities who bear the burdens of disposal facilities and infrastructure. Environmental injustice fails to emerge as a moral failure in our collective enactments.

I conclude this chapter by mentioning what might be the significance of these conclusions for future environmental justice research and for policies that seek to ameliorate environmental injustice conditions in affected communities.

### *Clean Spaces and Disposal Spaces*

The problem of environmental injustice always has a spatial component to it, especially in the existence of clean spaces and disposal spaces. Typical environmental justice analyses focus on the burdened community and the disposal space as a site of environmental justice conflict and struggle. In this dissertation, the disposal space emerges as co-articulated with the clean space, and people emerge as key participants in producing these spaces through their day-to-day practices. The narrative that emerges from the research sheds light into how these spaces have been produced and in fact co-articulated as part of the exercise of biopower or biopolitics.

The problem of garbage accumulations elicited formal governmental intervention when its burdens created conflicts and threatened the population's health, safety, and welfare. Progressively, the State intervened to address this problem under the governmental rationalities of nuisance, environmental sanitation, and environment. At each stage of governmental intervention, the population has collectively enacted the required comportments, processes, and practices to move the garbage away from the private and public spaces designated clean, and into the disposal spaces designated as "appropriate" to

receive the garbage. In New Jersey, this process of designating clean spaces, disposal spaces, and moving the garbage accordingly, has been undertaken within the bounds of wider and wider spatial scales. First, the designation of clean versus disposal spaces was done in the context of the home and the outdoor areas, as people dumped their garbage outside to keep their homes clean. The municipality then appears to be the next scale of enactment, as not only private homes but streets, lots, and other areas of the town became designated clean. The municipal dump emerged as the primary disposal site, peppered all over the state as people enacted these spatial cleanliness and spatial alienation behaviors. By the time the flow control policy emerged in the 1970s, this process of selecting clean and dirty spaces had become a regional process. As old dumps, sanitary landfills, and polluting incinerators were closed, entire municipalities were designated clean by the fact that they no longer had a disposal space, and residents there now performed the function of removing their garbage not only from their homes but in effect from their entire town.

Of course, the issue of underserved areas of a municipality remained as an exception to this general trend. An aspect of environmental injustice therefore always exists in communities that are not served by the public or private infrastructure and services of garbage collection and disposal. This condition actually exists in the Ironbound, as residents who participated in the focus groups indicated how their neighborhood routinely experiences dumping and lack of proper sanitation services when compared to other areas of Newark. In the Ironbound, the presence of the incinerator became a formalized, normalized, and State-sanctioned form of dumping. Overall, the regional flow of garbage to fewer and fewer communities such as the Ironbound, which came about in the aftermath

of the flow control policy of the 1970s, magnified conditions of environmental injustice and heavily burdened the communities selected as disposal sites. The rest of Essex County was articulated with the disposal space as a space to be cleansed of garbage.

*Rights to the Garbage as a Resource*

In environmental justice analyses, the spatiality of environmental injustice is always accompanied by a discussion of who benefits and who suffers from the resultant spatial arrangements. In other words, it is not only the disposal space that is alienated and burdened, but also the community's residents, while usually whiter and wealthier communities benefit from these arrangements. In this dissertation, the theme of the distribution of environmental benefits and pollution burdens among the population is not limited to the neighborhoods and communities who enjoy the benefits of being able to send their garbage to other neighborhoods or who bear the burdens of receiving that garbage from comparatively wealthier and whiter communities. The issue of benefits and burdens in connection with our collective governmental approaches to garbage also emerges as part of the discussion of the establishment of rights to the garbage as a resource. The dual nature of garbage as a resource and a burden meant that part of the first interventions by formal government entities into the problem of garbage involved decisions about who had the rights to the garbage, and to derive use or profit from its collection, processing, and disposal.

Historically in New Jersey, entire groups of people who used to collect and use the garbage for productive economic purposes were dispossessed of that resource, while



professionalized collection and disposal companies or the municipal public works department acquired the rights to the garbage. Farmers and scavengers lost their sole right to collect and use the garbage for agricultural and other purposes, as their mode of collection and use created nuisances that came to be considered dangerous to the public health. Being people who directly interacted with the garbage, they were generally spoken about in the governmental reports as undesirable nuisances themselves. In comparison to them, new professionalized staff, collection equipment, and disposal technologies came to be seen as more appropriate and desirable for the advance planning and execution of the garbage governmental plans. In some way, farmers and scavengers were not moldable and controllable, sufficiently reliable, or predictable in the context of the clockwork-like regularity that was desired of a municipal garbage collection and disposal service to avoid nuisances, threats to the public health, and environmental pollution.

While understanding the policy rationales for replacing the various categories of users of the garbage as a resource, such as farmers and scavengers, their dispossession in favor of formalized garbage collection and disposal entities and technologies begs the question of whether these users could have played a role in developing alternatives to garbage disposal. In the current ecological or environmental narrative, we are encouraged to “reduce, reuse, recycle” first, and to dispose as a last option. But the historical trajectory of garbage governmental management in New Jersey points to how groups of people like farmers and scavengers were already practicing what we today aspire to, but they were dispossessed of the garbage. Our current predicament of increasing garbage volumes begs

the question of whether alternative garbage disposal methods and practices, such as those practiced by these groups, could be called upon and revived.

One sure barrier to alternative practices would be precisely that the rights to the garbage have already been allocated to incinerators like that in the Ironbound, to the benefit of a few garbage disposal companies that are now multinational corporations, and that changing this designated flow would prevent the realization of profits needed to pay for the bonds issued to construct the facilities. This concept of rights to the garbage reaches an unbelievable degree in the context of the garbage disposal contracts that municipalities had to sign with the counties for disposal at the regional post-flow control disposal facilities, of which the Covanta incinerator in the Ironbound is a case in point. The requirement for municipalities to send their garbage to the incinerator in specified quantities is the hallmark of the concept of garbage as property, to which only the incinerator operator has a formal and contractual right. This significantly impedes any alternative handling of portions of the garbage, other than to burn it at the incinerator. This allocation of rights to the garbage is related to how the incinerator disposal economy has subverted ecological and environmental protection principles in the implementation of garbage governmental policy.

### *Contradiction of Ecology and Economy*

The unquestioned production of garbage has been a fundamental failure of our collective governmental approach to the problem of increasing garbage accumulations. Instead of recognizing the problem as one of production, our collective governmental efforts have focused on removing it from spaces designated clean, disposing it at spaces

designated dirty or “appropriate” for disposal, and assigning benefits and burdens among communities, including the allocation of rights to collect, process, and dispose of the garbage. As garbage production volumes have grown to incredible levels, society has borne the social, environmental, and financial costs of governing garbage. This problem has led to the immersion of ecological policy goals into complex economic systems, and in doing so, their subversion.

In particular, the incinerator disposal economy has arguably subverted ecological goals. Instead of reducing the amounts of garbage that are produced in the first place, we have adopted massive incinerator disposal technologies that depend on high and guaranteed volumes of garbage in order to operate profitably and efficiently. Once the public investment was made in this infrastructure, garbage flows had to be guaranteed to the incinerator facility, to generate the tipping fee revenues that would pay for the public debt issued and generate profits for the private company operators. That this policy is implemented under the banner of environmentalism is a contradiction, as this policy forecloses any substantial alternative that would be more ecologically sound, especially one that would limit or reduce the use of materials to produce things that rapidly end up in the garbage as soon as they enter the market.

### *Garbage Governmental Subjects*

All of the afore-mentioned aspects of environmental injustice have been supported by us, the population, as we have become garbage governmental subjects. When formal governmental institutions, specifically local governmental administrations such as

governing bodies and local boards of health, and the NJSDoH at the state level, first began to address the problem of garbage accumulations, they sought to intervene into governmental practices and social relations that people composing the state's population were already implementing in their day-to-day lives. These formal governmental institutions sought to modify people's comportments, day-to-day practices, understandings, and their relations with other people and their environments in order to collectively govern garbage. Individuals, households, governmental and other institutions, garbage collectors and other people who handled the garbage, and disposal companies, among others, were all to be enrolled as garbage governmental subjects to enact the garbage governmental plans. But it is evident that the individuals composing the state's population were to be enticed and encouraged to enact the garbage governmental plans through the micro-practices of their day-to-day lives.

As I have discussed throughout this dissertation, the garbage governmental subject enacts various aspects of his or her subjectivity. One has to do with our actions as consumer subjects. We buy the garbage that we bring into our homes, at all kinds of markets and spaces of commerce. Once at home, some of these objects, such as packaging and single-use items, become discarded right away, while other objects stay around for years but eventually make it into the garbage stream. We have learned to comply with the garbage governmental plan that requires us to contain the garbage using trash cans, bags, and recycling containers; to sort the garbage into the appropriate receptacles; and to put it out on the appropriate days for collection and disposal. We are also economic subjects who pay for the collection and disposal infrastructure. As discussed with respect to the garbage

disposal contract in effect in Essex County for the disposal of garbage at the Covanta incinerator in the Ironbound, we are inscribed by implication into the garbage disposal contracts as producers of the garbage and as payers of the disposal costs and the public debt that was incurred to construct the facilities. This is a form of subjectification so mundane that we are not aware of its existence and the extent to which it shapes our social relations with each other and with communities like the Ironbound.

What I would argue is a profane aspect of our subjectification is the extent to which we have failed to realize our implication in producing environmental injustice and to demand a better articulation of our social relations. I believe this moral failure has to do with our inability to do justice to people and justice to nature. In terms of justice to people, our enactment of clean spaces and disposal spaces, and our participation in continually producing and shaping these inequalities, means that we are directly implicated in the process of formalized and sanctioned disposal in the low income and people of color neighborhoods where garbage disposal facilities are located, and in the environmental pollution burdens that negatively impact the health, safety, and welfare of the population in these neighborhoods. In terms of justice to nature, we are directly implicated in governmental processes and practices that do not question the production of garbage in the first place, thereby not questioning the continued extraction of natural resources that are used to produce the products we use in our day-to-day lives, and their rapid disposal often after only a single use.

*Significance for Future Environmental Justice Research and Policy*

The results of the research in this dissertation and these conclusions lead me to one point of significance for the conduct of future environmental justice research and for the development of policies that seek to ameliorate conditions of environmental injustice in affected communities.

The main significance for future research is to continue to examine environmental injustice not only as the result of confrontations and struggles along racial, class, managerial, or judicial divides, or using conflict models of power with the State acting as a mediator and broker of these conflicts or as an oppressor. Alternatively, environmental injustice conditions can be examined as the product of the collective exercise of power. This governmentality and biopolitical approach expands the actors involved in producing environmental injustice and opens up its analysis to the practices of everyday life. In doing so, we expand the conversation to include not just questions about “Who has power in environmental justice struggles?” It expands these questions to include questions about “How are we implicated in producing environmental injustice, inequality, and oppression through the mundane practices of everyday life?” The significance of a governmentality and biopower approach in environmental justice research is that it expands the boundaries of environmental justice, both conceptually and spatially. In this dissertation, it is clear that the enactment of the garbage governmental plan by residents within the garbage disposal district, including the designation of sending and receiving communities, suggests that the bounding and definition of what constitutes an “environmental justice community” should include the totality of these residents. This is not to detract from the very real and pressing issues affecting the impacted communities, but to show how the conditions that affect them

have their genesis beyond the burdened community and are rooted in everyday practices. A broadening of the boundaries of an environmental justice community can shed light on these co-articulated conditions, processes, practices, and social relations, and can help to identify actions that all of those responsible can take to ameliorate environmental injustice conditions.

Expanding the frameworks of power so that we can better understand the nature and bounding of environmental injustice, and so that we can reveal our collective involvement in producing these conditions, leads to implications for environmental justice policy. Once we are aware of how environmental injustice is deeply ingrained in the practices of everyday life, it becomes clear that an environmental justice policy that is based only on involving affected communities and seeking to diminish disproportionate impacts is inadequate for addressing these conditions. Instead, we must develop environmental justice policies that reflect our collective governmental actions concerning socially burdensome materials. To do so, environmental justice policy must therefore contemplate what our garbage governmental subjectivities are, and what they should be. Policy must address “What must we do in our day-to-day lives to ameliorate environmental injustice conditions in communities like the Ironbound?” The answer to this question would necessarily lead to the articulation of a better social relation between people who are co-articulated as part of producing conditions of environmental injustice. It helps here to remember that the garbage governmental policies and plans we have enacted in our day-to-day lives were once the subject of spirited campaigns and governmental efforts to transform the population into the kinds of garbage governmental subjects we are today.

This means that we can envision and work to enact a different kind of socio-environmental relation.



## **APPENDIX 1. Focus Groups**

### *Design and Process*

Three focus group sessions were conducted in each community, Ironbound and Montclair, consisting of a maximum of 10 participants each, for a total of six focus group sessions and a maximum of 60 participants. Participants were selected using a purposive sample (Morgan 1998, vol.1: 29) where the main selection category was residence in the particular kind of community, either impacted or non-impacted. The only exclusion criteria were age and residence, in that only participants 18 years old or older who reside in the particular community were selected. The sessions were conducted at a familiar location accessible to community residents. Each session was about one-hour long. During the focus group session, the participants and I sat around a table to discuss a set of prepared questions and visual aids, and the discussion was audio recorded in order to transcribe it at a later time. At the end of the discussion, participants were asked to complete a short questionnaire concerning their age range, income range, and ethnicity, and were asked to write down any additional thoughts they had on the issues discussed. Participants received a signed and dated copy of their consent form, along with a payment of \$20 as both an incentive and a thank you for their participation in the focus group research. Light refreshments were served at the beginning of each focus group session.

At least three research procedures helped me to maintain participant confidentiality and assign what was being said to the correct participant while transcribing. First, at the beginning of each focus group session, I made a mental map of where each participant was

seated, and at the conclusion of the focus group I gathered and ordered the participants' consent forms in the order they were seated. Second, the first question during each focus group discussion asked each participant to mention his or her name, the town they live in, and what they liked the best about their neighborhood. Third, each participant wore a name tag, and a final written questionnaire completed by each participant included a separate loose sheet of paper, where I asked each participant to attach their name tag at the end of the focus group. These three procedures helped me to assign confidential participant codes to each participant and to correctly assign what was being said to the proper participant. When I sat down to transcribe the discussion, I matched the person's name, consent form, name tag, and voice, and this helped me identify who was speaking while transcribing. Before beginning the transcription, I created a separate document where I listed the participants' names and their assigned code. I used this information to assign the correct code to each participant while transcribing. All of these procedures helped me remember each participant's name, recognize their respective voices while transcribing, and allowed me to assign what was being said to the participant who said it. The transcriptions were done within one or two weeks after each focus group was conducted.

### *Questionnaire*

- (1) Let's begin by going around the table. Please say your name, the town you live in, and what you like best about your town.
- (2) Thank you. Let's begin the discussion with a general question. What comes to your mind when you hear the word "garbage"?

(3) Think about your day-to-day activities. What sorts of things do you do every day that are in any way related to garbage?

(4) Are there any specific things that you do which make you throw away either more or less garbage?

Follow up after response:

(4a) How about things that you do at home? At work? Other places?

(4b) How about when you do basic day-to-day things, such as eating? For example, Do you use disposable plates and cups, or reusable china?

(4c) Are there any things that you have tried to do to produce less garbage? Have you been successful or unsuccessful?

(5) Do you ever hear about garbage discussed as an environmental problem? If so, how do you understand the problem? What is the problem about?

(6) I would now like to share with you some maps and information related to the garbage problem in New Jersey. These are three maps displays, showing different things. The first map shows the garbage facility locations on top, and underneath are colors that show the income and ethnic characteristics of New Jersey's population. The second map also shows the garbage facility locations, but underneath are data on how much garbage is produced per person by New Jersey's residents. The third map is about the part of the State we are in, and it shows facility locations within (county name) county, and shows where the garbage goes and where it comes from. (The moderator further explains how to read the data and the maps.)

Let's take a moment to think about this information, and then let's discuss your thoughts, views, and reactions. Please feel free to write down your thoughts on the piece of paper in front of you.

(6a) What are your initial thoughts, views, and reactions to these maps and data?

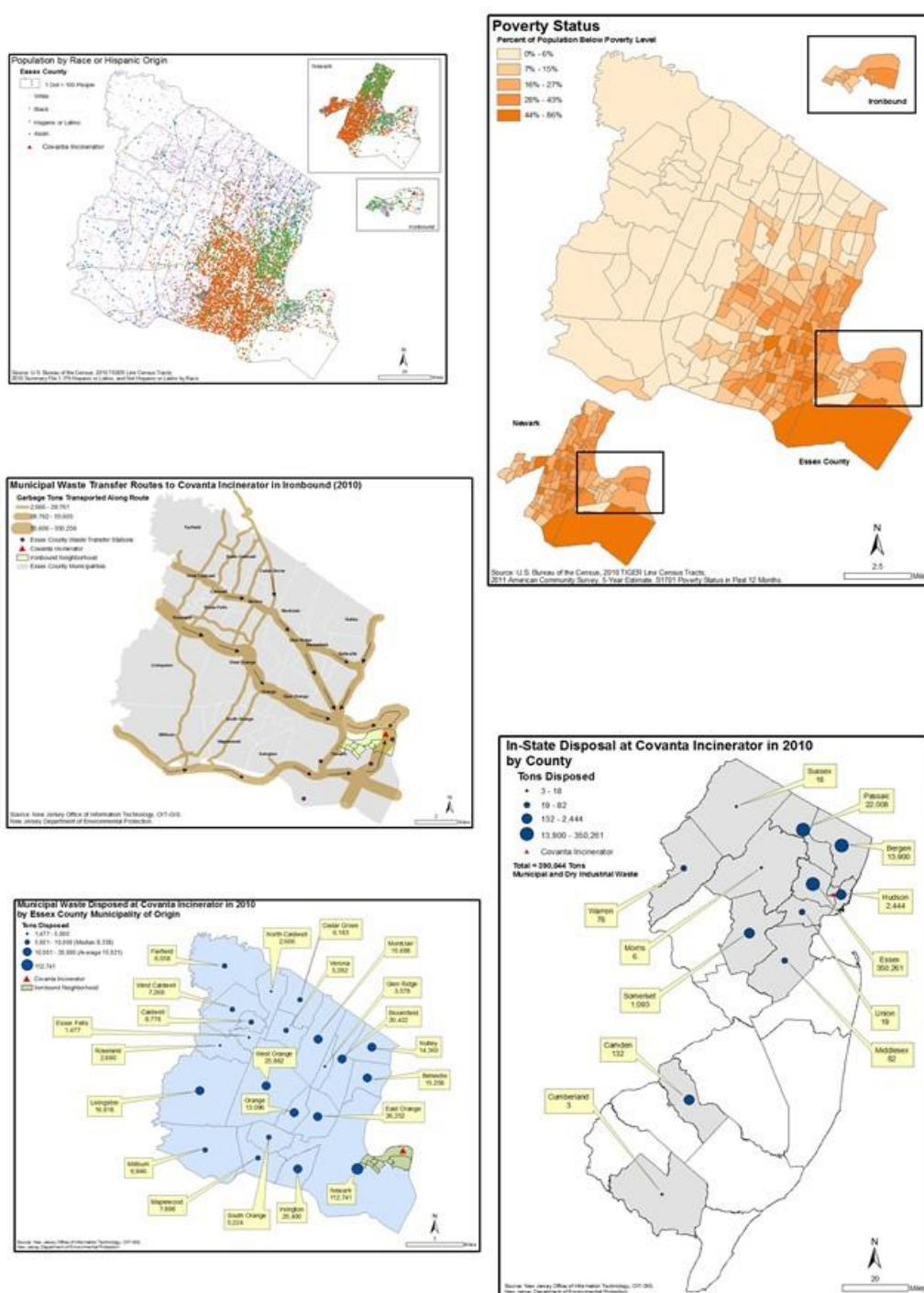
(6b) What would you say are the "take home" messages from these maps and data?

(6c) Do you think that public awareness about this information would motivate people to do something about the garbage problem? Yes or no? Please explain.

(7) Is there anything we should have talked about, but didn't? What else do you think is relevant for our discussion this evening?

#### *Maps Used in Focus Groups*

For question (6) of the focus groups, the following maps were arranged onto a poster to stimulate participants' reflection and discussion. Clockwise, the maps show the population by race or Hispanic origin in Essex County, the poverty status, the in-state disposal at the Covanta incinerator for 2010 from various counties in New Jersey, the tons of municipal solid waste disposed by each Essex County municipality at the Covanta incinerator, and the garbage routes through which the waste traveled from other parts of the county to the Ironbound neighborhood.



Map 7. Maps Used in Focus Groups

## **APPENDIX 2. GIS Data and Analysis**

### *Facility Locations*

The geographic location of the 13 operating landfills was obtained from the NJDEP, which was in the form of the municipal block and lot numbers comprising each landfill. I used that information to extract the correct parcels from a dataset of parcels provided on the New Jersey Geographic Information Network's website, which was developed by various GIS community stakeholders for property taxation purposes. I extracted from the parcels dataset all of the parcels for each county containing an operating landfill. I then used the municipal boundary of each municipality containing a landfill, which I extracted from the NJOIT-GIS municipalities shapefile, to extract the landfill parcels. When some landfills were located in more than one municipality, I conducted that process for both impacted municipalities. Once the municipal parcels were extracted, I then used the selection by attribute function to extract only the correct lot and block numbers designated by the NJDEP as landfill lots and blocks. For each collection of landfill lots and blocks, I started by selecting one lot and block, and then I added to the selection. Once the lots and blocks constituting each landfill were extracted, I created a shapefile of landfill polygons by digitizing the outer boundary of each set of landfill lots and blocks. I created an attribute table containing information pertaining to each landfill. I converted the landfill polygons into point locations.

The location of the 5 garbage incinerators and the 56 operating transfer stations were mapped separately using address geocoding. The NJDEP made available street

address information for each of these facilities, and that information was used to create an address table to geocode using the US streets with zone format. I created an address geocoder using an address data source of streets created by NJOIT-GIS. Once the shapefile of incinerator locations was created, I improved the location of the resulting incinerator points using a set of 2007 orthophotography made available by NJOIT-GIS. Once the photos for each incinerator neighborhood were brought into the map and the geocoded incinerator locations could be seen on top, I moved the location of each point by editing the shapefile. The photos showed the incinerator facility's smokestack, which casted a shadow. I usually moved each point only a few feet, to the top of the smokestack. The geocoding process for the multiple transfer stations was more complicated due to the large number of facility locations and the fact that some addresses had a street name or a zip code that did not geocode on the first try. To improve the geocoding results, I used zip code information from the State of New Jersey. I also used web mapping services such as Google Maps and Mapquest to identify alternate names for the streets, which could then be matched using the alternate names table on the NJOIT-GIS dataset. In the very few instances where a location could not be geocoded after improving the zip code or street name information, I used the location shown for the facility on the web mapping services to manually assign a geographic location to that facility. At the end of these extraction, database preparation, geocoding, and digitizing processes, I had a map of the post-flow control incinerators, landfills, and transfer stations. This is the modern day landscape of operating garbage facilities produced by our collective process of governing garbage.

*Census Geographic and Demographic Data*

The census tracts for 2010 were readily-available as a shapefile from the Census. Separate data tables containing various demographic indicators were downloaded and then formatted to be joined with the census tract shapefile. County, municipal, and census tract number information were used to extract subsets for each income, poverty status, and racial or ethnic indicator at the census tract level for Essex County, Newark, and the Ironbound neighborhood. The Ironbound census tracts were obtained from the Ironbound Business Improvement District. These extractions allowed me to compare the demographic indicators for New Jersey as a whole, Essex County, Newark, and the Ironbound.

After exploring data for various social and economic indicators, I decided the most meaningful data would be the standard income and race or ethnic attributes of the population. Specifically, I decided to map poverty status, median household income, and race and ethnicity. The poverty status data comes from the 2011 American Community Survey, 5-Year Estimate, S1701, Poverty Status in the Past 12 Months dataset. The median household income data comes from the 2011 American Community Survey, 5-Year Estimate, B19013, Median Household Income in the Past 12 Months dataset. The race and ethnicity indicators come from the 2010 census data, Summary File 1, P9 Hispanic or Latino and Not Hispanic or Latino by Race dataset.

These results of the calculations made in this dissertation concerning the poverty, income, and racial or ethnic demographic characteristics of census tracts with solid waste transfer and disposal facilities were intended to provide a comparative description of the demographics of neighborhoods with solid waste transfer and disposal facilities and the



rest of the state or county. It should be noted that the results are not intended to, nor do they represent, a claim of statistical significance for two reasons. First, no correlation or other statistical analysis functions were applied to the data. Second, the margins of error associated with the poverty and income values derived from the 2011 American Community Survey are substantial enough to preclude a claim of statistical significance. As stated in the documentation made available with the 2011 American Community Survey data, the “margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error... The effect of nonsampling error is not represented in these tables.”

### *Proximity Analysis*

For deriving the demographic information by census tracts of the population near landfills, incinerators, and transfer stations, I used the methodology described by Paul Mohai for selecting the underlying geographic and demographic data (in Bullard et al., 2007: 38-48), and by Robin Saha (in Bullard et al., 2007: 49-67) (see also Bullard et al., 2007: 68-83). After joining the demographic data tables by census tract to the census tract shapefile, and superimposing the facility locations, a 2-mile, static, circular buffer zone was calculated and used to select the census tracts. Under the “host” selection method, each census tract containing a facility was selected. Under the “centroid” method, each census tract having its geographic center within the 2-mile zone was selected. Under the “areal”

method, each census tract either completely or partially within the 2-mile zone was selected. These three calculations were conducted separately for each set of facilities and for each data table. The results were calculated by producing the field statistics for each field. The people of color population was calculated by subtracting the population of people who self-identify as “White alone” from the total population.

It should be noted that the proximity analysis methodology adopted in this dissertation was intended to provide a comparative description of the demographics of neighborhoods with solid waste transfer and disposal facilities and the rest of the state or county, and to develop a series of maps for use in the focus group discussions. This analysis is not intended to make a quantitative assessment of whether an environmental injustice exists, nor to make a claim about risk exposure. Therefore, the proximity analysis methodology used here has at least two shortcomings that would have to be corrected if such a quantitative assessment is to be conducted in the future.

One shortcoming of this study is the somewhat arbitrary size, shape, and fixed nature of the buffer. In the quantitative environmental justice literature, the size and shape of buffers, and various buffer sizes, should be determined based on the purpose of the study and the real-world conditions of the area being studied. A purpose may be to determine exposure to an emissions source, and real world conditions may include wind patterns that normally prevail in the locality. When the purpose of the study is to measure the changing population demographics as distances increase or decrease from the facilities of interest, then buffers of various sizes would be used (Glickman 1994). Alternatively, when there are standards already established by environmental regulatory agencies concerning the

dispersion of the pollutants of interest or similar impact criteria, the buffers should be designed with those standards in mind, so that the buffers model the pollution dispersion pattern (Maantay 2007).

A second shortcoming of this study is the use of the census tract as the unit of analysis, instead of a more spatially-resolved unit, such blocks, block groups, or parcels. One correction that could be made is to use the parcel locations to allocate the population values to the residential areas of the census tract. For example, through “dasymetric mapping” techniques, the census tract population can be allocated geographically using information from aerial photographs, parcels, or other layers of polygons containing land use designations (Mennis 2002; Higgs and Langford 2009). This would yield a more accurate result for the population selected using the various buffer selection methods. However, this technique is limited in that other demographic characteristics of the population, such as income and race or ethnicity, could not be easily ascribed to a particular area without additional information. To this end, several quantitative environmental justice studies have represented individual members of the population being studied, thereby showing a person’s characteristics at a highly spatially-resolved scale (Maantay 2007; Kim et al. 2008; Higgs and Langford 2009). This approach raises questions concerning the confidentiality of participants’ data. If used, the data should be gathered as part of negotiated confidentiality agreements with study participants.

The county-approved garbage routes designated by Essex County were extracted from a roads dataset available from NJOIT-GIS. The road segments for each road were merged, and an attribute table was prepared with respect to each road that contained the tonnage of municipal solid waste designated to travel through that road by the county's solid waste management plan. This information was mapped using a proportional symbols representation.

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