

Clean Up Crown Heights - Environmental Stewardship
Reflection Paper
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Introduction

Litter is a highly visible problem with both local and global consequences. It impacts myriad spheres from the climate to human health. A qualitative analysis of interview data revealed that litter is the environmental issue deemed most urgent by the Central Brooklyn community (Table 1), specifically its contribution to the expansion of the rat population and effects on quality of life (Krystosik et al., 2020).

When the COVID-19 lockdowns began in March of 2020, New York Department of Sanitation (DSNY) service crawled to a standstill. Months later, the sanitation budget was slashed, trash cans overflowed, and litter began to pile up. This proved to be an issue of environmental justice as wealthy areas saw relatively uninterrupted collection, while marginalized communities saw their mountains of trash grow (as did the adverse environmental and public health effects associated with them) (Porter & Woodhouse, 2021). Central Brooklyn was no exception. Grassroots organizers formed clean up crews like Clean Up Crown Heights and Renegades of Trash to mobilize the community and combat the problem. Mutual Aid groups like Crown Heights Mutual Aid and Bed Stuy Strong also joined the efforts. This coalition of civic organizations picked the streets clean and advocated for sanitation budget reform.

Despite the upswell in community action, the litter remains - too many people and too much waste for the community to tackle alone. The prevalence of litter brings a host of other issues to Central Brooklyn. The issue most on the minds of community members are rats and their exploding population (Table 1). Unmanaged roadside waste provides food and ample breeding sites for rats and other disease vectors like mosquitoes and ticks (Krystosik et al., 2020; Alam & Ahmade, 2013; Nta, 2020). Vectors

like these are responsible for the spread of diseases like salmonella, cholera, plague, hantavirus, *Leptospirosis*, zika, and lyme (CDC, 2021). Furthermore, changing climate and the urban heat island effect will make future outbreaks of tropical diseases like malaria and dengue more likely as the rodent population continues to rise (Krystosik et al., 2020). In addition to their effects on human health, rats pose health threats to pets, destroy property and infrastructure, and outcompete non-exploitative native species for precious resources (CDC, 2021).

Table 1
Interviewee Identified Issues from First Round of Thematic Coding

<i>Interviewee</i>	<i>Issue(s) Identified</i>	<i>Explicit Concern</i>	<i>Descriptive Language</i>
Bus Driver	Air; Litter	Health; Rats	"I feel like I'm huffing exhaust and rat p*ss."
Cashier	Litter	Finances; Rats	"People avoid my corner until the bags are picked up."
Artist	Food; Litter	Rats	"It feels unsafe...like the bags are pulsing with [rats]."
Community Board Member	Air; Litter	Health; Rats	"We get calls every day ... [rats are] a plague."
Organizer	Air; Food; Justice; Litter	Finances; Health; Rats	"They're contaminating the gardens, it's an issue of food justice."
Mutual Aid Member	Food; Justice; Litter	Health	"They're coming out in broad daylight, going after our deliveries."

Beyond the visible and visceral issue of the growing rat population, unmanaged waste has a number of other insidious effects. Litter can further threaten human health by contributing to heavy metal, toxic chemical, and microplastic buildup in food and water (Alam & Ahmade, 2013). Litter left to the elements will eventually begin to

degrade and emit gaseous chemicals that can build up in the body and result in chemical poisoning (Alam & Ahmade, 2013).

Litter also contributes to, and exacerbates climate change in a number of ways. Most urgently, litter accumulates in storm drains and worsens flooding and combined sewer overflow events (CSOs), posing immediate safety concerns to affected communities (Vaverková et al., 2021). Litter degrades ecosystem health by choking tree wells and contaminating soil and water. These cascading effects make the entire socio-ecological system more vulnerable and less resilient to the extreme weather events wrought by a changing climate (Alam & Ahmade, 2013). Even waste management approaches like incineration and landfills release carbon and other toxic chemicals into the air, water, and soil (Alam & Ahmade, 2013).

Project Description

For my Master Plan, I am using an altered community-based social marketing (CBSM) approach to identify barriers to community access to environmental justice services and organizations in Central Brooklyn (McKenzie-Mohr, 2011). Through an initial round of interviews, it became clear that the primary barriers to pro-environmental behavior in Central Brooklyn are the numerous environmental injustices wrought by centuries of negligent and prejudiced politics and policy. The second round of interviews confirmed that this was a belief of the community as well. With a number of established organizations doing strong justice and aid work, I identified amplification as the best way to benefit the community and overcome the barrier of environmental injustice (Langemeyer & Connolly, 2020; Meerow, Newell, & Stults, 2016; Middlemiss, 2011). My

goal then is to connect Central Brooklyn community members with organizations doing the work relevant to their specific needs.

To connect the Central Brooklyn community with organizations addressing the issue of litter, I decided to host a clean up event and laid out three goals. First, involve 1 (+) community organization partner(s) in order to ensure that community action and stewardship are just and equitable and to utilize their networks and capabilities. Second, engage 25 (+) community members and neighbors in a street clean up event. Third, interview 5 (+) community members by the end of the event to use for qualitative review to further inform my CBSM plan.

I partnered with Clean Up Crown Heights (CUCH) for this stewardship event. CUCH was formed in July of 2020 in response to the sanitation budget cuts in New York City (Porter & Woodhouse, 2021). The organization is run primarily through their Instagram page where they post meeting times, clean up routes, and other pertinent information. CUCH organizes groups of 3 to 50+ and regularly hauls 200+ lbs of trash per event. In the past, CUCH has partnered with other Central Brooklyn organizations including Bed Stuy Strong and Riders 4 Rights.

I attended a number of CUCH hosted clean ups and was impressed with their model. Community members nominate blocks in need of maintenance and CUCH plans a route to meet those needs. Once a number of volunteers arrive, a CUCH member clearly lays out safety precautions and distributes materials, including gloves, bags, and pickers. The group is split in half and assigned a side of the street. The group then makes their way along the prescribed route and deposits the collected waste at designated DSNY trash cans.

I reached out to CUCH leadership and proposed a collaboration. Together, we devised a clean up event aimed at building a coalition around waste management and inspiring future stewardship. The event included a series of social media posts (Figure 1), a lesson on waste management (Figure 2), and a walking inquiry lesson around rats and plastic waste. The audience we hoped to engage were Central Brooklyn residents, centered in Crown Heights along Franklin and Nostrand Avenues. These are busy thoroughfares with a thriving West Indian/Caribbean community.

The social media series highlighted the three most common pieces of trash as determined by CUCH members: plastic water bottles, cigarette butts, and plastic bags (Figure 1). The idea behind this series was to highlight the extreme length of time it takes for these common items to degrade naturally and encourage proper disposal through humor. The social series also served as an advertisement for our clean up event the following week and connected directly to the waste management lesson.

Figure 1

Stewardship Event Social Series - Clean Up Crown Heights Instagram



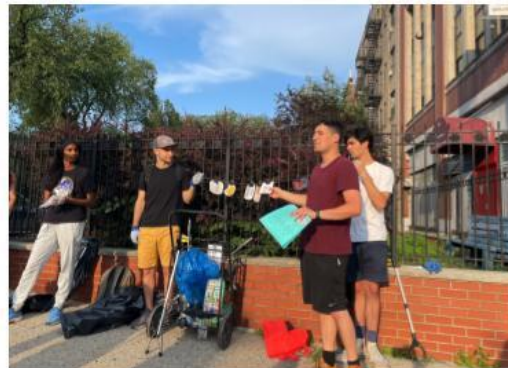
Note: Left: An aging water bottle with grey beard and walker representing the approx. 450 years it takes to break down. Middle: A plastic bag with an "I Voted" sticker representing the 20 years it takes to break down. Right: A cigarette butt with a backpack and first day of school sign representing the 10 years it takes to break down. Post captions were formatted to say: "By the time your _____ decomposes, it would be _____. Join us at the clean up this Wednesday, July 14th to learn about what happens to your trash after it's gone."

On the day of the event, once a large group had gathered, we introduced ourselves and began the lesson. First, we had an open forum on consumer culture and our “out of sight, out of mind” philosophy when it comes to waste. Then, I walked them through a typical waste management cycle as run by the DSNY. We then discussed degradation and what happens to litter when it isn’t collected. I then laid out a length of yarn and established it as a timeline ranging from 1 week to 500 years. I distributed laminated images of toilet paper, a banana peel, a newspaper, a cigarette butt, a plastic bag, an aluminum can, and a plastic water bottle. I then instructed the participants to place the item on the timeline depending on how long they imagined the item would take to degrade. Once complete, I reordered the items and shared the degradation time. We wrapped up by talking about the impacts of litter on human health, ecological health, and climate change.

After the lesson, we departed on our route following CUCH’s safety guidelines. We made sure to give participants space to familiarize themselves with the tools and consider the work they were engaged in. After ten minutes, I began speaking with individuals and small groups about the specific items they were discarding. In order to evaluate their learning, we discussed their relationship to the type of item, how long the item takes to degrade, whether the item was recyclable, and what a reusable

Figure 2

Stewardship Event Waste Degradation Lesson



Note: Two participants hold up fully completed timeline as crowd considers common litter item degradation.

replacement might be. We also engaged in a number of discussions about the Central Brooklyn community, litter as an environmental injustice, and what they identified as their most urgent concerns. However, we primarily discussed rats. Most participants had noticed a spike in the rat population. I explained how litter provides shelter, breeding sites, and food for rats and other disease vectors. I asked participants how rats might affect human health and asked them to identify possible rat breeding or feeding sites. We went into great detail about rat borne diseases and their future in a changing climate. After each conversation, I asked how likely each participant was to attend future stewardship events in Central Brooklyn on a Likert scale of unlikely (1), to somewhat likely (2), to likely (3), to definitely (4) (Table 2).

Outcomes

A total of 31 people participated in the clean up event, exceeding my goal. Utilizing CUCH's existing network made this possible. I recruited a number of participants myself through word of mouth at local businesses and direct contact. A number of participants mentioned the education component and social series as motivation as well.

We were not able to weigh the trash we hauled but we did manage to collect 25 40-gallon garbage bags of litter and one 30-gallon bag of recyclables. Ten participants shared that they were inspired to focus more on items that we discussed in the lesson. Of those, six focused on cigarette butts which, according to CUCH, often slip under the radar of their volunteers.

I was not able to interview any community members or participants due to the nature of the walking inquiry. However, a number of community members approached us during our route and I took care to record their comments. Most expressed their gratitude and asked what group we were with. Some expressed interest in future events, resulting in five new followers for the CUCH Instagram account. Six separate community members approached us separately to discuss our outreach. They all mentioned that they would love to get involved but did not use social media and had no way of being alerted to clean up details. I stopped to ask each individual where they learned about similar events and each provided the same response: fliers.

After engaging a sample of six participants on the issues of litter degradation and rat ecology, I embedded a series of informal assessment questions into our conversation and kept track of participant responses. I asked participants to determine whether a piece of litter was recyclable, to identify a rat breeding or feeding site, and to rate their likelihood of attending a future stewardship event (Table 2). Five of six (83%) participants answered the recycling question correctly and three of six (50%) answered the rat question correctly. Participants rated their likelihood of attending future events at an average of 3.3 (between likely and definitely). These responses provided me with an opportunity to quantify the success of the event.

Table 2

Stewardship Event Participant Learning and Behavior Outcomes

<i>Participant</i>	<i>Recyclable (Correct/Incorrect)</i>	<i>Rat Site Identified (Correct/Incorrect)</i>	<i>Future Event Attendance (Unlikely (1) - Definitely (4))</i>
#1	Correct	Incorrect	4
#2	Correct	Correct	4
#3	Correct	Incorrect	3
#4	Incorrect	Incorrect	3
#5	Correct	Correct	2
#6	Correct	Correct	4

After the event, I sat down with CUCH leadership to evaluate the event and discuss next steps. Overall, CUCH was thrilled with the outcome of our collaboration. Anecdotally, they claimed that we had more engagement from non-participant community members than ever before. They felt that the interactive and visual components of the event pushed participants to be more thorough and mindful in their actions. We agreed to collaborate on future projects, starting with a campaign to have the Central Brooklyn community opt in to the city's renewed composting program. This will include another social media campaign and series of fliers, as recommended by community members. This campaign will further aid my Master Plan by providing me more avenues to collaborate with hyperlocal, grassroots organizations and more opportunities to listen to the community.

Discussion

Overall, I consider the clean up stewardship event to be a success. I met two of my goals by engaging 31 participants and partnering with a community organization. The partnership was essential in meeting my participant goal as CUCH has a dedicated community of volunteers who made up the majority of participants. The success of this event provides evidence for my approach of amplifying the profile and work of existing organizations as a strategy to overcome lack of community access to environmental justice services. CUCH regularly sees between 3-10 volunteers. While they have had much larger turnout, leadership was confident that the social series and education component increased the turnout. The informal assessment revealed that participants were engaged and likely to attend another event. Based on my conversations with community members, flyering campaigns around larger events could continue to grow the volunteer pool. Furthermore, fliers will reach a different audience and, most likely, one that is more representative of the Central Brooklyn community. The majority of the clean up participants were young and white or white-presenting while the community demographics skew heavily West Indian and Carribean. Engaging with a more representative audience could ensure future events remain just and equitable.

When I set the goal of interviewing 5 (+) participants to collect usable material for qualitative analysis and podcasting, I was overzealous. This was the first stewardship event I was involved in hosting and didn't realize just how much of the event itself would be spent on logistics. I hoped to use the walking inquiry as a jumping off point for longer conversations but I was pulled in to assist elsewhere before I could make any headway. In the future, I would set out to focus on the event itself and recruit interviewees for

future recordings. This approach would give the interviews the space and attention they warrant. You can have more honest conversations when the interview space is quiet and the interviewee has your undivided attention.

This event contributed greatly to my Master Plan. I was able to connect community members to an organization doing work relevant to them, raise the profile of CUCH, and recruit future volunteers. I plan to collaborate with CUCH again and begin to involve other partner organizations. This will help me get a better sense of the organizations at work in Central Brooklyn and connect me with future podcast guests. Analyzing podcast transcripts and collecting further qualitative data from the community will empower me to create a thorough community aid directory of neighborhood organizations, ordered by the needs they meet.

Impact on Environmental Stewardship

Litter and the rats it breeds are highly visible concerns. Naturally, this inspires a good deal of stewardship when it comes to clean ups. I believe that my contribution to the clean up space further elevated the conversation and may have inspired future stewardship. By adding a lesson and walking inquiry to the clean up format, we provided essential context to the participants' action and the litter they were discarding. With a better understanding of the process of waste management and degradation, participants appeared more thorough because they knew that their actions would directly restore health and value to their community. This is supported by both the Value-Belief-Norm Theory (VBN) and the Stone Age Bias (SAB). Providing this context to stewardship action taps into VBN in that participants only understand the true value

reduction posed by litter when directly interacting with it and considering its ecological and health impacts (Stern & Dietz, 1999). This approach also utilizes the shortsightedness bias by making the issue of litter more immediate by connecting it to health concerns and the growing rat population (van Vugt, Griskevicius, & Schultz, 2014).

Collaborating on and hosting this clean up with CUCH taught me a lot about how to plan, promote, host, evaluate, and follow up on a stewardship event. I got practical experience in partnering with existing organizations, a core aspect of my Master Plan. Most importantly, I got an opportunity to listen to my community. Of course, I have a lot of growing to do as an environmental steward but this was an important step in that direction.

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Appendix A

Stewardship Event Highlights



Note: Left: participants make their way down Franklin Ave with pickers and trash bags. Middle: Initial group photo following lesson but before second wave of participants joined. Right: Participant thoroughly cleans tree well, paying special attention to cigarette butts.