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The limits of environmental remediation protocols for environmental justice cases: lessons from Vieques, Puerto Rico

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The United States Federal Government has repeatedly put the people of Vieques, Puerto Rico in harm's way due to the injurious after-effects of air-to-ground weapons testing. Most of the harm happened during the Navy's 70 years on the island. Yet, the harm continues today considering that aspects of the cleanup count as continued acts of environmental injustice, viewed within the context of the island's colonial history. Usually, this harm deals with public health issues, but the remediation protocols do not account for considerations such as cultural identity and heritage. This paper shows how the procedures for environmental remediation in Vieques qualify as a case of environmental injustice according to Robert M. Figueroa's 'environmental justice paradigm.' The aim of employing this kind of approach is to pinpoint the underlying reasons why this is a case of environmental injustice.

Keywords: environmental justice; Vieques; superfund; remediation protocols; colonialism

Introduction

The United States Environmental Protection Agency's Superfund (US EPA, 2015a) sites exhibit the Federal Government's proactive practice of dealing with environmental health and justice issues. Some policies and protocols governing these undertakings, however, are not environmentally or socially responsible. Examining the remediation efforts in Vieques, Puerto Rico, an island that was used for military training and air-to-ground weapons testing, supports these claims. In several ways, this particular case study is not unique. Cleanup protocols for several former military bombing ranges and weapons production facilities do not significantly differ from Vieques.¹ Moreover, some environmental justice scholars (Santana, 2002, p. 37) claim that directing charges of environmental injustice toward the US Military is unusual. Also, a fair amount of scholarship focusing on Vieques already exists.² However, the contribution to the literature that I want to make in this paper is to show precisely how the remediation process does not escape the charge of environmental injustice, when considered within the context of the island's colonial history.

This paper has two transferable goals. One goal, interdisciplinary in nature, focuses on the importance of heritage and cultural identity in environmental justice

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(EJ) case assessments. EJ is a thematic enterprise, as its name suggests. Its motif cuts across academic boundaries, attracting researchers in fields such as philosophy, geography, political science, epidemiology, law, and public health. Outside of philosophy, assessing impacts on heritage and cultural identity are neglected, or it is assumed that the reader will infer them from the researcher's work. Pinpointing exactly how an EJ issue affects a distinct population exhibits a more accurate and complete picture of a given situation.

For instance, medical research shows how an EJ issue harmed the health of a marginalized group. Yet, talking about impacts to heritage and cultural identity are not 'measurable,' requiring a detailed expository. Institutions such as the Center for Disease Control and Prevention (2015) and the World Health Organization (2012) substantiate epidemiological researches for case studies. However, beyond United Nations Educational, Scientific and Cultural Organization (UNESCO, 2015), there are not many institutions concerned with cultural identity and justice. The point here is not to dispute the prioritization of health over cultural identity, only to show that health overshadows cultural identity. A fully defended EJ case can address points of health and cultural identity, assuming that both aspects are relevant. Employing an EJ paradigm as a heuristic device can mitigate harm to heritage and culture, and can serve the place of a metric for gauging restorative progress in EJ cases.

The other goal is trans-disciplinary. On one hand, EJ cases can be ongoing or involve active litigations. This two-pronged approach benefits the victims' defense. It provides a more detailed view about the degree of their affliction. On the other hand, thinking about how EJ issues affect cultural identity benefits policymakers, scientists, and engineers. For instance, in the US, parties engaged in EJ remediation cases follow scientific guidelines, either provided or approved by the EPA.³ Yet, parties responsible for remediation need to consider historical and cultural identity when implementing cleanup protocols. Otherwise, they could perpetuate injustice, as I explain later. These kinds of notions are evident in EJ remediation cases such as Vieques, if we examine them while being mindful of the historical conditions.

Methodology

To carry out this undertaking, I consider different approaches to EJ assessments, briefly sketch the island's history of colonialism, and examine three pertinent documents: a Congressional Research Service Report about Vieques, a motion for a temporary restraining order (TRO) against the US Navy, and a press release addressing the current state of environmental health from the Agency for Toxic Substances and Disease Registry (ATSDR). Viewing these documents while mindful of the history of colonialism exhibits a pattern of unethical behavior toward the residents of Vieques. In turn, by assessing the cleanup of the island with an EJ paradigm, we see how the remediation efforts count as instances of environmental injustice and a continuation of colonial behavior.

Defining EJ

There are several ways to define 'EJ'; each definition differs by particular emphasis, tone, and degree of legal technicality. Still, most have similar characteristics. For instance, the definition of EJ guiding the US EPA (2015b), requires that people are treated justly, regardless of skin color, nationality, or economic status, when

developing, implementing, and enforcing laws, regulations, and policies concerning the environment. This definition helps us understand the concept of EJ. However, it does not provide a conceptual framework for comprehending or dealing with the entailments of EJ cases.

Looking at the science and policy implications of EJ, Carl Phillips and Ken Sexton (1999, pp. 9–17) examine several definitions put forth by EJ pioneers such as Robert Bullard, Bunyan Bryant, Paul Mohai, Richard Hofrichter, Michael Greenberg, Evan J. Ringquist, and Douglas Anderton. They (Phillips & Sexton, 1999, p. 10) summarize that the leading definitions of EJ share five fundamental dimensions: they define fairness, identify dangers, discuss unfairness, identify harmed groups, and question the cause of unfairness. Looking at the progression of EJ frameworks shows that they take on new dimensions over time, as the EJ movement progresses. Phillips and Sexton (1999, p. 16) argue that scientists and policy-makers need a clear concept of what EJ is to implement it in their agendas. For the case of Vieques, if a Federal agency involved in the cleanup adheres to the EPA's definition of EJ, then defending protocols against the charge of environmental injustice is an easy task.⁴

However, the island's residents maintain that they are being treated unjustly, despite cleanup efforts. This disagreement gives us reason to suspect that the EPA's definition is not sufficient. It is not that the EPA's definition says something incorrect, but it neglects to account for pertinent information regarding damages to the islanders. Considering that damages to the islanders go beyond health concerns, the protocols need to go beyond health concerns, also. The cultural identity and heritage of Vieques' people were harmed during the Navy's stay and the remediation efforts perpetuate this harm, as we will see. In turn, the cleanup practices need to address how they affect factors such as heritage and cultural identity, making cases such as Vieques uniquely problematic.⁵

Thinking about how the definitions of EJ touched on earlier fall short, there is a need for approaches that can guide the cleanup process, ensuring consideration for heritage and cultural identity. Complex cases such as Vieques require a multifaceted approach, an EJ paradigm. Employing an EJ paradigm that takes heritage and cultural identity into account supports the strengths of the EJ definitions such as those that Phillips and Sexton examined.

David Schlosberg's *Defining EJ* (2007) extensively examines the conceptual frameworks found throughout EJ. He supports arguments holding that considerations for identity are intricately bound up with the five fundamental dimensions outlined above.⁶ Arguing that earlier attempts in the history of EJ neglected the issue of recognition, Schlosberg (2007, p. 58) looks at several works aiming to include it.⁷ Many scholars in EJ have established positions making room for identity and political recognition to varying degrees (Schlosberg, 2007, p. 60).⁸ However, Robert Figueroa is the only person working in EJ who directly studies recognition as an integral aspect of an EJ paradigm (Schlosberg, 2007, p. 59).

Figueroa's EJ paradigm (Figueroa, 2006, p. 360) exhibits that when dealing with cases of environmental injustice, relying on definitions does not allow us to address all of the relevant and necessary concerns for environmental science and policy decisions. EJ usually deals with distributive justice, the equal distribution of environmental risks, but there is another form that it can take concerning the people who get to make environmental policy decisions (Figueroa, 2006, p. 360). According to Figueroa (2006, p. 360), we are dealing with an act of EJ when those

groups with little or no power are excluded from decisions about the policies affecting them. This paradigm focuses on aspects of distributive justice and political recognition; requires that group and individual identities remain respected; and appreciates traditional beliefs, local knowledge, experience, and environmental heritage (Figueroa, 2006, p. 360). These concerns are what Figueroa (2006, p. 360) calls the EJ paradigm.

Early colonial history and injustice

Quantifying how much Puerto Ricans have suffered at the hands of the US Government is impossible. Examining the extensive history of harsh living conditions and incidents of social injustice is a daunting task. Moreover, selecting specific topics for discussion is challenging because numerous unjust instances exist. However, in the following section, I briefly outline some of the colonial conditions and instances that I find to be emblematic of relationship between the US Government and Puerto Rico.

Firstly, Puerto Ricans have been dealing with colonial forces for over five hundred years. The Spanish remained in control of the island for the next three hundred years, and the US took jurisdiction over Puerto Rico not longer after the end of the Spanish-American war in 1898. Shortly before the US took control, Puerto Rico had five months of autonomous rule, yet they were not consulted about the transfer of power or the future of the island (McCaffrey, 2002, p. 23). Nevertheless, from the moment the US arrived, the Puerto Rican government was adamant about US interests prevailing over the most powerful local interests (Negron-Portillo, 1997, p. 48). The US eventually took control over every aspect of the island, including resources and people, and the military controlled the local police force for several decades (Bosque-Perez, 2006, p. 16).

The US restructured the Puerto Rican economy to benefit corporations based in the States and they simultaneously provided infrastructures such as roads, irrigation, and ports and addressed public health concerns (McCaffrey, 2002, p. 24). These measures increased profits for the US corporations while living conditions for Puerto Ricans declined, most of them living in poverty (McCaffrey, 2002, p. 24). In Vieques, two sugar corporations controlled 71percent of the island, and the two-thirds of the population did not own any land (McCaffrey, 2002, p. 24).⁹ Locals, upset about these conditions, rebelled. Many joined the Nationalist Party, strongly speaking out against colonialism (McCaffrey, 2002, p. 24). During a protest in March 1937 organized by the Nationalist Party, the police killed 20 people and injured over 100, which is known as ‘the Ponce massacre.’ (González-Cruz, 2007, pp. 21–26; McCaffrey, 2002, p. 24). By 1940, Puerto Rico was a colony in dire straights. In the same year, Luis Muñoz Marín, leader of the Popular Democratic Party, started his term as the President of the Puerto Rican Senate, challenging the sugar industry and pushing for agrarian reforms (Ayala & Bolivar, 2011, p. 5). These actions secured the popular vote for his party for the next 24years and by 1948, the party’s momentum persuaded the US to let Puerto Rico elect their own governor, becoming a Commonwealth in 1952 (Ayala & Bolivar, 2011, p. 5). World War II and the Cold War had a significant economic and cultural impact on Puerto Rico, and Vieques transitioned from an agricultural society to an industrial society with the US Navy in control of most of the island (Ayala & Bolivar, 2011, p. 5).

The Navy's arrival in Vieques marks a point in history that is significantly important for analyzing the effects of colonialism. Not only were many of the Navy's actions ethically questionable, but also their actions led to the breaking point for the people on the island, ending in protests and closure of the Naval base. However, to understand the historical context leading to the protests, I am taking a momentary detour to exhibit some of the injustices committed against the people of Vieques and Puerto Rico in general.

Having knowledge of these instances lets us see how the Navy's actions are consistent with actions associated with the US's colonialism, instead of isolated incidents usually found at military bases and bombing ranges.¹⁰ In particular, I focus on the US's actions that took away or replaced aspects of identity. Providing evidence of these kinds of actions establishes a pattern of behavior on behalf of the US Government via its various agencies.

In terms of displacing identity, evidence is widespread, visible in almost every side of cultural life including language, speech, family structure, and childbirth. For instance, American policies regarding language were coercive, aiming at creating a loyal and bilingual workforce (Negrón-Muntaner, 1997, p. 258). The language law of 1902 created the requirement that English and Spanish were official languages, meaning that Americans could resist learning Spanish, and it served as indicator for successful assimilation to US culture (Negrón-Muntaner, 1997, p. 258). The study of the English language was compulsory, starting in elementary school. Another law relating to speech, Law 53 of 1948, (the gag law), prohibited a person from displaying a Puerto Rican flag or having conversations about Puerto Rican independence (Flores, 2010, p. 97). This law was repealed in 1957.

The implementation of sugarcane plantations made a significant impact on the traditional values, family structure, and cultural practices of the Puerto Rican family, replacing subsistence farming and forcing women into professional work (Adams & Trost, 2005, p. 444). Even though this work gave women more opportunities, the work supported the needs of US colonial business interests, often exploiting them (Adams & Trost, 2005, p. 444). What is more, there are underlying reasons connecting sugar plantations to birthrates.

For instance, before the invasion by the US, Puerto Ricans relied on subsistence agriculture. Employing laws and decrees put in place by the US military; most people became landless and unemployed (Adams & Trost, 2005, p. 444). A surplus of unemployed people drained resources and threatened the profits of US corporate interests. For instance, in 1974, United States' earnings in Puerto Rico increased from \$115.7 million in 1960 to \$1.345 billion (Mass, 1977, p. 75). In order to reduce the population, the US Government promoted and coerced female sterilization; by 1965, one-third of Puerto Rican women between the ages of 25 and 49 were sterilized, and birthrates decreased by 48 percent (Mass, 1977, p.75; Presser, 1980, p. 102).¹¹

The US Navy's history on Vieques

In 1941, the US Navy initiated operations on the island, with a dominating and militaristic presence, until protests forced them from the island in 2003 (O'Rourke, 2001). During this period, the Navy conducted live-fire training operations on the east side of the island between 120 and 180 days a year (O'Rourke, 2001). Protests against the Navy were persistent throughout their stay, and the protests gained

momentum and international spotlight following the accidental death by bombing of a civilian employee, David Sanes (O'Rourke, 2001). His death became the catalyst for the significant increase in protests. Yet, even before this death, there were several reasons for the initial protests. For instance, Ronald O'Rourke (2001) notes in a report to Congress that protests increased due to the following reasons:

Puerto Rican dissatisfaction regarding military training activities on Vieques is driven by several issues: (1) lost economic development potential due to lack of access to most of the island's land, interruptions to local fishing operations, and the effect of DoN's [Department of the Navy] activities on reducing the potential for developing the island as a tourist destination; (2) the inadequacy of past DoN economic development efforts intended to compensate the Vieques community for this economic loss; (3) damage to the island's environment, ecology, natural resources, historic resources, and archaeological sites caused by DoN training activities; (4) concern that the incidence of cancer or other diseases might be increased by pollutants released into the local environment by DoN training operations; (5) noise, especially from nearby ship-to-shore gunfire; (6) safety (the risk of an off-range accident), and (7) perceived DoN insensitivity in conducting its relations with the Vieques community.

The reasons for protest should be easy to understand by looking at each of the points above, but each point requires an examination to determine if the Navy has caused an environmental injustice. A case for each point is not that difficult to build. By examining only points (3) and (4) above, we find that Figueroa's requirements suggest that this is an instance of environmental injustice because the distribution of environmental risks were limited to the people of Vieques. The rest of the nation avoided these burdens yet received the benefits of national security without the risk to public health.

Being on an island puts the people of Vieques in an unfortunate position and they had to shoulder the environmental risk and pollution by themselves. What could the Navy have done to ethically remedy this situation? Should they have brought outside citizens to the island to have a better sense of distribution? Should the Navy have evicted the residents from the island, which might have been a bigger injustice? There are numerous arguments that one could make. Yet, none of these arguments dismisses the fact that the distribution was not equitable and residents living on the island had to deal with the harmful effects of air-to-ground weapons testing on their own land. What is more, not only do the people of Vieques have to live with these health risks, but there also might be concerns for future generations in terms of unforeseen health problems.¹²

While Vieques was not the only testing site for air-to-ground weapons, enough weapons were tested there to cause problems for public health. If we consider these notions with the criteria provided by Figueroa, then this action by the US Navy remains a case of environmental injustice. The fact that the Navy tested there for so many decades is one primary factor making this a case of environmental injustice. Perhaps, if the Navy would have tested fewer weapons on the island or would have distributed environmental risks, perhaps, moving the testing grounds somewhere else, then the environmental risks would have been distributed in a more equitable fashion. If this would have been the case, then there might not have been high enough levels of pollution to cause serious health issues. Yet, the testing continued for several decades causing serious problems for public health, such as increased mortality rates, underweight infants, respiratory issues, and higher rates

of cancer (Wilcox, 2001, p. 696). These problems were some of the main drivers behind the protests.

However, when the people of Vieques appealed to the courts to stop the bombing, the courts did not decide in their favor. This leads to the next instance of environmental injustice. Consider, for instance, the response by district judge Perez-Giminez to a TRO to stop military exercises (140 F.Supp.2d 127, 2001):

If world peace is to be achieved, the United States must continue to be the driving force of democratic principles. An integral part of world leadership is having a well trained military that is ready to absorb all challenges that may arise. It is thus abundantly clear that 'the Court cannot simply zoom in on the concerns of the United States citizens residing in Vieques, but it must pan back and keep the larger picture in focus. This TRO motion implicates not only United States citizens that make their home in Vieques, but ALL United States citizens, citizens who are entitled to a well trained military and national security.' (Opinion and Order of June 29, 2000, p. 7.) Given that the rights of all United States citizens are implicated, the countervailing equitable reasons cited by Plaintiffs are simply not enough to tip the balance in their favor. National security is too important of an issue to be neglected.

Examining the ethical implications of Perez-Giminez's wording, one sees that his position advocates utilitarianism. The passage above shows how Perez-Giminez disregards the human rights, health, and wellbeing of those living on the island for world peace. In the passage above, we see more concern for the residents of the United States not living in Vieques because they significantly outnumber the people living on the island. In a gross sense of utilitarianism, the greatest number of people wins independently of the cost to those in the minority. Vieques' residents lose. Within this simplified utilitarian framework, all of the unjust actions have a presumed justification before they are even committed.

However, the quote from Perez-Giminez above rests on a false dilemma. It is rather naïve to think that the world would have peace if only the Navy could sacrifice the people of Vieques. Moreover, it assumes that achieving world peace depends on the people of Vieques receiving unethical treatment. This assumption is not necessarily the truth. World peace, according to the logic above, does not include the same kind of peace for the people of Vieques – even though all citizens presumably gain peace from foreign incursion. The kind of peace that the people of Vieques receive includes compromised public health and a loss of cultural identity.

Nevertheless, appealing to the notion of world peace does not justify the wrongs committed against the citizens of Vieques outside the parameters of a gross utilitarian framework. To show how this line of thought is erroneous, one needs only to appeal to the classic objections to utilitarianism. Namely, the ends do not justify the means, and the 'greatest happiness principle' often ignores equal treatment.¹³ If one looks at this problem from this view, then the case against the Navy's treatment of the people of Vieques remains culpable.

A utilitarian could justify the harmful living conditions brought on by weapons testing because doing so protects all US citizens – and world peace depends on it. While not harming the people of Vieques with pollution is a moral requirement, having a well-trained military capable of protecting all citizens from foreign incursion stands as a higher priority. The just action in this case is protecting as many US citizens as possible from foreign incursion, which includes the people of Vieques, even though the Navy sacrificed their healthy environmental conditions.

This is wherein the injustice lies for the people of Vieques: they are collateral damage in the Navy's utilitarian based framework as defended by Perez-Giminez. Here is the primary problem: the people of Vieques deserve equal treatment, including not being sacrificed for national interests.

Perez-Giminez's decision also constitutes a case of environmental injustice because it did not give the people of Vieques a role in the decision-making process of their environment. The fact that they filed a TRO and had it dismissed supports this claim. Considering that Perez-Giminez's decision allowed for the continuation of Naval exercises, his decision perpetuated environmental injustices of risk. Taking this line of thinking an additional step further, his authoritative position, along with widespread cultural assumption that he makes impartial decisions, showed how the Navy was not blameworthy. In turn, one might assume that the Navy was not committing an environmentally unjust act but were 'victims' of false accusations. After one identifies enough of these instances, such as Perez-Giminez's decision and the injustices mentioned in O'Rourke's report, a pattern of EJ emerges. This pattern is one that neither the Navy nor the US Federal Government can easily dismiss.

The ethical aspects of environmental cleanup

The success of the protests, however, did not entail that the Navy would promptly return the land to the islanders free from Federal entanglements. Instead, Congress turned the former bombing range into a wildlife refuge. Designating the bombing range as a wildlife refuge meant that remediation efforts only had to cleanup the area to make it safe for its intended use, excluding most human activities (McCaffrey, 2009, p. 35). According to Figueroa's (2006, p. 360) specifications, however, it is an instance of concern for EJ because the people of Vieques were not part of the decision to turn the land into a wildlife refuge. They were not even part of the conversation.

O'Rourke gave his Congressional Research Service Report to the same (107th) Congress that dealt with the decommissioning of the Naval Base. They knew that the people wanted their land returned. However, this economically oriented transfer did not bring them the justice they sought. On the contrary, it simply reduced the presence of the Navy, which was only symptomatic of the underlying issue about justice. Certainly, the residents were concerned with ending the Navy's harmful operations. However, they were also upset because they 'lost economic development potential due to lack of access to most of the island's land,' per O'Rourke's (2002) report. This notion exhibits another goal. The community wanted freedom from military control. Namely, they wanted the land safe for farming, recreation, and future generations. Moreover, the residents wanted to determine the cleanup standard, not the Government (Baver, 2006b, p. 108). Having a voice in the policy-making process is a requirement for EJ, according to Figueroa's EJ paradigm (Figueroa, 2006, p. 360).

One could object to this argument holding that it is in the best interest of Vieques' residents not to have a voice in the environmental remediation process. They are not qualified to assess the situation in a way that excludes the possibility of harming themselves. That is a fair criticism, but it has a paternalistic tone suggesting that Congress should not include the people in the discussion even though they are the subjects of the conversation. This objection does not dismiss the claims

of environmental injustice mentioned above because it fails to respect the residents' voices.

Moreover, this objection also becomes subject to additional charges of environmental injustice. For instance, Figueroa's (2006, p. 360) EJ paradigm requires respect for group identity, entailing an appreciation of local experience, knowledge, and environmental heritage. This case does not appreciate local knowledge because it assumes that only expert opinions on the remediation process are relevant for justice. I am not suggesting that experts should not voice their opinions, but the final decision should include input from those most affected.

Furthermore, agriculture used to be a part of Vieques' residents' environmental heritage. The fact that Congress' actions denied them land for agricultural use, along with a voice in the cleanup, lets one see how this case of environmental injustice is a multi-faceted affair. Aside from the historical aspects, the cleanup process constitutes a case of environmental injustice according to Figueroa's requirements. Looking at the Federal government's pattern of behavior toward Vieques' residents thus, far denying that there is a pattern of environmental injustice is difficult because of the many instances of concern.

One could argue that this particular aspect of the case concerning environmental injustice on Vieques is invalid because it is a common practice to turn former military sites into wildlife refuges. That is a fair criticism. One could show how similar cases are not instances of EJ. However, if that notion turns out to be true, it does not dismiss the possibility that the case of Vieques is an example of environmental injustice. The case of Vieques could be an example of environmental injustice even if similar cases are not. For instance, the possibility exists that there could be several former military sites used as wildlife refuges, but none of those cases qualify as examples of environmental injustice because not all cases have the exact same circumstances surrounding them, such as a history of agriculture.

The necessary conditions for a case of environmental injustice might not apply to most of those cases, but that does not entail that the conditions will not apply to Vieques. Therefore, the possibility exists that all former military sites converted into wildlife refuges are cases of environmental injustice – except for the case of Vieques. The fact remains that using an area for the testing of military weapons does not in itself amount to an act of environmental injustice. Each case requires a unique evaluation. Evaluating the case of Vieques, it fits the conditions set forth by Figueroa, which I argue makes it easier to understand precisely why Vieques' residents were dissatisfied with having the Navy on the island. Looking at this case while bearing in mind the conditions for an act of environmental injustice, one should understand why Vieques' residents want to have their voices recognized, to have their rights respected, and to have their island demilitarized. If complete demilitarization is the goal for the residents of Vieques, then the initial steps are on the horizon, but the final steps are too far away.

Vieques is such a complicated case because it is difficult to separate the different instances of EJ affecting the people. For instance, there are the initial EJ issues focusing on the circumstances leading to the cleanup of Vieques, and then there are the cleanup aspects. There are also aspects stemming from these EJ issues concerning the protocols and practices of the US EPA, US Navy, and Congress, which are separate issues, even though their issues remain connected to the original issues. The way that the Navy deals with the testing measures concerning environmental

cleanup shows the degree in which it regards taking responsibility for their actions concerning the people of Vieques.

For instance, the Navy hired the ATSDR to show that they are not the source of the heavy metal contamination, which created public health issues (Santana, 2006, p. 112). The studies by the ATSDR, however, have been widely disputed. They rely on several secondary studies by multiple agencies. These studies have insufficient sample sizes of 1–12 samples (Davis, Hayes-Conroy, & Jones, 2007, p. 174). The ATSDR claims that Saharan dust storms could have carried the heavy metal contamination extremely long distances. The view showing that the contamination came from testing grounds less than 10 miles away seems more plausible. However, the ATSDR does not endorse this explanation (Davis et al., 2007 p. 174). However, independent studies show that citizens living in Vieques have higher mercury levels than other people living in different areas of Puerto Rico, that local crabs have higher levels of contamination, and that local plant life has the same kinds of metals consistent with the bombings carried out on Vieques (Massol-Deyá, Perez, Perez, Berrios, & Diaz, 2005, pp. 263–266).

Nevertheless, the ATSDR continues to allege that there are not any serious threats to public health because of the Navy's activities. For instance, in a 2011 press release, the ATSRD maintains that they could not find a relationship between the Navy's activities and resident's health issues.¹⁴ If the findings by the ATSDR are faulty, then we have to deal with additional environmental injustices according to the criteria set forth by Figueroa because the islanders must endure the environmental risks left by the Navy, which would have otherwise been remediated if they had employed proper testing measures.

Requirements for EJ

One problem with this specific Superfund site is that it is a military Superfund site. This fact means that both parties, the polluter (Navy) and the agency in charge or cleanup (EPA), answer to the Federal Government. This conflict of interest creates doubts about the cleanup process having the interest of the islanders as its primary focus. The east side of the island stayed under the control of the Federal Government under the watch of US Fish and Wildlife Service (O'Rourke, 2002). Although questions concerning safety are indeed important, this issue is separate from the matter of transferring the land back to municipality of Vieques. While the vast majority of Superfund sites are non-military, military Superfund sites are common enough (USEPA, 2012). Looking at the timetable for cleaning up these kinds of sites, the military does not remediate these sites in what seems to be an expeditious manner.

For instance, some military sites have been on the Superfund list for over 15 years (MSNBC, 2005). The EPA dismisses this fact arguing that these polluted areas take longer to cleanup than most other sites (MSNBC, 2005). For instance, Jim Woolford, head of the EPA's Federal Facilities Restoration and Reuse Office argues, 'Unlike the typical Superfund private-party sites, these sites are much larger and will generally have more contamination, and consequently take longer to clean up' (MSNBC, 2005). The case concerning Vieques operates at a similar pace. According to Daniel Rodriguez, the Remedial Project Manager of the Vieques Field Office of the EPA, the timescale of the cleanup fits Woolford's explanation, with a completion date of 2023.¹⁵

If one argues that the process is taking too long, the Navy could counter argue claiming that rushing cleanup efforts could lead to unforeseen harm for the people of Vieques. That point is a fair one, but we have not yet come to grips with the notion that there is not an avenue for how to bring the people of Vieques a sense of justice. It is a common assumption that monetary compensation is usually the correct answer. However, this assumption is mistaken. For instance, Figueroa (2006, p. 364) argues that this solution could be problematic because it does not necessarily solve problems, could generate more problems, and it limits future claims.

Looking at the case in question, economic considerations make up only a fraction of the problem and can only offer a fraction of the solution. For instance, referring back to O'Rourke's list of dissatisfactions, only two out of seven are financial.¹⁶ These kinds of considerations are indicative of the underlying issues. The primary objection against Perez-Giminez's utilitarian position was that it did not respect the voices of Vieques' residents. We are dealing with the fundamental notion that they should have the same respect and opportunities guaranteed to all citizens of the United States. Due to the environmental injustices touched on throughout this paper, they have not had the same degree of consideration. In turn, they were denied 'the fair treatment and meaningful involvement of the development, implementation, and enforcement of environmental laws, regulations, and policies' that would have given them a similar quality of life as the rest of the United States (United States Environmental Protection Agency, 2015b).

Recommendations and conclusion

To avoid counting as another act of injustice rooted in colonialism, the Navy cannot undertake the cleanup only on their terms-or even the EPA's terms. Cleanup operations must include Vieques' residents in the discussion under an EJ paradigm. Bringing Vieques' residents into the conversation fulfills the second requirement for EJ because it addresses the political recognition aspect as described by Figueroa. The citizens should be included in every conversation concerning the cleanup, including the land now used as a preserve for wildlife. This does not necessitate that the Federal Government return the land to the people of Vieques. However, it does allow for the possibility of returning the land to them, which satisfies the conditions for EJ.

Taking such actions show how steps can be taken to 'remediate' harm caused to Puerto Rican heritage and culture. Such actions restore the conditions that give Puerto Ricans a voice in the decisions that impact them. While this recommendation is not a perfect solution, it reduces the possibility of additional harm to cultural factors. The lesson to be learned from the case of Vieques is that when dealing with environmental remediation and justice in places that have a history of colonialism or oppression, variables such as history and culture require greater consideration, and the voice of marginalized populations must be included.

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Notes

1. For instance, US Navy used the unpopulated rural Hawaiian island of Kaho'olawe as a bombing range, which became an environmental justice issue. Even though this case is considered to be a case of environmental injustice, it was never declared a Superfund site. The US EPA was involved in the cleanup process, but they did not serve as the leading authority. For more information (see Blackford, 2004).
2. References to the majority of this literature are found in this paper. The primary article in reference is Sherrie L. Baver's 'Environmental Justice and the Cleanup of Vieques.' In her assessment of EJ and the cleanup of Vieques, Baver focuses on two primary points. She argues that Vieques is unique because its geographical features (such as hurricanes, public accessibility, and tidal action) pose additional risks to public health. Her other focus remains on the fact that the people of Vieques did not have a voice in the designation of the wildlife preserve. For more information (see Baver, 2006a).
3. According to Rodriguez, D., US Environmental Protection Agency, Remedial Project Manager, Vieques Field Office, (personal communication 21 May 2012).
4. In this sense, 'any agency' refers to any federally regulated party involved in the remediation. For instance, this could include the US Navy, EPA, ATSDR, or any other contracted agency.
5. I am not claiming that Vieques is the only EJ case that deals with heritage and cultural identity. Yet, these aspects have been harmed to a degree that calls for a specialized investigation, which is why I employ a complex EJ paradigm. Other cases could benefit from this approach such as the case of Goshute Indians, a tribe dealing with sovereignty issues related to self-determination, colonialism, and high-level radioactive waste. For more information (see Ishiyama, 2003).
6. Schlosberg (2007).
7. For a complete understanding of how I am using the term, 'recognition,' (see Fraser & Honneth, 2001).
8. Schlosberg is referring to Pulido (1996a, p. 13). Pulido maintains that cultural meaning and identity are primary concerns for EJ struggles. For a succinct account focusing on unitary identity and EJ (see Pulido, 1996b, pp. 145–180). In addition to Pulido, Schlosberg considers Tesh and William (1996, pp. 285–305). Aside from Figueroa, Schlosberg also looks at Pena.
9. Recent research suggests that, contrary to the studies that McCaffrey employs (along with several scholars), most of the farming prior to 1930 was on farms of varying scales. It was not until the late 1930 that the Aguirre Sugar Company, the South Porto Rico Sugar Company, and the Fajardo Sugar Company would dominate the Puerto Rican sugar industry. For more information (see Solá, 2011, pp. 349–372).
10. Even though some scholars prefer the term 'imperialism,' the majority of sources cited in this paper use the term 'colonialism.' In turn, I am sticking with it also.
11. Laura Briggs argues that there was not a campaign for sterilization in Puerto Rico. For more information (see Briggs, 2002). Her views, however, have been challenged in many ways. For a critical book review of Brigg's views (see Anderson, 2004, pp. 250–251).
12. This is primarily a problem for intergenerational or reproductive justice claims, which is likely to be an increasingly problematic environmental justice issue for the people of Vieques also. Not all of the health related impacts can be assessed until more generations have been properly studied in the future. There are similar EJ cases, such as those groups suffering from the long-term effects of nuclear testing, with greater

- concern for this notion than is present in Vieques studies. For more information (see Cook, 2012, pp. 1645–1649).
13. Although the aim of this paper is not to argue against utilitarianism per se, but this case does provide a striking challenge for it.
 14. Here is the press release verbatim: From 1999 through 2003, ATSDR examined whether past activities of the US Navy had exposed Vieques residents to harmful levels of chemicals. In 2009, the agency began updating its original findings in response to requests from Congress and others. ATSDR's review of the new and previous data still could not identify a relationship between military activities and health problems experienced by the island's residents. Agency for Toxic Substance and Disease Registry. Accessed 1 June 2012. <http://www.atsdr.cdc.gov/news/displaynews.asp?PRid=2520>
 15. According to Rodriguez, D., US Environmental Protection Agency, Remedial Project Manager, Vieques Field Office, (personal communication 21 May 2012).
 16. Recall that (O' Rourke) these points include the following: '(1) lost economic development potential due to lack of access to most of the island's land, interruptions to local fishing operations, and the effect of DoN's [Department of the Navy] activities on reducing the potential for developing the island as a tourist destination; (2) the inadequacy of past DoN economic development efforts intended to compensate the Vieques community for this economic loss.'

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