

Víeques:

The power of people's protest



Justine Aimee Lewis
Senior Comprehensives
Occidental College 2004
Project Advisor Robert Gottlieb

Table of Contents

Acknowledgements:.....	3
Personal Introduction:.....	4
Chapter One: The History.....	9
Puerto Rican History: Colonialism and Resistance	9
Culebra: the Vieques antecedent.....	12
Vieques Island History.....	13
Enter the Navy	15
Chapter Two: Impacts of Military Presence in Vieques.....	22
Economic Impacts:.....	22
Environmental Impacts:.....	26
Heath Impacts:	36
Social Impacts:.....	41
Chapter 3: Protest and Resistance.....	44
The Fisherman’s Resistance	45
The Period of Pseudo-Silence.....	48
The Straw that Broke the Camel’s Back.....	49
The Structure of the Resistance	50
Non-Violent Civil Disobedience and the Media.....	53
Effective Research and Legal Support.....	56
Educating the Movement	59
Art and Symbolism	62
The Power of Faith.....	64
Conflicts and Problems	67
Chapter 4: Resolution and the Future of Vieques.....	69
The Incomplete Resolution	69
Case-Study: Vieques as a Model	71
Vieques Today	74
Policy Recommendations.....	75
Conclusion	81
Bibliography:.....	83

Interviews:.....	83
Primary Sources:.....	83
Secondary Sources:.....	85
Appendix	89
Appendix -1 Memorandum to Under Secretary Chapman	89
Appendix 2- Report To The Secretary Of Defense Of The Special Panel On Military Operations On Vieques	91
Appendix 3- Scientific Studies about Contamination and Health	101
Appendix 4- Hazardous Chemicals and Health Effects.....	102
Appendix 5- Summary of Air Exposure Pathways.....	108
Appendix 6- Guidelines For The Sustainable Development Of Vieques	111

Acknowledgements:

I must begin by giving my thanks to the divine spirit that has lovingly watched over me and given me the power to make anything possible. All of this would have only been possible with my family's support and unwavering belief in me. To my big brothers Kahlil and Eli, you two are truly my inspiration in this project. I have endless love and respect for you and all of the work you do everyday to promote peace and awareness all over the States, Puerto Rico and Cuba. For my family in Puerto Rico, I showed up at your doorstep a stranger and you showed me what family in Puerto Rico is all about- thank you. My family in Puerto Rico certainly includes Jessica, Damian, Mark and Ray Joe who guided me through my travels in Puerto Rico and Vieques. You all showed me so much kindness and made a simple research project a real labor of love. To my traveling partner Ayrin, your adventurous spirit and wisdom helped make the trip a success. To my role model and best friend, Grandma Barbara for always being there and showing me endless love. To my amazing brilliant boyfriend, Phil, for putting up with me through this project and standing by me through thick and thin.

To Professor Gottlieb, my project advisor and ally through these past four years at Occidental. I can never thank you enough for listening and caring about me. To Professor Chi, for great suggestions and interest in my project. To the Politics Department for providing me with the Anderson grant and the Undergraduate Research Center for the ASP-Richter Grant, which made my trip possible. I would like to thank Robert Rabin, Nilda Media and Deborah Santana who taught me about the movement from the heart of

it. And most importantly this is dedicated to all the activist and Viequense whose intelligence, courage and strength made the impossible possible. Their movement will be remembered always as an inspiration to all of those faithfully fighting.

Personal Introduction:

Sun flecks paint the masses golden as I march in front of the Westwood Federal Building. Arms high above my head, I grasp the words “Wage Peace” scrawled across a plain white poster board. Our loud chants are quickly absorbed by a high energy percussion rhythm that echoes from deep within the crowd. A huge colorful banner emerges from the multitude of people playing drums, singing, and dancing. The slogan *PAZ PARA VIEQUES* dominates the lavishly illustrated banner. Given my Puerto Rican heritage, I had heard the phrase for years, but only had a rough sketch of the issue in my mind. I found myself desperately wanting to understand everything about Vieques – to be a part of this vibrant group of Puerto Ricans raising awareness about their own peace movement, while protesting the U.S. war on Iraq. There in the wake of the vivid image, I realized that it was time to take an active role in my cultural-political education, and learn all I could about the Vieques issue.

While I was studying abroad in New Zealand for six months I heard nothing about the Vieques issue and had practically forgotten about it until my grandmother thoughtfully sent me a newspaper clip from the May 2nd *New York Times*. I was overjoyed to learn that while I was abroad the Viequenses had won their battle for self-dignity and peace. This one short article on the front page of the National Report left me

hungering for more knowledge but as I sifted through the various sources I found very little information about the current situation in Vieques. I decided that the best way to learn about Vieques would be to make it the focus of my senior comprehensive project.

From the recommendation by Professor Tsung Chi of the Politics Department, I realized that although I could find substantial secondary research here in Los Angeles I could never fully understand the issue unless I experienced it first hand. I needed some first hand research in order to create a complete research project on the protest movement in Vieques. Thanks to the Politics Department Anderson Grant and the Undergraduate Research Centers ASP-Richter Grant I was able to utilize my winter vacation to travel to Vieques.

During my travels I was accompanied by Ayrin Tybalt, an animal science major at Vermont University who I met while studying Biodiversity and Conservation in New Zealand. I also had a number of friends and family in Puerto Rico who helped me along the way. My brother, Kahlil Jacobs-Fantuzzi, as well as two of my friends in San Juan had just been to Vieques in May to celebrate the departure of the Navy and provided me with invaluable contacts and advice.

The island of Vieques appears to be a beautiful tropical paradise. The beaches right outside of the base look pristine, with white sand and clear blue water. The forests and extensive mangroves are lush and green. It is the home to many endangered species including the graceful manatee and has, according to the Lonely Planet Guide, the densest phosphorescent bay in the world. Although the poverty is severe and visible it is easy to be distracted by the children happily playing in the street. While riding through the residential sections of Isabel Segunda and Esperanza, the only evidence of the

military's presence are rusty barrels used as planters in the Viequenses' gardens, once used for chemical storage and carelessly dumped by the Navy that were subsequently picked up and used by the resourceful but unsuspecting Viequenses. These barrels are one of the many concerns of environmentalists, who fear that they may still be contaminated with toxins.

During my visit I explored both of the former military sites, which are now wildlife reserves under the U.S. Department of the Interior. The eastern maneuver area, where most of the bombings took place was drastically different from the other parts of the island. The trees were sparse and the climate was dry. A large section of the area was still closed off and one could still see buildings and tanks on the other side of the high fence labeled "authorized personnel only". The beaches that were opened to the public were well populated compared to the other public beaches. In the areas that I explored on my mountain bike, most of the soil was frail and cracked with a few old craters; there were a few young trees and a large paved landing strip. On the western side of the island which used to be the Naval Ammunition facility, there were dense mangroves. There was little exploring to be done because only a small part of the area was open to the public and because of the density of the mangroves one could not venture off the road. Knowing the fragility and importance of mangroves from my environmental studies in New Zealand, I was deeply concerned that they had built roads through them.

The opposition of Vieques residents to the U.S. military presence is ever-present in the form of graffiti, signs, posters and murals that decorate virtually every block of civilian land. On the paved roads between the two major towns, "PAZ PARA VIEQUES" or "VIEQUES LIBRE" is printed every mile or so in foot long letters. On the sides of

buildings beautiful murals visually interpret the island's struggle. One in particular struck me everyday as I rode into the town of Esperanza, which showed the island cut up into military fractions and decried the increased rates of cancer among Viequenses. Along the side of the main road people had spray painted anti-military slogans on every telephone poll, interspersed were a few pro-military slogans painted over the former. Signs cut from the fence at Camp Garcia decorate the fences of homes, and virtually every car I saw had a "Paza para Vieques" bumper sticker.

The most striking example of the military presence was the site of the protest camps at the entrance to Camp Garcia. A public road separates the remaining protest camps and the former entrance to the base. Along the road a mass of white crosses with names written on them identify the names of those who lost their lives associated with the increased rates of cancer and other naval impacts. A small stuffed animal hangs from the cross of Milivy Adams, a 5-year child who died after multiple tumors devoured her small body. Her angelic face became a symbol of those with health problems caused by the naval activities and is painted on two large murals in front of one of the former protest camps. Behind the crosses are a number of powerful murals painted by activists depicting the Statue of Liberty crying and many other powerful images. There are about four permanent camps still there with signs and murals out front. The Peace and Justice Camp, which functioned as the information hub during the four intensive years of non-violent civil disobedience protests is still a working office but is sparsely staffed. Down the road from the former Camp Garcia, is a camp dedicated to Luisa Guadeloupe, an elderly woman active in the protests. When she was in her 80s the military was discussing plans to expand the base and, by herself, she lay down in front of line of tanks and told them

they would have to kill her before they could take any more of their land (Interview-Warren Cassanova). The other camps are used as community space and every night a group of Vieques residents and activists meet there to play dominoes, drink and socialize.

Each day I stayed on the small island became a remarkable learning experience. I held four formal interviews with Vieques activists, lasting anywhere from 45 minutes to two hours and had dozens of informal interviews with Vieques residents and travelers. I was curious to discover that most of the tourists there had scarcely heard about the military issue and had simply come for the beautiful beaches. Of my informal interviews, the one with Warren Cassanova particularly stood out although it was difficult to understand him due to a language barrier. I met him in front of the Luisa Guadeloupe Camp, where he and his wife were just making their rounds to insure that the uninhabited camps were secure. He was a short stocky elderly man with warm soft eyes that got cloudy and sad when he spoke of missing the intensive protests that occurred between 1999-2003 because it brought him a feeling of power and community cohesiveness. He told me that he used to be a guard for the navy but his consciousness led him to speak up against the injustice. For speaking out he was imprisoned. A legal battle ensued and he finally was released and has since devoted himself to the freedom of Vieques. The most powerful part of my experience traveling to Vieques was stories like these that touched me deeply and provided insight into the heart of the Vieques Peace Movement.

Chapter One: The History

Puerto Rican History: Colonialism and Resistance

The Puerto Rican culture has in many ways defined itself through its history of rebellion and resistance, and Vieques, a small island six miles off the eastern coast of Puerto Rico, is no exception. Puerto Rico, originally called Boriquen, was ‘discovered’ by Christopher Columbus on November 19th, 1493 (Murillo: 21). Within one generation after Columbus’ ship landed more than two thirds of the native Taino population perished under the Spanish occupation (Murillo: 21). The ensuing years of colonization burned its mark in history as one of the most disturbing examples of European exploitation. Under the Spanish crown Africans were imported by the thousands as slaves, where they worked under severe conditions on sugar plantations and gold mines side by side with the Taino. Although plantations and slavery were two of the most powerful forces driving colonial development due to its prime location at the entrance to the Caribbean, Puerto Rico played a vital role in securing Spain’s dominance in the New World. Puerto Rico became more of a strategic colony and development in Puerto Rico has always had a strong military emphasis (McCaffrey: 18). Perhaps it was the brutality of first the Spanish and later the American imperialist rule that provided the building block for the culture of resistance that has echoed through to the modern peoples’ protest movement in Vieques.

This early culture of rebellion can be traced back to massive resistance movements such as *El Grito de Lares*. On September 23, 1868 a group of over 400 laborers, farmers and former slaves took arms declaring Puerto Rico an autonomous nation (Scarano: 15). Secret societies dedicated to Puerto Rican independence would

attack Spanish landowners. They were called the *tiznados* “for the soot they blackened their faces with for night raids”. Although these rebellions were not individually successful, they eventually lead to the establishment of an autonomous Puerto Rican government in March of 1898 (Gonzalez-Cruz: 8). Tragically, this independent Puerto Rico lasted less than a year. When the US troops first invaded during the Spanish-American War, General Nelson Miles received support from the Puerto Rican people, proclaiming that the United States would overthrow the Spanish rule, retain the newly established autonomous government, and grant all Puerto Ricans individual liberties (Gonzalez-Cruz: 9). When the Spanish were defeated, “Spain handed Puerto Rico over to the United States as spoils of war and to liquidate its war debts.” (Gonzalez-Cruz: 8).

Despite these empty promises, the US quickly dissolved what was called the insular parliament as well as the provincial delegation, both of which constituted the Puerto Rican autonomous government set up by Spain, and replaced the newly formed autonomous government with an appointed Military Governor. Although the autonomous government established at the end of the Spanish rule was short-lived, the taste of freedom was still fresh on nationalist lips and the new United States military regime met with immediate resistance (Gonzalez-Cruz: 9). The *tiznados* armed themselves and fled to the mountains, forming the first Puerto Rican guerilla group. In response the military government began to break up “seditious groups” by disarming the people and stifling voices of opposition by arresting activists and shutting down the free press (Gonzalez-Cruz: 9). The resistance against the United States military regime and the subsequent repression has continued to this day in Puerto Rico and Vieques.

In 1917 the Jones Act granted US citizenship to all Puerto Ricans and finally by 1948 the Puerto Ricans were allowed to elect their own Puerto Rican Governor (Vieques Libre). The Commonwealth of Puerto Rico is still considered a nonsovereign territory of the United States: The people have U.S. citizenship but they do not have any power at the federal level. For instance they can go to war for the United States but have no power to elect the president and no representation in Congress. The debate over the relationship between the United States and Puerto Rico still dominates Puerto Rican politics. In Puerto Rico one's political stance on this issue is simultaneously defined by and defines their socio-economic status (Interview- Jessica Hunter). There are three major political parties in Puerto Rico: Partido Popular Democratico, (PPD) commonly called "los populares", Partido Nuevo Progresista, (PNP) commonly called "los penepes", and Partido Independentista Puertorriqueño (PIP) commonly called "los pipiolos". The PPD, typically the most conservative party, supports the current commonwealth status for Puerto Rico. The PNP supports the absorption of Puerto Rico as the 51st state of the union. Finally the PIP, the most radical of the Puerto Rican political parties, argues that Puerto Rico should become its own self-sufficient nation independent of the United States. The PIP is the weakest of the political parties; it has little financial backing and is often associated with some of the radical independence groups such as *Los Macheteros*. The Vieques controversy, which shall be discussed in more depth later, has united all three parties for the first time in Puerto Rican history.

Culebra: the Vieques antecedent

The story of the successful people's protest movement against the US military in Vieques does not begin on the Puerto Rican mainland or the incorporated island of Vieques. It begins on an even smaller incorporated island, still unknown to most of the world, called Culebra (Jessica Arroyo Rosa Interview). Culebra is located about 25 miles east of mainland Puerto Rico, with a population of under 2,000. From the onset of the U.S. possession of Puerto Rico, the military had its sights set on Culebra. By 1910 the U.S. armed forces already removed most of Culebra's inhabitants, eliminated its principal township and established a marine base and gunnery range (McCaffrey: 70). In 1941 Congress approved the bills HR 3325 and HR 5412 "allowing the Navy to acquire land for fleet facilities", and soon after President Roosevelt claimed the exclusive military use of all of the airspace and water surrounding Culebra (Mulleneaux: 7). The navy held all of the coastline in Culebra forcing the civilian population into the center of the island and restricted civilian access to and from the island. Over the 74 years of naval occupation "there were a series of misfires and wild shots, bombs landing yards from private homes and mortar rounds sweeping waters where children frolicked in the surf" (McCaffrey: 70).

No one besides the small island population took note of the military presence on Culebra until the late 1960's when protests began in an effort to stop the navy bombing. Much like the conflict in Vieques all of the Puerto Rican political parties were unified in wanting the navy out of Culebra, but "while the PNP and the PPD leaders attempted to negotiate a settlement..., independence forces pressed ahead with a direct action campaign" (McCaffrey: 71). Ruben Berrios, five-time president of the PIP, spearheaded the civil disobedience protest against the military presence in Culebra and many years

later in Vieques. Berrios and thirteen other protestors were arrested and convicted for building a chapel in the firing range as part of the civil disobedience campaign (McCaffrey: 71). The final straw occurred in 1974 when an “unscheduled discharge of mortar fire... landed on a Culebra beach where children were playing...” and finally Nixon issued an executive order to remove the navy from Culebra (GlobalSecurity.org). Although a success for the people’s protest movement, this led to the navy relocating most of its activities to the neighboring island of Vieques (Kahlil Jacobs-Fantuzzi Interview).

Vieques Island History

Viequense, as the island residents call themselves, often refer to their small island home as “a colony of a colony” as it “developed on the margins of the Spanish and American colonial empires” (McCaffrey: 17). Spain first laid claim to Vieques in the 1500s but despite the island’s strategic importance it was not until the 1800s that Spain attempted to establish a settlement and built the first fort in order to protect its claim. Many other colonial powers attempted to lay claim to the island while it languished as an undeveloped paradise, home to many run away slaves, pirates, deserters, thieves, smugglers and defiant Tainos, attempting to escape the imperialist forces’ however any significant attempts were quickly subdued by Spain. The first documented instance of the Viequense resistance against colonial subjugation was in 1514 when “two Taino chieftains from Vieques launched repeated raids on Spanish settlements in Loíza, Puerto Rico” (McCaffrey: 18). This “David and Goliath” style struggle reflects much of the

same spirit of resistance later associated with the anti-military movement in Vieques. Spain responded to this uprising drastically by destroying all of the Taino villages and massacring most of the Taino population and selling as slaves those that survived (McCaffrey: 18).

The Nineteenth century Vieques economy evolved primarily around its sugar plantations; “the founding of the municipality coincided with the peak years of slavery in Puerto Rico, 1834-1846, when slaves made up 11 percent of the total population” (McCaffrey: 20-21). The rest of the population consisted of mostly immigrants from other Caribbean islands. After slavery was outlawed, the planters on Vieques turned to contract labor which was scarcely distinguishable from slavery. According to Katherine McCaffrey, “Harsh and exploitive working conditions fueled laborer revolts in 1864 and 1874” (McCaffrey: 21). For generations of Viequense the struggle for basic human dignity has been paramount to their survival, developing a long standing tradition of resistance which culminated in the modern civil disobedience movement.

With the abolition of slavery conditions changed little- slaves were given their freedom on paper but with no other opportunities available they settled into a lifestyle scarcely different from slavery. Most Viequense lived as *agregados*, tenant laborers on sugar plantations. When the United States took over they accelerated the sugar production on the island, “benefiting the U.S. sugar refineries as well as the U.S. market, while limiting the capacity of Puerto Rican growers from competing in the global market” (Murillo: 26). By impressing upon their colonies a monoculture, such as sugar cane, the imperialist forces created increasing dependence of the colony to first Spain and then the United States and secured economic domination of the islands.

When the great depression hit, Puerto Rico suffered appalling poverty and the island of Vieques stood as one of the most dramatic expressions of Puerto Rico's economic plight, illustrating the effects of the sugar cane monoculture. By the 1930s "two thirds of the total population of 10,582, was landless, while sugar corporations consumed 71 percent of the island land." (McCaffrey: 25). Tragically by 1939, both of the major sugar cane industries had closed on Vieques leaving the island population with no work and on the brink of starvation. The incredibly depressed economy and lack of economic opportunity lead to a massive exodus of the island population.

Although the sugar industry dominated the economy, the Viequense still relied on traditional methods of survival- such as raising small livestock, making charcoal, collecting snails, trapping crabs and fishing (McCaffrey: 60-61). These subsistence strategies sustained the sugar laborers during the off-season. Fishing was the predominant form of these subsistence activities because fish were so abundant around Vieques and one could go out alone. While these supplementary activities were "of minor importance in terms of cash income [they were] valuable in terms of... the ceremonial obligations for which they may afford means of fulfillment, and the meaning and motivation they lend to the cultural life of a people" (McCaffrey: 61). Thus fishing was not only a means of subsistence but a vital part of the Viequense cultural identity.

Enter the Navy

It was under the threat of a German invasion and the pressure of World War II that President Roosevelt passed of HR 3325 and HR 5412 which authorized the Navy to

acquire land on Puerto Rico for National Defense. Due to the strategic importance of its location Puerto Rico was considered an ideal base for naval activities. The Department of Defense envisioned a naval complex, which included Culebra, Vieques and the Roosevelt Roads Naval Station, that would be as large and important as Pearl Harbor, providing “resources for 60 percent of the Atlantic Fleet and, if Great Britain were invaded, a refuge for the British Fleet as well” (Mullenneaux: 23). One of the largest naval bases in the world, Roosevelt Roads Naval Station, just south of Fajardo on the eastern coast of Puerto Rico’s mainland, occupies about a quarter of Puerto Rico's eastern coastline. The goal of the Navy acquisitions was to form a triangle of naval bases between Culebra in the north, Vieques in the southeast and Roosevelt Roads on the main land in the west. In this original plan Culebra was to be the main training grounds for live fire. The base was in fact utilized this way until the protests shut it down in 1978 and, in its place, the bombings increased by 900% on Vieques (Duncan: 19).

The Navy claimed throughout most of the controversy that Vieques was “desperately’ needed because it was the Navy’s only coordinated range where amphibious landings and guns and missile firings could be carried out simultaneously, claiming that there was ‘no substitute, none whatsoever’ for Vieques anywhere in the world” (Duncan: 18). The Navy stood by this claim although many involved parties argued that there have been many other studies indicated that there were other comparable islands such as the British colonial property of Dog Island (SanJuan: 1).

The initial expropriation of Vieques took place on April 26, 1942 (Mullenneaux: 7). “Stark social inequality and overwhelming poverty” as well as the “concentration of the land in the hands of two sugar corporations and a few wealthy families” facilitated the

expropriation of Vieques. All of the tenant laborers, which consisted of the majority of the Vieques population, were given 24 hours to leave their homes. Some of the evicted Viequense were offered monetary compensation of \$30 (Besson: 1). Many Vieques residents still remember when the military officials came to load them into trucks and began to bulldoze their homes. During these forced evictions “dozens of residents refused to accept the ultimatum to leave given to them by the U.S. commanders, and were forcibly removed” (Murillo: 48). Many of these people relocated to other nearby islands like St. Croix but those who chose to remain on their island were forced into “resettlement tracts” (Kahlil Jacobs-Fantuzzi Interview). The residents were horrified to discover that many of these resettlement tracts were nothing more than razed cane fields with a few sticks marking the plots. Evictees were then “forced to sign a contract with the Navy stating that the land where they had been relocated would also be subject to confiscation with 24 hour notice” (Besson:1). The expropriations continued through to 1947, with the Navy seizing over 75% of the island’s land mass or 27,000 acres of the islands 33,000 acres (see figure 1). 825 families or 3,620 Viequense were in turn relocated to the central residential zone of the island sandwiched between an ammunition depot in the west and a large maneuver area in the east (Mullenneaux: 23). Due to the military take-over the population in Vieques declined from 10,000 to 7,000 within the first year.

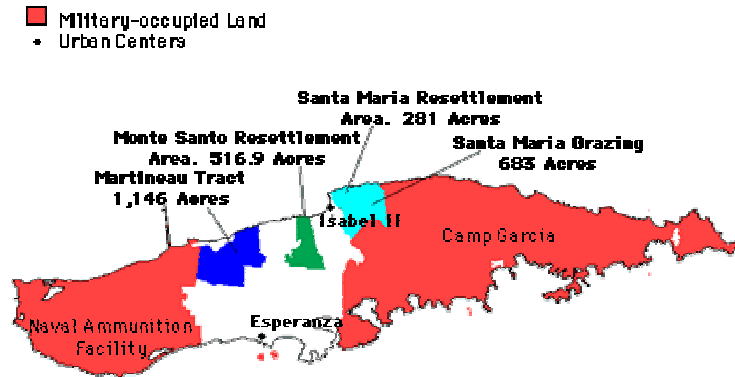


Figure 1

Source: *Committee for the Rescue and Development of Vieques, Puerto Rico*

Puerto Rico, as a whole, was struggling economically and severely lacked agriculture land. Most of Vieques prior to the military take over was agricultural land and the Puerto Rican government was concerned about any additional loss of national agriculture income. In 1944, as a concession for the loss and to save face, the Navy offered a revocable permit to the commonwealth government to utilize the expropriated land, for which the navy had no immediate use, for agriculture (Memorandum from Acting Director of the Navy-Appendix 1). Within three years the Navy revoked the permit “throwing into disarray governmental efforts to spur the local economy” (McCaffrey: 35). Still concerned with opposition from the insular government, the Navy allowed cattle grazing on the western ammunition storage area of the island.

In 1947 the Department of the Interior and the Department of Defense discussed plans to move the entire population of Vieques to the nearby island of St. Croix so that the entire island could be taken over by the Navy (Memorandum from Acting Director of the Navy-Appendix 1). The Puerto Rican government managed to block these plans but was still unable to block further expropriations. However, the Navy still pursued a complete occupation of Vieques, “In 1961 the Navy drafted secret plans to remove the

entire civilian population... Even the dead would be dug up and removed from their graves. The 570 residents of the neighboring island of Culebra would also be removed” (McCaffrey: 38). These plans however were called off after they realized it was unrealistic to think the residents of Vieques would leave without a fight. The Viequense have remained for generations, dedicated to preserving their island home despite the daily bombings that have shaken their homes, schools and businesses for over 60 years.

In the 1970’s protests erupted on Vieques spearheaded by the Vieques Fisherman Association. As international media began to shed light on all of the negative impacts of the Navy on Vieques, the commonwealth government began to dispute the Navy’s control. In March of 1978 “the Governor of Puerto Rico filed suit to enjoin the United States Navy from using portions of lands it owned on Vieques and in the water surrounding the island for the purposes of carrying out Naval training operations” (Report of the Special Panel on Military Operations on Vieques- Appendix 2). Although the Commonwealth lost their suit in the United States District Court, the House Armed Services Committee established a panel to review the issue of Vieques as a naval training facility. In the panel’s report of 1981, three of the five panel members recommended that the Navy find an alternate site for the naval training complex (Report of the Special Panel on Military Operations on Vieques-Appendix 2). The result of this report however was not the relocation of the naval training but the institution of a Memorandum of Understanding (MOU) in 1983.

Signed by the governor of Puerto Rico and the Acting Secretary of the of the Navy the MOU addressed issues like community assistance to combat unemployment, land use, historic preservation, ordinance delivery and compliance with The U.S.

Environmental Protection Agency (EPA) and the Commonwealth's Natural Resources Department (NDPR) environmental regulations (Report of the Special Panel on Military Operations on Vieques-Appendix 2). Naval compliance with the MOU still remains a subject of debate. A Special Commission on Vieques established by the Governor of Puerto Rico in 1999 that consisted of a number of Puerto Rican political and religious leaders found that "the Navy had failed to honor any of the terms of agreement in the 1983 MOU" (Report of the Special Panel on Military Operations on Vieques- Appendix 2). In response to the panel's findings the Clinton Administration opted to create its own panel on Vieques, which was chaired by the Secretary of Defense. Clinton's panel focused on the need for Vieques in our National Defense and concluded that the Navy had made a consistent effort to follow the terms of the MOU.

Besides the interest in National Security there were other reasons the Navy desperately held on to the island of Vieques despite all of the controversy. Vieques was an enormous source of additional income for the U.S. Navy and Department of Defense. The Navy regularly rented out the use of the Vieques base to other NATO allies thus multiplying the negative impacts on the island. In the late 1970's the Navy was charging other countries such as Brazil and Venezuela \$1,200 an hour (Besson: 1). In 2000 Navy estimated that about \$80 million a year was generated by leasing the base to other countries (Mullenneaux: 2). The Navy advertised Vieques to other countries on its own highly controversial website that was removed in 1999. The controversy stems from the website's recommendation that other countries can use "non-conventional weapons". The term "non-convention weapons typically refers to "nuclear, biological and chemical weapons", which the Navy denies ever using on Vieques (McCaffrey: 7). Moreover,

although the Navy never admitted to testing weapons on Vieques their website suggests that foreign militaries could use the “airspace, surface and subsurface water space for development and operational testing of new and existing weapons systems” (McCaffrey: 7). The leasing of the island to foreign militaries is questionable not only in its application but also in the disproportionate effects on the Viequense.

Chapter Two: Impacts of Military Presence in Vieques

The impacts of the naval activities in Vieques are broad and far reaching. Although intertwined, the primary problems associated with the naval facility can be assessed in terms of its economic impacts, social impacts, health impacts and environmental impacts.

Economic Impacts:

When the Navy arrived in 1941, the island was on the brink of disaster and “many hoped that the opportunity to work would mitigate their upheaval” (McCaffrey: 31). The Military promised that the base would bring economic opportunities for the residents. For a short time, while the base was being built, the Viequense found a little bit of prosperity. Although few Viequense were hired to help with the base construction, many found employment fishing, cooking and cleaning for the military construction workers. However when World War II began the attention of the military shifted towards the Pacific and the base construction was cut short. The sudden halt of construction resulted in a devastation of the local economy. Many Vieques citizens, believing that the military would bring economic progress began to live outside of their means and over extended their credit but this short-lived golden era left Viequense in a worse economic situation than before the Navy’s arrival (McCaffrey: 32).

The military expropriation of the island’s land caused increased economic problems for the island’s civilian population (Report of the Special Panel on Military

Operations on Vieques-Appendix 2). . When the residents were evicted they were transported across the island and relocated to poorly planned settlement tracks and refused any title to the land. (McCaffrey: 34) Without titles to the land the Viequense were not able to obtain home-building loans and thus lived in shacks or poorly constructed housing developments on the borrowed land. According to the Report of the Special Panel on Military Operations the lack of land access for fishing and agriculture hurt the Vieques economy. Also the “loss of agricultural land meant the inability to plant, raise animals, gather fruits and coconuts, cut wood, and make charcoal- all rituals of island life” (Mulleneaux: 31). Any land left for small-scale agriculture proved to have chronically low productivity. A farm in Vieques would produce “about \$48 per *cuerda* of pasture, compared to \$181 per *cuerda* in Puerto Rico” (Lewis: 19). This was due in part because environmental degradation caused by the Navy, which will be discussed in the environmental impacts section, and also because of a lack of water as the island’s two aquifers were absorbed by the military take-over (Lewis: 19). Pasture in Vieques was also severely over-grazed “as a response to loss of land and economic necessity” which in turn increased erosion that decreased productivity, which created more economic necessity in a self-perpetuating cycle (Lewis: 19). The navy’s expropriation of the land left the islanders with even fewer avenues for survival than they had when the sugar industry dominated the island’s economy.

As the economy continued to struggle, the island population became “increasingly dependent on fishing, if not as a steady source of income, at least to put food on their tables” (Mulleneaux: 31). According to the U.S. Census bureau the number of registered fishermen increased by over 50% from 1935 to 1990. After the naval invasion fishing,

which was always an “important subsistence strategy with roots in *agregos* relations to the ecology”, became an important expression of the Vieques cultural identity. As an important part of working-class culture, fishing became more than just “‘subsidiary’ but central to both workers’ subsistence and the social autonomy of laborers” (McCaffrey: 61). As fishing became an increasingly important part of economic survival it also established a central link to their ancestors and the former way of life on Vieques. When the navy came onto the island they took over most of the coastline, building fences that restricted most access to the ocean and obstructing an important cultural connection. The navy restricted all non-military activity in the waters during maneuvers. The massive environmental damage to the fragile coral reefs caused by the naval maneuvers resulted in a loss of 100,000 pounds of fish a month, which will be highlighted in the next section (Perez: 1). The navy restricted access to much of the fishing water and “fishermen were forced to fish and dive for their catch in deeper waters and that meant more expensive equipment” (Mullenneaux: 31). The fishermen of Vieques often complained that the Navy would cut their nets during maneuvers costing the fishermen many thousands of dollars and would rarely, if ever, compensate them (Vieques Land Transfer Act of 1994: 123). Also the Navy would regularly cut the ropes that tied buoys to the underwater traps, causing the loss of up to 131 traps in one day (Besson: 1). Overall the loss of access to fishing waters and the deliberate destruction of equipment during naval maneuvers left Vieques fishermen insolvent and angry.

In 1955 the Commonwealth Economic Development Administration formed a ten-year plan to help alleviate some of the economic problems of Vieques. The plan attempted to stimulate economic development by encouraging industrial development

and tourism. All of the development plans however required reliable transportation in order to function and the military was unwilling to compromise any of their control over Vieques' natural resources (McCaffrey: 37). Although Vieques could be an ideal tourist location the loud cracks of bombs exploding and the habitual low-flying jets and helicopters kept tourism repressed for the duration of the naval occupation. Although it is common in the United States for civilian flights to share military airports, the Navy refused any efforts to negotiate for civilian use of the naval airport. The Commonwealth petitioned the Federal Aviation Administration for air rights to the western end of the island because it was not being used for maneuvers, but the Navy refused to budge (McCaffery: 38). The Navy's maneuvers restricted much of the water surrounding Vieques: thus all of the direct routes to the island were blocked making the civilian ferry trip longer and rougher. This in turn discouraged tourism.

The statistics highlighted by the Governor's Special Commission on Vieques in 1999 suggested strongly that the naval presence on the island had caused many economic hardships.

73.3 percent of the population of Vieques lives below the poverty line, 14.4 percent higher than on the main island, and... the unemployment rate on Vieques of 26.3 is 5.9 percent higher than on the main island. It was also stated in testimony before the Panel that the economic status of the residents of Culebra has improved since the departure of the Navy and it is now better than that of the residents of Vieques in terms of employment and average income (Report of the Special Panel on Military Operations on Vieques).

These are all official statistics but in any community, especially these such as Vieques with high unemployment and a general feeling of governmental distrust, these figures are often significantly differed from the actual situation. The Mayor of Vieques has stood by his unofficial unemployment rate of more than 50 percent (Vieques Land Transfer Act of

1994: 75). According to the 1990 census the per capita income on Vieques was \$2,997, one of the lowest in the nation (Vieques Land Transfer Act of 1994: 75). This report as well as many other statistics that have been cited over the past 60 years has illustrated the immense negative impacts of the Navy on the island's economy.

In 1947 and again in 1961 the Department of the Interior and the Navy developed a plan to relocate all of the remaining Viequense onto the neighboring island of St. Croix (Mulleneaux: 31). These plans, however, never came to fruition due to opposition from the Puerto Rican government and the international community. Critics claimed that the Navy found a more subversive method of perpetuating the population decline on Vieques (interview- Jessica Arroyo Rosa). These critics argued that the Navy destroyed the economy, forcing the population to move off the island, to either the mainland or to neighboring islands. Activists further argue that all of the economic subordination was intentional, simply another avenue for further expropriation of the land.

Environmental Impacts:

The Navy's disregard for EPA and NDPR environmental regulations has been one of the key arguments against the naval occupation of Vieques. There is no doubt that some environmental damage will occur when the Navy drops 500-pound live bombs on a bombing range. In the same statement Chief of Naval Operations asserts that training maneuvers do not "destroy the natural environment of the island" while admitting that the combat simulations are a "violent endeavor" that leaves the environment "marked by bomb and shell craters and contains debris from the ordinance, the targets and some

unexploded ordinance” (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 137). When these massive bombs are dropped they typically create huge craters, up to 12 feet deep, and often ignite brush fires despite the tropical climate. According to the director of the Geography Department at the University of Puerto Rico the target range has “more craters per kilometer than the moon” (Mullenneaux: 59). The bombs often miss their targets, thus destroying the ecosystems outside of the firing range. The well-documented environmental damage on Vieques is vast, affecting everything from the mangroves and lagoons to chemical contamination of the soil, air and water.

The Navy has carelessly abandoned live bombs and barrels of unidentified toxic waste. “Between 1990 and 1992, two vessels loaded with hundreds of barrels of unidentified toxic waste were sunk by the Navy” during their war games (Santana and Lindsay-Poland: 2). About 1100 barrels containing both liquid and solid toxic waste were just abandoned below the surface on the fragile coral reefs. Live bombs and artillery shells have been found up to 400 yards offshore buried deep underwater (Santana and Lindsay-Poland: 2).

The Navy has admitted to firing napalm in 1992 and depleted uranium in 1999, both highly toxic substances (Navy Office of Information News Special). In October 1992, March 1979 and July and February of 1977 the Navy admitted to dropping Napalm on Vieques. Napalm consists of three toxic substances: benzene, gasoline and polystyrene. When it combusts, it creates large lethal firebombs, which releases these substances into the environment and creates fires. The use of depleted uranium is illegal on Vieques because “on impact, 60% of the DU contained in an explosive device volatilizes, thus releasing the extremely dangerous uranium into the atmosphere”.

Depleted uranium is also known to cause genetic mutations in plants and animals. The Navy claims that it “accidentally fired 263 rounds” of depleted uranium tipped bullets, each containing 148 grams of uranium, during a training maneuver (Santana and Lindsay-Poland: 1). Of these 263 rounds only 57 have been recovered with 30,488 grams of the radioactive material still unaccounted for on Vieques. When the Navy bombs stir up dust from the eastern maneuver area it is carried by the prevailing tradewinds into the civilian areas. A study in October 2001 showed a dramatic increase in “radioactive gamma rays- more than doubling” from previous readings (Santana and Lindsay-Poland: 1).

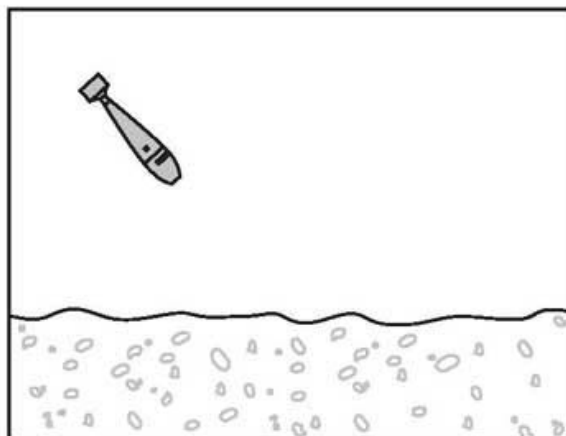
The munitions used by the Navy, both inert and live, contain an array of toxic materials that have contaminated the soil, air and water in Vieques. Rafael Cruz Perez, former departmental chief of Puerto Rico’s Environmental Quality Board, conducted a study in 1988 and cited three major “sources of contamination: (1) chemical composition of the missiles’ charge and reaction, (2) particles of dust and rock thrown into the atmosphere as a result of impact or explosion, and (3) metallic debris from projectile fragments and scrap iron used as targets” (Mullenneaux: 59). Even the live ordinance disposal practices of the Navy are environmentally unsound. The Navy disposes of live ammunition by open burning and open detonation (OB/OD) which according to the EPA “contaminates the surrounding environment with 13 types of toxic substances, including benzene and toluene” (Santana and Lindsay-Poland: 1).

After explosions and OB/OD Perez hypothesized that because “prevailing tradewinds on Vieques blow from east [where the maneuver area is located] to the west around 80% of the time” clouds of toxic particles are carried from the maneuver area into

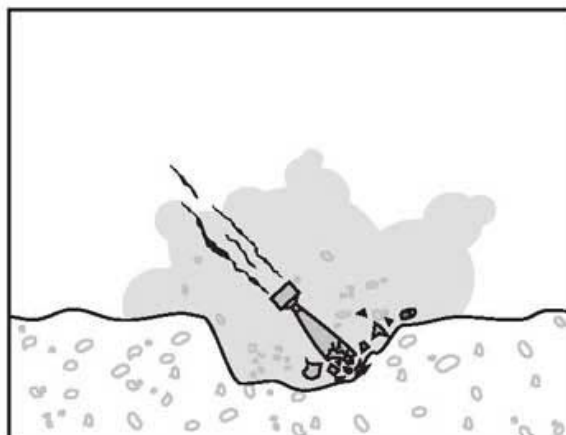
the civilian areas in the center of the island (Santana and Lindsay-Poland: 1). According to Naval reports it released approximately 70 tons of Particulate Matter (PM10) into the island air per year. (ATSDR- PHA: 4). Also Perez found the particulate matter over the civilian area of Vieques (197 micro grams per cubic meter) exceeded the legal federal criteria for clean air (Rabin: 2). The contaminated soil enters the air when the inert bombs (figure 2) or live bombs (figure 3) hit their target and the particulate matter spreads the contamination to the soil and water in the civilian areas.

Figure 2
Emissions from Exercises Involving "Practice" Bombs

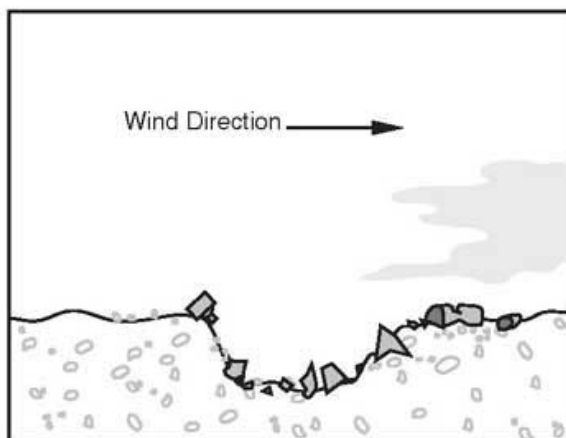
Before Impact: The practice bomb
nears the ground surface.



During Impact: The force of the
impact with the ground creates a
small crater and some soils become
airborne. The practice bomb casings
often break into smaller pieces, and
these pieces typically remain on the
ground. Some bombs will "skip" along
the surface, causing more soil to enter
the air.



After Impact: Fragments of the
practice bomb are usually visible.
Much of the soil that became airborne
during impact falls down to the ground.
A small portion of the soil remains
airborne and blows downwind. These
airborne particles may contain
contaminants that were previously
in the soil.

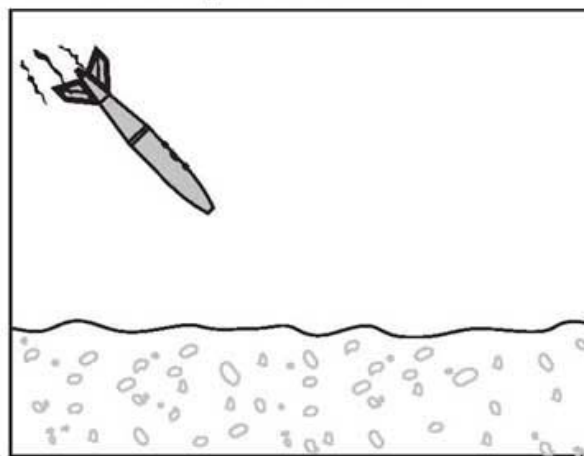


□ Note: This figure is meant to provide general information on the type of emissions that are released during military training exercises involving practice bombs. The actual amount of emissions released from practice bombs depends on many factors not shown here, such as the size of the bomb, the height from which it was dropped, and the type of soils on which the bomb lands.

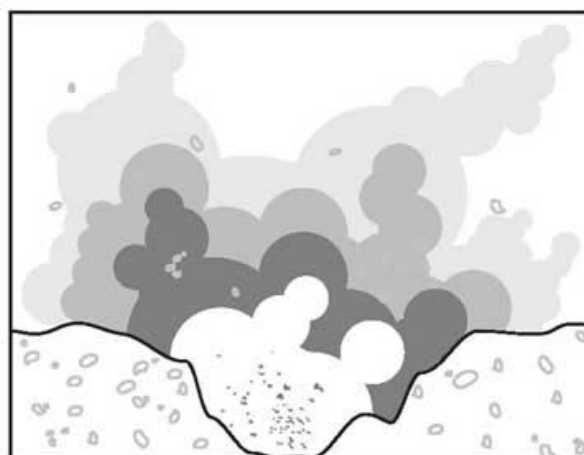
Source: ATSDR- PHA- Vieques Island Air Pathway Evaluation

Figure 3
Emissions from Exercises Involving "Live" Bombs

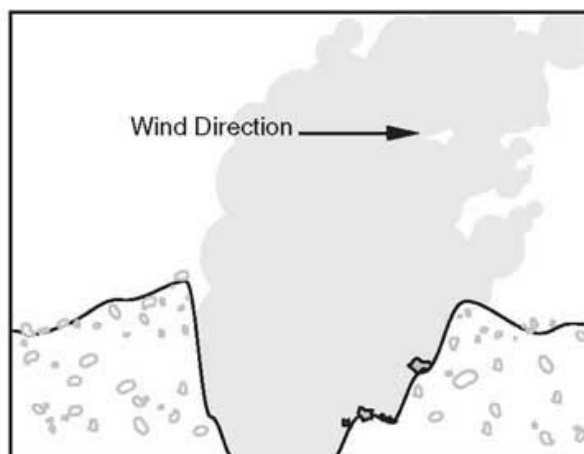
Before Impact: The live bomb nears the ground surface.



During Impact: The explosion is initiated either by a fuze device or by the force of impact. Once detonated, the explosion proceeds as a rapid series of chemical reactions, which release large amounts of energy. This energy is great enough to fragment the bomb casing, vaporize some of the bomb materials, and generate a large crater. The energy released is a function of the amount of explosive chemicals originally in the bomb.



After Impact: The energy released from live bombs cause emissions to blow up to several hundred feet into the air. These emissions include three categories of contaminants. First, a small amount of the explosives in the original bomb might be present in the emissions. Second, the explosions produce chemical byproducts, many of which are naturally found in the air. Third, the force of the explosions causes releases of particulate matter, both from the soil and from the bomb casings. This particulate matter contains metals. All of these contaminants then blow downwind.



□Note: This figure is meant to provide general information on the type of emissions that are released during military training exercises involving live bombs. The actual amount of emissions released from live bombs depends on many factors not shown here, such as the size of the bomb, the height from which it was dropped, and the type of soils on which the bomb lands.

Source: ATSDR- PHA- Vieques Island Air Pathway Evaluation

The Navy has continually violated the Federal Clean Water Act as well as Puerto Rico's Water Quality Standards on. In 1999 alone the EPA declared that the Navy had committed 102 violations of the Clean Water Act on Vieques (Santana and Lindsay-Poland: 3). In 1978 the Navy itself found high levels of zinc and lead in the in surface water in eastern Vieques but failed to undertake any clean up efforts. Throughout the years the Navy has discharged large quantities of "lead, barium, cadmium, arsenic, boron, cyanide, hexavalent chromium and 13 other substances" into the water around Vieques (Santana and Lindsay-Poland: 1). The lack of vegetation and deep craters on the eastern bombing range left the underground water tables unprotected and vulnerable to contamination (McAdoo: 52). Toxic chemicals TNT, Nitrogen oxides, RDX and Tetryl have been found in the surface ponds on the eastern maneuver area, were also found in residents' drinking water in Isabel Segunda and Esperanza (Mulleneaux: 59).

The land on the Eastern Maneuver Area is littered with shrapnel from the thousands of pounds of bombs that have exploded as well as hundreds of unexploded ordinances. Theses metallic substances are subject to increased oxidation due to the salinity of the ocean air. Between April 1999 and May 2000 several intensive soil analysis studies "reveled high levels of arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, tin, vanadium, zinc and cyanide- the same metals found in munitions and targets used by the U.S. and NATO forces in Vieques" (Santana and Lindsay-Poland: 1). Three studies in 1999 and 2000 found Mercury contamination in the base workers, fisherman and civilian population of Vieques (Scientific Studies about Contamination and Health in Vieques-Appendix 3). Of course contaminants in the soil and water would create high levels of these same contaminants in the flora and fauna grown on Vieques.

Through the process of biomagnification the toxic materials are stored and accumulate in the terrestrial and marine food chain. A study, conducted in 2000 by Arturo Massol and Elba Diaz of the University of Puerto Rico, “found high levels of cadmium, cobalt, nickel and manganese in violin crabs” (Santana and Lindsay-Poland: 1-2). The same team of researchers conducted a study of the vegetation in civilian areas of Vieques comparing them to vegetation collected from comparable control sites in Puerto Rico. The study “took samples of vegetation, both wild and agricultural, from civilian lands, including pumpkins, bananas, mango, yucca, pineapples and peppers” and compared them to control sites on Puerto Rico’s mainland (Ruiz-Marrero: 1). The study determined high levels of cadmium, copper and lead in edible crops grown in the civilian areas of Vieques. In particular the concentration of lead in vegetables grown on Vieques far exceeded the excessive level of 11.2 $\mu\text{g/g}$ dry weight (Santana and Lindsay-Poland: 2).

Vieques is naturally endowed with a wide variety of rare and fragile ecosystems such as mangroves, lagoons and bioluminescent bays. Many of these ecosystems have been severely damaged by the Navy’s environmental impacts. Mangroves are crucial island habitats because they prevent seashore erosion and provide a habitat for a biologically diverse spectrum of life. Mangroves provide a buffer between the land on one side the sea on the other. Sediments trapped by roots prevent silting of adjacent marine habitats where cloudy water might cause corals to die. From 1936 to 1980 Vieques had already lost 329 acres of mangroves due to drainage changes, erosion and increased salinity (Lewis: 19). The Navy can be directly linked to the mangrove destruction through the toxification of the ecosystem and construction of roads and facilities, or indirectly

responsible for not allowing the municipality to initiate an island-wide conservation program.

The ruin of the once ecologically rich wetlands in the Eastern Maneuver Area can also be attributed to the Navy's reckless construction. The Navy built roads cutting off the fresh water lagoons from the sea ruining the natural desalination process, "therefore during dry spells, there was an increase in salinity" in the once freshwater lagoons, thus destroying the ecosystem and the species dependant on it (Murillo: 56). Vieques Environmental scientist Dr. Garcia conducted a study on damage to the eastern lagoon damage and found shrapnel, explosives and contaminated sediments in the lagoons from the Navy's bombing exercises (Murillo: 57). Today all of these natural lagoons have dried up.

The worldwide decline in coral reefs have led many environmentalists to focus on the naval reef damage as one of the most pressing concerns. Between 50-70% of the world-wide population of coral reefs are under direct threat from human activities. Coral reefs are meccas of marine biodiversity. Reefs also protect coastlines from storm damage, erosion and flooding by reducing wave action approaching the coastline. According to University of Georgia's coral reef expert Dr. James Porter, "each bomb dropped on, and each shell fired at Vieques creates an immanent and substantial risk of irreparable harm to the coral reefs" (Santana and Lindsay-Poland: 2). The massive quantities of silt runoff from the bombings have caused significant damage to the nearby coral reefs (Rameriez de Leon: 6) Naval bombs and artillery often miss their targets, landing in the water surrounding Vieques. Although a number of craters were found in the water, the Navy repeatedly claimed they were caused by hurricanes. However Dr. James Porter

from University of Georgia found residues of heavy artillery in the damaged reefs (McCarthy: 1).

As mentioned in the Economic impacts section the Navy would regularly cut the buoy lines to fishermen's traps causing economic hardship for the fishermen, while also causing environmental problems. These traps would fall to the ocean floor, lost forever while continuing to catch and eventually kill fish and other marine organisms. This impacted the fish population and biodiversity of the waters around Vieques. As early as the mid-seventies fisherman were reporting drastic decreases abundance and fish size (McCaffrey: 80)

The combination of all of these environmental impacts has produced a dramatic climate change. The eastern bombing range has changed from a tropical climate to an arid moonscape. The special commission on Vieques reported in 1999 that there was a "decrease in rainfall over the live-fire zone and other gradual shifts in the microclimate" (Mullenneaux: 60). The shift in micro climate may also be related to the "mountain range disfiguration [that] can also impact wind patterns..." (Ramirez de Leon: 6). All over the island the ecosystem disturbance caused much of the native vegetation to be replaced by thorn shrub (Lewis: 19). The once fertile topsoil has been blown away leaving a barren scared landscape. With every denial of negative environmental impacts by the Navy, activists and residents have repeatedly pointed out that "Vieques has no industry that could provide an alternate source" of contaminants (Santana and Lindsay-Poland: 2).

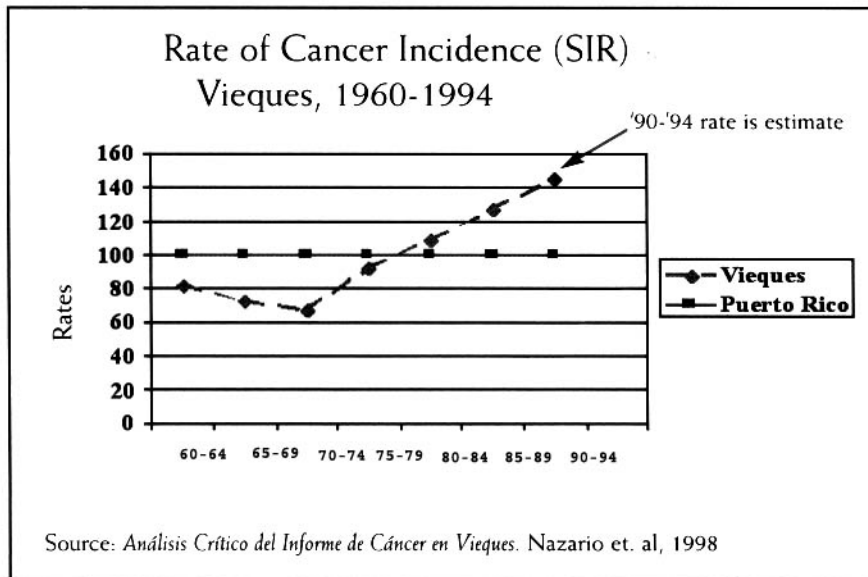
Vieques is a nesting ground for endangered sea turtles, west manatee and brown pelicans. In virtually every naval document, the Navy continues to assert its efforts for environmental stewardship and it compliance with the endangered species act. Due to

environmental regulations the Navy set up 7 conservation zones (A Summary of the Navy's Environmental Stewardship and Economic Development Efforts on the Island of Vieques, Puerto Rico: 1-3). However environmental activists have claimed that, "the Navy has simply erected fences around contaminated areas and proclaimed them 'conservation zones'" (Santana and Lindsay-Poland: 4). With the interdependent nature of any ecosystem it seems valid that if the Navy is releasing high levels of toxins into the environment the conservation zones will be ineffectual. Beyond that however the Mayor of Vieques Manuela Santiago Collazo eloquently describes the constant bombardment of the Navy that "has been careful not to destroy turtles and pelicans because they are protected species, but now it is time to protect the people of Vieques which to us are at least as important as turtles and pelicans" (Vieques Land Transfer Act 1994: 85).

Heath Impacts:

Throughout the 60 years of occupation the Navy has maintained that there is no link between the environmental impact of the bombings and the health of Viequense. However, health related evaluations show a dramatic difference between the health and mortality of Vieques residents and those in the rest of Puerto Rico. While most of the chemicals released by the Navy are known human carcinogens the Navy still dismisses the higher cancer rate as irrelevant (Vieques and the Future of the Atlantic Fleet Weapons Training Facility). Due to the fact that there are no other polluting industries in Vieques it seems incongruous to dismiss it as a coincidence yet the Navy claims that there are many other factors that could cause cancer like smoking. However in 1998 the Puerto Rican Department of Heath conducted a Behavior Risk Factor Surveillance Survey (BRFSS)

and found no significant ($p>0.05$) difference between those living on Vieques and the main island (Nazario, Lindsay-Poland et al: 2). This study ruled out behavioral risk factors that could have explained the extremely high rates of cancer.



Activists argue that the numbers and lack of any other pollution sources speak for themselves. The cancer rate is 27 percent higher than in Puerto Rico (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 44). Vieques also has the highest mortality rate in all of Puerto Rico, 10.8 deaths per 1,000 inhabitants (Ramirez de Leon: 3). In 1998 the crude death rate from heart disease in Vieques was 251.6 per 100,000 while Puerto Rico's rate was 157.5 (Nazario, Lindsay-Poland et al: 1). The infant mortality rate of 24.5% is twice that of Puerto Rico (Ramirez de Leon: 3). Children in particular tended to be at a high risk for developing cancer and asthma. The annual health report of the Puerto Rican Department of Education reported between 15-32% of Vieques public school students had respiratory ailments (Nazario, Lindsay-Poland et al: 1).

Dr. Rafael Rivera-Castaño, of the University of Puerto Rico's Medical Sciences Department “documented an increase in extremely rare diseases, including scleroderma, lupus, thyroid deficiencies” on Vieques, as well as an increase in more common ailments like asthma in Vieques’ children (ViequesLibre). Asthma is not common on small islands like Vieques because the ocean air is rich in iodine, which prevents asthma, thus once again leaving air pollution, caused by the Navy, as the only likely source (ViequesLibre). The Puerto Rican Department of Health also determined that Vieques has a higher rate of hypertension and diabetes than Puerto Rico as a whole (Roman: 1)

A number of scientific studies that took place on Vieques in 1999 and 2000 found Mercury contamination among workers on the Navy base, fisherman and Viequense. One study in particular by Dr. Ortiz Roque found 45 percent of Viequense had toxic levels of Mercury in their blood (Scientific Studies about Contamination and Health In Vieques- Appendix 3). Mercury can cause permanent damage to the brain, and kidneys. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems (Hazardous Chemicals and Health Effects- Appendix 4).

Levels of Cadmium in Violin Crabs near the impact area “exceeded over a thousand times the maximum tolerable dose for ingestion established by the World Health Organization” (Santana and Lindsay-Poland: 2). Edible crops also were found highly contaminated by Cadmium, at levels that are far higher than the maximum levels set by the European Union (Santana and Lindsay-Poland: 2). Cadmium is a known human carcinogen. Prolonged exposure can cause a buildup of cadmium in the kidneys and possible kidney disease. Other long-term effects are lung damage and fragile bones. Animals given cadmium in food or water had high blood pressure, iron-poor blood, liver

disease, and nerve or brain damage (Hazardous Chemicals and Health Effects- Appendix 4).

Lead is one of the most toxic chemicals to human health because it can affect almost every organ and system in your body. The most susceptible area subject to lead exposure is the central nervous system. It can cause brain damage and kidney problems and may cause anemia. Children are the most vulnerable to lead poisoning. Even at low levels lead can affect a child's mental and physical growth (Hazardous Chemicals and Health Effects- Appendix 4). A study conducted in February and March of 2000 found excessive quantities of lead in edible crops grown on Vieques. The study compared Pigeon Peas, Squash and Chili Peppers grown of Vieques with those grown on comparable control sites in Puerto Rico and found the levels of lead up to 4 times greater than those found at the control site.

Lead Contamination in Vieques and Control Area		
Plant	Location	Level (µg/g dry weight)
Pigeon peas	Monte Carmelo, Vieques (June 2000)	10.52
	Monte Carmelo, Vieques (August 2001)	15.12
	Monte Santo, Vieques (June 2000)	49.14
Squash	Cerro Las Mesas, Mayagüez (Control)	4.93
	Monte Carmelo, Vieques (June 2000)	42.23
	Monte Santo, Vieques (June 2000)	17.02
Chili peppers	Cerro Las Mesas, Mayagüez (Control)	< 6.0
	Monte Carmelo, Vieques (June 2000)	22.64
	Monte Santo, Vieques (June 2000)	39.52

Excessive level is 11.2 µg/g dry weight (CEU, 1999).

Source: Casa Pueblo

The Depleted Uranium which the Navy admits to dropping on Vieques in 1999 is very dangerous to human health, in fact Depleted Uranium is so dangerous that “a single 5-micrometer particle of reduced uranium trapped in a human lung” is capable of emitting 800 times the amount of radiation that is considered acceptable in a year (Rameriez de Leon: 4). The Navy admits to releasing 30,488 grams of Depleted Uranium into to Vieques environment that are still unaccounted for. Depleted Uranium remains radioactive for 4.5 billion years (Roman: 2). Large amounts of uranium can react with the tissues in your body and damage your kidneys (Hazardous Chemicals and Health Effects- Appendix 4).

Most of the drinking water on Vieques is tunneled in from the main island, indicating that the contamination comes primarily through the food chain and the process of biomagnification. The levels of toxic chemicals are significantly above EPA regulations in the soil of the eastern maneuver area. Through dust, erosion and siltation these chemicals are washed into ground water that is used to water crops and into the ocean where they are absorbed by fish. These toxins travel through the food chain in Vieques eventually ending up in concentrated quantities on the dinner plates of Viequense. There are also many pathways of air contamination that could have caused the Viequense health problems (Summary of Air Exposure Pathways- Appendix 5). The grief of these tragic deaths due to cancer, heart problems and other rare diseases is magnified within the close-knit community. Because Vieques has no other industries that could cause this environmental health crisis, the people are left with a feeling of powerlessness and anger toward the military presence.

Social Impacts:

The social impact of the naval presence on Vieques is a broad topic. They extend beyond the multiple incidents of violence and rape by U.S. soldiers into the degradation of the Viequense cultural identity. In 1953, a 70-year-old shopkeeper was beaten to death by eight marines for refusing to sell them more rum. The marines were arrested but then acquitted in a military hearing. Again in 1959 a group of marines crashed a private civilian party and violence erupted leading to 19 injuries (Mullenneux: 30).

With the Marine presence the safety of women also came into question as the local prostitution industry grew (Mullenneux: 30). Women who lived alone became targets of Marines who were let off the base at night. According to older Viequense residents intoxicated Marines would actually arrive in packs at the houses of women who lived alone and attempt to break in and sexually assault these women (Mullenneux: 30). Vigilante groups of Viequense men began patrolling these women's houses because the local police chose to ignore complaints against the Marines (Mullenneux: 30).

Many Viequense have described life on the island as living in a "war zone". Living under the constant stress of bombs being dropped 8 miles away have led to a high incidence of stress, depression and other related mental illness on Vieques (Report to the Secretary of Defense of the Special Panel on Military Operations in Vieques- Appendix 2). The children of Vieques, who grew up in an environment where explosions shake their classrooms, had a "much higher incidence of emotional and mental problems" than anywhere else in Puerto Rico (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 129). The Puerto Rican Department of Education found that "the explosions and vibrations caused by the bombing practices cause the school buildings to

shake affecting ... the teaching process” (Report to the Secretary of Defense of the Special Panel on Military Operations in Vieques: 5). Crippling fear and stress is also part of life on Vieques, and many residents have claimed that they are constantly afraid that there will be an explosion or catastrophic event (Mullenneux: 57-58).

On Vieques there is a high incidence of alcoholism, drug abuse and HIV infection (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 119). This could be attributed to a hopelessness that comes from economic stagnation and from a feeling of having no control over their own lives. They also have the highest rate of broken families in all of Puerto Rico’s 78 municipalities (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 75). With few employment opportunities, fathers typically abandon their families to escape the feelings of inadequacy.

There are few educational opportunities on Vieques and because of this Vieques has the highest rate of illiteracy in all of Puerto Rico (Vieques Land Transfer Act: 15). Also Vieques has no institution for higher education; thus when Viequense children graduate from high school they have to move to the main island to attend university. Once they obtain their degrees they typically cannot return to their homes because of the lack of employment opportunities. The loss of the Viequense youth increased the cultural erosion on Vieques.

Vieques also has one of the highest population densities in the world because of the expropriation of land. The island has about half of the population density of most of Puerto Rico, averaging around 500 persons per square mile (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 119). The expropriation has led to a mass exodus of Viequense. In a small island community like Vieques the culture and history is

perpetuated by generations of families that have established themselves there. With the exodus of a large part of the population Vieques lost many of its cultural ties and oral history.

A number of important archaeological sites on Vieques have been identified by the Commonwealth State Historic Preservation Office. These unique archeological sites provide connections to the Viequense-Taino heritage and culture that has been essentially wiped out. Part of the 1983 MOU was a timetable with specific actions that was designed to protect the cultural resources on Vieques. However, the Special Commission on Vieques reported falsifications in the Navy's compliance reports and continued to damage the Vieques' archeological sites (Report to the Secretary of Defense- Appendix 2). Every bomb dropped by the U.S. government destroyed vital links to the Taino culture, a culture of rebellion that has suffered under extreme repression and eradication. A tradition has been reduced to the rubble buried under military dust and toxic waste.

Chapter 3: Protest and Resistance

Through years of colonial subjugation the Puerto Rican culture of resistance has been dampened but not disappeared. The peace movement in Vieques, which united all of Puerto Rico, gave testament to this residual cultural tradition. After ages of economic and cultural subordination many Puerto Ricans came to believe that they were powerless regarding the fate of their own country. Although masses of Puerto Rican are not satisfied with the status quo the ties to the U.S. are so strong that most Puerto Rican do not believe that independence is a viable option. Over two million Puerto Ricans go back and forth the United States, and many live between the U.S. and Puerto Rico. Faith in independence is challenging, when looking to their Caribbean neighbors who have tried to establish independence like Cuba, Haiti and the Dominican Republic.

From early revolutionary movements like *El Grito de Lares* and the *tiznados* guerrilla army, the culture of resistance has continued to live underground in the Puerto Rican culture. Groups like the Young Lords, FALN and the *Macheteros*, have sought to protect the Puerto Rican revolutionary identity through often militant means. The Young Lords, a Puerto Rican version of the Black Panthers based primarily on the east coast of the United States, sought to protect human rights and for fight for the liberation of Puerto Rico. They used militant direct action to make waves in the Sixties and Seventies. FALN, the Spanish acronym for Puerto Rican Armed Forces of National, is a revolutionary Puerto Rican independence movement. Labeled and imprisoned as terrorists FALN associates were blamed for 130 bombings in the United States that killed six people and wounded dozens of others from 1974 to 1983. The *Macheteros*, also known as the

Boricua Popular Army (*Ejército Popular Boricua* in Spanish), is another revolutionary independence group that traces its roots back to the 1970s. Like FALN, it has been blamed for a number of “terrorist” attacks within Puerto Rico against the American imperialist forces. The Puerto Rican Independence Party (PIP) has tried desperately to detach itself from its more radical counter parts but nevertheless they are also an important part of the Puerto Rican culture of rebellion.

The Fisherman’s Resistance

Although Viequense resistance can be traced back to the 1940’s the first major expression of this cultural resistance against the U.S. military on Vieques, which received international attention, was the Fisherman wars of the 1970’s. Although the Viequense have remained non-partisan in their struggle against the U.S. Navy, the grassroots mobilization of fishermen came during the height of the extremely charged independence movements. As living conditions on Vieques deteriorated fishing became a form of cultural resistance, due to the cultural importance of fishing not only for sustenance but as a connection to their *agregados* roots (McCaffrey: 63).

After the Navy pulled out of Culebra in 1975, it quickly became clear that Vieques would receive the “brunt of the Culebra ‘solution’” (McCaffrey: 72). As the bombings on Vieques increased the quality of life for Viequense decreased and the people began to organize to voice their concerns. They started to form groups like the Vieques Fisherman’s Association and Viequenses United (*Viequense Unidos*), in which the locals would share grievances and organize to make their opposition heard. Viequenses Untied quickly fell apart due to partisan politics, and during the late seventies

the Crusade to Rescue Vieques took over its role in protesting the military. The success of the Fisherman's association was that it was not a political group, it was an economic association and the intensification of the maneuvers caused distinct hardship for the Vieques fishermen. The fishermen were the first to notice the ecological destruction caused by the naval maneuvers, noting a significant decrease in the count and size of their catches.

The fishermen's civil disobedient direct actions to stop the naval maneuvers received international attention in 1978. Organizer Ismael Guadalupe and President of the Fisherman's Association, Carlos Zenon, began visiting the fishermen's homes in order to discuss grievances and plan a symbolic "fish-in" or "sail-in" demonstration. The plan to block the massive naval maneuvers with their fishing boats was designed to make a statement that would exemplify the "David and Goliath" struggle between the largest and mightiest military in the world and a small group of humble island fisherman.



Photo by Roso Juan Sabalones, 1979

On February 6th a small group of fishermen sailed into the middle of the maneuver area during a NATO maneuver called “Operation Springboard” (Besson: 2). International attention was grabbed by photographs depicting a ragtag group of little wooden boats confronting massive warships with stones, sling-shots and fists (McCaffrey: 77). The fishermen successfully blocked the maneuver, and began a campaign of regular fish-ins.

The Navy’s swift and strong reaction was no surprise. One fisherman, Santiago Melendez, was arrested for trespassing on federal property at the first sail-in. In federal court he stood up to his charges with pride, pointing out the irony of being arrested for trying to feed his family on his own land (McCaffrey: 77). On May 19th, 1979 twenty-one protestors were arrested during an ecumenical service that was part of a civil disobedience action on restricted land (Klein: 11). These protestors, dubbed the “Vieques 21”, included a Catholic Bishop and two ecumenical ministers. Twelve of the protestors were charged and imprisoned. Activists charged foul play when one of the Vieques 21, Angel Rodriguez Cristobal, was found battered and hanged in the Tallahassee Federal Penitentiary (Mullenneux: 33). The civil disobedience fishermen’s movement lasted five years, with the fishermen gallantly sailing into the maneuver area and the Navy responding with arrests and repression until the MOU was signed in 1983. The MOU was intended to reduce the bombing, decrease environmental and economic impacts and improve community relations.

One of the most profound lessons garnered by the Vieques fisherman during the first prolonged civil disobedience movement was the power of symbolism. The media instantly picked up the story creating international attention because of the poignant

portrayal of a “David and Goliath” struggle, as the modest fisherman bravely challenged the largest military in the world in small wooden boats with sling-shots. Using visual and ephemeral iconography the Fishermen made a massive statement by tapping into those cultural sympathies. The fishermen remained non-partisan throughout the movement focusing specifically on the material grievances and economic stagnation caused by the Navy. Simultaneously, because the actions were led by fishermen, to the Viequense it was also a way of asserting their cultural identity. Fishermen became cultural icons on Vieques, representing working class autonomy and pride in their cultural identity (McCaffrey: 79).

The Period of Pseudo-Silence

After the MOU was signed in 1983, Vieques fell into a period of relative silence. Despite the promises of the MOU the economy continued to suffer, the few economic development programs that were implemented by the Navy all failed within a year (Report to the Secretary of Defense- Appendix 2). Although the Navy agreed to decrease the bombings, noise and environmental destruction, little was done by the Navy to fulfill the MOU. The Eighties were also a time of political stagnation with Republicans like Reagan and Bush Sr. in the White House. In 1993 the Committee for the Rescue and Development of Vieques (CPRDV) was formed. Taking much of the lessons learned from the Crusade to Rescue Vieques, the CPRDV focused on reaching even more broadly all factions of Puerto Rican politics.

The CPRDV began by circulating a petition door-to-door in Vieques, asking the military to withdraw from the island and incorporating a sustainable development land use plan. The CPRDV then took their petition to the municipal government and the commonwealth government and obtained their support on a resolution. When the bill, H.R. 3831, got to Congress it was denied despite powerful testimonial on the economic and environmental damage caused by the military (Vieques Lands Transfer Act of 1994). In 1995, another bill was spearheaded by the CPRDV, asking for only the western part of part of the island back but again no action was taken. Until April of 1999, only small protests were held on Vieques, none of which garnered the international attention that they had received during the fishermen's protests.

The Straw that Broke the Camel's Back

The death of 35 year old civilian security guard on April 19, 1999 served as the spark that re-ignited the resistance movement. At 6:49 pm, two jet pilots doing a bomb run were cleared to drop two 500-pound bombs in the maneuver area but they missed their targets and instead hit Observation Point 1, injuring four guards and killing one, David Sanes Rodriguez (Mullenneux: 13). The bombs exploded 55 and 35 feet from where he stood, knocking him unconscious and then he slowly bled to death from his injuries. His death moved the entire community to action within a few days and hundreds attended his funeral. After the funeral the CPRDV organized a group of activists, fishermen, members of the Sanes family and community members to enter the impact zone and erect a 12-foot high cross in his honor. They placed the cross on an abandoned

shelled out tank that sat atop a small hill and named the site “Monte David”. One activist Alberto de Jesus, vowed that he would not leave the site until the Navy left Vieques thus beginning the first of the protest camps and initiating the four-year civil disobedience movement that finally freed Vieques.

The Structure of the Resistance

At first the CPRDV was frustrated that de Jesus had taken it upon himself to politicize the Sanes family’s grief, without their consent. However, it quickly became clear that this tragedy had reinvigorated the movement, when other members of the community joined the squatter. The excitement generated from the first encampment combined with the symbol-laden visual stimulation of the white cross protruding from a dilapidated tank in the desolate crater pocked maneuver area re-inspired the Vieques Peace Movement. Soon other people joined de Jesus at “Monte David” and the movement simply exploded from there.

On May 8th, the Puerto Rican Independence Party (PIP) established a second campsite in Playa Carrucho. Soon camps spontaneously started sprouting up all over the bombing range and civilian areas. These camps all had different themes, run by different organizations or groups of people, but with the same strategy of non-violent civil disobedience and the same vision of a free Vieques. Often these groups would disagree on strategies, like dealing with arrest, some groups would attempt to run and hide while others would intentionally try to get arrested, but all of the groups agreed that they would act peacefully (Interview- Robert Rabin).

The CPRDV in many ways remained the central organization for the Vieques movement. They ran the *Campamento Justicia y Paz*, or the Peace and Justice Camp which was located just outside of the entrance to Camp Garcia. The Peace and Justice camp, which today is still a working office, functioned as the Hub of the movement. It was the center for coordination and communication for all of the camps. They would put out all the press releases as well as provide communication between the camps. They would coordinate actions with the different camps, insuring that despite any differences the camps would function as unified front. They also were in charge of creating proposals for the land after the Navy departed. They worked long and hard to create and continually revise proposals for sustainable economic development and land use.

According to my interview with long time activist and leader of the CPRDV, Robert Rabin, there were eleven camps inside the bombing range. The camps were scattered throughout the range, each housing anywhere from 3 to 15 people at any given time. The camps within the bombing range were: *Monte David*, *Cayo La Jayi*, *Les Sindicatis*, *Federacion de Maestros*, *Estudiantes Universitarias*, *Partido Independantista*, *Diocesis de Caguas* (Catholic Church), *Congreso Nacional Hostosiano*, *MAPEPE*, *Campamento Evangelico*, and *Angel Rodriguez Cristobal*. In the civilian area there were five of these protest camps: *Monte Carmelo*, *Campamento Luisa Guadalupe*, *Campamento Miliv*, and *Los Gigantes de Carolina (Partido Popular)* (Interview- Robert Rabin)

Each camp had its own story and history. Some were run by pre-established organizations or political parties. Others were run by Viequense families or spontaneous groups of people who found themselves working together. Some like Monte David,

Camps Luisa Guadalupe, Angel Rodriguez Cristobal and Milivy were established in the honor of those who lost their lives in the struggle or due to the Navy's presence. Some of these camps would establish small communities with small-scale agriculture and livestock rearing and makeshift chapels within the Naval Base. Some camps had a few amenities like operative kitchens, port-a-potties and small windmills and solar panels for energy and lights. However living conditions in these camps often were far from comfortable. Due to the climatic changes cause by the military maneuvers the desert-like mid-day heat was often intense and interspersed with thunderous rainstorms. Squatters stuck through two hurricanes in November 1999 with no protection from the elements. Despite the harsh conditions people from all over the world would show up on Vieques wanting to help and would often be placed at specific camps.

The CPRDV organized a system to assess their human resources regularly. Individuals would show up at the Peace and Justice Camp often unsure of what they had to offer the movement but dedicated to participating. The CPRDV leaders would appraise their individual resources or assets and help them find role in the movement that suited them. For instance people with health problems could not do the civil disobedience actions, because they would be endangering their lives and the movement as a whole, but they had other things to offer like cooking for the camps or writing press releases (Interview- Deborah Santana). There were groups of people that eventually established areas of expertise like the Horsemen for Peace, who specialized in carrying protestors to the base fence and helping them get in. There were also a group of people known as the *Nesastres* or fence stitchers, who would go out every night and cut down hundreds of feet of the navy's fence to help the protestors with their actions, while costing the military

thousands of dollars in fence repairs (Interview- Robert Rabin). These people would take enormous pride in their expertise. The effective use of human capital was one of the Vieques Movement's strong points.

Non-Violent Civil Disobedience and the Media

One of the most amazing aspects of the Vieques movement was that it united the Puerto Rican people. In Puerto Rico's highly charged political climate, all of the political parties stood as a united front against the U.S. naval presence on Vieques. In this sense Vieques made history because this type of collaboration amongst Puerto Rican political parties had never occurred before, the solidarity amongst the entire Puerto Rican communities, from Vieques to those in the United States was ground breaking. Many have praised the movement's focus on issues of human rights for its broad support. The organizers centralized their complaints on concrete problems like economic stagnation, health issues and environmental destruction instead of framing it as anti-imperialist, anti-American or anti-military. While the way they framed the issue was certainly key to encouraging support, the non-violent civil disobedience techniques the movement utilized were instrumental in rallying the entire Puerto Rican nation (Interview- Robert Rabin).

The practice of non-violent civil disobedience has been used for centuries when a small defenseless community is battling a powerful foe. According to the bible Jesus Christ practiced non-violent civil disobedience when he peacefully resisted the unjust laws of Jerusalem. The native Maori people in New Zealand claim the second documented practice of non-violent civil disobedience in the 1800s when combating

British colonizers. In India Gandhi popularized the use of non-violent civil disobedience in his justice movements in South Africa and India. Dr. Martin Luther King Jr's peaceful civil disobedience actions in the civil rights struggle popularized the protest technique in America. While in his day, Dr. King was seen as a rebellious trouble-maker, today he is one of the most celebrated leaders in American History. Dr. King legitimized the use of this technique and placed it in the mainstream of American discourse. Although, the act of breaking the law is still fraught with consequence it has become a legitimate form of protest in America and the western world. Due to its legitimacy in American politics the often Americanized Puerto Rican political culture was able to readily rally behind the Vieques movement.

According to Robert Rabin "the peaceful nature of the struggle is key because it allowed a great number of people who otherwise would not have participated to participate, in particular people who looked at [the Vieques Peace movement] from a religious perspective or an environmental perspective". In addition to the legitimacy of non-violent civil disobedience in America the spiritual legitimacy of the peaceful practice, specifically in the Christian faith, gave the peaceful struggle even broader support. The role of faith in the struggle will be addressed in more detail in a later section (Interview- Robert Rabin).

The practice is certainly not an easy one. Protestors on Vieques regularly would endanger their lives by entering the bombing range and jeopardize their livelihoods by being arrested and often serving prison time. The basic approach of civil disobedience is that protestors can willfully break an unjust law and despite any violence that may be acted upon them protestors will not raise a hand. Although, slight variations exist there is

an entire code of conduct when organizing and conducting non-violent civil disobedience actions. Generally, the protestors must not have any health problems, they may not violate any other laws while participating in an action, they cannot carry any weapons or illicit substances, and they must not resist arrest. Although many of the civil disobedience actions on Vieques occurred spontaneously in the last years of the struggle most of the actions were well coordinated.

Grabbing the media's attention with these actions is crucial for waging an effective non-violent civil disobedience campaign. As the Vieques movement immediately sparked the media's interest with the death of David Sanes Rodriguez, the organizers had to work at keeping the media's interest. For every action the CPRDV sent out a press-release to many international media sources. This process was significantly aided by use of the internet and communication rings of various organizations (Interview-Nilda Media). Obtaining the international support for the cause was sustained by well publicized non-violent civil disobedience actions.

The Viequense activists would make many of these civil disobedience actions publicity stunts. Many celebrities came to Vieques to participate in the civil disobedience actions like actors Benicio Del Toro, Marisa Tome and Martin Sheen and pop singer Ricky Martin. These civil disobedience actions utilizing celebrities made a poignant point about the broad support for the movement as well as capturing news headlines around the world. Many other political and religious leaders participated in civil disobedience, often by publicly stepping over the line just to be arrested. In the tradition of activists like Abbey Hoffman's guerrilla theater, the activists in Vieques would also use very visual displays of civil disobedience to make a statement for the media. In one instance a large

group of doctors all wearing their uniforms entered the base and handed out pamphlets to the soldiers describing the toxic chemicals released by the navy that they were also being exposed to (Interview- Robert Rabin). These thoughtful and symbolic civil disobedience actions secured broad support and allowed the movement to keep growing.

Effective Research and Legal Support

In any movement, especially when practicing civil disobedience, a comprehensive legal strategy and effective research is crucial. A movement needs people working outside the system to put pressure on the target by gathering media attention and popular support. Equally as important are those who work within the system, to utilize existing channels for change. Those who work within the system are needed to establish concrete research to drive the target to the bargaining table. Once the target is bargaining they provide the legal framework for creating a viable strategy and the means to enforce it. From the early days of the fisherman's wars through to the recent four-year struggle, the Vieques peace movement has effectively utilized strong research and the existing legal structure in Puerto Rico and the United States to counter the tremendous power and resources available to the Navy.

By 1999 the legal, political and diplomatic channels had been exhausted. During the fisherman's struggle in the late seventies and early eighties two class action law suits were filed against the Navy. One was filed by the Crusade to Rescue Vieques and the Fishermen's Association that charged the navy with endangering the lives of Viequense and impeding economic development on Vieques. The other was filed against the

Department of Defense by the Governor of Puerto Rico, Carlos Romero Barcelo, for ecological damage. The cases were dropped in 1983 with the signing of the MOU. The movement also utilized political pressure and letter writing campaigns to garner a united front from Puerto Rican politicians. With united Puerto Rican support for the Navy's withdrawal many politicians backed the movement and pressured the federal government to investigate the issue further.

In 1980 California representative Ron Dellums, who chaired the Armed Services Committee in the House of Representatives undertook a review of the Naval Training facilities on Vieques. In the report to the House of Representatives, Dellums argued that the complaints by this small minority group were valid even in the face of the military's perceived national security threat and called for the Navy to consider other options for their training grounds (Naval Training Activities on the Island of Vieques, Puerto Rico: 94). This issue of Vieques was brought up several times in Washington; in 1994 it was brought before the House's Committee on Natural Resources, in 1999 before the Senate's Committee on Armed Services, and again in 2001 before the Committee on Armed Services in the House of Representatives. Due to the strong presence of Department of Defense and Naval officials, none of these hearing resulted in any concrete changes for the people of Vieques. The issue of Vieques was also brought before the U.N. many times when the Viequense sought possible diplomatic intervention. The issue was even brought before the High Commissioner for Human Rights but recommendation after recommendation resulted in no changes in the lives of the Viequense. All of these attempts to go through mainstream channels further legitimized the use of civil disobedience on Vieques.

Dr. Deborah Santana, a professor at Mills College and one of the members of CPRDV, was one of a team of researchers that supported the movement. The Vieques research team utilized the lessons garnered from the past protests and actions and applied them to today's movement. They examined the history of the Naval strategies in the face of similar conflicts. By examining the typical strategies used by the Navy to counter protest in similar situations, like Culebra and Kaho'olawe Hawaii, the Vieques movement was prepared for the Navy's responses. Deborah said she was surprised to find that the Navy despite all of their power and resources relied on the same arguments and tactics over and over again (Interview- Deborah Santana). The Navy would conduct studies of alternate sites and claim that there were no other alternate sites for the Navy to practice air-to ground training (Vieques and the Future of the Atlantic Fleet Weapons Training Facility: 11). However time and time again when the Navy would be forced to close down a facility alternate ranges were always available. Although the Navy would invest millions in technology to develop realistic virtual training programs, when pressed the Navy would claim that there was no substitute for the live fire training maneuvers (Interview- Deborah Santana). But with the recent closure of the Atlantic Fleet Weapons Training Facility in Vieques and the even more recent closure of the Roosevelt Roads Naval Base, the Navy has sought to establish more sustainable training practices with fewer negative impacts.

When protests erupted the Navy would attempt to silence the protest by making mass arrests and charging and imprisoning the movement's leaders. With this knowledge the CPRDV came up with a plan to combat the Navy's strongest weapon, force. They took the fear out of arrest, creating a climate in which people were not afraid of being

arrested; in fact protestors celebrated their arrests. Protestors would sing and chant while being shackled and taken away, and would even be disappointed if they were not arrested (Interview- Robert Rabin). The limited tactics on the part of the Navy in fact helped the movement. “Once the people lose their fear of prison the powerful oppressors lose control and it was just a matter of time”, according to Dr. Santana (Interview- Deborah Santana).

Although many protestors from Vieques spent time in federal prisons for trespassing on the navy’s land, many more were arrested and released due to a strong legal defense team. Members of the Puerto Rican Bar Association, worked hand in hand with protestors teaching them about their constitutional rights. At the beginning of the final four-year civil disobedience movement in 1999, the Puerto Rican Bar Association created a special commission to oversee the civil disobedience protests. This commission resolved to support the protestors by providing free legal aid (Mullenneaux: 72). With the undaunting support of the premier legal association behind them protestors were usually able to evade federal charges.

Educating the Movement

To inspire and strengthen a movement for social justice it is important that the constituents, people who are directly affected by the issue, feel empowered and capable of making change. This confidence and strength comes from being educated about the effects on ones’ life and an understanding of their rights in the matter. Vieques is an island with few educational opportunities and one of the lowest literacy rates in Puerto

Rico. The people of Vieques knew that the naval presence was negatively affecting their lives but at first they did not have the means to document and articulate their grievances. One of the most effective aspects of the Vieques peace movement was a successful educational component.

The people of Vieques need to establish their rights, both their constitutional rights as United States citizens as well as their international human rights. As mentioned above the Puerto Rican Bar Association taught protestors and Viequense about their rights in a federal and international context. The knowledge of these rights gave the Viequense the courage and conviction that this was a fight for their rights and dignity as humans. Puerto Ricans overall tend to be very patriotic with some of the highest rates of military enlistment in the nation (Vieques Land Transfer Act of 1994: 73). Many Viequense were afraid of being labeled as unpatriotic or anti-American. Learning in detail about America's long history of civil disobedience and protest helped Viequense gather the courage to speak out against the injustice. The constitutional rights taught to protestors during civil disobedience actions, gave them the skills to resist arrest peacefully and escape federal prosecution.

Three of the protest camps were focused on Education. The *Estudiantes Universitarias* camp, also known as the *Amigos de Vieques*, was run by students from the University of Puerto Rico. Two of the camps were dedicated to the famed progressive educator Eugenio Maria de Hostos: the *Congreso Nacional Hostosiano* and the *Federacion de Meastro*, run by the Puerto Rican Federation of Teachers (Mullenneux: 67-70). These camps focused on creating informational pamphlets and educating the

people on the history of Vieques and the tradition of Civil Disobedience (Mullenneux: 69).

Over the years a number of scientific studies were conducted on Vieques to establish the environmental contamination and their human health effects. This information was disseminated to the people through a community education component of the movement. Once the information from all of these studies was compiled by the CPRDV, community activists would organize community meetings (Interview- Nilda Media). The educational meetings, or teach-ins, would be held in the community and would provide the community members with information on the health and environmental contamination and provide informational packets (see informational packet inserted in the back). These educational meetings were instrumental in getting more Viequense out on the front lines of protests (Interview- Nilda Media).

According to Nilda Media, member of the CPRDV and Viequense teacher, all of the teachers in Vieques made these issues central to their curriculum. Elementary and Secondary teachers in Vieques regularly created projects for their students around issues of the Naval presence, the protest movement, health concerns and environmental issues. These lessons were important because it brought about an atmosphere of unity and strength among the entire Vieques community. One of the most notable projects orchestrated by the Vieques teachers was a massive art project, which involved over 100 Vieques students portraying their personal interpretations of the Navy's presence. This project turned into a traveling exhibit which was shown all over Puerto Rico, the United States and internationally (Interview- Nilda Media). Education both in community teach-ins and through art generated much of the widespread support for Vieques.

Art and Symbolism

Through the ages Art has surfaced as a means for expression and protest. It has the power to inspire and move people and thus is a vital part of any movement. In the Vieques Peace movement in particular, art played a crucial role in awaking people and educating them about the issue. The military bombings have had a profound effect on the lives of all Viequense as a consequence all Viequense artists have focused on the issue (Interview- Robert Rabin). The military presence has been portrayed in Viequense art as a form of self-expression since the early military expropriations in the 1940s. At the height of the movement Viequense art became not only a tool for self-expression but also a form of protest. Artists from all over the world joined in the Viequense movement creating art that inspired the movement and international support.

All artistic forms were used in the movement from painting and sculptures to poetry and music. Visual artists created poignant instillation pieces, such as the field of crosses at the base's entrance that still stands today and massive murals that color many walls at the University of Puerto Rico. A group of performing artists called "Artists for Peace" created an art theater piece in defense of Vieques scenery. The group all dressed in costumes that together formed Picasso's "Guernica" and entered the base and read poetry until their arrest (Interview- Robert Rabin). Puerto Rican poets and musicians expressed the sorrow of "la isla nina", as Puerto Ricans affectionately call Vieques, in their pieces.

At rallies and protests on Vieques, Puerto Rico and the mainland organizers utilized the Puerto Rican musical tradition in songs and chants. The traditional Puerto Rican dance of resistance called “Bomba” originated from Puerto Rican slaves and laborers satirizing the Spanish colonial aristocrats (Interview- Jessica Arroyo-Rosa). In rallies and protests the activists used the dance as a tool to educate people on the Puerto Rican tradition of resistance and brought awareness to the Vieques issue (Interview- Jessica Arroyo-Rosa).

Perhaps some of the artistic interest in the Vieques peace movement was associated with the symbolic nature of the issues. The symbolism of the fisherman’s “David and Goliath” struggle not only resonated for the Puerto Rican communities but also inspired many Puerto Rican artists. The use of symbolism is often heavy-handed in protest art but it can facilitate an important internal dialogue. For instance one mural still up at the former entrance to camp Garcia depicts a somber Statue of Liberty crying silver tears with images of Vieques and the military destruction all around her. These important symbolic actions, people and visions can be traced throughout the art of the movement that still remains part of the Vieques visual environment.

The spontaneous establishment of the “Monte David” camp, which sparked the modern movement in 1999, could be attributed to the highly symbolic nature of the memorial ceremony. Although intended to be a religious ceremony and not a political act, the very event was laden with symbolism. A diverse group of Viequense, united in grief, journeyed into the impact area littered with dangerous ammunition carrying a 12-foot white cross. They traveled across their ancestral land, now an arid crater-filled wasteland, and stood together atop a small hill beside a decaying shell of a tank to mourn the loss of

life. Perhaps this moving experience inspired de Jesus to stay there or possibly it was what brought other community members back to set up the first camp there. Nevertheless the image of the stark white cross cresting the scarred landscape certainly remains one of the pivotal symbolic ephemeral experiences that inspired thousands to dedicate themselves full heartedly to the movement.

Iconization of two important figures in the Vieques movement is also an expression of the use of symbolism. The angelic face of Milivy Adams echoes across many artistic interpretations of the health problems on Vieques. When Milivy was a baby she began growing tumors all over her small body. For her entire tragically short life the child battled a very rare form of cancer that Viequense believe was defiantly linked to the toxic contaminants released into the Vieques environment. The beautiful bald headed baby with dark strikingly wise eyes is pictured all over the protest movement as a symbol of the grave health concerns of hundreds of Viequense. The celebration of Luisa Guadeloupe can be interpreted as a symbol of the Vieques culture of resistance and tradition of non-violent civil disobedience. This eighty-year-old Viequense woman who lay down in front of the tanks to stop the proposed additional expropriation has a camp dedicated to her, with a beautiful dramatic portrait of her. Her action and the image of a defiant silver haired woman symbolized the tradition on civil disobedience on Vieques.

The Power of Faith

Religious involvement in a movement for justice, such as Vieques, can provide three important aspects to a movement. First they can provide a network of already well-organized human and material resources to a movement. Secondly they can give the movement mainstream legitimacy and thirdly provide inspiration to the activists and injects faith into the movement. Faith or idealism is often the lifeblood of the movement because people must believe that change is possible to continuously put their lives and livelihoods on the line. One of the most powerful aspects of the Vieques movements was the role of the church and faith in the movement.

Just as all of the Puerto Rican Political parties united on the issue of Vieques, so did all of the churches of Puerto Rico. The Ecumenical Coalition was born out of the Vieques movement to guide the people in peaceful non-violence (Rodriguez: 2). It is a coalition of all of the Catholic, Protestant and Christian churches in Puerto Rico. It runs on a very simple model. They have one spokes person for the organization and they make all of their decisions by consensus (Rodriguez: 2). All of these churches put aside their differences and dedicated themselves to using their power in a revolutionary way: by actively fighting injustice and participating in direct action. Prior to the formation of the Ecumenical Coalition individuals within various churches participated in the movement, but after the resolution of the Ecumenical Coalition these individual actions came to represent the entirety of the Puerto Rican Ecumenical faiths. Every bishop in Puerto Rico of every denomination participated in the Vieques movement (Interview- Robert Rabin).

The role of the churches in the movement on Vieques was crucial. One camp was run by the Catholic Church and one by the Evangelical council (Mullenoux: 65). Many camps had improvised wood chapels, the building of which itself was a symbolic act of

civil disobedience. Religious leaders would travel between the camps holding spiritual ceremonies for all denominations. According to Robert Rabin the religious influence that was universal among all of the camps often played the role of peacekeeper. When conflicts arose within individuals of a camp or between different camps, the religious groups would play the mediator and keep the peaceful nature of the protest at the forefront (Interview- Robert Rabin).

The religious influence in Vieques was crucial in the power of faith it brought to the movement. As mentioned before thousands of protestors gave years of their lives to this struggle and this passion was generated in part from religious conviction. The religious influence legitimized the struggle both on an individual level and a cultural level. Many people criticize religion because the church focused exclusively on personal salvation: praying about problems instead of acting on injustice. In the Vieques movement the Puerto Rican churches redefined their power by focusing on the piety of protest. For thousands of Puerto Ricans non-violent civil disobedience became a form of prayer.

The rich symbolism of the protest also intermingled with the symbolism of the Christian faith bringing more power to the movement. Often protestors would see signs in their actions, renewing their strength and determination. Symbols of peace like doves would often be spotted by the faithful during civil disobedience actions (Interview- Nilda Medina). One story that inspired the faithful during the movement occurred during a civil disobedience action when a group was traveling by boat to the bombing range and found themselves lost in the ocean. Observers claim that they saw a mysterious light that guided them safely to the range and then disappeared (Interview- Nilda Medina). Many faithful

protestors believed that they had divine protection because although most of the civil disobedience actions were extremely dangerous not one person was killed or seriously injured. The abundance of these spiritual symbols and signs led many to believe that the Vieques movement was blessed: “La Divinidad esta en companiera de luca”.

Conflicts and Problems

Although most people agree that the movement was a triumphant success, one cannot ignore the conflicts and problems inherent in any movement of this scope. The primary problem came from the movement’s need for widespread support. Many of the organizers were so concerned with not alienating any of the conservative supporters they would condemn acts that were too radical. Over the 60-year struggle there were many incidents when protestors threw rocks in defiance at military officials. These incidents were often used by the military to discredit the peaceful nature of the movement. Many radicals criticized the movement for “selling-out” to the mainstream. Many others blamed the radical anarchists for compromising the movement. Arguments would arise between different camps when trying to agree on protest tactics and civil-disobedience methodology. These arguments are unavoidable in high stress situations, when the tactics are all the protestors have to protect themselves from danger or prolonged imprisonment.

The diversity of support was one of the major strengths of the movement but bringing together people from such diverse backgrounds and ideologies inevitably will result in some conflicts. In the heightened political atmosphere in Puerto Rico, conflicts between political parties often have severe repercussions. Many political parties wanted

to point out how the issue in Vieques related to the U.S.-Puerto Rican relationship and this often led to serious debates among the participants. The media often interviewed pro-independence protestors in an attempt to frame the protest more radically. People clashed on a number of cultural, religious and political points but this is inevitable in such a broad and diverse alliance of people.

Despite these conflicts the Vieques movement was well orchestrated. The climate and mechanisms of protest had been developing for 60-years and the death of David Sanes Rodriguez simply provided the spark to reinvigorate the movement. The political climate in Puerto Rico and the U.S. was finally capable of taking on the Vieques issue. Independent of the protests the military was already moving towards more virtual technology for training exercises. In economic terms alone the military was spending an extra \$11 million dollars on added security and fence repairs due to the civil disobedience campaign. The international attention brought to the U.S. military by the Vieques movement proved to seriously hurt the prestige and reputation of the most powerful military in the world. The success of the movement can be attributed to a number of factors, but it still stands as an impressive display of the capacity of a tiny community to stand up for justice and make the impossible possible. With few financial resources the Vieques Peace movement effectively made the most of the tools and techniques of non-violent civil disobedience, protest and human resources.

Chapter 4: Resolution and the Future of Vieques

The Incomplete Resolution

From the death of David Sanes Rodriguez in April of 1999 to January 31, 2000 all of the Puerto Rican politicians were in agreement that there would not be another bomb dropped on Vieques. President Clinton and the Department of Defense had been negotiating with Puerto Rican Governor Rossello; the Navy offered him a package that suggested the Navy would give Puerto Rico \$40 million dollars to resume limited training until they found an alternate training site within five years. At first Rossello was standing by his commitment to the Vieques struggle and refused to budge until on January 31st he shocked the movement and the nation. In closed-door negotiations he signed an agreement with the President that was disappointingly similar to the original offer and dropped his commitment to not one more bomb (Mullenneaux: 89). The agreement allowed the military to resume limited training in March; return 8,000 acres on the western end to the municipality of Vieques and a proposed a referendum. The referendum would give the people of Vieques a vote to decide (A) to expel the Navy on May 1st, 2003 or (B) for the Navy to pay \$40 million dollars up front and then another \$50 million to allow it to continue full scale bombing (Mullenneaux: 91).

This agreement pleased no one. The Navy and Department of Defense officials felt allowing citizens to determine the fate of the Naval base by local referendum is “flawed public policy” and it “sets a bad precedent that would place at risk future access

to military training ranges, both in the United States and aboard” (Implications of Closing the Vieques Training Facility: 1-4). They knew if they allowed the decision to go to the voters, the Navy would most likely be evicted. The Viequense and activist were also upset about this decision. Their first complaint is the fact that the bombing would resume and they had all stood behind the goal of not one more bomb should be dropped on Vieques. The agreement had insufficient clean up policies and no enforcement policies. The Viequense movement agreed unanimously to reject the proposal and continue with the non-violent civil disobedience protests (Mullenneaux: 82).

In May and June 2000, the Navy resumed the bombing and cracked down on the civil disobedience activists. The Navy brought in busloads of marines to help put down the protestors. In a series of late-night raids the Navy arrested over 250 people (Interview-Robert Rabin). Despite the massive arrests and increased Naval security the movement continued its non-violent civil disobedience actions and campaign against the Navy. Different groups orchestrated simultaneous protests in Vieques, Puerto Rico and the mainland in which chants from fellow activists were broadcasted at all of the other protests. It was not surprising that the overwhelming majority of Viequense voted to oust the Navy when the referendum was voted on. Still the movement continued until the Navy finally departed on May 1st, 2003. The 9,000 Vieques residents activist, and their supporters came from all over to celebrate the Naval Departure but some caution still remained.

With no real community input there are a number of problems with the agreement. The first and most significant issue is that the land was not given back to the

municipality of Vieques or even the Puerto Rican government. It remained in the hands of the U.S. Federal Government as part of the Department of the Interior's Fish and Wildlife Service. The land is supposed to become a wilderness area, which many believe is just a way of limiting the clean up requirements for the land. By keeping the land a "wildlife refuge" in the hands of the federal government a loophole in the federal law may allow for future military uses for the land (Lindsay-Poland: 3). Also "institutional controls" mandated by the agreement requires Naval permission for ground disturbing activities like soil sampling or archeological research. Thus, although the Navy is liable for clean-up, there is no mechanism for community input and accountability.

The Navy has only set aside \$2 million dollars in the 2003-2004 fiscal year for environmental clean up in Vieques. This amount appears to most as severely inadequate. The uninhabited Hawaiian island of Kaho'olawe was used as military training grounds until the 1970s when protests forced the military to close down the base. When they closed the base in Hawaii the Navy contributed \$40 million dollars a year, and still the clean up goals have not been met. The Navy has consistently denied that the contamination they released into the environment has any influence on the health problems of Viequense, thus they are offering no additional health concessions. There is still no hospital in Vieques and people are still sick with cancer but the Navy has denied any reparations for the sick and grieving families.

Case-Study: Vieques as a Model

The Vieques movement was a compelling display of the power of peoples protest and should be utilized as a model of a diverse non-violent civil disobedience movement. The U.S. military has taken over land and resources all over the world and struggles against militarism are universal. The tactics and methodology outlined above and the lessons learned from this movement can be translated into virtually any movement for social justice but specifically can be used in anti-militarization movements in the United States like the one still going on in the Makua Valley on the island of Oahu in Hawaii.

The Makua Valley makes an almost perfect case study for the implementation of the Vieques model. Like the Viequense, the residents of Makua Valley were expropriated by the military during World War II (Myers: 2). The valley is used for live-fire training activities similar to those in Vieques. A community group called Malama Makua has headed the efforts to stop the military exercise, because of their environmental and cultural damages. Although the military provides significantly more employment and local income in Hawaii, the leeward coast of Oahu, where Makua valley is located is relatively impoverished and residents have identified the negative economic effect of the military's presence on the island (Myers: 2). The debate in Hawaii, like in Vieques is tangled up in local politics like the sovereignty debate.

Many of the same environmental concerns exist in the Makua Valley and Vieques. The Makua valley, like Vieques, is home to many endangered species and hosts a number of important archeological sites that have been seriously threatened by the military maneuvers (Lindsay-Poland et al). Concerns over health issues and lead contamination are mounting but no through study of the health impacts has been made (Myers: 1). The military uses live artillery and the same Open Burning/Open Detonation

(OB/OD) disposal system in Makua that releases the same contaminants into the environment that can also start wildfires. Makua Valley is at a greater risk for wildfires than Vieques and these massive wildfires sparked protest in 1998 when a misfired mortar ignited an 800-acre blaze (Blakeman: 2).

The military has been using the same arguments and tactics to defend their training ground and to silence protestors as they did in Vieques. As communities all over the United States are becoming vocal about military issues the military has deemed these problems as “encroachment issues”. The argument about soldier readiness is used over and over again by the military that argues that the Department of Defense needs these training grounds for National Security (Myers: 1-2). The Military uses the existing political conflicts over sovereignty to spilt the movement and call those who oppose the military presence unpatriotic.

All of these similarities between the situation in Vieques and the Makua Valley make a potential to utilize of the Vieques movement model. Members of the community group Malama Makua have already begun to use some of the Vieques examples and lessons. They have joined with the Environmental Law group Earth Justice and have filed suit to end the bombing. In 1998 the military complied with a temporary injunction halting military practices. After more than two years of silence and environmental research the Navy began practicing there again in December 2001. The community group met this decision with a new lawsuit. Now that the traditional channels have been tried maybe it is time for the Malama Makua to coordinate their legal pressure with social and political pressure by initiating a protest campaign like that in Vieques. Members of the Malama Makua have contacted members of the CPRDV to ask permission to utilize some

of their public statements (Interview- Robert Rabin). They should also consult with them about using their methodology and tactics and initiate a non-violent civil disobedience campaign.

Vieques Today

Almost one year after the military departure, actions are still being organized by the CPRDV to address further community health concerns, environmental clean up, economic development and land transfer. The environmental, health and economic conditions are certainly far from acceptable but there is certainly a well-appreciated silence on the island. The military trucks no longer can be seen rumbling up and down Viequense streets. Although one can still sense echoes of the Viequense cries in the thick tropical air, there is a general feeling of peace on the island. Visual remnants of the military presence and the movement's voice still speckle the island.

Magazines and newspapers all over the world have quickly hailed Vieques the "hot" Caribbean travel destination with all of the newly opened up beaches and a huge nature reserve for tourists to bike, hike and sail around. The tourism industry is currently overflowing with not enough hotels and tourist accommodation on the island. Many fear that the "white invasion" that occurred in Culebra, is on its way as massive developers seek to build massive communities of up market condominiums and resorts. While this could help the economy, it would most likely only provide low-wage service and manual labor jobs while increasing the cost of living for Viequesne. Many worry that too many

Viequense would be tempted to sell their properties to these developers further degrading the Viequense culture.

Policy Recommendations

The community of Vieques is still suffering from the repercussions of the Navy's presence at the same time, pressure from mainstream developers who are attempting to purchase as much of Vieques as possible has added to the immediate need for implementation of a smart development strategy. The CPRDV in coordination with the urban planning program at Columbia University and the *Grupo de Apoyo Tecnico y Profesional (GATP)* came up with a few guidelines and development strategies. Here I will incorporate their guidelines and strategies with my own recommendations for the sustainable development of Vieques.

Land Use: The Vieques Land Transfer Act of 1995 returned much of the western Naval Ammunition Facility to the municipality of Vieques. This land still remains undeveloped. The rest of the former military land is currently run by the Fish and Wildlife Service of the Department of the Interior and is slated to remain undeveloped open space. While keeping a significant portion of the land undeveloped open-space is important for the community and the wildlife on Vieques, the community also needs to develop responsibly some of the land for agriculture, housing, and economic development. The land must be returned to the municipality of Vieques so that the community that once controlled it can implement this sustainable development plan. This large land transfer would not be an easy process and may have to occur after the

environmental clean up is finished. It would certainly require legal and political pressure and possibly continued civil disobedience actions.

The recommendations made in 1996 by the Colombia University Research team included the implementation of two administrative bodies for the land: A Community Land trust that would be responsible for governing the land and provide the administrative body run by community members and a Community Extension Program, which would spearhead the development process. It is vital that the community runs these institutions and have the final determination on land use.

Approximately 80 percent of the coastal area once controlled by the military should be left open space, because the coastal land is of prime importance to the survival of the endangered species and the sustainability of the ecosystem. Smart development of the remaining land must take into account migratory practices of species and open space corridors must remain all over the island so that the animal life is not disturbed. The undeveloped coastal land can also be a valuable asset to the Vieques tourism industry. Of the remaining land a large portion should be used for sustainable community supported agriculture. Agricultural efforts must take into account the toxic contamination that can remain in the soil long after the clean up and should not be initiated in the live-fire target range. Still, according to the CPRDV, about 25 percent of the soil on Vieques is suitable for agriculture and another 75 percent is suitable for livestock grazing. Despite the cultural significance of livestock on Vieques, livestock grazing is not a very sustainable use of natural resources and thus should be limited and highly regulated. A relatively smaller portion of the former military land should be used for urban development, housing and community resources.

Environment: Vieques was recently added to the National Superfund list. This victory should be taken with caution. The Superfund designation provides a large amount of resources, financial and technical but it does not provide a means for community input and the process can take many years due to the bureaucratic delays associated with the Superfund process. Given the complexity of the Vieques issue the EPA should develop a cooperative working relationship with a community advisory board. This advisory board can be funded by a portion of the \$2 million provided by the Department of Defense for environmental clean up. The advisory board will work in a partnership with the EPA, and will also be responsible for holding the EPA accountable. In terms of accountability the EPA should issue bi-annual reports to the Vieques community detailing their work. Many more soil air and water samples must be taken to more thoroughly examine the necessary clean up procedures. For non-technical work the EPA and Advisory board should have a local hiring policy to further increase community involvement and participation.

One of the impressive aspects of the climate and physicality of the island of Vieques is that it has an enormous capacity for alternative energy production. Due to its location on the thermal belt of the southern coastal region make the clear skies of Vieques ideal for capturing solar energy (Guidelines for sustainable development of Vieques- Appendix 6). The lack of geophysical barriers and prevailing trade winds makes Vieques also an ideal location for efficient windmill technologies. By establishing eco-friendly energy production methods Vieques can create jobs, become increasingly self-sufficient, discontinue the legacy of environmental degradation and set an international example of practical environmentalism.

Health Concerns: Health concerns have been deemed the primary concern of Viequense. Health issues are also the most controversial because the military has yet to accept any responsibility for the many ailments on Vieques. Although there have been many studies indicating toxic levels of contaminants in Viequense hair and fecal matter, more studies must be conducted until there is undeniable evidence that the military contamination has resulted in all of these health problems. Once this causal relationship has been definitively established a community health coalition or the CPRDV will most likely have to sue the Navy to receive reparations for those Viequense who are sick or have lost loved ones. This will most likely be a difficult battle due to the lack of resources of the Vieques community groups and the power and affluence of the U.S. Navy but due to the high profile nature of the issue subsidized legal aid is available and foundation grants are available.

Medical services on Vieques are highly limited, with one understaffed under qualified health clinic on the island. Most people in need of medical attention have to travel to the main island to get medical services. A grant from a foundation, increased subsidies from the Puerto Rican Department of Health and a cooperative of dedicated professionals could build on the existing facilities and establish a much better medical care institution on the island. With training programs and a local hiring policy this hospital could also help the economic ailments of Vieques.

Infrastructure and Transportation: The remote location of Vieques leads to a number of infrastructure problems and an extreme dependency on the main island for basic necessities. The cost of living and basic articles and supplies are very high on Vieques and many Viequense take the ferry to the main island regularly to buy supplies

at a more reasonable rate. This leads to added strain on the families and the transportation resources on Vieques. The CPRDV suggested price controls and cooperatives to combat these problems. There are still areas of Vieques with no telephone service, communication is vital in our rapidly developing world and thus the telephone service must be expanded into these sectors. Transportation also should be expanded between the main island and Vieques to increase tourism and convenience. Currently a jetty is being built to house a ferry terminal on the western side of the island to make the ferry trip much shorter. Air transportation should also be increased to increase tourism and commercial development. Transportation cooperatives should be expanded and subsidized by the municipal government.

Housing and Community Development: Housing and cultural resources are limited on Vieques. There is a housing shortage in particular for young couples and burgeoning families while there is an abundance of vacation homes. Housing development should use examples of progressive housing initiatives that have been established in Los Angeles, California. Inclusionary zoning should be required for new housing developments in Vieques to prevent more expensive vacation homes from being built and further increasing the cost of living. Cooperative housing should be established to provide more living options for Viequense. High-density housing projects can prevent urban sprawl while decreasing dependence on transportation systems. The municipality should establish a community advisory board to oversee housing issues and identify and rehabilitate abandoned structures. Vieques has very few avenues for cultural and recreational activities. The GATP proposed building a movie house and a theater and renovating vacant buildings for cultural programs. They also suggested obtaining a

foundation grant for development of the arts. These cultural and recreational resources are especially important for the Viequense youth but can be a valuable community builder as well.

Education: With few educational opportunities and a drastically high drop out rate Vieques is suffering from an educational crisis. The Puerto Rican Education Department and municipal government should step in and provide the Vieques schools with additional resources. The guidelines established by the GATP and CPRDV are to establish programs directed at reducing dropouts, establish distance learning projects, to equip schools with books and materials, incorporate courses on Vieques history into the curricula, develop vocation education programs, establish bilingual education programs, develop sports curriculum and expand continuing education for teachers (Guidelines for Sustainable Development of Vieques- Appendix 6).

Expanding the curricula to include Vieques history courses will greatly increase cultural pride and will perpetuate the legacy of non-violent civil disobedience and people's protest on Vieques. The CPRDV and other Vieques community groups should obtain a foundation grant to charter a learning institution solely focused on teaching non-violent civil disobedience and protest tactics to community members, activists and students. The institution should be run by the community groups that were active in the movement and the courses should be taught by Viequense activist who were involved in the movement.

It will provide more higher-wage employment opportunities on Vieques. It should be open to international students with a nominal tuition to perpetuate its operation. The need for institutions like this is growing as communities around the world are becoming more

vocal against injustice and non-violent civil disobedience is becoming an increasingly legitimate form of free speech.

Economics: All of the aforementioned development suggestions would provide additional jobs on Vieques. Every major development on Vieques should include a local hiring policy. It is important that the employment that is created is also self-sustaining and provides opportunities for skilled and unskilled workers. Low wage service and manual labor jobs for exclusive tourist projects will only lead to further erosion of the Vieques culture. Tourism on Vieques should be focused on eco-tourism and cultural tourism. New Zealand is one of the world's premier cultural and eco-tourism destinations and can be used as a model for promoting and regulating these industries. These activities if properly regulated can help sustain the environment and the Vieques culture of resistance.

Conclusion

The conflict between the U.S. Navy and the people of Vieques has a long and complex history, so expansive and complex that this paper could never attempt to summarize it in totality. However the goal of this research is to establish the situation from which an amazing expression of cultural resistance arose and to inspire and educate the people who are faced with similar conflicts. Modern activism is scarred by a general negativity and dogmatic cynicism that often limits their faith that change is possible. The Vieques movement serves as an example that a small impoverished group of people with few resources could stand up to the most powerful and wealth military in the world and

make a difference. The purpose of this paper in part is to evaluate whether the current movements for peace and justice can be inspired by the idealism of the Vieques protest movement.

From the initial expropriation of the land and the Fisherman's war to the modern Vieques peace movement, the Vieques culture of resistance has translated into a strong united front against the Naval presence. The Vieques situation stems from an oppressive system of colonialism that has been transmitted through a long history of military dominance and exploitation of Puerto Rico. The Puerto Rican people have in many ways become Americanized. Over generations more and more Puerto Ricans live in the United States and their culture of resistance has all but disappeared. The unity and resistance in the Vieques conflict illustrates that although much of the Puerto Rican culture is lost, there is still hope for the Puerto Rican people to find a place in our modern society to perpetuate their cultural traditions and redevelop the connection to their strong and revolutionary heritage.

Bibliography:

Interviews:

- Cassanova, Warren. Interview on 1/9/04
- Hunter, Jessica. Interview on 1/19/04
- Jacobs-Fantuzzi, Kahlil. Interview on 11/23/03
- Medina, Nilda. Interview on 1/10/04
- Rabin, Robert. Interview 1/10/04
- Santana, Dr. Deborah. Interview on 1/10/04

Primary Sources:

- Agency of Toxic Substances Registry- Public Health Assessment- Isla De Vieques Bombing Range, Vieques, Puerto Rico. Air Pathway Evaluation (ATSDR- PHA). August 26, 2003.
- Agency of Toxic Substances Registry- Public Health Assessment- Isla De Vieques Bombing Range, Vieques, Puerto Rico. Soil Pathway Evaluation (ATSDR- PHA). February 7th, 2003.
- Guidelines for the Sustainable Development of Vieques. July 2000, *Grupo de Apoyo Tecnico y Profesional Para el Desarrollo Sustentable de Vieques* (GATP). Translated by Deborah Santana.
- Implications of Closing the Vieques Training Facility. Hearing before the Committee on Armed Services House of Representatives. One Hundred Seventh Congress First Session. Hearning held June 27th, 2001. H.A.S.C. No. 107-23

- Installation Restoration Program Community Fact Sheet. U.S. Naval Ammunition Support Detachment Vieques Island, Puerto Rico. Issue No. 2 April 2001.
- Naval Training Activities on the Island of Vieques, Puerto Rico. Hearings before the Panel to Review the Status of the Navy Training Activities on the Island of Vieques of The Committee on Armed Services House of Representatives. Ninety-Sixth Congress Second Session. May 28, 29, July 10, 11, September 24, 1980.
- Navy Office of Information News Special "The U.S. Navy Responds to the Release of the Special Panel for Military Operations Report on Vieques. October 18, 1999:
 - Statement by the Honorable Richard Danzig Secretary of the Navy Concerning the Report of The Special Panel for Military Operations in Vieques.
 - Statement by Admiral Jay L. Johnson, Chief of Naval Operations, and General James L. Jones, Commandant of the Marine Corps Concerning the Need for Continued Training on Vieques.
 - Vieques White Paper Executive Summary.
- Report to the Secretary of Defense of the Special Panel on Military Operations on Vieques. Submitted in response to a June 9, 1999 request from the President of the United States to the Secretary of Defense.
- Vieques and the Future of the Atlantic Fleet Weapons Training Facility. Hearings before the Committee on Armed Services and the Subcommittee on Readiness and Management Support. United States Senate. One Hundred Sixth Congress First Session. September 22 and October 19, 1999. S. Hrg. 106-419
- Vieques Land Transfer Act of 1994. Hearing before the Subcommittee on Insular and International Affairs of the Committee of Natural Resources House of Representatives.

One Hundred Third Congress Second Session on H.R. 3831. Hearing Held in Washington, DC October 4, 1994. Serial No. 103-114

-Vieques, Puerto Rico- Looking Forward: A Development Strategy for the Naval Ammunition Facility. *Committee for the Rescue and Development of Vieques, Puerto Rico and Colombia University Urban Technical Assistance Program.*

Secondary Sources:

-Blakeman, Karen. Accord reached on Makua Training. *HonoluluAdvertiser.com.* April 1st, 2004.

-Besson, C. Vieques people resist Pentagon war 'games'. *Workers World* Vol. 20 Issue 32. August 11, 1978.

-Canedy, Dana. Navy Leaves a Battered Island, and Puerto Rican Cheer. *The New York Times.* Friday, May 2, 2003.

-Dueno, Sonia Ivette. Thousands in Vieques Bring Health Claims. *Rico/Colombia Update.* Number 40, December 2003.

-Duncan, Cam. Vieques Hearings. *Puerto Rico Libre!* Vol. 6 No. 6 Winter, 1981.

-GlobalSecurity.org. Culebra. Accessed on 12/13/03.

<http://www.globalsecurity.org/military/facility/culebra.htm>

-Gonzalez-Cruz, Micheal. The U.S. Invasion of Puerto Rico: Occupation and Resistance to the Colonial State, 1898 to the Present. *Latin American Perspectives,* Vol. 25, No. 5 (Sep., 1998), 7-26.

-International Delegation to Puerto Rico, August 21-29, 1999. Puerto Rico Under the Gun A Nation in Struggle.

- Klein, Dianne. "Mad bombers of the Carribean". Dispatch. Vol. 3 Issue 18. October 27, 1980.
- Lindsay-Poland, John. Anti-Bases Movement Gathers Energy in the face of U.S. Expansionism. *Puerto Rico/Colombia Update*. Number 40, December 2003.
- Lindsay-Poland, John. US Military Reducing its Puerto Rico Presence. *Puerto Rico/Colombia Update*. Number 38, Spring 2003.
- Lindsay-Poland, John. The Second Invasion of Culebra. *Puerto Rico/Colombia Update*. Number 35, February 2002.
- Lindsay-Poland, John. Vieques Update. *Puerto Rico/Colombia Update*. Number 35, February 2002.
- Lindsay-Poland, John. Vieques' Victory... and Challenges Ahead. *Puerto Rico/Colombia Update*. Number 38, Spring 2003.
- McAdoo, Maisie. Vieques: Island Battle Zone. *Report on the Americas* Vol. 12 No. 6. November 1978.
- McCaffrey, Katherine T. Military Power and Popular Protest : The U.S. Navy in Vieques, Puerto Rico. New Brunswick, N.J. Rutgers University Press, 2002
- McCarthy, Rebecca. "Navy Bombs Hurt Reef..." *Atlanta Journal Consistution*. Dec. 11, 1999.
- Mullenneaux, Lisa. *Ni Una Bomba Mas!* New York, The Penington Press: 2000.
- Murillo, Mario. Islands of Resistance. New York, Seven Stories Press: 2001
- Myers, Steven Lee. Army Faces Fierce Fight on Historic Hawaii Valley. *The New York Times*. April 1st 2001.

- Nazario, Maria, Lindsay-Poland, and Santana Deborah. Health in Vieques: A Crisis and its Causes. *Vieques Issue Brief*- Published by Fellowship of Reconciliation, Summer 2002.
- Perez, David. People of Vieques demand U.S. Out. *Workers World*. Vol. 20 No. 11. March 17th 1978.
- Rabin, Robert. Vieques: An Ecology Under Siege.
- Ramirez de Leon, Jose. "Naval Bombardment of Vieques, Puerto Rico Violates Human Rights" *The Newsletter of the Pace Center for Environmental Studies*. Pace University School of Law. Vol. 3 Issue 1. Fall 1999.
- Rodriguez, Yvette. The Church Action: Its' struggle for Peace in Vieques. *Puerto Rico/Colombia Update*. Number 35, February 2002.
- Ruiz-Marrero, Carmelo. "Environment-Puerto Rico: US Navy Poisoned Vieques Island, Says Study". *Inter Press Service*. Jan. 12, 2001.
- SanJuan, Pedro A., The Navy Doesn't Need Vieques. *The New York Times*. May 2, 2000.
- Santana, Deborah Berman and Lindsay-Poland, John. Environmental Impacts of Navy Training. Fellowship of Reconciliation Vieques Issue Brief, Fall 2001.
- Scarano, Francisco A. Liberal Pacts and Hierarchies of Rule: Approaching the Imperial Transition in Cuba and Puerto Rico. *The Hispanic American Historical Review*, Vol. 78, No. 4. (Nov., 1998), pp. 583-601.
- Siegel, Lenny. Lessons From The West Vieques Transfer. *Citizens' Report on the Military and the Environment*. Volume VIII, Number 3. June, 2001.

-Vieques Chronology. Puerto Rico Herald/Orlando Sentinel in collaboration with El Nuevo Dia. May 28, 1999. Accessed on 12/1/03. [http://www.puertorico-](http://www.puertorico-herald.org/issues/vol3n23/Vieques-en.shtml)

[herald.org/issues/vol3n23/Vieques-en.shtml](http://www.puertorico-herald.org/issues/vol3n23/Vieques-en.shtml)

-Vieques Libre: Legacy of the US Navy. Accessed on 12/7/03.

<http://www.viequeslibre.addr.com/history/legacy.htm>

-Wheaton, Phil. U.S. Navy Out of Vieques! *Puerto Rico Libre*. Vol. 6 No. 4. July, 1978.

Appendix

Appendix -1 Memorandum to Under Secretary Chapman

August 8, 1947

Memorandum

To: Under Secretary Chapman

From: Irwin W. Silverman, Acting Director (initials IWS handwritten here)

Subject: Vieques Island, Puerto Rico

You may remember that the Navy Department acquired virtually all of Vieques Island, which lies just off Puerto Rico, for military use early in the war. Most of the property was acquired by condemnation from private owners. In 1944, the Navy decided that it would have no need for some parcels of the land, and no immediate need for others, as to which, however, it preferred not to lose title. Vieques Island is wholly agricultural and its loss as land which could be cultivated been very much regretted by Puerto Rico. Therefore, when the Navy indicated an intention to release some of the land, Interior, on behalf of Puerto Rico, and at its request, immediately took steps to obtain a revocable permit from the Navy for the use by Puerto Rico of those lands for which Navy had no immediate use; arrangements were made for the declaration, as surplus, of the remaining areas for which the Navy considered it had not need either present or future. The Insular Government was permitted to use this area, too, pending its sale, presumably to the Insular Government as a priority purchaser. The Puerto Rico Agricultural Company was created about this time as an agency of the Insular Government, and it was given jurisdiction over the Vieques Island; an elaborate program for resettling former Vieques inhabitants, for cultivating extensive areas, for experimenting with pineapple growing and cattle raising, was put into effect by the Agricultural Company. About 15,000 Puerto Ricans are now resident on Vieques.

For some time, there have been rumors that the Navy was going to take back, or attempt to take back, the land it had authorized Puerto Rico to use, and to acquire the rest of the privately owned property, so that the whole island would belong to Navy. As these rumors became more authoritative recently, Governor Pinero decided to talk to Under Secretary Sullivan about them. The possibility that this agricultural land and the work of the Agricultural Company might be lost to Puerto Rico was extremely serious, in view of the scarcity of arable land and the over-population on the main island. The Governor asked me to attend his meeting with Under Secretary Sullivan, which was held this morning. Vice Admiral Barbey, Commandant of the Tenth Naval District, and other high-ranking naval officers were present.

The Navy Department states that it has canvassed the South and Central American coasts and the Atlantic seaboard, and that only the Island of Vieques meets the Navy's requirements for a spot at which to practice the land manoeuvres which now form a vital part of naval training. The ideal place must have good beaches, shallow approaches, and the water temperature must be warm, to avoid danger from exposure in case the men are forced to remain in the water for long periods. Apparently all other available spots have short beaches or cliffs at the water edge, or too deep approaches, or are in too northern a latitude. The Navy is insistent upon Vieques in the interests of national defense. To carry out its plans, however, it must have some authorizing legislation and a substantial appropriation from the Congress. It is prepared to request both, but very much wants Interior's support, with which Navy feels it would stand a much better change of getting authority and funds.

In view of what a Vieques-takeover by Navy would mean to Puerto Rico, I do not see how we could, or that we should, support the proposal. However, in the course of the discussion it occurred to me that we could with good conscience endorse the Navy proposal if there were some way in which the loss to Puerto Rico of agricultural land might be made good with the financial assistance of Navy. What I had in mind, but did not disclose to Navy, would not only benefit Puerto Rico but the Virgin Islands and Interior as well.

My proposal is that the present population of Vieques be transported and resettled on the Island of St. Croix. As you know, St. Croix is entirely agricultural and very sparsely inhabited. The island could support not only the 15,000 persons now living on Vieques, but substantially many more from the main island of Puerto Rico. It is already known

that the land is suitable for the growing of pineapples and for cattle-grazing, and for growing sorghum. In these three activities, employment could be given to much larger numbers than are now employed by The Virgin Islands Company on St. Croix. The sugar operations of VICO, as you know, have never been profitable, and could not be carried on at all were it not for the Federal benefit payments and the rum operations of the Company. The cane growing was continued because the land was suited for it and because it seemed to provide more employment than other activities for all that it was a seasonal one. Now that there is practically no market for the rum, the sugar operations can really no longer be justified, or carried on without substantial help from the Congress. As you know, we just asked Congress for \$ _____ (the amount can not be read from old paper) of a loan from Treasury, and got only \$250,000 which will barely carry VICO to the time the Congress reconvenes. If we could get financing for the pineapple, cattle-raising and sorghum program, the Federal Government could get out of the rum business, for which it has been criticized and questioned ever since it got into it in 1934.

Financing would come partly from the Puerto Rican government, through its Agricultural Company and its Industrial Development Company. Since funds were allotted for the rehabilitation program on Vieques, approximately the same amount might be expected to be put into a similar program on St. Croix. Of course, the Puerto Rican Legislature would have to be convinced of the desirability of this plan. Navy would have to put up some money to acquire some the property on Vieques, owned or improved by the Insular Government, and might be asked, under the plan, in addition to carrying the expense of transporting the Vieques residents to St. Croix, to turn over to the Insular Government some small vessels to be used in a ferry service between Puerto Rico and St. Croix, and Puerto Rico and Santo Domingo. Considerable trade could be built up between Puerto Rico and Santo Domingo, if transportation were available, and the Navy does have vessels in the Caribbean with it could make available to the Government of Puerto Rico. Naturally, there would also be an increased need for transportation facilities between St. Croix and Puerto Rico, if the resettlement plan were put through.

After the meeting, I discussed this proposal with Governor Pinero. He received it with enthusiasm. As he pointed out, there is more land on St. Croix than in Vieques; the pineapple operation would furnish more employment than the sugar one does; there is already a good sized Puerto Rican population on St. Croix, and reports back to the main island are very favorable. The plan would serve to alleviate some of the over-crowded conditions on Puerto Rico. Moreover, there does not appear to be any other practical alternative; something must be done about the people who will be taken off Vieques by the Navy, and it is certain that they cannot be accommodated on the main island in anything approaching a satisfactory manner.

I have not, of course, discussed the matter with Governor Hastie. I imagine there would be some initial reluctance on the part of the Virgin Islanders, especially the St. Crucians, to see an influx of Puerto Ricans. On the other hand, the future of the VICO hardly looks bright, and if VICO should cease operations in the near future, there will be no employment, or practically none, on St. Croix. If the Puerto Rico Agricultural Company and the Industrial Development Company take over, there will be plenty of jobs and the economy of St. Croix will be raised far above its present level.

Interior would stand to benefit by the proposal, too. Such of the Federal properties which VICO now administers under Interior's jurisdiction as might be useful in other than sugar and rum operations might be operated by the Puerto Rican companies. Possibly the rum and sugar operations might be retained, after all, but the Federal Government, as such, could step out of the picture as far as active management was concerned. We would not have to go the Congress for appropriations for VICO, and undoubtedly there would no longer be a need for deficit appropriations for St. Croix.

As matters stand now, Governor Pinero and Admiral Barbey are going to go over to Vieques some time next week to see exactly how much land the Navy is going to have to acquire in addition to that which it already owns or on which it has strings by way of a revocable permit. A report will then be made to Navy, in Washington.

I am quite confident that Navy will go along with us, and that we can then give Navy our endorsement of the Vieques project. Under Secretary Sullivan did say that he would be prepared to agree to assist in any reasonable plan for relocating the inhabitants of Vieques, and this seems to me to be a reasonable plan. If you will indicate your approval below, we will prepare to take up the matter on a tentative basis with Governor Hastie. If he thinks it a good idea, a conference will then be arranged with Under Secretary Sullivan and the two Governors, at which the entire proposal can be discussed and details worked out.

Approved:

Under Secretary (There were no signatures at the bottom of the memo.)

Appendix 2- Report To The Secretary Of Defense Of The Special Panel On Military Operations On Vieques

REPORT TO THE SECRETARY OF DEFENSE OF THE SPECIAL PANEL ON MILITARY OPERATIONS ON VIEQUES

FOREWORD

The report of the Special Panel on Military Operations on Vieques is submitted in response to a June 9, 1999 request from the President of the United States to the Secretary of Defense. The President asked that the Secretary establish a panel to:

(1) review the need for operations at Vieques and (2) explore alternative sites or methods that would meet the Department's needs. The President also indicated that the panel should consider the views of the Governor of Puerto Rico, the Resident Commissioner, Mayor, and other representatives of the residents of Vieques.

BACKGROUND

Brief Description of the Navy Footprint on Vieques and the Military Training

Conducted on and in the Vicinity of Vieques

The Navy owns approximately two-thirds of Vieques Island. The Naval Ammunition Facility (NAF) covers some 8,000 acres on the western end of the island. The Inner Range of the Atlantic Fleet Weapons Training Facility (AFWTF) on the eastern end of Vieques includes the 11,000 acre Eastern Maneuver Area (EMA) and the 900 acre Live Impact Area (LIA). There are approximately 9,300 United States citizens who reside in the Municipality of Vieques in the area between the NAF on the West and the Inner Range on the East.

The Navy reports that the inner range is used approximately 180 days a year, with two-thirds of total time devoted to advanced phase training involving major fleet and Joint Task Force exercises. The other one-third of training days involves use by U. S. and Allied ships and aircraft and by other Services such as U.S. Air Force attack and strike aircraft and the special operations forces of several Services.

Brief Background on Controversy Regarding Navy's Presence and Use of Vieques

Naval training operations in Puerto Rico have been the subject of significant controversy since at least the 1960s. The following provides a brief overview:

Culebra: From World War II until 1975 the Navy used the island of Culebra for weapons training. (Culebra, also off the eastern end of Puerto Rico, is north of Vieques.) In the late 1960s increased air-to-ground and naval surface fire on Culebra resulted in protests and widespread calls for the Navy to discontinue training in and around Culebra. In 1970, section 611 of Public Law 91-511 directed the Secretary of Defense to conduct a study and prepare a report on weapons training around Culebra. Secretary of Defense Laird submitted the report to the President and the Armed Services Committees on April 1, 1971. The report included a statement that the Secretary would review the Culebra situation by the

end of 1972 in order to make a final decision as to where to relocate the naval training target areas that were then on Culebra.

Following the unscheduled discharge of mortar fire that landed on a Culebra beach where children were playing, all political parties in Puerto Rico called for the Navy to cease operations and leave the island. In June 1974, the President decided that weapons training activities on Culebra should be terminated by July 1, 1975.

Legal Actions concerning Naval Operations on Vieques: In March 1978 the Governor of Puerto Rico filed suit to enjoin the United States Navy from using portions of lands it owned on Vieques and in the water surrounding the island for the purposes of carrying out Navy training operations. In January 1981 the United States District Court for the District of Puerto Rico denied the Commonwealth's request for a comprehensive injunction.

House Armed Services Committee Study and Report, 1978-81: The transfer of Navy training activities from Culebra to Vieques in the 1970s generated significant controversy, including organized protests. As a result, on October 5, 1978, the Chairman of the House Armed Services Committee (HASC) appointed a full committee panel to review the status of, and future requirements for, Navy training activities on Vieques. Initial review of the issue was concentrated at committee staff level. On December 3, 1979 a full committee panel was reappointed with a focus on the requirements for the training facilities, Puerto Rico's perspective on the Navy's presence on Vieques and the exploration of alternatives, if any, to the naval training.

The HASC Panel held hearings in Washington in May 1980 and hearings on site in Vieques on July 10 and 11, 1980. The HASC Panel submitted its report to the Committee Chairman on February 8, 1981. The views of the panel members were in agreement on the need for an adequate naval training complex. Three members recommended that the Navy should locate an alternative site for the training activities. The other two members of the panel disagreed that a search for alternative sites was necessary.

Memorandum of Understanding Regarding the Island of Vieques: In 1983, the Governor of Puerto Rico and the Acting Secretary of the Navy signed a Memorandum of Understanding (MOU) that covered four broad areas: Community Assistance, Land Use, Ordnance Delivery in the Inner Range on Vieques, and Environmental Matters. With respect to community assistance, the Navy committed to strive to improve the welfare of the people of Vieques. This initiative was to include every meaningful effort, working with Commonwealth agencies and groups, to obtain full employment on the island. In the case of land use, the Navy agreed to actively consult with the Commonwealth Department of Natural Resources on the most beneficial and compatible uses of Navy lands. Agreement on ordnance included safety, absolute minimum utilization of explosive ordnance consistent with national defense needs, and notification of the Commonwealth, through the Secretary of the Commonwealth State Department, 15 days prior to the conduct of major exercises on Vieques. The provisions of the MOU on environmental matters covered a range of issues including ecosystems and conservation zones, endangered species, noise and historic preservation. A Management Advisory Committee comprised of representatives of the Navy, the U.S. Fish and Wildlife Service, the U.S. Forest Service and the Commonwealth Department of Natural Resources was established to facilitate the resolution of environmental problems and concerns.

April 19, 1999, Incident at Observation Post-1: On April 19, 1999 a Marine Corps F-18 pilot misidentified Observation Post-1, which is just to the west of the Live Impact Area in the Inner Range on Vieques, as his intended target and released two 500 pound bombs. This incident resulted in the death of a security guard, Mr. David Sanes Rodríguez, and the injury of four others. The next day, the Governor of Puerto Rico wrote to the President and the Secretary of Defense requesting the "immediate and permanent cessation of United States and allied activities that entail the use of weaponry anywhere in the vicinity of the Municipality of Vieques, Puerto Rico." Following the April 19 incident, the Secretary of the Navy directed that no land operations occur on Vieques, to include live or inert fire, pending the report of the Panel.

Creation of Special Commission on Vieques: By his Executive Order of May 11, 1999 the Governor of Puerto Rico established a Special Commission to study the situation of Vieques, the effects of the Navy's activities, and the strategies and alternatives available to the Governor to halt Navy activities and produce a recommendation as to what the official position of the people of Puerto Rico should be. The unanimous recommendations of the Special Commission were forwarded to the Governor of Puerto Rico on June 25, 1999. The first recommendation of the Special Commission was that the Navy should immediately and permanently cease and desist from all military activities on Vieques and that there be an orderly and expeditious transfer of the lands held by the Navy to the people of Vieques.

CONCERNS OF REPRESENTATIVES OF THE RESIDENTS OF VIEQUES

This section is based on the Report to the Governor of Puerto Rico from the Special Commission on Vieques; testimony before the Panel by the Governor of Puerto Rico and the Secretary of State on July 9; the Resident Commissioner of Puerto Rico and Representatives Menendez (New Jersey), Serrano (New York), and Gutierrez (Illinois) on July 16; the Mayor of Vieques and residents of Vieques on July 24, the Attorney General of Puerto Rico on August 6; and written submissions received by the Panel. Also included in this section is the status of the work of Federal Agencies that are actively reviewing the concerns of the residents of Vieques.

Economic Development: The Governor's Special Commission concluded that "one of the principal causes of the economic stagnation and recession suffered in Vieques" is the fact that "the Navy has been in control of three-quarters of the land on Vieques, confining the civilian population to a narrow space between a munitions warehouse and a firing range." Among the consequences specifically addressed in the report were the impact of the lack of access to the beaches and the land, the nonavailability of the land for economic development, and the need to reduce the distance traveled between Vieques and the main island of Puerto Rico by sea.

As the Attorney General of Puerto Rico testified, "Vieques is six miles from Puerto Rico. But, because the whole west end of the island is taken, it's a 22 mile boat trip to get from the nearest town on the main island, Fajardo, to the main town of Vieques." The adverse impact of Navy exercises on fishing activities was covered in the testimony from the President of the Southern Vieques Fishermen's Association. He also noted that a study of the potential productivity of Vieques maritime resources was commissioned by the Navy in 1983 and conducted by the Smithsonian Institute. While the study revealed a high potential for maritime projects, the Fishermens' Association President stated that "no such projects have ever been successfully developed because of the U.S. Navy's control of the land and waters of Vieques."

The Special Commission's report highlights statistics indicating that 73.3 percent of the population of Vieques lives below the poverty line, 14.4 percent higher than on the main island, and that the unemployment rate on Vieques of 26.3 percent is 5.9 per cent higher than on the main island. It was also stated in testimony before the Panel that the economic status of the residents of Culebra has improved since the departure of the Navy and is now better than that of the residents of Vieques in terms of employment and average income.

Environment: The Governor's Special Commission concluded that "the activities of the Navy in Vieques have had a damaging and unrelenting effect on the environment, ecology, unique archaeological sites, natural resources and surrounding waters." The Commission recommended that, in anticipation of the return of lands by the Navy, the people of Vieques should decide on the type of economic development they want and establish a land management plan that would incorporate a conservation plan for natural, archaeological and cultural resources.

On August 27, 1999, the Deputy Regional Administrator for Region 2, United States Environmental Protection Agency (EPA), responded to the Panel's request for an update and timetable with respect to the EPA's work in relation to the Navy's application for a renewal of its National Pollutant Discharge Elimination System permit (NPDES) and application for a Resource Conservation and Recovery Act

(RCRA) permit. The existing permit requires the Navy to hold ordnance exercises to a minimum, commensurate with military readiness requirements.

The EPA indicates that it has determined that the Navy has violated the NPDES permit and has not demonstrated an ability to comply with the permit. The EPA also indicates that it will publish a notice of intent to deny the Navy's NPDES permit application in November 1999. Denial of the permit would not necessarily prevent the Navy from conducting some or all of its training exercises, however targets might have to be adjusted to avoid ordnance landing in waters in or surrounding the live impact area. With respect to the RCRA permit, the EPA plans to complete its review of the Navy's Part B application and issue a notice of deficiency (NOD) by the end of September 1999. The EPA indicates that the NOD is expected to require the Navy to develop a work plan for gathering baseline data regarding air, noise, and ground percussion impacts.

On August 23, 1999 the Director, Division of Health Assessment and Consultation of the Agency for Toxic Substances and Disease Registry (ATSDR) informed the Panel that the ATSDR is responding to a petition from a resident of Vieques. The resident requested that the Agency investigate health concerns of island residents as authorized under the Comprehensive Environmental Response, Compensation and Liability Act. The ATSDR conducted a site scoping visit to Vieques the week of August 9-13, 1999 to begin the data collection process of its investigation.

Health: The Report of the Special Commission indicated that the death rate for Vieques in 1997 was the highest of any municipality in Puerto Rico and that the infant mortality rate is considerably greater than the average for Puerto Rico. The Report also indicated that certain specific sectors of Vieques have a greater number of cancer cases. This concern was also expressed to the members of the Panel during the Panel's trip to Vieques. Dr. Castaño, a retired professor of epidemiology and now a resident of Vieques, testified during the Panel's hearings on July 24 that a Health Department study indicates that in the early 1960s the incidence of cancer in Vieques was lower than in the rest of Puerto Rico. In the mid-to-late 1980s, he indicated, the incidence was 26 percent higher than for the rest of Puerto Rico and statistically significant.

Historic Preservation: The 1983 Memorandum of Understanding incorporated an agreement between the Navy and the Commonwealth State Historic Preservation Office that set out specific actions and timetables concerning historical preservation of cultural resources on Vieques. Four papers were presented to the Governor's Special Commission on the Navy's compliance with federal laws, court orders and agreements concerning the study, protection and conservation of the archaeological sites on Navy land in Vieques. These papers expressed concern with deficiencies in the evaluation reports submitted by the Navy and called attention to one site, now identified as one of the most important in all of Puerto Rico, that the Navy had concluded had minimal potential. The Special Commission concluded that "the activities of the Navy in Vieques have had a damaging and unrelenting effect on the ... unique archaeological sites ..." The Panel received testimony expressing similar concerns. This testimony also emphasized the fact that the Eastern Maneuver Area is off limits to Puerto Rican archeologists.

Noise: The Report of the Governor's Special Commission summarized Department of Education reports that "the explosions and vibration caused by the bombing practice causes the school buildings to shake, affecting not only the teaching process but the physical plant itself." The Commission noted that "noise continues to be one of the problems pointed out by many deponents in the public hearings and during the on-site inspections. Vice Admiral Fallon's testimony to the Panel indicated that the population center in Esperanza was very obviously exposed to the noise of heavy naval guns. He stated that, in his opinion, that fact was "probably the biggest irritant and discomfort to people on the island," and that the noise was probably centered on the south shore and came principally from the heavy guns.

Safety: The Special Commission appointed by the Governor of Puerto Rico concluded that "the accident of April 19 is the last in a series of errors that prove that it is possible for an explosive or dangerous artifact to be discharged near or in the civilian population area, thus jeopardizing the life and safety of the citizens of Vieques." The Attorney General of Puerto Rico testified that "in 1998 alone, by the Navy's own admission, five separate live fire events ... occurred during training exercises." He further stated that "this pattern of

live fire events has been repeated virtually every year," and concluded that "all of these incidents show that the Navy cannot ensure the safety of the population of Vieques."

Compliance with the 1983 Memorandum of Understanding: The Attorney General of Puerto Rico testified concerning the Memorandum of Understanding (MOU) that "the ... the MOU is Swiss cheese when it comes to obligations. But even those minimal standards, to which the Navy agreed in the MOU, have not been met even 16 years later." Resident Commissioner Romero-Barceló testified that "with the passage of time the intent of the MOU and the promises of the MOU were diminished ..." even though

"... shortly after the agreement was entered into there was every effort made to be in compliance." The Mayor of Vieques, Manuela Santiago, testified that, based on her experience during her first ten years as Mayor, she could attest to the fact that "the Navy never wished to comply with the employment promise as stated in the Memorandum of Understanding."

The report of the Special Commission to the Governor of Puerto Rico concluded that "the constant violations, in both the spirit and the letter, of the 1983 Memorandum of Understanding, by the Navy, together with the limitations inherent therein, have made it a totally ineffective instrument to protect the interests of the population of Vieques, vis-à-vis the activities of the Navy." The Special Commission recommended that the 1983 MOU be discarded as ineffective for protecting the interests of the people of Vieques.

REVIEW OF NAVAL ACTIVITIES ON THE ISLAND OF VIEQUES

This section is based on the study submitted to the Secretary of the Navy from the Commander, U.S. Second Fleet and the Commander, U.S. Marine Corps Forces Atlantic on the "National Security Need for Vieques"; testimony to the Panel from both Commanders; visit and briefings at Naval Station Roosevelt Roads and on Vieques; and written submissions received by the Panel.

Vieques Training Facilities: The Navy study concluded that the "Vieques Training Range, an integral part of the Atlantic Fleet Weapons Training Facility, is critical for pre-deployment training and preparation for East Coast Navy and Marine Corps forces. It is a range designed to measure, under stress, the performance of people and systems in the maritime combat environment." The study further concluded that Vieques is a unique facility; the only one located in the Atlantic where "realistic combat training can be conducted in a combined and coordinated manner." Offering the only Navy live fire land complex with day and night capability, amphibious landing beaches and maneuver areas,

the Vieques Inner Range is immediately adjacent to a large area of low traffic airspace and deep water seaspace with underwater and electronic warfare ranges, a full-service naval base and air station and interconnected range support facilities.

Naval Training Requirement: The study and the Navy and Marine Corps witnesses covered in great detail the importance of live fire in the training of Naval Expeditionary Forces. Highlighting past and present experience, the importance of exposure to live ordnance, live fire conditions, and the associated stress, was emphasized by the Navy and Marine Corps as essential to combat readiness and as prerequisite preparation for the deployment of naval forces that may be called to engage in combat. While addressing the use of simulation, inert ordnance, and other ranges; the study and testimony emphasized that it is the Supporting Arms Coordination Exercise that pulls the training of all the forces together by integrating all facets of the combined arms capabilities of the Navy and Marine Corps. In the view of the Navy, Vieques is the only Atlantic location where Supporting Arms Coordination Exercises can be conducted. For all these reasons, the Navy is convinced of the need to continue the live fire training afforded by the Vieques Inner Range for the near future.

Alternative Training Sites: The Navy/Marine Corps study examined a total of 18 sites in great detail for their potential as alternative training locations. The criteria by which these sites were evaluated were:

- Availability of an air-to-ground live ordnance range with tactically realistic and challenging targets and airspace which allows for the use of high altitude weapon delivery.
- Availability of a Naval Surface Fire Support firing range which permits training of ships, forward spotters, and fire coordination teams.
- Ability to exercise combined arms amphibious operations.
- Availability of nearby naval and air base support.

The study concluded that "no single site" evaluated was able to accommodate all the training conducted at Vieques. The study did consider apportioning out the training to various sites, but concluded that such a piecemeal approach "significantly degrades training to support the effective integration and coordination of all combined arms."

Readiness Impact: The Navy/Marine Corps study concluded that "because no suitable alternative to Vieques exists, the curtailment of operations would have an immediate impact on Navy and Marine readiness." The authors emphasized that the mission essential tasks which serve as the basis for the certification and qualification of individuals, units and groups would not be met and that there would be significant deficiencies in overall readiness, thus leading to greater risk to deploying forces.

Impact on People of Vieques: The study addressed the issues of safety, economic and environmental matters and the health concerns of the residents of Vieques. In the study the Navy acknowledges its responsibilities in these areas. The Navy is quick to point out its safety record over 50 years but it is also quick to concede that additional safety measures are warranted. In the case of economic development and employment, the Navy study and witnesses admit to a less than satisfactory record of performance. While the Navy readily admits to shortcomings in these areas, it provided no near or long term plans that might provide solutions or result in improvements in these areas of concern. In the environmental and health domains, the report card is also less than satisfactory. The Navy has done good work in establishing conservation zones but, at the same time, their efforts to address water and air quality concerns, noise and historic preservation has been less than satisfactory.

CONCLUSIONS

Assessment of Concerns with Military Operations on Vieques:

Over the course of the Panel's assessment of military operations at the Atlantic Fleet Training Facility and on Vieques, it became obvious that the relationship between the Navy, the residents of Vieques, and the people of Puerto Rico had reached crisis proportions even prior to the tragic death of David Sanes Rodríguez in April 1999. This breakdown can be attributed in many respects to the legitimate complaint of the Commonwealth that the agreements made in the 1983 Memorandum of Understanding (MOU) between the Secretary of the Navy and the Governor of Puerto Rico had not been lived up to by the Navy. The Panel believes that the MOU provided a good basis for constructive cooperation, and the Panel's review of the MOU, and of what has, had, or had not been accomplished, contributed significantly to our conclusions and to our recommendations. Likewise, our careful review of the report prepared by the Governor's Special Commission on Vieques and the recommendations of that report weighed heavily in our deliberations, as did the testimony we received during the Panel's hearings and in written submissions from interested parties.

The Panel is convinced that the Navy was initially committed and sincere in its efforts to live up to the agreements reflected in the MOU. Programs were initiated with the high hope that they would encourage economic development and foster employment opportunities on the island. Unfortunately, for a myriad of

reasons, some legitimate and some the result of inattention or neglect, those economic development initiatives failed. In significant part, this failure can be attributed to poor planning and to poor execution on the part of the Navy.

In addition, information provided to the Panel during its hearings and through other submissions led the Panel to conclude, as did Representative Dellums who chaired the HASC Special Panel in 1981, that "insensitivity has been the hallmark of the Navy's approach" with respect to community relations. The formulation of the 1983 MOU provided an exception to this pattern, but it is clear that the performance of the Navy in meeting its obligations under the MOU has been inadequate in recent years. It is also clear that the improved relations between the Navy and the community following agreement on the MOU was an exception to a general condition of poor relations between the Navy and the community of Vieques.

Just as significant are the health and noise concerns of the residents of Vieques and their representatives. The Panel notes with concern the lack of good data concerning the health of the residents of Vieques, particularly with respect to the incidence of cancer. Though the incidence of cancer is reported to be very high on the island, there is little indication of sincere and sustained efforts on the part of the Navy to assist the government of Puerto Rico in identifying what could be the cause(s) of high cancer rates. Again, there appears to be an insensitivity and a detached approach to the concerns of the residents of Vieques. Likewise, complaints concerning the noise associated with military operations from the residents of Vieques have had little effect on either the tempo or conduct of operations by the Navy.

Included in the MOU is a commitment by the Navy that "to the greatest extent possible and consistent with national defense needs, the Navy will maintain the utilization of explosive ordnance at an absolute minimum." Data before the Panel indicates that the percentage of live ordnance used at Vieques in relationship to inert ordnance has significantly increased beginning in fiscal year 1996. Moreover, the percentage of live ordnance in relation to inert ordnance in the early 1990s was about twice that reported in the late 1970s. While this increase may be warranted based on changing methods of weapons delivery, this is all the more reason to limit both live and inert ordnance to the elements of training that cannot effectively be conducted elsewhere. This limitation would serve to significantly reduce the amount of live ordnance expended and the number of days during the year in which operational training is conducted.

On the other hand, the Navy has done a commendable job in addressing some of the environmental challenges on the island. Working with agencies of the Federal government and the Commonwealth, some programs are models of excellence, equal to or better than those found at other U.S. bases. For example, the Navy has taken steps to protect the endangered species through the establishment of seven conservation zones.

The Panel is convinced that much of the breakdown in communications between Puerto Rican authorities and the Navy can be traced to the Navy's decision to withdraw the flag officer billet and staff that served as the structure for personal interface between the Navy and the Commonwealth. It is obvious to the Panel that much of the energy, concern and commitment toward meeting the agreements set out in the MOU were curtailed or abandoned by the Navy with the loss of this structure. The leadership at Naval Station Roosevelt Roads had too much on its agenda already and, with no additional personnel or funds to dedicate to Vieques, a status of benign neglect appears to have set in. The tragic death of Mr. Sanes Rodríguez brought the smoldering Puerto Rican discontent to the surface and led to today's situation.

Assessment of the Need for Military Operations at Vieques:

The Panel concludes that at present there is a valid requirement for the Navy to conduct combined arms exercises involving live air-to-ground ordnance, naval surface fire support and the combined arms live fire training needed to provide combat ready forces for deployment. Navy experience during the 1990s, when some of this training was cut back or omitted, supports the essentiality of these combined arms exercises in providing combatant units an appreciation of the coordination necessary to conduct amphibious landings with live ordnance supporting arms. For these reasons, the Panel is convinced that such training is vital to

preparing deploying forces for possible combat and that, without such training, the risk to personnel is increased.

At present Vieques is the only place which provides the capability for all elements of the East Coast based Naval Expeditionary Force, (Carrier Battle Groups, Amphibious Ready Groups, and their embarked Marine Expeditionary Units), to conduct such exercises. The Panel was briefed in some detail on the mission essential tasks vital to meeting training requirements for deploying units. From the list of mission essential tasks, the following tasks are considered vital for mission success and, at present, there are no other sites on the East Coast except at Vieques at which they can be conducted:

- Conduct forcible entry: Airborne, Amphibious, Air Assault
- Assess munitions effects on operational targets
- Surface firepower interdiction of operational targets
- Provide firepower in support of operational maneuver
- Synchronize operational firepower
- Integrate tactical fires

Further, the Panel reviewed the Navy's assessment of the feasibility of 18 alternative sites to the training facilities on Vieques and the results of earlier efforts to locate alternative sites with similar characteristics. The Panel concluded that at present there are no potential sites that can meet the current stated requirement for combined arms live fire training. The Vieques Inner Range has been developed over time to fulfill the need for all facets of live fire training. For this reason, it is the opinion of the Panel that the availability and convenience of Vieques for pre-deployment training may have influenced the assessment of alternative training sites and methods of training. With this in mind, it is the Panel's opinion, that renewed efforts to further define criteria and approaches are warranted in the effort to identify alternatives to Vieques.

Additionally, the Panel concludes that, at present, alternate training methods for the combined arms exercises most essential for readiness are not currently feasible or available. However, the Panel does believe that new technologies, new techniques, and new weapons systems will rapidly change training requirements and methods. With this in mind, the Panel is convinced that the Navy should fully resource the active search for technological solutions for relatively near term application. Further, such changes led the Panel to conclude that adequate alternative sites may exist to meet these changing training requirements with alternative training methods in the future.

The Panel further concludes that the impact of training activities on the residents of Vieques can be reduced: (1) by immediately limiting training activities at Vieques to those activities that are vital to readiness and can, at present, only be conducted at Vieques, and (2) by limiting the use of explosive ordnance to the greatest extent possible.

With respect to alternative methods of training, the Panel concludes that some alternative methods to reduce dependence on Vieques for combined arms training are feasible now, and that others can be developed in the near term in conjunction with the development of new facilities. Alternative methods can include, among other things, the separation into components of some aspects of training that are now practiced in a continuum at Vieques. Examples include, but are not limited, to the following:

- Air-to-ground aircrew, squadron level and airwing level live ordnance training can be and is conducted at Fallon, Nevada. The sequencing of this training can be altered so as to ensure currency on deployment of the Carrier Air Wings. "End-to-end" training, which incorporates aircraft carrier operations and requires the validation of ordnance handling procedures from magazines to delivery on target of a properly armed weapon, could be conducted only to the level necessary for carrier and squadron ordnance crews to become qualified. Additionally, appropriate personnel assignment policies can insure the availability of personnel for training so as to ensure deploying aircrews are fully trained.

- Supporting arms for opposed amphibious landings can be practiced at Vieques using the end-to-end validation loads described above and inert naval ship fire support, which would permit the development of the necessary coordination among all the components involved. Most live artillery training can be carried out at existing Marine Corps ranges, and its use at Vieques limited to test coordinated fire during forcible entry training.
- Individual ship gunfire training could be partially conducted using towed targets at sea, and eventually using enhanced, computer aided virtual ranges at sea which enable spotter/fire control team interaction.
- Inert mine delivery and recovery operations can continue to be practiced at the ranges near South Carolina.

The Panel is aware that the separation of certain aspects of current training into their component parts cannot replicate the ideal solution that has been available by the integration of all operational activities at Vieques; however, the Panel strongly favors experimentation with such innovative methods as an effort to finding a solution to the need for Vieques.

RECOMMENDATIONS

1. The Department of the Navy should immediately conduct a priority assessment of the training requirements at Vieques with the objective of ceasing all training activities at Vieques within five years. The Navy should take necessary programming actions to ensure that adequate resources are available to facilitate the identification and preparation of alternative locations, to institute necessary changes in training methods, and to provide for restoration and transfer to Puerto Rico of the Eastern Maneuver Area. An assessment of progress toward this objective should be provided to the Secretary of Defense not later than October 1, 2002.
2. The Department of the Navy should take immediate steps to discontinue the use of the Naval Ammunition Facility, take immediate action to clean and restore the Naval Ammunition Facility and, in coordination with the government of Puerto Rico, expeditiously return the land to Puerto Rico. As recommended by the Governor of Puerto Rico's Special Commission, the return of the lands must be done in an orderly manner under an established land management plan with protection of the lands against illegal occupation. This recommendation includes Mosquito Pier and land contiguous to the airport. The Navy should retain those lands necessary for the safe operation of the Relocatable Over the Horizon counter-narcotics Radar (ROTHR) transmitter at the Naval Ammunition Facility, and for the safe operation of antennas on Mount Pirata to control operations in the outer range.
3. The Department of the Navy should develop a plan and submit a legislative proposal to expedite the disposal of excess Navy real property on Vieques that would authorize the direct transfer of property to the Commonwealth of Puerto Rico. In this regard, the transfer of the 110 acres of Navy land needed for the extension of the runway at the Antonio Rivera airport should be executed as expeditiously as possible.
4. The Department of the Navy should begin immediately to implement modifications to training methods such as those suggested in this report to reduce the use of the live impact area to an irreducible minimum during the transitional training period. Significant reductions in live air-to-ground ordnance expenditures, sharply reduced Naval Surface Fire Support activity, and a reduction in the total number of training days should be directed. The Panel recommends that, effective immediately, the Navy reduce the expenditure of live fire (bombs, naval gunfire, and artillery) by 50 percent from 1998 activity levels, and reduce the availability of the impact area from 365 days per year to 130 days per year.
5. The Navy should immediately reestablish a flag officer position and staff in Puerto Rico. The supporting staff should include individuals with the training and experience necessary to address and assist in the implementation of the approved recommendations of the Panel.
6. A joint committee should be chartered to ensure that the concerns of the local population and the Commonwealth of Puerto Rico are fully considered in the Navy's conduct of military operations

- on Vieques during the transition period, and that environmental protection and economic development are forcefully promoted. The Panel believes that the Navy flag officer and an official designated by the Governor of Puerto Rico should co-chair the committee.
7. To ensure maximum effectiveness in the operations of the joint committee, the Panel recommends that an Executive Order be drafted that would provide Presidential direction and authority for executive departments and agencies to provide assistance and resources as needed in support of the operations and objectives of the joint committee.
 8. The Navy should install noise monitoring equipment on the South coast of Vieques near Esperanza and take necessary action to reduce noise levels associated with naval gun muzzle blast by repositioning Navy ships conducting Naval gunfire training.
 9. The Panel recommends that, within 60 days of the release of its report, that the Public Health Service, with the assistance of the Department of Defense, and in coordination with other appropriate Federal and local agencies, introduce a health team to Vieques to address the incidence of cancer and other health concerns in the population of Vieques and develop a plan of action to address these concerns.
 10. The Navy should take timely action to assist, within safety constraints, the funding and coordination of an island-wide inspection and review of possible archeological sites.
 11. The Navy should undertake immediate actions to enhance range safety. These actions should include:
 - a. Modification of the Western boundary of the Live Impact Area to enhance recognition.
 - b. An easily distinguishable zigzag " firebreak" should be added, and lighting compatible with night vision should be installed along the entire length of the firebreak with co-located radar and infrared reflectors. These improvements could make the boundary unmistakable to aircrew and ship gunnery teams.
 - c. The observation post should also be equipped with improved visual recognition features, including a checkerboard paint scheme, and improved lighting.

Range procedures must be updated to remove any ambiguity that may have contributed to the April 19 mishap.

Appendix 3- Scientific Studies about Contamination and Health

Scientific Studies about Contamination and Health in Vieques		
1998	Dra. Nazario et al	27% higher cancer incidence in Vieques compared with rest of Puerto Rico
1999	Dra. Colón de Jorge	Heavy metals contamination (mercury, lead, cadmium, aluminum) in sick people on Vieques
3/2000	Dra. Ortiz Roque	Mercury contamination among workers on the Navy base and fishermen
5/2000	Dr. Zavala	Mortality rate for cancer in Vieques is 34% higher than in Puerto Rico
6/2000	Dra. Ortiz Roque	45% of Viequenses with toxic levels of mercury
2000	Dr. García Martínez	Heavy metal contamination in soil and sediment samples
2000	Sr. Fernández Porto	Heavy metal contamination in soils
2000	Dr. Massol	Heavy metal contamination in plants, crustaceans and soil. Most notable: cadmium

Source: CPRDV

Appendix 4- Hazardous Chemicals and Health Effects

Hazardous Chemicals and Health Effects: Chemicals release by the Navy on Vieques, PR

Chemicals	Health Effects
Arsenic	<ul style="list-style-type: none"> • High levels: sore throat, irritated lungs, death. • Lower levels: nausea, vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet. Skin contact can cause redness and swelling. • Prolonged exposure: darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso. • Cancer: Increase the risk of lung cancer, skin cancer, bladder cancer, liver cancer, kidney cancer, and prostate cancer. The World Health Organization (WHO), the Department of Health and Human Services (DHHS), and the EPA have determined that inorganic arsenic is a human carcinogen. • Reproduction: Birth defects have been observed in animals exposed to inorganic arsenic.
Barium	<ul style="list-style-type: none"> • High levels: Difficulties in breathing, Increased blood pressure, Changes in heart rhythm, Stomach irritation, Brain swelling, Muscle weakness, Damage to the liver, kidney, heart, and spleen. • Prolonged exposure: Animal studies have found increased blood pressure and changes in the heart from ingesting barium over a long time.
Benzene	<ul style="list-style-type: none"> • High levels of benzene can result in death, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness, vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death. • Prolonged Exposure: harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection. • Cancer: The Department of Health and Human Services (DHHS) has determined that benzene is a known human carcinogen. Long-term exposure to high levels of benzene in the air can cause leukemia, cancer of the blood-forming organs. • Reproduction: In women it is linked to irregular menstrual periods and a decrease in the size of their ovaries. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.
Boron	<ul style="list-style-type: none"> • High-levels: harm the stomach, intestines, liver, kidney, and brain. Animal studies of ingestion of boron found effects on the testes in male animals. • Prolonged Exposure: There is little information on the health effects of long-term exposure to boron. • Short-term exposure: Breathing moderate levels of boron can result in irritation of the nose, throat, and eyes. Animal studies have shown effects on the lungs from breathing high levels of boron. Animal studies have found skin irritation when boron was applied directly to the skin. • Reproduction: low sperm count, were seen in men exposed to boron over the long-term. Birth defects were also seen in the offspring of female

	animals exposed during pregnancy.
Cadmium	<ul style="list-style-type: none"> • High-Levels: Breathing high levels of cadmium severely damages the lungs and can cause death. Eating food or drinking water with very high levels severely irritates the stomach, leading to vomiting and diarrhea. • Prolonged exposure: Leads to a buildup of cadmium in the kidneys and possible kidney disease. Other long-term effects are lung damage and fragile bones. Animals given cadmium in food or water had high blood pressure, iron-poor blood, liver disease, and nerve or brain damage. • Cancer: The Department of Health and Human Services (DHHS) has determined that cadmium and cadmium compounds may reasonably be anticipated to be carcinogens. • Reproduction: The babies of animals exposed to high levels of cadmium during pregnancy had changes in behavior and learning ability. Cadmium may also affect birth weight and the skeleton in developing animals.
Chromium	<ul style="list-style-type: none"> • High levels: Inhaling chromium (VI) can cause irritation to the nose, such as runny nose, nosebleeds, and ulcers and holes in the nasal septum. Ingesting large amounts of chromium(VI) can cause stomach upsets and ulcers, convulsions, kidney and liver damage, and even death. • Short term exposure: Skin contact with certain chromium(VI) compounds can cause skin ulcers. Some people are extremely sensitive to chromium(VI) or chromium(III). Allergic reactions consisting of severe redness and swelling of the skin have been noted. • Cancer: Several studies have shown that chromium(VI) compounds can increase the risk of lung cancer. Animal studies have also shown an increased risk of cancer. The World Health Organization (WHO) has determined that chromium(VI) is a human carcinogen. The Department of Health and Human Services (DHHS) has determined that certain chromium(VI) compounds are known to cause cancer in humans. The EPA has determined that chromium(VI) in air is a human carcinogen. • Reproduction: Birth defects have been observed in animals exposed to chromium(VI).
Cobalt	<ul style="list-style-type: none"> • High levels: causes lung and heart effects and dermatitis. Liver and kidney effects have also been observed in animals exposed to high levels of cobalt. Exposure to radioactive cobalt or the radiation it emits can damage cells in your body from the radiation and cause acute radiation syndrome which includes nausea, vomiting, diarrhea, bleeding, coma, and even death. Studies in animals suggest that children may absorb more cobalt than adults from foods and liquids containing cobalt. • Cancer: Non radioactive cobalt has not been found to cause cancer in humans or animals following exposure in food or water. Cancer has been shown, however, in animals who breathed cobalt or when cobalt was placed directly into the muscle or under the skin. Based on the laboratory animal data, the International Agency for Research on Cancer (IARC) has determined that cobalt and cobalt compounds are possibly carcinogenic to humans. Exposure to high levels of cobalt radiation can cause changes in the genetic materials within cells and may result in the development of some types of cancer. • Reproduction: We do not know if exposure to cobalt will result in birth defects or other developmental effects in people. Birth defects have been observed in animals exposed to non radioactive cobalt. Exposure to cobalt

	radiation can also result in developmental effects.
Copper	<ul style="list-style-type: none"> • Prolonged exposure: Copper can cause liver and kidney damage and even death. Copper dust can irritate your nose, mouth, and eyes, and cause headaches, dizziness, nausea, and diarrhea. Drinking water with higher than normal levels of copper may cause vomiting, diarrhea, stomach cramps, and nausea. • Reproduction: Studies in animals suggest that ingestion of high levels of copper may cause a decrease in fetal growth.
Cyanide	<ul style="list-style-type: none"> • High levels: cyanide in the air for a short time harms the brain and heart, and may cause coma and death. Ingesting cyanide can cause deep breathing and shortness of breath, convulsions, and loss of consciousness, weakness of the fingers and toes, difficulty walking, dimness of vision, deafness, and decreased thyroid gland function and death. • Prolonged exposure: to lower levels of cyanide for a long time may result in breathing difficulties, heart pains, vomiting, blood changes, headaches, and enlargement of the thyroid gland. • Short term: Skin contact with cyanide can produce irritation and sores. • Reproduction: It is not known whether cyanide can directly cause birth defects in people. Effects on the reproductive system were seen in rats and mice that drank water containing sodium cyanide.
Lead	<ul style="list-style-type: none"> • High levels: Lead can affect almost every organ and system in your body, the most sensitive is the central nervous system. Lead also damages kidneys and the reproductive system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect the memory. Lead may cause anemia, a disorder of the blood. • Lower levels: Children are the most susceptible to lead poisoning. Even at much lower levels of exposure, lead can affect a child's mental and physical growth. • Cancer: The Department of Health and Human Services has determined that lead acetate and lead phosphate may reasonably be anticipated to be carcinogens based on studies in animals. • Reproduction: It can also damage the male reproductive system. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children.
Manganese	<ul style="list-style-type: none"> • High levels: combined with prolonged exposure can lead to developed mental and emotional disturbances and slow and clumsy body movements. Manganese injures a part of the brain that helps control body movements. Exposure to high levels of airborne manganese can affect motor skills such as holding one's hand steady, performing fast hand movements, and maintaining balance. Exposure to high levels of the metal may also cause respiratory problems and sexual dysfunction. • Cancer: Exposure to high levels of manganese in food resulted in a slightly increased incidence of pancreatic tumors in male rats and thyroid tumors in male and female mice. • Reproduction: Animal studies indicate that exposure to high levels of manganese can cause birth defects in the unborn.
Mercury	<ul style="list-style-type: none"> • High levels: Exposure to mercury can permanently damage the brain, and

	<p>kidneys. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems.</p> <ul style="list-style-type: none"> • Short-term exposure: to high levels of metallic mercury vapors may cause effects including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. • Cancer: Mercuric chloride has caused increases in several types of tumors in rats and mice, and methylmercury has caused kidney tumors in male mice. The EPA has determined that mercuric chloride and methylmercury are possible human carcinogens. • Reproduction: Mercury's harmful effects that may be passed from the mother to the fetus include brain damage, mental retardation, in coordination, blindness, seizures, and inability to speak.
Nickel	<ul style="list-style-type: none"> • High levels: can cause chronic bronchitis and reduced lung function. Ingesting nickel can cause stomach aches and adverse effects to their blood and kidneys. Damage to the lung and nasal cavity has been observed in rats and mice breathing nickel compounds. Eating or drinking large amounts of nickel has caused lung disease in dogs and rats and has affected the stomach, blood, liver, kidneys, and immune system in rats and mice, as well as their development. • Cancer: Cancers of the lung and nasal sinus have resulted from inhalation of dust containing high levels of nickel compounds. The Department of Health and Human Services (DHHS) has determined that nickel metal may reasonably be anticipated to be a carcinogen and that nickel compounds are known human carcinogens. The International Agency for Research on Cancer (IARC) has determined that some nickel compounds are carcinogenic to humans and that metallic nickel may possibly be carcinogenic to humans. The EPA has determined that nickel refinery dust and nickel subsulfide are human carcinogens. • Reproduction: Animal studies have found increases in newborn deaths and decreased newborn weight after ingesting very high amounts of nickel.
Nitrogen oxides	<ul style="list-style-type: none"> • High levels: inhaled nitrogen oxides can cause rapid burning, spasms, and swelling of tissues in the throat and upper respiratory tract, reduced oxygenation of body tissues, a build-up of fluid in your lungs, and death. • Low levels: nitrogen oxides in the air can irritate your eyes, nose, throat, and lungs, possibly causing you to cough and experience shortness of breath, tiredness, and nausea. Exposure to low levels can also result in fluid build-up in the lungs 1 or 2 days after exposure. • Reproduction: Exposure of pregnant animals to nitrogen oxides has resulted in toxic effects in developing fetuses. Nitrogen oxides have also caused changes in the genetic material of animal cells.
RDX (1,3,5-trinitro-1,3,5-triazine)	<ul style="list-style-type: none"> • High levels: RDX can cause seizures (a problem of the nervous system) in humans and animals when large amounts are inhaled or eaten. • Low levels: RDX in small amounts can cause nausea and vomiting. • Prolonged Exposure: Rats and mice that ate RDX for 3 months or more had decreased body weights and slight liver and kidney damage. • Cancer: The EPA has determined that RDX is a possible human carcinogen. In one study, RDX caused liver tumors in mice that were exposed to it in the food. • Reproduction: It is not known whether RDX causes birth defects in humans; it did not cause birth defects in rabbits, but it did result in smaller offspring in rats.

<p>Tetryl (2,4,6-trinitrophenyl-<i>n</i>-methylnitramine)</p>	<ul style="list-style-type: none"> • High levels: Can cause coughs, fatigue, headaches, eye irritation, lack of appetite, nosebleeds, nausea, and vomiting. Possibly can develop allergies in humans with asthma-like reactions (severe coughing and wheezing) after breathing tetryl. • Prolonged exposure: Rabbits fed high doses of tetryl every day for 6–9 months developed effects on the kidneys and liver. Decreased blood-clotting capability and changes in the spleen were also noted. • Short term: skin contact with tetryl can lead to skin rashes and a distinct yellow staining of the hands, neck, and hair.
<p>Tin</p>	<ul style="list-style-type: none"> • High levels: Ingestion of inorganic tin compounds can cause stomach aches, anemia, and liver and kidney problems. In some cases, it can interfere with the brain, immune and nervous system and can cause death. • Short term: Inorganic or organic tin compounds placed on the skin or in the eyes can produce skin and eye irritation. • Cancer: A study in rats and another in mice showed that a specific organotin, triphenyltin hydroxide, can produce cancer in animals after long-term oral administration. • Reproduction: Studies in animals also have shown that some organotins can affect the reproductive system. Exposure of rodents to some organotins during pregnancy has produced birth defects in the newborn animals.
<p>Toluene</p>	<ul style="list-style-type: none"> • High levels: Toluene may affect the nervous system. Inhaling toluene in a short time can make you feel light-headed, dizzy, or sleepy. It can also cause unconsciousness, and even death. High levels of toluene may affect your kidneys. • Low levels: Can cause tiredness, confusion, weakness, drunken-type actions, memory loss, nausea, loss of appetite, and hearing and color vision loss. • Reproduction: Breathing high levels of toluene during pregnancy can result in children with birth defects and retard mental abilities, and growth.
<p>TNT (2,4,6-Trinitrotoluene)</p>	<ul style="list-style-type: none"> • High levels: TNT exposure can lead to anemia and abnormal liver function. Similar blood and liver effects, as well as spleen enlargement and other harmful effects on the immune system, have been observed in animals that ate or breathed TNT. • Prolonged exposure: Skin irritation is caused by prolonged skin contact. Cataract development after long-term (365 days or longer) exposure. • Cancer: The EPA has determined that 2,4,6-trinitrotoluene is a possible human carcinogen. This assessment was based on a study in which rats that ate 2,4,6-trinitrotoluene for long periods developed tumors of the urinary bladder. • Reproduction: male animals treated with high doses of TNT have developed serious reproductive system effects.
<p>Uranium</p>	<ul style="list-style-type: none"> • High Levels: All uranium mixtures (natural, depleted, and enriched) have the same chemical effect on your body. Large amounts of uranium can react with the tissues in your body and damage your kidneys. • Cancer: Humans and animals exposed to high levels of uranium did not have higher cancer rates. The Committee on the Biological Effects of Ionizing Radiation (BEIR IV) reported that eating food or drinking water that has normal amounts of uranium will most likely not cause cancer. Uranium can decay into other radioactive substances, such as radium, which can cause cancer if you are exposed to enough of them for a long enough period of time. Studies have reported lung and other cancers in uranium miners; however, the miners also smoked and were exposed to

	other substances that cause cancer, such as radon and silica dust.
Vanadium	<ul style="list-style-type: none"> • High levels: The major effects from breathing high levels of vanadium are on the lungs, throat, and eyes including lung irritation, coughing, wheezing, chest pain, runny nose, and a sore throat. Animals that ingested very large doses have died. • Lower levels of vanadium in the water of pregnant animals resulted in minor birth defects. Some animals that breathed or ingested vanadium over a long term had minor kidney and liver changes.
Zinc	<ul style="list-style-type: none"> • High levels: Large doses taken by mouth even for a short time can cause stomach cramps, nausea, and vomiting. Inhaling large amounts of zinc (as dusts or fumes) can cause a specific short-term disease called metal fume fever. • Lower levels: Putting low levels of certain zinc compounds on the skin of rabbits, guinea pigs, and mice caused skin irritation. Skin irritation will probably occur in people. • Prolonged exposure: can cause anemia and decrease the levels of your good cholesterol. We do not know if high levels of zinc affect reproduction in humans. • Reproduction: Rats that were fed large amounts of zinc became infertile. Animal studies have found increases in deaths and decreased weight in the offsprings after ingesting very high amounts of zinc.

Source: The Agency for Toxic Substances and Disease Registry (ATSDR)
US Department of Health and Human Services
ToxFAQs™

Appendix 5- Summary of Air Exposure Pathways

Summary of Air Exposure Pathways

Pathway Name	Exposure Pathway Elements					Time of Exposure	Comments
	Potential Source of Contamination	Environmental Media	Point of Exposure	Route of Exposure	Exposed Population		
<i>Potential Exposure Pathways</i>							
Inhalation of contaminants in wind-blown dust when bombing did not occur (see Section V.A)	Wind-blown dust from the LIA	Air: transport from the LIA downwind to residential locations	Ambient air	Inhalation	Residents of Vieques	Entire history of Navy operations	Extensive sampling collected by PREQB has shown that levels of wind-blown dust on days without military training exercises are not of public health concern.
Inhalation of contaminants released on days when the Navy conducted military training exercises using <i>only</i> practice bombs (see Section V.B)	Military training exercises at the LIA using practice bombs	Air: transport from the LIA downwind to residential locations	Ambient air	Inhalation	Residents of Vieques	Exposures have only occurred on the days between April 1999 and May 1, 2003, when military training exercises occurred. This is limited to no more than 90 days per year.	PREQB has collected numerous air samples on days when the Navy conducted training exercises using practice bombs. These samples indicate that levels of particulate matter have not reached levels that could present a public health hazard on days when practice bombs are used. The air

							sampling results, combined with soil sampling data, also indicate that exposures to metals and explosives are not of health concern on days when practice bombs are used.
Inhalation of contaminants released on days when the Navy conducted military training exercises using live bombs (see Section V.C)	Military training exercises at the LIA using live bombs	Air: transport from the LIA downwind to residential locations	Ambient air	Inhalation	Residents of Vieques	Dates of bombing exercises between 1941 and April 19, 1999	Modeling analyses of reasonable exposure scenarios indicate that the military training exercises involving live bombs did not result in exposures at levels of health concern for all categories of contaminants considered, including particulate matter, chemical by-products of explosions, metals, and explosives.
Inhalation of contaminants released during open burning and open detonation (see Section V.D)	Open burning and open detonation of waste munitions and unexploded ordnance	Air: transport from the LIA downwind to residential locations	Ambient air	Inhalation	Residents of Vieques	On isolated days from at least the early 1970s through the present	Modeling analyses of reasonable exposure scenarios indicate that the limited open burning and open

							detonation activities have not resulted in exposures at levels of health concern for all categories of contaminants considered, including particulate matter, chemical by-products of explosions, metals, and explosives.
Inhalation of contaminants used sporadically during military training exercises (see Section V.D)	Past firing of depleted uranium penetrators and ongoing use of chaff.	Air: transport from the LIA (for depleted uranium) and in upper air winds patterns (chaff) downwind to residential locations	Ambient air	Inhalation	Residents of Vieques	Depleted uranium: limited to the date when the rounds of concern were used, and dates thereafter; chaff: on dates when the Navy uses the material during military training exercises.	Modeling analyses of reasonable exposure scenarios indicate that the amounts of depleted uranium that were fired at Vieques and the amounts of chaff that have been released to the air did not result in exposures (either chemical or radiological) at levels of health concern in the residential areas of Vieques.

Note: Indirect exposures to air contaminants in other media (groundwater, soil, biota) are being addressed in other PHAs.

Source: ATSDR- PHA- Isla De Vieques Bombing Range
Vieques, Puerto Rico

Appendix 6- Guidelines For The Sustainable Development Of Vieques

Date: Monday, August 21, 2000

July 2000

GRUPO DE APOYO TÉCNICO Y PROFESIONAL PARA EL DESARROLLO SUSTENTABLE DE VIEQUES (GATP)

GUIDELINES FOR THE SUSTAINABLE DEVELOPMENT OF VIEQUES (summary)

[Note from the Translator: The following is a an English translation of the Summary of the Guides for the Sustainable Development of Vieques, prepared by the Multidisciplinary Professional and Technical Group for the Sustainable Development of Vieques. For questions about this translation, please contact Déborah B. Santana <santana@mills.edu]

Introduction

In May 1999 the Committee for the Rescue and Development of Vieques (CPRDV) asked a group of Puerto Ricans - professionals from diverse disciplines - for assistance in designing proposals for socioeconomic development of the island municipality of Vieques, Puerto Rico. The call went out a few weeks after a U.S. Navy bombing occurred which took the life of Vieques native David Sanes. A large group of people responded to this call, all of whom were committed to the goal of achieving the desired and necessary peace for Vieques, and who were willing to work without stinting on resources or time to achieve it. On June 18, 1999, the Multidisciplinary Professional and Technical Group for the Sustainable Development of Vieques (known as GATP in Spanish) met for the first time in the Metropolitan University (UMET) (in Cupey, just south of San Juan). From that moment GATP began to articulate and undertake this work. The first step was to establish the principal parameters of what would be the work for which GATP would assume responsibility. Together with CPRDV, three key issues were defined:

- a) Proposals for the socioeconomic development of Vieques would be compiled in a document to be called
- b) GUIDELINES FOR THE SUSTAINABLE DEVELOPMENT OF VIEQUES;
- b) The conceptual mark of the Guidelines would be Sustainability;
- c) Formulation of the document would be characterized by the participatory process.

GUIDELINES FOR THE SUSTAINABLE DEVELOPMENT OF VIEQUES consists of two parts. Part One, divided in six (6) chapters, describes the present situation of the Island of Vieques. Part Two seeks to sketch out recommended actions for the territory whose adoption should be converted into guidelines for sustainable development of the "Little Girl Island" (Isla Nena, as Vieques is fondly known to Puerto Ricans). In selecting the themes we worked to identify those which define the essential characteristics of Viequense reality and that allow us to project into the future which kinds of interventions (should be made) in the territory, their character and magnitude. That is to say, the work was directed toward attending to the critical themes that confront the people of Vieques. It does not attempt to include all of the topics which doubtless can be objects of analysis, discussion, and characterization. That could be a future stage in the process of rethinking Viequense reality and possible avenues of development. What this work has tried to do is to construct a document with an integrated vision of analysis and strategic focus. As a distinctive element it is important to point out that the GUIDELINES is the first effort -- that we know of -- to seek to analyze and understand the totality of the territory of la Isla Nena and to project future activities. In this sense in that sense this work deals with an integrated focus that, additionally, persists in bringing us closer to the Viequense reality, understanding it as a

complex system, without fragmenting it. The document presented here is a summary of the principal findings as a result of the research of GATP, and which appear in Part One of GUIDELINES FOR THE SUSTAINABLE DEVELOPMENT OF VIEQUES.

Geographical mark: Puerto Rico opportunities

As a consequence of regional geological processes and/or processes that implied dramatic changes in global climatic patterns, the island became a spatially discontinuous territory. Such discontinuities result in a group of islands, islets and cays which are separated by sea from the island of Puerto Rico; among this group the island municipality of Vieques stands out by having the largest territorial extension. In the classical theory of the "geography of States" the following theory holds forth: territorial organization of discontinuous space must be taken into consideration -- as in the case of archipelago states -- given that in the great majority of cases such geographic-peripheral extremities have been -- and are --historically disadvantaged. The disadvantages arise from the fact that the accessibility of these spaces, and their effective integration, is made more difficult by the higher costs associated with their (more difficult) connection to the central nucleus of the whole territory. This situation allows for serious disparities which at times are manifested in structural economic, social, and populational problems that affect competitiveness, in relation to other territorial categories with easy access to the central nucleus (of the whole territory). The extra costs involved in general circulation of merchandise, provision of electricity and gasoline -- just to mention some simple examples -- illustrate part of the geographic problem regarding discontinuous spaces, as in the case of the island municipalities of Vieques and Culebra. For this reason, every guideline for development concerning Vieques must start from the unavoidable fact of urging the authorities responsible for spatial management and organization in Puerto Rico -- once the US Navy leaves --to conceive, design and articulate a packet of measures (fundamentally but not exclusively through subsidies) to create a base of development which is territorially more democratic and just for Viequenses. This would allow for a minimization of additional costs represented by the movement of merchandise and other products to Vieques and by doing so achieve its connection to and integration with the Island of Puerto Rico.

Vieques has a privileged location by its being the formal transition between the Greater and Lesser Antilles, indeed, it is there that we find the point of confluence between the most important and distinctive cultural regions in the Caribbean. This fact demonstrates the potential of Vieques as the most representative place in Caribbean cultural synthesis, because of its special economic and particularly touristic implications. The thermal belt extending throughout the entire southern (Caribbean) coastal region of Puerto Rico shares the regional characteristic of less cloudiness, thus more intensive levels of solar radiation. This climatic feature makes Vieques one of the most appropriate places for development of electricity production using solar energy.

Another of Vieques' climatic features with great economic potential is wind (the Trade Winds), which lacking important geophysical barriers along the length and breadth of the island can be utilized for intensive production of wind-generated electricity, using the sophisticated and efficient windmill technologies. Moreover, it would be economically significant on this small and relatively narrow island to utilize daytime sea-land and nighttime land-sea breezes when situating buildings, so that they effectively obtain cooling through using the principle of air mass movements along pressure gradients, on a sectoral scale. The aridity and scarce precipitation falling over Vieques makes it highly necessary to develop a very strict and specialized management plan for water resources whose principal objective is its optimal use and conservation. It has been established in the past that 25% of the soils of Vieques are suitable for cultivation, while the remaining 75% may be utilized for livestock. The best soils for agriculture -- taking into consideration its minerals and topography -- are those from the "Viequesseries" (26% of the island's territory), in which cultivation may be combined with pasture, and soils from the "Coamo series" (16% of the island's territory), which because of their mineral richness are the soils with the best agricultural potential. Here it must be clearly established that soil potential -- especially arid and semi-arid soils --are determined fundamentally by scientific/technical development. Application of new cultivation

methods and of the latest advances in plant sciences has already reversed diagnoses of infertility or low productivity in places with conditions similar to those of Vieques. These factors can be taken into consideration in the case of agriculture in Vieques, for purposes of territorial reorganization and examining the possibilities for including new lands with agricultural potential, based on advanced methodologies and techniques.

Profile of health in Vieques

Using the Annual Reports of Vital Statistics of the (Puerto Rico) Department of Health, we have evaluated the state of health in Vieques. Nonetheless, the latest report contains data from 1995, which limits our ability to have more current information about the general state of health of the Viequense population. More recent data, supplied by the Secretary of Health to the (Puerto Rico Government) Special Commission on Vieques and to the Puerto Rico Association of Doctors and Surgeons, are preliminary and may be modified in the final documents which the Dept. of Health will publish. With respect to the incidence of cancer the data for the five-year period 1990-94 -- supplied by the Dept. of Health -- must be carefully analyzed because they are not complete for Vieques nor for Puerto Rico, as indicated by the Dept. of Health in its February 2000 report. The Annual Cancer Registry Report, which had been published continuously since 1953, has not been published since 1993 -- and that year's report contained data from 1991. Due to this deficiency, in the most recent analysis of cancer in Vieques the Dept. of Health utilized an average of cancer cases in Puerto Rico between 1960 and 1989. Such a form of analyzing the "recent data" for Vieques with average numbers for all of Puerto Rico imposes caution regarding said analysis, since it modifies the method previously used. Sustainable development of Vieques depends principally on the state of health of its inhabitants. The evidence presented and discussed in these guidelines indicates that the health of the residents of the island of Vieques is relatively poorer than that of the residents of the island of Puerto Rico. Among other indicators, the mortality rate from diverse causes is greater than in Puerto Rico. For example, comparing Vieques with the rest of Puerto Rico: in 1995 the general mortality rate was 40% greater (47% greater in 1997); death from cardiovascular disease in 1995 was 6% greater (26% greater in 1997); death from diabetes was 70% greater (57% in 1997), and death from AIDS was 68% greater (22% in 1997). The incidence of cancer in Vieques during the last three five-year periods reported was higher than in Puerto Rico; in particular it was 26.9% in 1985-89 and 17.4% in 1990-94. A survey recently conducted by the Vieques Women's Alliance among 209 Viequenses from the neighborhoods of Santa Maria, Florida, Esperanza, and Martineau revealed that 61% of those interviewed have a family member affected by cancer. In addition, Viequenses had nearly twice the risk of death due to infectious disease in 1995, compared with 1990.

The likelihood of giving birth to an underweight baby is 65.3% greater in Vieques than in Puerto Rico. The proportion of underweight births has grown in Vieques, as seen when comparing births in 1990 (10.4% of babies born to Viequenses underweight) with births in 1995 (16.7% born underweight), a 61% increase. The increase and high proportion of babies weighing less than 2,500 grams at birth merits investigation to determine those factors which are disproportionately affecting pregnant women in Vieques. This is an important health problem. In addition, four out of every ten pregnant women in Vieques are not receiving regular and timely prenatal care during the first half of pregnancy. The proportion of women receiving this prenatal service is 18.7% less in Vieques than in Puerto Rico. The proportion of adolescent births was 28.5% greater in Vieques than in Puerto Rico. The Secretary of Health, Dr. Feliciano, has expressed to the press that infant mortality rates in Vieques and Puerto Rico are similar (she quoted 12.1 per 1,000 for Vieques), but there is no published information to corroborate her statement. It is important to take this figure into consideration since it implies a considerable increase in infant mortality in Vieques when comparing this 1997 rate (12.1 per 1,000) with the rate published in the last Vital Statistics Report (5.8 per 1,000). In the school-age population of Vieques' 12 schools (with a total matriculation of 2,039 during academic year 1999-2000) respiratory illnesses are prevalent among 15.4-32.9 % of the students, depending on the school. Skin ailments are prevalent among 0.54-6.22% of the students, kidney diseases between 0.18-1.29% and heart ailments among 0.36-2.7%, depending on the school. Four schools consistently have among the five

highest rates of respiratory or skin diseases (among schools in Puerto Rico). Around 7.2% of Viequenses know of a family member who had premature sexual development (telarquia), versus 3.0% in Puerto Rico. The high incidence of telarquia in Puerto Rico (the highest in the world) has been connected to the presence of chemical substances called phthalates, which has effects similar to estrogens. A preliminary report from an analysis made by the U.S. Environmental Protection Agency (EPA) of well sand water tanks in Vieques reported excesses of bis (2-ethylhexyl)phthalate (which were supposedly caused by contamination of the samples in the analyzing laboratory, though this has not been confirmed). Bis (2-ethylhexyl) phthalate is catalogued as a carcinogen (cancer-causing). A recent study revealed the presence of phthalates in the serum of Puerto Rican girls; a similar study should be done with Viequense girls.

Hair analysis of 29 Viequenses conducted by Dr. Carmen Colón de Jorge revealed that many patients show higher than standard deviation levels from the norm for aluminum (90% of patients), antimony (69%), cadmium(69%), arsenic (66%), tin (66%), lead (52%), molibdenum (48%), boron(48%), bismuth (41%), mercury (38%), vanadium (38%), manganese (31%),nickel (28%), zinc (21%), cobalt (14%), and barium (14%). As an example of concentrations, the highest for some of these elements ranged from 52%in excess for barium, 82% for mercury, and 553% for cadmium, up to 5,300%in excess for antimony. Hair analysis of 18 other patients in Vieques conducted by Dr. Carman Ortiz Roque reveals that 44% of these individuals have above normal levels of lead, which partially confirms the findings of Dr. Colón de Jorge. Analysis of fecal matter from seven Viequenses performed by Dr. Colón de Jorge reveals that elevated levels of aluminum, cadmium, mercury, and nickel, plus the presence of uranium, tungsten, thallium, platinum, copper, bismuth, beryllium, arsenic, antimony, and aluminum. We do not have information on the expected normal levels in fecal matter for these latter elements with which to corroborate if these levels are toxic in humans. The information in these guidelines demonstrate that it is essential to in depth the possible relation between the high rates of various illnesses in Vieques -- including cancer -- and the high levels of environmental contamination caused by the activities of the Navy. The contaminants found by environmental studies discussed in these guidelines which are found above safe levels can cause cancer, diseases of the kidneys, liver, lungs, and skin.

In Vieques medical services are seriously limited. In spite of the Puerto Rico government's claim that under its health reform (program) the population has greater access and better services; the reality is that in Vieques the health indicators are not improving. Vieques has only one medical facility (Susana Centeno Center for Family Health, formerly the CDT [Center for Diagnostics and Treatment]). The center has a laboratory and an X-rays installation which are not utilized due to a lack of qualified and certified personnel. Viequense women must travel to the " Big Island" (Puerto Rico) to give birth since 1985 because the health center does not have qualified and certified personnel to operate the delivery room; only emergency cases are attended, and those which can not be treated in Vieques are moved to the big island. The medical facilities (in Vieques) are inadequate for treating chronic illnesses, meaning that the patients must travel to the big island for treatment with all the inconveniences which this poses. In all of Vieques there are seven primary care physicians. In 1995 the proportion of population to doctors was 1,798 versus 453 in Puerto Rico (a 300% difference). Most chronic illnesses are related to environmental exposures, habits and deterioration of the immune system. We have no evidence that the Viequense population responds to a different "genetic pool" which might explain the differences in incidences of disease. Nor do we have evidence that noxious habits such as cigarette or alcohol use is any different in Vieques from in Puerto Rico, (an argument) which has been utilized by some to explain the risk differences. We conclude that the evidence presented in this report is sufficient to indicate that the health of Viequenses is disproportionately affected and that it is necessary to take immediate remedial action. It is imperative to improve the level of health of viequenses. It is necessary to conduct epidemiological studies that will evaluate which factors are responsible for the greater risks of becoming ill and dying in Vieques, compared with in Puerto Rico. In the case of cancer, the Dept. of Health should have begun epidemiological studies as soon as they notified (the public) in 1997 that the incidence of cancer in Vieques was 27% greater than in Puerto Rico.

Level of contamination in Vieques

The presence of toxic substances in the soil and vegetation in Vieques presents a grave problem since they are persistent and can remain in the environment for a long period of time. Moreover, many of the components are accumulative and are transmitted through the food chain to plants, fish, and humans. The contaminants from bombs and munitions also reach the population via the strong winds. (Note: the prevailing easterly trade winds blow almost constantly from the firing range in eastern Vieques directly west into the civilian sector.) It has been calculated that particulate matter, contaminated by bombing, can be transported over distances up to 20 kilometers). Casa Pueblo (community organization in Adjuntas, Puerto Rico), in collaboration with scientists affiliated with the Mayaguez campus of the University of Puerto Rico, conducted a scientific study of the presence of heavy metals in the tissues of crabs that inhabit the firing range and civilian sector in Vieques. Their findings revealed significant concentrations of copper, zinc, nickel, and cobalt. These results are evidence of the transport and biomagnification of contaminants through the food chain, and warn of the high risk in potential routes for human contamination by toxic and carcinogenic agents from the firing range over to the area where the civilian population resides. Another important study by Casa Pueblo and the Mayaguez scientists obtained results of heavy metals detected in the vegetative tissue of plants studied in Vieques and in control areas, respectively. Despite the fact that the plants studied are not known as bioaccumulators of heavy metals, they possessed elevated concentrations of lead, nickel, chromium, manganese, copper, and cobalt in their roots, stems, leaves, and fruits. These results also show evidence of movement of contaminants from soil, lagoon, and marine sediments to the area's dominant vegetation. The findings of the study of vegetative tissue shows evidence that there exists a critical route of movement of contaminants through the food chain in greater concentrations than those reported for the area's soils and sediments.

Lead appears as the contaminant of greatest risk in vegetative tissue; lead levels are evidence of the movement of contaminants through the marine food chain. Consumption of vegetative tissue with the concentrations of heavy metals detected in the present study represents critically dangerous doses. University of Georgia Professor Dr. James Porter was contracted by the Government of Puerto Rico to locate and take samples of bombs and bomb fragments in order to examine the presence of high powered explosives and other toxic materials in the coral reefs. The samples included not only pieces of the shells of the bombs and of their fissures, but also of surrounding sediments. Samples were taken of highly ill and discolored coral which were in physical contact with one of the infiltrating bombs. The coral samples were examined in order to determine the presence of toxic materials in their tissues. The Government of Puerto Rico has not yet granted public access to the results of this analysis. Scientists have also discovered two submerged ships containing 150-200 fifty-five gallon barrels (with unknown contents), which have been sunk in the middle of the shallow channel extending from the coral reef to Salinas Bay (south of the target area). This location is highly contaminated with live munitions, bombs, and projectiles. The scientists also found a second ship, split in two, with around 900-1,000 barrels with unknown contents. In order to analyze the radioactivity in the bombing area, Engineer Frankie Jimenez took readings in different areas in and near the bombing area. Readings of existing radiation in a more distant area -- what is called the "clean area" -- was utilized as a basis for comparison. Levels of radiation in the bombing area were found to be from 30% up to 220% higher than in the clean area. "Depleted" uranium (U-238) is highly radioactive and toxic. When uranium is used in projectiles an extremely high temperature is generated which melts the impacted metal, and at the same time uranium is freed into the environment and surrounding territory by fusion and oxidation in the form of radioactive isotopes.

In Vieques there are private wells which are used when water is not available from the (government) Water Authority. The wells are also used for orchards, planting, and livestock. The EPA did a sampling of eight water storage tanks and three wells belonging to the Water Authority, a water tank belonging to the Navy, and two private wells. The preliminary EPA report issued November 9, 1999, indicated that the results of some samples exceeded the primary standards

for nitrates and nitric and bis (2-ethylhexyl) phthalate. They also exceeded secondary standards for iron and manganese. Bis (2-ethylhexyl) phthalate is catalogued as a carcinogen. Phthalates environmentally noxious chemical compounds interfere with the health, which are found in plastics and alter normal function of the endocrine and reproductive systems in animals and humans. They are found in plastic tubing, such as that used in the plastic explosives used by the Navy. Various soil and sediment studies showed results above EPA advisory levels for soils, that is, when the EPA recommends that corrective action alternatives be evaluated. Cadmium, lead, arsenic, barium, vanadium, zinc, and tin, are among the metals found. Also detected were ammonium, nitrates, nitrics, and phosphorus. In the bombing area the prevailing soils are formed by decomposition of limestone and other formations. Limestone is mainly composed of calcium carbonate derived from decomposition of marine organisms, and generally does not contain heavy metals. The concentration of metallic compounds in oil samples from this area indicates that the presence of such metals is linked to the activities of the Navy.

Socioeconomic conditions

Socioeconomic tendencies in Vieques describe a picture of poverty, marginalization, and low educational opportunities. The few economic offerings push the youth to leave the island to seek the jobs that they can't find in Vieques. A pattern is observed of population exodus, especially of the productive age groups. The Report of the Special Commission on Vieques, named by the Governor of Puerto Rico (1999) explains that the greatest impact of the Navy upon Vieques -- in addition to environmental -- has been the restriction and stagnation of the island's economic development. The Navy's presence in Vieques has been an obstacle to the flourishing of economic activity in the "Isla Nena"(Little Girl Island), including development of maritime and air transportation. In 1990 per capita income was \$2,997, that is, \$1,180(28%) less than in Puerto Rico (\$4,177). Average family income was \$6,486, which represents \$3,502 (35%) less than in Puerto Rico (\$9,988). According to the 1990 Population and Housing Census, 73.3% of the population of Vieques lives below the poverty line, a figure which is 14.4% higher than in all of Puerto Rico. Unemployment was estimated at 13.8%, with youths between 16-19 years of age reflecting the highest figures (53.6%). If we add to these figures the number of persons outside the "working group" who express a desire to seek employment but who did not do so because they didn't believe they would find any, unemployment rates rise to 19.1%. Nonetheless, real unemployment levels are much higher, and have been estimated at between 40-70%. Citizen's attorney Carlos López Nieves reported that prices in Vieques are some 16% higher than in the Big Island. Moreover, Viequenses pay 15% more for food, 33% more for construction materials, 22% more for gasoline, and 4% more for medicines.

Population growth in Vieques shows ups and downs during the twentieth century. In 1910 the official population was listed as 10,425 inhabitants. By 1930 it had increased to 10,582. In 1940 the official population showed a decline to 10,362 inhabitants. By contrast, in 1960 the population declined to 7,210 inhabitants, a 31.8% reduction compared with 1930. According to the 1990 Population Census there were 8,602 inhabitants. The estimate made by the Federal Bureau of the Census established that Vieques' population rose to 9,311 as of July 1, 1997, which represents an 8.2% increase between 1990 and 1997. That federal agency has classified the Viequense population as completely rural. If the growth percentage of the Viequense population had been maintained relatively proportional to that of Puerto Rico since 1930, today Vieques would have more than 26,600 inhabitants. Many Viequenses who were displaced by the (military) expropriations during the 1940's or by lack of unemployment in the "Isla Nena" were exiled to the United States or to the island of St. Croix (US Virgin Islands).

Tourism Regarding tourism, according to the Report of the Special Commission on Vieques, the "Isla Nena" has remained backward in comparison to other islands of similar size in the Caribbean, not only in the number of rooms but also in the potential economic contribution offered by tourism, a very important contribution for the smaller Caribbean islands. The Report compares Vieques with islands such as Bermuda, Aruba, St. Martin, and the U.S. and British Virgin Islands. According to the Report, the smallest islands, such as Bermuda (21 square miles) and St. Martin

(37 square miles) have 15 times more hotel rooms than Vieques (4,000 and 4,043 rooms, respectively). The British Virgin Islands, with a similar size to Vieques (59 square miles) has five times as many rooms. In terms of the economic potential which tourism can have in Vieques, the Report offers various examples. Again, using Caribbean islands of similar size to Vieques, the British Virgin Islands received around 400,000 tourists in 1996, who spent some \$267 millions. Bermuda and St. Martin earned \$470 millions in 1996 and \$400 millions in 1997, respectively from tourism. One problem which should already be cause for concern among Viequenses is the fact that the immense majority of tourism-related jobs in the Isla Nena are controlled by North Americans. these data were compiled in two studies done on this issue, one conducted by Dr. Leticia Rivera Torres and Antonio J. Torres (1996), and the other prepared by the Logistic Management Institute in 1992. This issue represents a serious problem of social polarization or stratification in the population, where capital is controlled by a few individuals who are not Viequense, like a type of privileged class, according to Rivera Torres and Torres (1996).

Housing

The problem of housing is tied to the problem of urban development. Housing production depends on external factors such as the availability of land, infrastructure, and services, financing and the availability of credit, and economic development. Two-thirds of the land of Vieques is occupied by the U.S. Navy, which not only limits its utilization for construction of housing and installation of services, but also impedes integrated development of the territory. So long as these lands are not returned any attempt at planning will be limited and partial. Sustainable development assumes that land and resources would be managed as a systematic whole. Of the third of the territory (currently) available for the Viequense population, and important portion is in the hands of the Land Authority of the (Puerto Rico) government, which aggravates its scarcity, making privately owned land even more expensive and difficult to obtain. Another factor affecting the cost of land is the participation of foreigners and nonresidents in the market, who because they have greater acquisitive capacity "inflate" the cost of this resource. The majority of Viequenses -- impeded (economically) from participating in the private land market -- have as their only alternative the illegal occupation of land belonging to the State or to the Navy, after which they negotiate in order to ensure their permanence there.

Viequenses' perception of their present situation

In the participatory diagnosis emphasis was placed on describing the problem posed by the focus group participants, as well as on recommendations proposed by the communities. It is assumed that achieving sustainable development in Vieques requires contemplating alternatives which optimize and make viable active community participation. It is for this reason that many of the options (mentioned by) the participants and the Special Commission include concepts of economic self-management and cooperativism.

1) Health is the primary concern. The general perception is that health services have worsened over the years, ever since the old hospital was eliminated. The necessary technology to provide services for the population is non-existent, and there is a lack of specialized personnel, equipment, and medicines. Proposals: a) Name a commission to attend to health problems, comprised of delegates from the central (PR) and municipal governments, health providers and "watchdog" groups, and Viequense community representatives. b) Create a cooperative to administer the facilities of the diagnostic center c) Consider the particular needs of Vieques in the Health Dept. budget.

2) The second greatest concern identified by Viequenses is the lack of employment and of job-generating enterprises. In addition, salaries in Vieques are very low compared with those in the Big Island, and in certain types of jobs Viequenses are not employed. Proposals: a) Create tourist-serving businesses, including maintenance of hotels, electricity, air conditioning, cleaning, and dry cleaning. b) Establish sewing or jewelry enterprises, self-managing projects which are cooperatives or worker-owned. c) Provide incentives for establishing these industries.

3) High cost of articles and absence of price controls. The articles of primary necessity have a price differential with respect to their cost in the Big Island. Proposals: a) Establish effective price controls. b) Establish different types of cooperatives: food, gasoline, and hardware.

4) Lack of cultural and recreational alternatives. Vieques has neither adequate recreational installations, nor a continuous program of cultural activities for community youths and adults. Proposals: a) Establish a movie house and a theater b) Restore vacant buildings for cultural programs c) Submit proposals to foundations in order to develop the arts, as well as take advantage of and give incentives to the cultural resources that Vieques has (painters, musicians, teachers of art, dance, artisanship)

5) Problems with maritime, land and air transportation. Maritime transportation is scarce and inadequate, affecting local economic development and the daily life of the population. The situation has worsened in recent times, reducing ferry trips and raising the costs of land and air transportation. Proposals: a) Construct a new water break (jetty) or use the one built by the Navy. b) Promote projects of land transportation cooperatives.

6) Housing. The Viequesenses indicated that the principal housing problems are: general scarcity of housing, particularly for young couples, the abundance of vacation homes, and the lack of titles to property. Proposals: Promote a) cooperative housing; b) high density housing projects; c) incentives for construction of second stories; d) rehabilitate uninhabited structures; e) conduct studies of titles to property. They also recommended that Viequesenses have access to information about available land, and that they be granted priority when land is up for sale.

7) Infrastructure problems. Vieques has serious problems regarding availability of roads, communication, and water supply. Proposals: a) Extend telephone service to sectors that still don't have it, as is the case with Sector "La Hueca" b) Maintain existing roads and bridges c) Seek a secure and effective way to guarantee potable water to the population

8) Education. The school dropout rate is a serious problem in Vieques. Academic offerings are limited. Proposals: a) Establish programs directed at reducing dropouts b) Establish distance learning projects c) Equip schools with books and materials d) Incorporate courses on Vieques history into the curricula e) Develop vocation education programs e) Establish bilingual education programs f) Develop a sports curriculum h) Expand continuing education for teachers

9) Threat of exclusive touristic projects. Viequesenses fear that the pattern of tourist development proposed for the island will be what is already happening in certain local areas, which include privatizing the beaches where they are located (note: in violation of Puerto Rico law). Proposals: a) Promote ecotourism projects b) Demand that hotels establish discounts for Viequesenses c) Let Viequesenses know well in advance the necessary information in order to evaluate the projects being proposed for the island d) Create "paradores" (historic inns), managed and cared for by viequesense families

10) The Viequesenses validated diverse types of participation. For them participation is all action that helps bring peace to Vieques and improves the conditions of life of its inhabitants. They link their willingness to actively involve themselves, to the support that they have received from civil society, particularly from the Church and the diverse support groups. When the government of Puerto Rico was assuming a firmer position against the (Navy) bombing (note: from April 1999 through January 2000), people felt free to express their support.