

# **The Human Face of Permanent Climate-Induced Displacement**

The Honors Program  
Senior Capstone Project  
Student's Name: Alaina Umbach  
Faculty Sponsor: Dr. Andrea Boggio  
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**ABSTRACT**

Climate change is predicted to lead to mass displacement, since the land where millions of people currently live will be, at some point, covered with water. For some populations, this will mean to be permanently displaced to a different country because the territory that their sovereign nations occupy will disappear. The most well-known cases involve the citizens of Vanuatu, Kiribati, Tuvalu, and the Maldives. As the negative impact of climate change becomes clearer and closer in time, policy solutions to this problem are discussed. In this paper, I look at previous cases of populations' displacement to identify policy lessons that may be applicable to climate-driven displacement. I thus present four case—involving populations in China, Kosovo, New Orleans and the island of Bikini, and determine the lessons that can be learned, how they can be applied to the inevitable displacement looming in the Pacific Ocean, and suggest policy recommendations. I chose to look at this issue from the perspective of the displaced and suggest recommendations that take into consideration the hardships associated with displacement. I think of this as giving a “human face” to the problem and hope that the policy recommendations will make displacement a little bit easier for the displaced.

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**INTRODUCTION**

During the past few decades, there has been much debate about the existence of global warming and climate change. However, in recent years there has been a lot of progress in the scientific field and, among scientists, there is no doubt that climate change exists. There are numerous persons affected by the changing climate, but the most devastating scenario occurs when a population is forced to leave their home. Various occurrences can force people to leave their homes, such as flooding, desertification, and storms. The root cause of these events is the changing climate. There are various reasons for climate change, but overall it is caused by humans emitting carbon-dioxide. In addition, the main emitters of carbon-dioxide are the wealthy and developed countries and they will most likely be least affected by climate change. Sadly, the states that will be most affected are the poor states that do not have the resources to protect themselves from the negative effects of climate change. Many people have been forced to leave their homes due to the effects of climate change and many more may have to leave their homes in the future.

The changing climate has many different effects on the world and “global warming is indisputable”(Gordon, 2007, 33). Temperatures are predicted to increase by 1.8 to 4 degrees Celsius during the twenty-first century; sea levels are projected to rise between 18 and 59 centimeters by the end of the twenty-first century (Mayer, 2011, 23). These two things are “likely to diminish the human carrying capacity” of many environmental resources (Kibreab, 2010, 7). Some of the affects will be natural disasters, extreme heat, the spread of disease, drought, conflict and wars, floods, and water that is too salty to drink or to be used for agriculture (Mayer, 2011, 25). The most pressing, and possibly most devastating, is the possibility of complete destruction and degradation of living conditions so that living in a certain area would become impossible, therefore forcing a population to move. In 1996, twenty-five million people were forced to leave their homes for environmental reasons (King, 2006, 15). Furthermore, many small islands in the Pacific Ocean are disappearing. For example, the state of Tuvalu is disappearing. It is vulnerable because it is so close to sea level. At its highest point, Tuvalu only rises 4.5 meters above sea level (Sheehan, 2002, 2). Tuvalu consists of a group of a few small islands that make up an area of only twenty-six

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square kilometers (Moberg, 2010, 40). In 1997 Tepuka Savilivili was the first of Tuvalu's islands to get engulfed by the sea and it is believed that the remaining islands of Tuvalu will be completely submerged within the next fifty years (Moberg, 2010, 42). Also, seventy-five Tuvaluans are supposed to be relocated to New Zealand every year (Sinking Feeling, 2002, 2). But for its 11,000 inhabitants, that is not sufficient (Sinking Feeling, 2002, 2). It also destroys the collective culture of the island. Unfortunately, this case is just one example of the need for populations to move from their homes to another location. In 2008, "twenty-million people have been displaced by extreme weather events, compared to the 4.6 million internally displaced by conflict and violence over the same period" (Mayer, 2011, 24). Additionally, it is forecasted that, in 2050 there will be a total of 150 million environmentally displaced persons (Kibreab, 2010, 13). These figures demonstrate the great need in international law for regulations that will govern the migration of people due to climate change.

**LITERATURE REVIEW**

During preliminary research I learned how environmentally displaced persons fit into the current international law framework, the different categories of the displaced, and how the issues of environmentally displaced persons are being addressed. The first article I would like to draw attention to was written by Benoit Mayer, who discusses the categories of displaced persons and how they relate to the law. These four categories are permanently displaced, temporarily displaced, externally displaced, and internally displaced. Additionally, he discusses the current options in international law that could protect environmentally displaced persons and argues that the 1951 Refugee Convention is not adequate for protecting them. This is because environmentally displaced persons do not fall under the definition of a refugee (Mayer, 2011, 20-33).

Since environmentally displaced persons are not protected by the 1951 Refugee Convention, Tracy King's article discussing other solutions is important to consider. King discusses possible solutions to the current international law framework for protecting environmentally displaced persons. She believes prevention should be the first step, then preparedness and mitigation of the effects of displacement. Prevention is most important because preventing displacement and reducing the effects of global warming can allow people to stay in the homes. Preparedness is also important when dealing with environmentally displaced persons because the effects of global warming progress slowly and are predictable, allowing time for a plan of action to be put into place (King, 2006, 3).

In preparing a plan of action it is important to think of how these issues should be handled. Displacement in the context of climate change raises important question of human rights law and of protection vulnerable populations. Sumudu Atapattu speaks about the pressing matter of environmentally displaced persons and how they relate to human rights law. He mentions their right to life, right to health, right to food and water, right to a livelihood, and right to not be displaced. One of the most important arguments he makes is their right to culture. He references the Inuit case and how their culture and traditions are directly linked to their land. If they were to be displaced they would lose all cultural integrity. Atapattu believes that there

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is a great challenge in protecting environmentally displaced people within the existing structures of governance (Atapattu, 2008, 49).

Finally, Ruth Gordon looks into the UN Framework Convention on Climate Change and the Kyoto Protocol. These two frameworks address the equity of climate change and those displaced. She discusses how the poor countries of the world will be most affected by climate change, while the wealthy industrialized countries are the ones causing the global warming. She describes how these countries are ill equipped to handle the problem they face and that this problem is an important aspect to be address (Gordon, 2007, 9).

Mindful of the need of further thinking in this area, given the projected impact of climate change for many populations, my project builds off of this literature and, aims to identify policy lesson that can be drawn from previous displacements and be applied to climate-driven displacement.

## **METHODS**

In this paper, I adopt a case study approach to the collecting, analyzing, and presenting data as it is the better suited approach to conducting a study that is exploratory in nature and seeks to answer the questions of “how” and “why” a certain social phenomenon has happened.

Yin (1989, 22) defines a case study as a method that “[t]ries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result”

Furthermore, it is “[a]n empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (Yin, 1989, 23).

To build a case study, a researcher must consider five aspects to the design of such study: the study’s questions, its propositions or purpose, its unit(s) of analysis, the logic linking the data to the propositions or the purpose, and the criteria for interpreting the findings. With regard to my project, I focus on research questions pertaining to the dimensions of environmental displacement, its causes, and the mechanisms that have been developed to handle it properly.

The purpose of my study is to determine how to best handle the displacement of persons due to global warming in the Pacific Islands and assess whether the mechanisms that have been set up are sufficient to deal with it. To achieve this goal, I select four case studies discussing other types of displacements, which were needed for causes different from global warming but that present several features that are similar to environmentally induced displacement, identify lessons generated by these other types of displacement, and discuss whether these lessons can be applied to the displacement of people due to global warming. These four types of displacement are displacement driven by technological advancement, The Three Gorges Dam Case, driven by war, The Kosovo Case, displacement that is environmentally-induced but temporary, The Hurricane Katrina Case, and displacement that occurred on small island, The Bikini Atoll Case. These four types of displacement provide the unit of analysis of the study: for each of these forms of displacements I identify the causes of the displacement, where the displaced were relocated to, how the decision was reached, and how the effects of displacement were remedied. The logic behind this approach is that, although various types of displacement may have different causes and need different remedies, lessons can be drawn

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from each of them that are, at least in part, applicable to new forms of displacement. Although the political, economic, geographical conditions may be different, comparing types of displacement is fruitful in an effort to identify the proper remedies and mechanism that can be implemented in dealing with new types of displacement. However, there is a risk that what we learn about one type of displacement does not necessarily apply to a different type. Mindful of this risk, findings need to be interpreted carefully. To this end, I identify criteria for interpretation based on the similarities and differences of the context in which the displacement take place.

The information for the case studies is from primary and secondary sources. Many scholarly articles, new articles, UN publications and encyclopedia articles were used to gather information to create the story of what happened in each case. Additionally, because of time restraints and resources that were available to me, I was unable to conduct interviews or observations.

## **CASE STUDIES**

### Three Gorges Dam

During the past twenty years, China has experienced increasing prosperity and development, and has come a long way from the Tiananmen Square massacre in 1989. China's economy has been forging ahead while other strong economies around the world have been faltering. One symbol of China's economic success can be found at the core of the Yangtze River in China. It's the Three Gorges Dam, the largest hydroelectric dam in the world.

The Three Gorges Dam is located in Sandouping of Yichang City in Hubei province in China. The dam extends from Sandouping through Hubei and Sichuan Provinces to Madong Township in Chongqing (Wilmsen, 2010, 22). The Dam is located at the core of the Yangtze River in China, and being the largest hydroelectric dam in the world, is 600 feet long and 1.3 miles wide (Ferraro). The project to build the dam, named the Three Gorges Project, epitomizes an engineering feat, with an estimated cost of \$26 billion, is expected to generate 18.2 million kilowatts of electricity which represents about 3% of all of China's energy needs (Ferraro). This dam is an embodiment of China's success and prestige with a magnitude close to that of the Great Wall of China.

### The Project

The Three Gorges Project was first proposed in 1919 by Sun Yat-sen, who is known as the father of modern China. Throughout its life, the project has faced many challenges ranging from project criticism to political crisis. Although it was initially proposed as a project that would protect river communities from flooding, there were other positive outcomes of building the dam as well. One of these additional positive outcomes of the project, according to Yat-sen, was the prosperity that the project would bring to the country. However, Yat-sen did not want to dive right into constructing such a big dam right away. In order to ease into the construction of such a huge architectural project, Yat-Sen and his Construction Committee initially created a plan for a significantly smaller dam on the Yangtze River in 1932. China planned to have the US government assist it with the dam, and in 1944 the project received the name "Chinese TVA." This project was believed to bring significant industrial developments and increase employment, thus increasing the standard of living in China.

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However, in 1947 the Chinese Civil War intensified as the struggle between the Kuomintang or the Nationalist Party and the Communists evolved into civil war and the plan to build the dam was not able to be completed (Fangyuan, 2009, 6).

Then, in the 1950s the Yangtze River experienced devastating floods and the idea to build a dam was reestablished. Mao Zedong was a big supporter of the idea to build a dam and, in 1958, he decided that China should build the largest hydroelectric dam in the world. Again, this idea lost support because of political strife, and the project was delayed until 1979 when construction was approved by the State Council, due to China's growing economy and increased demand for electric power. Throughout the following ten years, many tests on the feasibility of the project were conducted in order to appease opponents of the construction, who believed that there were environmental, social, and technical issues with building the dam. One of the most prominent critics of the dam was Vice Minister of Electric Power, Li Rui, who believed that the dam would not significantly aid transportation, would flood China's most fertile land, and destroy numerous cities. Furthermore, other opponents believed that instead of building one large dam, a series of smaller dams would be more beneficial and diminish the environmental consequences. However, this went against the idea of building a large dam as a monument to China's recent economic success and greatness and, therefore, was not considered by the Chinese government (Ferraro).

Nevertheless, in March of 1989, the construction plans were suspended by the State Council due to international pressures. Taking advantage of this window, Dai Qing, and Chinese journalist and opponent of the dam, brought his book "Yangtze! Yangtze!" to the State Council and was imprisoned for ten months because he called the Three Gorges Dam "the most environmentally and socially destructive project in the world" (Ferraro). Additionally, after the 1989 Tiananmen Square protests, the Chinese Government stifled any disapproval of the Three Gorges Dam Project by accusing opponents of "undermining the political regime" (Ferraro). The project was pushed forward and by 1992 the National People's party approved the Three Gorges Dam Project by 67%, passing by the lowest margins of any bill in China's history (Ferraro).

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Throughout the 1990's the ability of the Chinese government to reconstruct the livelihoods of such a large number of people was questioned based off poor past performance of resettling people who ended up being worse after their move than they were before they were relocated. However the government was adamant that the move would increase the prosperity of the families displaced (Wilmsen, Development For Whom, 2011, 22).

**Proponents of the Dam**

One of the major reasons for building the Three Gorges Dam was the desire to prevent the inevitable flooding of the Yangtze River. Dating back to the Han Dynasty, about 2,300 years ago, there have been 214 major floods recorded, with an average of about one significant flood every ten years. Throughout the past century there have been five major floods which claimed millions of lives, acres of farmland, homes, and caused billions of dollars of damage. In 1998 the river flooded to catastrophic levels and caused 4,000 casualties, created a \$24 billion economic loss, and left 14 million people homeless (Ferraro). The proponents of The Three Gorges Dam believed that the dam will protect 1.5 million acres of farmland and 15 million people from being devastated by the foreseeable flooding of the Yangtze River. The dam was built to regulate water levels throughout the year allowing the water to reach 185 meters above sea level during the dry months, from November to April, alleviating droughts, but, would reduce the water level to 135 meters throughout the rest of the year in order to mitigate the effect of the flooding (Ferraro).

Another purported positive outcome of the dam was the potential for producing electricity through hydroelectric power. As mentioned earlier, The Three Gorges Dam was projected to produce enough electric power to supply China with 3% of its energy needs. The dam, with its 26 turbines, could generate a total of 18.2 million kilowatts of energy. This amount of electricity equates to twenty times the capacity of the Hoover Dam in the United States or 18 coal power plants. Additionally, China aspired to be more environmentally friendly, and utilizing a renewable resource such as hydroelectric power further advanced China's initiative to reduce greenhouse gas emissions. Since coal is the main source of energy for China, moving toward a renewable energy source which does not emit pollutants was a strong argument in the favor of the dam, and this argument was used to reduce opposition.

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Furthermore, in keeping with the idea of sustainability, China hoped to have 15% of their total energy to be produced through renewable sources by 2020, thus reducing China's annual coal consumption by thirty to forty percent (Ferraro).

Proponents also believed that the dam would increase ease of navigation. The area of the Yangtze where the dam is located is well known for dangerous shipping conditions. The river was a key component for shipping through the country of China and is used for 80% of China's inland shipping. The reservoir would increase the water level upstream allowing larger ships to travel further upstream and inland. Using a five tier lock system, ships will be able to pass through the dam and a ship elevator in the dam will allow ships of 3,000 tons to travel up and down the river. These innovations will increase transportation throughout China, on the Yangtze, from three million tons per year to fifty million tons per year. This increase in transportation is also expected to bring economic development to various cities along the river. One of these cities is Chongqing which is expected to see an urbanization rate of 70% within the next six years. Additionally, it is projected that the city's population will reach 21 million people by 2020 (Ferraro).

#### Opponents of the Dam

As opposed to the proponents of The Dam, opponents believe that the dam would actually make the flooding worse by increasing silt and sedimentation accumulation behind the dam, causing water levels to rise and making the river impassable, reducing trade capabilities. They also did not believe that hydroelectric power should be considered a renewable resource in this circumstance, because of the irreversible damage to the environment and society due to the construction of the dam. Additionally, opponents believe that significant amounts of energy will not be captured due to engineering constraints and energy collection would be more efficient if there were many, smaller, dams located along the river (Ferraro).

#### Displacement

Although there were many positives to building the dam, one significant cost of the project was the relocation of over a million people. Throughout the world's history, the construction of large dams has displaced 40 to 80 million people. These millions of people have been

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involuntarily displaced in order for dams to be built. The term involuntary displacement is defined as the “permanent forced relocation of entire households” (Wilmensen, 2011, 356). The Three Gorges Dam’s reservoir is 400 miles long and has flooded 20 counties, 227 townships, 1680 villages, 23,000 hectares of farmland, and 1,500 enterprises, forcing 1.4 million people to leave their homes (Wilmensen, 2011, 358). This type of migration has many causes and, in terms of the Three Gorges Project, the migration was both the consequence and the cause of “socially engineered environmental change” (Wilmensen, 2011, 356). Many of the consequences of the construction of the dam affect human livelihoods through the impoverishment of local communities, the interference with their social fabric, and the obliteration of their productive assets. In order to understand the scope and reasoning for the damage, the political economy must be understood. Political economy relates the economy to broader social conditions, such as the distribution of power, its sources, and the means by which lives are repaired due to the demands of social transformation. In this case, the political economy has not considered the ramifications for the rural populations that were involuntarily displaced (Wilmensen, 2011, 357). The Chinese government approved the construction of the dam and was in charge of facilitating the displacement of over a million inhabitants. The political economy during this time was more concerned about the economy than the livelihoods of millions of citizens and the effects of the displacement will be discussed later.

Nevertheless, of the people displaced, about 86% of them were from Chongqing municipality and more than 87% of the displaced persons were considered peasants, meaning they dwelled in rural areas and their main form of employment was agriculture or informal employment such as odd jobs. The rest of the workers were employed as administrative or technical personnel, or were engaged in services and trade (Wilmensen, 2011, 359). Over 1.4 million people have already been displaced as of April 2012 because of the dam (BBC News). Five-hundred thousand of these people are peasant farmers earning just \$.33 per day, which is one-third of the World Bank Poverty level of one dollar per day. The displaced persons were not offered enough compensation and many could not cover the cost of new housing. Many were relocated to urban areas near Chongqing or to cities that were built for the displaced. However, these new cities were built upon steep sloping terrain that has since been deemed

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unfit for farming or development. Furthermore, Chinese government officials believe that an additional four million people will need to be resettled in the next 10-15 years in order to protect the ecology of the reservoir area (Wilmsen, *Development For Whom*, 2011, 22).

#### Financing

In order to fund the Three Gorges Project the Chinese government did everything from establishing a tax to mandating donations. First, the government received about five billion dollars from a tax on power consumers throughout China. Also, revenue from the electricity produced by the dam was predicted to be \$2.5 billion per year. Additionally the government issued stock, corporate bonds, and state finance loans for \$1.2 billion, \$2.3 billion, and \$3.6 billion respectively. Next, China received five billion dollars from mandated donations. Most of the funding came from export credit from Brazil, Canada, France, Germany, Sweden, and Switzerland for \$202 million, \$200 million, \$94 million, \$ 440 million, \$351 million and \$143 million respectively (Ferraro). The total initial estimated project investment was 180 billion Chinese Yuan which equates to about \$29 billion (Wilmensen, 2011, 360). As one would imagine, a major portion of the budget was used allocated to the cost of relocating the residents of the area. The cost of relocating the displaced population accounted for 40% of the budget (Wilmensen, 2011, 358). Due to the projects harsh social and environmental consequences, The United States Export-Bank and the World Bank refused to help finance the project (Ferraro).

#### The Resettlement Policy

The resettlement for the Three Gorges Project was initially conducted under State Council 1993 Decree 126: The regulations on resettlement for the construction of The Three Gorges project on the Yangtze River (Wilmsen, *Development For Whom*, 2011, 25). These principles inspired the resettlement decree: those displaced must be resettled as close to their homes as possible, rural resettlers must remain on the land if possible and land resources will be increased by opening wasteland if necessary, and construction of new enterprises will increase the standard of living of the resettlers. These three principles were important to maintaining the livelihood of the displaced populations. However, in 1998 the Yangtze River experienced devastating floods that killed around 3,000 people and the Chinese government

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determined that the land clearing for the dam had degraded the Yangtze catchment which increased the severity and ferocity of the flood (Wilmsen, Development For Whom, 2011, 25). As a result of the flood, the State Council enacted the National Forest conservation Program, which closed the surrounding hillsides in order to aid reforestation and restricted cultivation in order to restore the woodlands, thus opposing the 1993 regulations by not opening “wasteland” for resettlement. In 1999, the prime minister, Zhu Rongji announced two adjustments to the 1993 regulations as to address the contradiction between the Government’s actions and the 1993 regulations (Wilmsen, Development for Whom, 2011, 25). First he announced that a large number of the resettled would be relocated to an area outside the reservoir area. Secondly, he announced the closure or restructure of businesses that were polluting the environment or operating at a loss. Two years later, on February 15, 2001, these new regulations were approved and are still enforceable when governing the Three Gorges Resettlement Area today, despite other improvements to the resettlement policy since 2001 (Wilmsen, Development For Whom, 2011, 25).

Both the 1993 and 2001 Regulations delineate multiple measures intended to develop the Three Gorges Resettlement Area. Some of these measures include (i) allocating profit from electricity generation to the inundated areas; (ii) utilizing a portion of the tax collected for the construction of the dam to improve the inundated areas; (iii) supplying the inundated areas with electricity; (iv) providing displaced persons with preferential employment opportunities; (v) providing loans for agriculture, the development of technology, fisheries, animal husbandry, rural enterprises, and tourism (Wilmsen, Development For Whom, 2011, 25).

Despite the 2001 regulations, it became apparent that many of the rural population would have to be displaced to urban areas. In 1997, it was estimated that the population displaced due to dam construction would be forty percent rural and sixty percent urban and as of 2004, “361,500 rural persons and 484,700 urban people have been displaced” (Development for whom, 2011, 26). More recent estimates about the demographics of the displaced have stated that the displacement is more evenly split with fifty percent being rural and the other fifty being urban.

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Outcome of Resettlement

The overall outcome of the displacement was negative given the economic loss and depression experienced by many of the displaced. The main problem with the resettlement was the fact that a substantial number of people were displaced from rural areas to urban areas, causing a drastic change in lifestyle. There were also problems with rural residents being displaced to other rural areas. As mentioned earlier, many of the rural resettlers, who were not displaced to urban areas, were displaced to higher ground, but there were many problems associated with this relocation. Due to landslides in the upper elevations, rural populations were not able to be relocated to other rural areas and were forced to move to urban areas, or worse, some populations were displaced to urban areas after being displaced to higher elevations. Another negative effect of being displaced to higher ground was the effect it had on farming. The farmland that was flooded for the reservoir accounted for 40% of China's grain crop and 70% of its rice crop. The farmers that have been relocated to more hilly terrain have struggled to grow rice and grain as successfully as they did before, thus diminishing their crop (Ferraro). A study done by Sean-Shong Hwang, Yue Cao, and Juan Xi (2011, 84) determined the effects displacement had on the economic wellbeing, social wellbeing, and mental and physical health of those who were displaced, by surveying around 900 migrants and non-migrants. The migration has had mixed effects on economic wellbeing of those displaced; although some of the displaced were better off economically after their move, the average loss due to the move was 2,870 Yuan. Additionally, migrant households experienced 4,820 Yuan more in debt than those who were not displaced (Hwang, 2011,84). Another indicator of economic wellbeing is standard of living, which is measured by "the percentage of households which own expensive durable goods such as a washing machine, air conditioning unit, motorcycle, and refrigerator" (Hwang, 2011, 84). Additionally, migrant families experienced a significant gain in owning a multistoried house as compared to non-migrants. The final measure of economic wellbeing that was used in the study was access to doctors, schools, and recreation, in which migrants experienced a decline in being able to access these essentials when compared to non-migrants (Hwang, 2011,84).

The second area that was explored by the study was the social impact of the move which was measured in two ways: the access to constant social support and the quality and quantity of

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social connectedness. In this area, migrants experienced a drop in rapport with neighbors and a loss in routine social support when compared to non-migrants (Hwang, 2011,84). Finally, the mental and physical health of migrants was assessed and it appears that, as a whole, the migrants were more depressed than non-migrants (Hwang, 2011,84).

#### Conclusion

Overall, the Chinese government seems to have had good intentions in wanting to protect the inhabitants of the Three Gorges Dam area. However, illustrating the country's economic prosperity was at the forefront of their intentions and they did not consider the effects displacement would have on the people. The unfortunate circumstances that the people had to face should not occur in the future. There are important lessons that can be learned from this case that can be put into place to make future displacement less of a hardship.

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Kosovo

Kosovo, located in the Balkans, was the center of brutal civil war that began in 1998 and displaced an estimated 300,000 civilians. Western European nations and the United States raced to establish a diplomatic solution to war before it spread to the entire region. During the war, Kosovo, a province of Serbia, was one of two federations, the other being Montenegro, that remained in the Federal Republic of Yugoslavia after the breakup of Yugoslavia in the early 1990s. Kosovo's ethnic makeup was similar to that of Croatia and Bosnia, two other former Yugoslavian territories which were immersed in sectarian conflict during 1991 and then from 1992 to 1995. At the time of the conflict, there were about two million residents of Kosovo, with about ninety percent of them being ethnic Albanian. However, the majority of the rest of the population consisted of ethnic Serbs, who controlled the "political and security establishments in the province with the help of the Serbian-dominated Yugoslav government in Belgrade" (UN Secretary General, 827).

In February of 1998, an underground Albanian guerrilla movement fighting for the independence of Kosovo, began an aggressive offensive movement, prompting a series of counter attacks by Serbian authorities. By the end of the year, dozens of ethnic Albanian villages had been demolished, and about 300,000 civilians had fled their homes seeking refuge in other areas of Kosovo or surrounding European countries; some traveled as far as Great Britain. Additionally, during this conflict, there was an estimated 500 to 2,000 people killed (UN Secretary General, 827).

Many warnings were issued by the United Nations and Western powers, led by the United States, in the beginning of 1998. Later, during the fall of that year diplomatic action was taken and they intervened with the conflict. However, by the time of the intervention, the Serbian authorities in Belgrade had already demolished a large area of the Albanian community and there was significant damage. To restore all of the villages that were destroyed and to reestablish the local economy would take millions of dollars and require millions of dollars in aid (UN Secretary General, 827).

The conflict in Kosovo posed a problem on an international scale. The violence towards the ethnic Albanians was so tragic that the international community was required to take action.

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Simultaneously, there was not much international support for Kosovo to become an independent Albanian state, going against what most of the Albanians in Kosovo wished for. If the Albanians in Kosovo were granted independence, other ethnic groups throughout Europe would most likely demand independence as well, causing conflict. The goal of the Western Officials was to get Serbia out of Kosovo and not the other way around (UN Secretary General, 827).

Background to the Conflict

Prior to 1989, the Albanians in Kosovo experienced significant autonomy from Serbia, but in 1989 Slobodan Milosevic, the Serbian President at the time and soon to be president of the Federal Republic of Yugoslavia, asserted Belgrade's security and political control over the province. In doing so, Milosevic reenergized an independence movement in the Albanians in Kosovo. Throughout the rampant conflict all over the former Yugoslavia during the 1990's, world leaders hoped Kosovo would not succumb to extreme violence as well. One initiative that most likely delayed the onset of fighting in Kosovo occurred in 1982 when President George Bush sent a small military contingent to Macedonia in order to warn the Serbian offensive of the consequences of using violence toward the Kosovar Albanians (UN Secretary General, 828).

The fighting in Kosovo began in February 1998 when an armed pro-independence guerrilla group, the Kosovo Liberation Army (KLA), attacked Serbian security officials and gained military control over much of the countryside. The main source of military support for the KLA came from the Albanian Government. This attack triggered a cyclical, back and forth battle where the Kosovar Albanians would gain ground, prompting a counterattack from the Serbian military and police which in turn caused the Albanians to retaliate. By the middle of 1998, the KLA maintained control of about forty percent of Kosovo (UN Secretary General, 828).

Due to the extreme violence in the area, thousands of civilians were forced to leave their homes and the fighting destroyed a majority of the province's agriculture-based economy. The fighting was also seen by both sides as beneficial. The KLA believed that brutality of the Serbian counter attack helped solidify public support for independence. Likewise, Milosevic

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was pleased that his regime was able to destroy Albanian communities and force them to flee (UN Secretary General, 828).

Although the two parties involved in the conflict believed they were making progress, the international community did not feel the same. On March 31, 1998, the UN Security Council passed the first resolution on Yugoslavia during the year: resolution 1160. This resolution condemned the use of “excessive force” by the Serbian police and “all acts of terrorism” performed by the KLA. The resolution also mandated that all outside parties no longer supply weapons to either side and it suggested that the two parties should have a “meaningful dialogue” to settle the conflict. Finally, a group of Western nations, including the United States, called a contact group, issued proposals for establishing peace talks and ending the fighting (UN Secretary General, 829).

On July 19, eleven days after a statement from the contact group, Serbia attacked Kosovo with the harshest and most sustained offensive to date. According to the Serbian police, the offensive was intended to regain control over major roads, but it was clear that the Serbian forces intended to demolish the villages that had been KLA strongholds and regain control of the territory. The Serbian military and police fired at villages until the civilians fled. Then, they went through the village and burned down houses, shops, fields, and farms as an attempt to prevent the civilians from returning to their villages. If there was anything left after the ransacking, the military would bulldoze it (UN Secretary General, 829).

Additionally, the military gave weapons to ethnic Serbs claiming that they needed to be able to protect themselves from the Albanians, but the true intent was to promote vigilante groups. This brutal attack allowed the Serbians to successfully recover most of the area that was claimed by the KLA.

During the fighting, it was difficult for outside parties and journalists to determine how much damage was being done. Human rights organizations did their best to glean information about the severity of the mass killings. Finally, on August 3, 1998, when the fighting was at peak intensity, James P. Rubin, State Department spokesman, announced in Washington D.C. that NATO ambassadors had permitted the use of military force, almost certainly air strikes,

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against Serbia. The diplomatic reports specified that “Kosovo was on the edge of a humanitarian catastrophe” (UN Secretary General, 829).

The NATO threat did little to diminish the conflict and the fighting continued relentlessly for the next two months while the Western Powers deliberated over what kind of action to take. Between the summer and the fall of 1998, at least 200,000 people were forced to leave their homes; 50,000 of them did not have any shelter and their only protection was a plastic sheet (UN Secretary General, 829).

Then, on September 23, the UN Security Council adopted Resolution 1199, the second resolution on Kosovo in 1998. This resolution restated all of the mandates from the previous resolution and called for an immediate termination of fighting and placed the majority of the responsibility of the conflict on the Yugoslavian government (UN Secretary General, 829). However, a few weeks later, in early October, reports surfaced of a series of massacres of Albanian civilians and it was later confirmed that on September 26, eighteen civilians, including women, children, and elderly people, were shot and a few were mutilated. This attack reaffirmed the position of Resolution 1199 and the fact that the Yugoslavian government held most of the blame (UN Secretary General, 829).

It was reported, on October 4, that Yugoslavian president Milosevic had order the Serbian Military to cease the offensive. The next day, UN Secretary General Kofi Annan expressed his outrage over the number of lives lost and the brutality of the conflict. He said, “I reiterate my utter condemnation of such wanton killing and destruction. It is clear beyond any reasonable doubt that the great majority of such acts have been committed by security forces in Kosovo acting under the authority of the Federal Republic of Yugoslavia” (UN Secretary General, 830). Annan continued to say that, under international law, Yugoslavia had the right to respond to the violence with in their territory. However, that was not justification for the terror that was imposed on the civilians (UN Secretary General, 829).

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The Role of the United States and NATO

The United Nations was not the only entity that played a role in mediating the conflict in Kosovo; The United States was also influential in the process. Specifically, U.S. special envoy Richard C. Holbrooke traveled to Belgrade on October 5 in order to negotiate with Milosevic. Holbrooke was experienced in mediating conflict; he was the head architect of the 1995 agreement that ended the fighting in Bosnia and which Milosevic's acquaintances facilitated. During the next week, Milosevic and Holbrooke worked out an agreement that would put into place many of the key provisions of the UN Security Council Resolution 1199. As mentioned earlier, this agreement called for a cease-fire in Kosovo that would be supervised by an international force. The force consisted of NATO reconnaissance flights and a troop of 2,000 "verifiers." In addition to a cease-fire, the provisions also called for new negotiations between the Kosovar Albanians and the Serbs, which would in turn lead to a restoration of Kosovo's local autonomy (UN Secretary General, 830).

The agreement between Holbrooke and Milosevic was announced on October 13, 1998 in Belgrade. Holbrooke stated that Milosevic had accepted the terms of the agreement two days earlier, which was the same day that NATO ambassadors had authorized air strikes against Serbia if Milosevic had he not agreed to a cease-fire. During the negotiations, Holbrooke never spoke directly to the Kosovar Albanians and left the responsibility of establishing peace with the Milosevic regime (UN Secretary General, 830).

During the next few days, Milosevic signed two agreements; the first agreement, signed on the 15<sup>th</sup>, allowed NATO to fly unarmed NATO reconnaissance flights over Kosovo and the second agreement, signed on the 16<sup>th</sup> with the Organization for Security and cooperation in Europe, Milosevic agreed to the presence of the "verifier." These "verifiers" were tasked with the job of reporting their findings in the area to the Security Council (UN Secretary General, 830).

Despite Milosevic's signing of these agreements, NATO had to wait almost two weeks for Milosevic to obey the terms of the agreements. On October 27, NATO forces concluded that the Serbian forces were withdrawn enough to deem that there was "substantial compliance" with the agreement. During the two week period leading up to the removal of the troops,

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NATO warplanes were on alert in case it seemed like Milosevic was renegeing on his promises (UN Secretary General, 830).

Despite the threat of an air strike, violence increased in the beginning of 1999. On January 9, the Yugoslavian army fired at a village in Kosovo after KLA guerillas took eight soldiers hostage near the village. International monitors were able to mediate the violence and achieve temporary peace between the army and the guerrillas, but Western diplomats felt that the situation in the area was deteriorating and the region was on the brink of breaking out into full-scale war. Then on January 17, Serb troops shelled another village in Kosovo, killing forty-five ethnic Albanians and another twenty-four ethnic Albanians were killed on January 29, in a shoot-out. Due to these incidents, NATO warned the two parties that they had three weeks to negotiate a plan that would give Kosovo autonomy; peace talks began on February 7 outside of Paris, France, with the threat of a NATO attack looming if a peaceful solution was not reached within two weeks. On February 23, Albanian and Serb representatives tentatively agreed to end the conflict in Kosovo with British foreign secretary Robin Cook stressing that fact that NATO was authorized to launch air strikes if a final accord was not reached between the two parties (1999).

A peace agreement was signed by ethnic Albanian representatives on March 18, but Serbian representatives refused to sign because the agreement included a planned NATO peacekeeping force in Kosovo. Two days later Serbian forces attacked a KLA stronghold in Kosovo. The Serbs shelled and burned villages causing 40,000 ethnic Albanians to flee the area. Finally, on March 23, 1999, NATO decided to launch air strikes against Serbia since peace agreements between Holbrooke and Milosevic failed to reach an agreement. The next day, NATO launched its first air-strike against a sovereign nation in its history. This bombing campaign caused an additional 260,000 Albanians to leave their homes and on April 6, it was estimated that 400,000 Albanians fled Kosovo since the air-strike began (1999).

Finally, on June 5, Milosevic formally accepted a plan for peace devised by Russia and the European Union after 72 days of NATO bombing. However, the bombing continued until Serb forces began to withdraw from Kosovo on June 10. Later that month Milosevic and other Yugoslav leaders were charged with war crimes (1999).

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Refugee Crisis

After more than two months of NATO bombing, when the cease-fire was called, there were about 860,000 ethnic Albanians that had fled to Albania, Macedonia, and Montenegro. Many of these refugees ended up living with local families while the rest stayed in refugee camps that were managed by the United Nations High Commissioner for Refugees and other non-governmental organizations, namely, The Red Cross and Doctors Without Borders (Cooper, 1999, 569-92).

In later April, with the conditions in Kosovo worsening, there was a steady flow of refugees into the camps. More than 25,000 refugees were staying in the Brazda camp at this time. The camp was designed to accommodate only 12,000 people and, being packed to more than twice the maximum capacity, sanitary conditions were extremely poor. Long lines would form for food, the smell of human waste was prevalent, and the risk of an outbreak of contagious diseases rose with the temperature as summer approached. Although these conditions were treacherous, according to Barnett R. Rubin, a Kosovo specialist at the Council on Foreign Relations in New York City, the refugees at Brazda were, “Some of the best-off refugees in the world” (Cooper, 569-92, 1999). He claimed that they had enough food, were in good health, and had access to communication and transportation, all things that refugees in Africa did not have. He believed that they were poor compared to others living in Europe, but not when compared to the rest of the world (Cooper, 569-92, 1999).

In addition to the poor living conditions in the refugee camps, there were also many other negative effects of being displaced. Many refugees were marginalized in the country that they fled to and were considered a minority group. Many natives of the countries where many ethnic Albanians were displaced to did not like the negative economic effects that came along with having numerous refugees living in their country. This created ill feelings between natives and refugees. This was also a problem when refugees fled to Western European countries. Many of the refugees chose to go to Western European countries for a better chance of improving their living conditions. However, they were still faced with the social exclusion that comes with being a minority. Additionally, many refugees in England found it difficult to get a job at their skill level, which reduced their ability to access many benefits

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such as medical care and education. Additionally, contact with relatives was low creating further social isolation (Mirjana, 2009, 105).

Although many refugees left Kosovo in search of a better standard of living, the majorities of refugees went to surrounding countries or were displaced within Kosovo. Since they were so close to their homes they were able to quickly return when the bombing ended. Between June 11 and June 30, about 477,000 Kosovar Albanians had returned to Kosovo. This represents about half of the total number of refugees and the largest spontaneous returns of refugees in history (Vjcran, 109-111, 2000).

There were many agencies involved in providing food and shelter for the refugees. As mentioned earlier The Red Cross played a significant role in providing shelter and food for refugees. Also, many convoys were sent to various refugee camps and villages with in the area full of supplies food, water, blankets, tents, and hygienic kits. These convoys got their supplies from the UNCHR, WFP, and UNICEF (UN agencies).

Additionally, The Food and Agriculture Organization of the United Nations appealed to donor Governments for \$5.5 million in emergency aid to Albania and \$3.5 million for Macedonia. FAO believed that 12,000 rural families in Albanian and 8,000 in Macedonia were providing shelter and food to refugees from Kosovo. This significantly stressed the economic wellbeing of these families because the majority of them were already living in poverty. Many host families were using their own money to provide refugees with food reserves. FAO and the Food Agency of Macedonia were providing fertilizer, seeds, cows, and hens to the refugees and the families helping them to stay fed. These were not the only agencies assisting the refugees from Kosovo. Many other NGO's and international organizations such as Catholic Relief Services, Oxfam America, and Save the Children assisted in the effort as well (UN agencies, 1999).

#### Effects of Displacement

After the conflict in Kosovo, many countries around Europe received refugees. The majority of the displaced fled to neighboring countries, but some ventured as far as the UK. In 1999, 4,346 refugees from Kosovo were displaced to the UK. A Study was done on 824 adult

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refugees and it was determined that many of them exhibited symptom of depression and post-traumatic stress disorder. Many did not realize that they were experiencing serious mental health issues and just blamed it on the stressful things associated with being displaced. They also had feelings of social exclusion and one possible cause of this is a language barrier. (Turner, Bowie, et al).

### Repatriation

While the displaced were scattered around Europe, they desperately wanted to return home. Once conditions were safe enough, they realized that they should return to take care of their land, homes, and possessions. NGO's and other international organizations also had a large role in helping the refugees return home after the conflict. The first major organized repatriation occurred in June of 1999 when many ethnic Albanians returned to Kosovo. The people were returned to the safest areas of Kosovo first. Many people decided to return home on their own and around 348,000 people had returned by the end of June. This left about 415,000 people still in refugee camps in Macedonia, Albania, Bosnia, and Montenegro (UNHCR repatriation). Many returned to demolished houses, but the lucky ones who still had a place to live generously invited neighbors to stay with them. Additionally, NGO's provided them with shelter, food, water, and supplies to start farming again such as seeds, fertilizer, and livestock (UNHCR repatriation).

### Conclusion

There were many factors that lead to the great number of refugees that were created as a result of this conflict. First, the disproportionate attacks on between Serbia and Kosovo. These attacks put the people of Kosovo at a significant disadvantage, forcing them to leave their homes and not have their voices heard. The second issue was the NATO bombings forced many more ethnic Albanians to flee. Finally, after the case-fire, many Serbs fled Serbia because they did not want to be associated with or punished for the atrocities committed against the people in Kosovo. Due to the large scale of the violence, number of refugees, and the involvement of NATO, the international community played a significant role in protecting and caring for the refugees. There was a lot of support from all over the world and many of the refugees were able to return to their homes. Those that were not able to return faced some

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struggles in terms of social inclusion and economic stability. However, as time progressed, the effects of relocating slowly wore off. Additionally, this displacement was unavoidable due to the significant pressure being placed on the Kosovar Albanians. The overall negative outcomes of the displacement should provide the international community with irreplaceable experience that could be used in case of future conflicts.

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Hurricane Katrina

During the early morning of August 29, 2005, Hurricane Katrina, a Category 3 hurricane, made landfall south of Buras in Plaquemides Parish, Louisiana. The hurricane, which had made landfall in Florida four days earlier, had effects on 108,456 square miles in Florida, Mississippi, Louisiana, Tennessee, and Alabama. Even states much further north like Kentucky and Ohio experienced some flooding due to rising water levels of the Mississippi River. New Orleans was more vulnerable than other areas because the average elevation of the city is about six feet below sea level (Hurricane Katrina). When the hurricane made landfall in Louisiana, wind speeds were recorded at over 140 miles per hour and at one point hurricane-force winds reached up to 190 miles from the eye of the storm and tropical storm force winds extended for about 440 miles. These high winds, combined with large waves, created the biggest reported storm surge in recorded history. The surge, reaching up to 30 feet, created a strain on the levees (About Hurricane Katrina). During the 20<sup>th</sup> century the Army Corps of Engineers had constructed numerous levees and seawalls designed to protect the city from flooding. The levees that were built along the Mississippi River were sturdy. However, the ones holding back Lake Borgne, Lake Pontchartrain, and the swamps and marshes were not as reliable. Officials were worried that these levees, built upon sandy soil, would not withstand the huge storm surge (Hurricane Katrina).

These predictions were correct and the levees at the London Avenue Canal, the Industrial Canal, and the 17<sup>th</sup> Street Canal were ruptured and the city was flooded. This catastrophe caused more than 1,800 deaths, thousands of injuries, 700,000 to be homeless, and about 800,000 were displaced throughout the united states; total damages were an estimated \$34.4 billion. Additionally, the population that was most affected by the hurricane were poor, minorities, and elderly, because they were unable to leave the city when the mayor of New Orleans, C. Ray Nagin, ordered a forced evacuation of the city, prompting more than one million people to leave their homes. However, about 150,000 people were unable to leave the city and represented the majority of the victims of the flooding (Hurricane Katrina, Encyclopedia, 665, 2008). Due to the storm, about 275,000 houses and 400,000 jobs were lost, leading to a financial crisis in the area (Kurpis, Brian).

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#### After the Storm

After the storm, Coast Guard was able to rescue about 34,000 people in New Orleans. Additionally, many ordinary citizens utilized their boats in order to get food and shelter to their neighbors. However, the federal government was not as successful as the Coast Guard and the citizens of New Orleans. The Federal Emergency Management Agency (FEMA) took days to get to New Orleans and when they arrived they did not have a plan of action. It was believed that President George W. Bush and other officials in Washington were not aware of the devastation in New Orleans and had no idea that many people had nowhere to go. The Superdome was packed with survivors of the storm, and resources and supplies were limited. Tens of thousands of people broke into the Ernest N. Morial Convention Center complex in search of food, water, and shelter. However, this didn't help their situation and only created more chaos (Hurricane Katrina).

#### The Displacement

The displacement due to Hurricane Katrina was the largest displacement of Americans since the civil war. More than 500,000 people were up-rooted due to the storm and forced to start the lives over again. Louisiana was overwhelmed by people in need of shelter, so people poured into surrounding shelters, arenas, convention centers, churches, schools and homes of families and friends. According to The Red Cross, every shelter in the seven state region of Mississippi, Alabama, Florida, Georgia, Arkansas, Texas, and Louisiana were full. Even hotels over 100 miles from New Orleans quickly filled with those affected from the hurricane (David Von Dehle, 2005).

#### The role of FEMA

In order to assist the hundreds of thousands of people without a home, FEMA provided more than 770,000 families with long-term housing assistance. Since the effects of Hurricane Katrina were so catastrophic and the devastation was so wide spread, a great effort was made to house these families during their transition to finding long-term housing on their own. Included in the 770,000 families were 77,000 families that lived in FEMA-provided homes that were placed on individual properties on group sites in Mississippi, Alabama, and

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Louisiana. Additionally, 60,000 families were placed into apartments around the United States and reimbursed by FEMA for the cost of the apartment. Some of the displaced found apartments on their own were also reimbursed using FEMA rental assistance. FEMA also offered subsidies to families staying in hotel rooms and about 11,000 families were living in hotels during 2006. Although this program ended during 2006, FEMA provided these families with rental assistance or education about alternative housing options for when their hotel stay expired (FEMA Hotel/Motel).

### Costs

Paying for families to stay in hotel rooms was expensive. As of February 2006, FEMA had paid over \$541 million for motel and hotel rooms. At its highest point, displaced families occupied 85,000 rooms in one night (FEMA Hotel/Motel). In the state of Mississippi alone, FEMA and the Mississippi Emergency Management Agency had spent three billion dollars to help those affected to meet their basic needs and to help them recover from the storm. The two groups also spent three billion dollars to restore bridges and roads, schools, medical facilities, public building, parks and other infrastructure. The three million dollars of FEMA funding was allocated as follows: \$187 million for public recreation facilities, \$890 million for public utilities, \$652 million to restore public buildings, \$91 million for roads and bridges, \$66 million for medical facilities. Also, 294 million dollars of federal funds were spend to build safe rooms and shelters and on hurricane-proofing in hopes to reduce the severity of future disasters. Another important factor to protect from the damages of hurricanes is flood insurance. More than \$2.8 billion in National Flood Insurance Program claims were paid to policy holders in Mississippi. The number of flood insurance policies had also increased since Hurricane Katrina from 46,982 to 76,521, representing a sixty-three percent increase (Five Years after Katrina).

The wealthy were able to start over by buying new houses and leasing new office space. The poor were waiting in lines for food, water, and soap. More than twice as many people were displaced from Katrina as the San Francisco earthquake of 1906. About 150,000 people displaced lived below the poverty line even before all of their belongings were lost in the storm. Additionally, more than 50,000 of them were over retirement age (Von Dehle, 2005).

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### Effects of Displacement

The displaced were faced with trying conditions, whether they were stuck in a shelter or trying to create new lives. However, the effects of people who moved away and started over were different than those who did not. Of the many people displaced due to Hurricane Katrina, 10,000 relocated to Colorado. Furthermore, FEMA estimated that about 4,000 people were still living there two years after the storm, which supported the idea that some of the displaced would not return to New Orleans. The severity of the storm and the damage, there was great potential for the displaced to have psychological problems such as depression and posttraumatic stress disorder (Wadsworth, 2009, 413). Depression and post-traumatic stress were found in those who moved on and relocated to Colorado. The symptoms were classified into four “symptom trajectories”: resilient, recovered, delayed onset, and chronic (Wadsworth, 2009, 413). Some people were resilient when met with disaster and do not show any symptoms of depression immediately or over time. Secondly, some showed symptoms of depression at multiple times following a disaster. Thirdly, some showed symptoms initially and then recover over time. Finally, some did not show symptoms until time after the disaster has passed (Wadsworth, 2009, 414). This depression has many causes related to the hurricane. First, disaster-related stress can be caused by physiological losses like a loss of self-esteem, or physical losses such as losing a home. Additionally, moving to a new place diminishes one’s ability to cope with the disaster through support from family and friends. Initially, communities are supportive of people affected by disasters, but the support is fleeting when the displaced need long term support (Wadsworth, 2009, 415).

### Conclusion

The severity of the damage of Hurricane Katrina was not predicted; neither was how long it would be until people could return to their homes. As of 2009, 217,500 households of the 283,300 households that were forced to move after the hurricane were living in shared residences. Of which 208,700 were living with an acquaintance and 20,000 were living with people they had not previously known. Additionally, 235,900 households were living in a house or apartment and 22% were living in a hotel, motel, or cruise ship (Census Bureau). Unfortunately, the city of New Orleans is still recovering for the destruction and devastation

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of Hurricane Katrina. Furthermore, the physiological effects observed in those that moved to Colorado illustrate just a fraction of the negative outcomes of the move. A natural disaster like this comes with little warning and hopefully important lessons can be learned from this event that can be applied to the inevitable storms that will hit this region in the future.

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Bikini Atoll

World War II ended when the United States dropped an atomic bomb on Nagasaki and Hiroshima, Japan. As one would imagine, a lot of research and experimentation was needed in order to develop the atomic bomb and this was the main objective of the Manhattan Project. The scientists working for the project were tasked with the responsibility of creating nuclear fission. However, the next step in developing nuclear weapons was a hydrogen or fusion bomb. Progress was slow to develop this type of bomb and questions were raised about the feasibility of actually constructing such a bomb, as well as the morality of the use of such a destructive bomb. However, these questions were pushed aside when the Soviet Union detonated an atomic bomb in 1949. In response to this event, President Harry S. Truman approved a full-scale program to develop a fusion weapon (Newton, 2003, 126).

The first test of a fusion bomb occurred on October 21, 1952, at Eniwetok Atoll located in the Marshall Islands in the Pacific Ocean. This test was followed by six more tests which were referred to by the code-name, "Operation Castle," at Bikini Atoll in 1954. By 1956, the first nuclear fusion bomb was released from an airplane over Bikini Atoll. Bikini was chosen as a test site for numerous tests of fusion weapons in order to test out different designs for the bomb and to experiment with its effects on ships and the environment. One important aspect in preparing the island for these tests was to relocate all of the island's inhabitants (Newton, 2003, 126).

The Nuclear Project

In 1954, 161 people, comprising eleven families, lived on Bikini. Since the people of the Island do not have any written history, there is little known about their background. However, according to their oral tradition, their ancestors originally lived on the nearby island of Wotje Atoll. Additionally, prior to the early 1900's, the islanders had little contact with strangers and were even regarded with some disdain by other Marshall Islanders. During the early twentieth century, missionaries arrived on the island and caused them to become devout Christians. The people of the Island lived on breadfruits, coconuts, arrowroot, turtle eggs, fish, and birds which were all available in abundance on the atoll. The Bikinians were highly skilled fishermen and sailors. Furthermore, land ownership was important an important factor

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in their culture and someone who did not own land was considered to be lacking dignity as well (Newton, 2003, 126).

Additionally, the island of Bikini is the largest of the twenty-six islands that comprise the Bikini Atoll in the Marshal Islands. The twenty-six islands surround a lagoon to create the atoll which has a total area of 3.4 square miles. They also heavily relied on the lagoon as a source of food. Using spears and baskets, fishermen were able to catch an abundance of fish and, as mentioned earlier, Bikinians did not have much contact with outsiders, creating a strong culture based on strong family ties and tradition. When asked to relocate, the culture and close ties were tested and abundant food supply was left behind (Homeyer, 2006, 4).

Then, on January 10, 1946, President Truman signed an order approving the transfer of the entire population living on Bikini Atoll to the nearly uninhabited Atoll of Rongerik. The United States Government asked the Bikinians to relinquish their native land in order to allow the government to perform experiments that would benefit all humankind. The US Government argued that this action would earn them special glory in heaven for their generosity. The islanders agreed and were transported by the United States Navy to Rongerik, bringing with them their homes, church and community hall (Newton, 2003, 126).

In June and July of 1946, there were two test of atomic bombs performed at Bikini in conjunction with "Operation Crossroads." In order to prepare for the test, more than 90 vessels, including captured Japanese and German ships, surplus cruisers, submarines, destroyers, and amphibious vessels from the United States Navy were assembled. However, after the tests, the Navy decided that Bikini was too small and relocated their future experiments to Eniwetok Atoll (Newton, 2003, 126).

Operation Castle, the testing of nuclear fusion, marked the return of nuclear testing to Bikini. The most memorable test involved in Operation Castle was code-named "Bravo" and took place during 1954. The hydrogen bomb was expected to have a yield of six megatons, but the outcome of the test had a yield of 15 megatons. Bravo ended up being the largest single explosion that had ever occurred in all of human history by producing an explosive force greater than the combined force of all of the bombs used in all of the previous wars in history (Newton, 2003, 126).

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Because the force of the bomb was much greater than expected, the fallout from the bomb was also much larger than had been expected. Furthermore, due to a shift in the wind patterns, the fallout spread across a 50,000 square mile area. This large area included the three inhabited islands of Irtik, Rongerik, and Rongelap. Numerous persons on the islands developed radiation burns and others needed to be evacuated from their homes temporarily. Additionally, a Japanese fishing boat that accidentally entered the restricted zone was showered with fallout. Twenty-three crew members had developed radiation sickness by the time the boat was able to return to Japan. One crew member ended up dying of infectious hepatitis, presumably due to numerous blood transfusions (Newton, 2003, 126).

The role of Bikini as a test site ended in 1963 when the Soviet Union and the United States signed the Limited Test Ban Treaty, outlawing nuclear weapons testing in the oceans, atmosphere, and outer space. In 1968, the United States government deemed it to be safe for Bikinians to return and some did return to their homes. However, this return was short lived and, in 1978, tests determined that returnees had ingested unsafe levels of radioactive materials. Those who returned were then relocated to Kili, an isolated and desolate island located 500 miles from Bikini (Newton, 2003, 126).

The radioactive isotope cesium-137 was the main cause of the radiation on Bikini. This isotope was located so prevalently throughout the soil, water, and majority of the crops on the island that no one living on the island could avoid ingesting it. Additionally, because the isotope has a half-life of thirty years, the island will most likely remain uninhabited for the next century. There have been two solutions proposed to deal with this problem. One solution is to scrape off the top 12 inches of soil on the island, transport it to a different uninhabited island, and cover it in concrete. This approach is estimated to cost around \$80 million. Therefore, a second approach was proposed to fertilize the soil with potassium rich fertilizer, thus eliminating the isotope from the soil. Scientists have learned that potassium replaces cesium in soil and this approach would be more cost effective than the first approach. However, none of these solutions have been implemented and none of the Bikinians have been able to return home. That being said, the majority of the original 161 evacuees have already passed away and most of the 1,300 Bikinians who live on Kili do not want to return

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to their native land. Most would like to move to Maui, Hawaii, but the United States insists that they remain within the Marshall Islands (Newton, 126, 2003).

### The Relocation

Before the Bikinians ever left their home, the American Military governor of the Marshall Islands, Commodore Ben H. Wyatt, traveled to Bikini Atoll to discuss the possibility of their relocation. The locals were assembled after church on a Sunday afternoon and Wyatt asked if they would agree to being temporarily relocated to allow the United States to test atomic bombs, “for the good of mankind and to end all world wars” (Homeyer, 2006, 5). After deliberation, the leader of the Bikinians at the time, King Juda, confirmed that the group was willing to cooperate. A few days later, the entire population of the island was relocated 125 miles east to Rongerik Atoll. There were a few initial problems with the move. First, Rongerik was previously uninhabited, and was so for a reason: the island lacked adequate water and food supplies. Additionally, the island was about one sixth of the size of Bikini. Moreover, the lagoon that was encompassed by the islands of Rongerik Atoll had an area of only fifty-five square miles, compared to the almost three-hundred square miles of Bikini’s lagoon. Many of the relocated people were nervous about the sustainability of living on Rongerik, but they agreed because it was going to be temporary (Homeyer, 2006, 5).

After two months of living on Rongerik, the Bikinians were starting to run out of resources as they had predicted. Due to this stress, they started to make requests to return home. Additionally, the people for nearby Rongelap tried to help out by catching extra fish and transporting it to Rongerik. However, this food supply was still inadequate and the Bikinians were suffering from malnutrition within the year. Soon after, a US investigation found that there was an insufficient supply of food, low supplies of water, only one brackish well, and a bankrupt store. It was said that the conditions they were living in were that for starving people. Therefore, they were evacuated to a temporary camp at the Kwajalein airbase. As conditions worsened they were moved to Kili Island and then again to Jaluit Atoll, and back again to Kili (Homeyer, 2006, 11).

Furthermore, due to the poor living conditions and they fallout from the nuclear explosion, many other island people were forced to move around causing overcrowding of much of the

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island land space. “The population of sixty-six-acre Ebeye Island in Kwajalein Atoll grew from 980 people in 1954 to 4,500 people in 1966” (Homeyer, 2006, 12).

Finally, in July of 1968, the Atomic Energy Commission determined that the exposures to radiation that the Bikinians would face if they returned home would not be a significant threat to their safety and health. They also warned that top soil should be removed before planting and increasing calcium levels from powdered milk would reduce certain radiation intake. Based off of this information, President Lyndon B. Johnson approved the return of the Bikinians to their home (Homeyer, 13, 2006).

### The Return Home

After awaiting their return back to Bikini for many years, Bikinians were overcome with joy when they found out that they could go home. The Bikini Council decided that the families that wished to return home could do so. Therefore, not all families ended up returning. But the groups of people that did return became a part of the restoration effort that was initially funded by the United States. The US Department of Defense, along with the returning Bikinians, began a five year clean-up of Bikini with a \$2.7 million budget. However as the years went on, more scientific research was being done on the land and on the people who had returned to the land. Evidence that supported the fact that there were still high levels of radioactivity was growing. However, the United States government withheld this information from the Bikinians, who continued to live on the land not knowing about the dangers. As scientists discovered the severity of the issue, they performed high technology studies and demanded monetary compensation. Eventually these experiments would determine that it was unsafe for anyone to be living on Bikini (Homeyer, 2006, 14).

### Legal Consequences

Because the United States had misinformed the people who had returned to Bikini, the returnees sought out legal action. During October 1975, the Bikinians filed a lawsuit in the US District Court in Hawaii and demanded a full radiological aerial survey of Bikini. They also requested the end of the resettlement program until the United States completely complied with the National Environmental Policy Act. Subsequent testing revealed alarming

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results; many radioactive isotopes were found in the soil and the amount found in the bodies of Bikinians was increasing. In order to provide some compensation, Bikinians received a \$6 million trust fund from the United States government which was placed in The Hawaiian Trust Fund for the People of Bikini. Finally, extremely high levels of Cesium 137 were found in soil and plant life, forcing an evacuation of all Bikinians from their home for the second time. Therefore, another \$3 million were added to their trust fund (Homeyer, 2006, 15).

More hope came for the Bikinians in 1980 when US act 96-205, or the “Burton Bill,” provided the Secretary of the Interior the duty to provide medical to the population of Bikini. The care included special care for their exposure to radiation. The act also included the creation of an education program that would teach islanders a comprehensive overview of radiation and its effects (Homeyer, 2006, 15).

In 1982, after filing another lawsuit, with the US Federal Claims Court this time, Congress established The Resettlement Trust Fund pursuant to P.L. 97-257 for the People of Bikini upon the dismissal of the case six years later. The fund gave the people of Bikini \$20 million with an extra \$90 million to fund the clean-up of Bikini Island. The fund was also used to pay for government activities for Bikinians living on Marjuro and Kili, scholarships for students to study in the United States, building school and homes, travel expenses, medical plans, and attorney’s fees (Homeyer, 2006, 16).

Despite these attempts to compensate the Bikinians, they still were unhappy. The Government of the Marshall Islands signed the Compact of Free Association (COFA), in 1982. This was a binding agreement between the Marshall Islands and the United States that went into effect in 1986. This was the full and final settlement of all of the legal claims related to nuclear testing and provided for the establishment of the Nuclear Claims Tribunal (NCT) of the Republic of the Marshall Islands. Initially, \$150 million was used to create a fund with the intention of generating \$270 million that were to be given out to the people of Bikini, Rongelap, Enewetak, and Utrik over a 15 year period (Homeyer, 16, 2006).

Although monetary compensation was helpful, many islanders felt like their government sold them out by settling for the money and eliminating the possibility of any future lawsuits. Additionally, the majority of the money that was granted to the islanders was never

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transferred to the NCT. While a lot of money had been appropriated to the claims of the Bikinians, the tribunal did not have an adequate amount of money to pay all of the claims. Additionally, the costs of property damage, personal injury and medical and educational programs were significantly underestimated. Still not satisfied with the response of the United States to help them, the Bikinians sought monetary award through a Changed Circumstances Petition to the United States. They justified this petition with the fact that “new and additional information” had been revealed (Homeyer, 2006, 16). Unfortunately, the response to this petition has not been promising. In 2004, the US Department of State released a report citing several weaknesses in the Bikinian’s claims and arguing that there is no legal basis for any additional payments (Homeyer, 2006, 17). In 2006, the people of Bikini Atoll filed another lawsuit against the U.S. Government seeking compensation under the Fifth Amendment for the taking of their property damage claims resulting from the U.S. Government’s failure and refusal to adequately fund the March 5, 2001 order of the Nuclear Claims Tribunal. In 2007, the U.S. Court of Federal Claims dismissed the case. The Court of Appeals upheld the decision and the Supreme Court denied petition of certiorari in 2010, thus putting an end (a temporary end, at least) to Bikinians’ legal struggle for compensation.

#### Conclusion

Sadly, the body responsible for causing all of the harm to the innocent people of Bikini Atoll has not provided adequate support and compensation for the hardships endured by the Island people. It is devastating enough to be forced to leave your home and live in horrific conditions, but to be exposed to poisonous radiation makes the damage unfathomable. It goes without saying that the overall effects of this displacement were negative. The people relocated endured malnutrition, radiation poisoning, and multiple displacements. Fortunately, they were given some compensation for their hardship, although no amount of money can fully compensate for never being able to return to your home.

## **ANALYSIS**

The first step of my analysis is to determine what lessons can be learned from the four case studies. My research points to two important lessons. First, the entire process of being displaced, from pre-departure to repatriation, if possible, is traumatic. The second lesson is that the opinions of those being displaced should play an important role in the displacement process. Reducing the traumatic effects of displacement and listening to those who are being displaced would minimize the effect the displacement would have on the Pacific island populations.

### Trauma

There are many different types of trauma associated with being displaced. They can be broken down into two categories: psychological and physical trauma. Psychological trauma comes in different forms, the most common psychological effects to be found in refugees and displaced persons being Post-Traumatic Stress Disorder (PTSD). PTSD is often caused by torture or violence; depression, possibly due to the reaction of loss; somatization; and existence dilemmas, where there has been a challenge to belief patterns. These outcomes of displacement can be caused from experiences that occurred before the displacement, during the displacement, or on or after the arrival to their new home (Thomas, 2004, 115,127).

Another study found that those displaced and detained while waiting to be granted refugee status had poor mental health, including depression, post-traumatic stress, and high levels of anxiety, which worsened the longer they were detained asylum seekers. In Australia, detained asylum seekers waiting for refugee status were exposed, on average, to 12.4 major trauma categories, compared to the 4.8 of asylum-seekers who were not detained and living in the community (Thomas, 2004, 115,127).

These psychological affects do not always present themselves immediately upon arrival to their new home. Many of the symptoms take days, weeks, months, or years to manifest themselves. For example, one study found that mental health among Guatemalan refugees relocated to Mexico still had symptoms 20 years after the conflict. Twelve percent of them had post-traumatic stress disorder, fifty-four percent showed symptoms of anxiety, and thirty-nine percent experienced symptoms of depression. Other studies done on the mental health of

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refugees have shown that they have a tendency to have somatic rather than emotional conditions when pursuing help for mental health issues. Furthermore, a study done with a group of Vietnamese refugees in Australia, trauma-related physiological affects decreased in severity over time. However, a certain subgroup of this population experienced a high degree of exposure to trauma and had long-term psychiatric issues. Another cause of trauma is sexual assault. Nearly eighty percent of refugees and displaced persons are women and children. Studies show that around sixty percent of refugee and displaced women have been victims of sexual abuse. Youth are also vulnerable to trauma. One study showed that refugee children in the United Kingdom were being bullied more often at school.

Trauma is not limited to physiological causes; it can also be caused from physical health issues. Infectious diseases can have significant effects on refugee populations due to the physical conditions that displaced persons sometimes find themselves living in as a result of a conflict or other adverse event. Physical trauma most closely related to health, and during the displacement, there are a number of factors that affect health. One of these issues is the spread of contagious diseases. While living in overcrowded refugee camps, the risk of disease increases and so does the possibility of malnutrition.

#### **How The Cases Relate to Trauma**

The forms of trauma identified in the literature have been experienced by the populations displaced by the events discussed in the case studies, from changing climate conditions to moving to a new country. The first issue, moving to a different climate, was experienced by those who moved from the Gulf Coast area to Colorado in the Hurricane Katrina case. Those who moved were now living in a land locked state with a colder climate. Additionally, being so far away from their home hindered communication with loved ones and caused depression. This is a possible trauma that the island people might experience. There may be instances in which island populations will be relocated to other islands or other regions as a consequence of climate change. The stress that comes along with a different climate could have detrimental effects. Additionally, there is the possibility for a change in culture due to the change in climate. This type of trauma can be avoided if a proactive approach is used in determining the location of their new home.

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Another important issue that might cause trauma is moving from a rural area to an urban area. The change from rural life to urban life is drastic and could have detrimental effects on the displaced. This is what happened in the Three Gorges Dam case. Many people who lived in rural areas were forced to move to urban areas because there wasn't enough arable land near their homes to move to. Those who were displaced from a rural area to an urban area, on average suffered from an economic loss of 2,870 Yuan. The displaced also suffered a drop in rapport with neighbors and no longer experienced routine social support, therefore causing depression. This is an important factor when dealing with the island states. Island life is very different than city life and if these people were displaced to an urban area they will experience a great amount of stress and trauma. As mentioned above when determining their new home, this trauma needs to be considered.

The third trauma inducing event of being displaced is leaving one's home and homeland. Moving is always a traumatic experience to a certain degree and being forced to move only exacerbates the situation. The experience of leaving one's home is a traumatic experience that occurs in all four cases. It is most exemplified in the Hurricane Katrina case because those who moved to Colorado experienced symptoms of depression and lost contact with many of their close friends and family because of the move. This will be true of the people of the island states no matter where they are displaced to. However, the island communities are close knit and the group should be displaced in a close geographic area so they can all still live in a close knit community.

Another traumatic incident is learning a new language while living in a new country. This was most exemplified in the Kosovo Case where it mentions that the displaced who chose to move to the UK did not feel included socially and where a language barrier could have played a role in this feeling of social exclusion. When the island people are displaced, they will have to be displaced to a different country due to the nature of their entire island getting flooded. If the situation called for these people to be displaced to a country where they needed to learn another language, they would experience some trauma. It is important that classes in the new language be offered to help them adjust to their new home.

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How the Cases Relate to Decision Making

Another important lesson learned from the cases is the governance over the decision making process of where the displaced should go. This also relates to trauma in the sense that, if the displaced do not have any say in their relocation and are unhappy with their new home, they might become depressed or develop any of the psychological issues mentioned above. This was exemplified in the Bikini Case when, Commodore Ben H. Wyatt discussed the possibility of a temporary displacement with the people of Bikini. Although the people of Bikini were consulted, they did not have any say as to where they were being displaced to. Additionally, they became upset when, after a few months, they were still not able to return to Bikini. Finally, due to the radiation, they ultimately are unable to return for another century. In contrast, in the Three Gorges Dam case, they centralized central government made the decision of who was being displaced, where they were going to go, and when they were going to have to leave. If it were up to the displaced, they would most likely not have elected to be displaced from rural areas to urban areas. The scenario in the Katrina case was similar to that of the Three Gorges Dam in the sense that the displacement was mandated by the government. Although the US government forced an evacuation of the areas that were in danger from the storm, they did not tell the people where to go. There were shelters and areas that they could have gone to, but they had the choice where to go. It was also not necessary to go to a shelter; many ended up staying with friends, family, or even strangers. Finally, in the Kosovo case, the displaced fled because of the conflict and the violent conditions in their villages. They had the decision of where to go as well. Many went to stay in refugee camps, while others decided to start new lives in the surrounding European countries.

The lack of regard for the opinions of those being displaced is evident throughout the four cases. Although the situation in with the Three Gorges Dam and Bikini Atoll were not as pressing, the decision making process before Hurricane Katrina and the Kosovo conflict was less than ideal. If the displaced had more of a say in where they were being displaced to, they situation might have not been so dire. This is especially exemplified through the Bikini case. They locals knew that the island they were displaced to was uninhabited, and uninhabited for a reason. The lack of resources on the island caused the people of Bikini to starve. However,

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if the locals were consulted a little more about the issue, the US government might have learned about the conditions of the island and decided to relocate them somewhere else.

The people who will be displaced from the island states should have a say in where they are relocated to. This will not only make them happier, but it will also prevent the effects of trauma. By choosing where they relocate to, most of the scenarios that cause trauma explained above will not be an issue. They would be able to choose to live in a climate similar to the one they already live in, they can choose a location that will allow them to all live together, and they won't choose to live in an urban area. Allowing the islanders to decide where to move will alleviate some of the trauma associated with being displaced, but it will not eliminate it completely. This is why there other measures need to be implemented in order to help diminish the effects of trauma.

#### How the Cases Handle Trauma

The causes of trauma in the four cases are interesting to compare because they are different. However, another important thing to look into is how the causes of trauma were mitigated. The way the trauma was handled in the Bikini Case was through compensation. A trust fund was developed to repay those affected by the move and exposure to radiation. They also developed education programs about radiation, programs to educate children, health care programs, and to compensate for property damage and person injury. However, the fund does not have as much money as expected and many people will not receive a claim payment, leaving the islanders unhappy and feeling sold out.

The situations in the other three cases differ from the situation in the Bikini Case, because a lot of the need came from government agencies and not through legal action. In the Kosovo and Katrina cases governmental agencies, non-governmental organizations, and international organizations provided aid to refugees. Through shelters and housing plans, the refugees were provided with housing. Many other organizations provided the refugees with food and water.

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Implications for Future Action

The lessons learned from the cases highlight the need for policies addressing population displacement to prioritize certain goals. The first is to minimize trauma. This can be achieved through various policy goals and a proactive government approach. The displacement of island people in the Pacific is inevitable and predictable, which is a great advantage. Since there is still a good amount of time before the displacement needs to occur, governmental agencies have time to implement the following recommended policies. Trauma containment and minimization seems to be a priority. Some type of counseling for the displaced before and after the displacement must be set up as a strategy to address this issue. This could prevent and minimize the physiological effects of the trauma associated with the displacement, thus eliminating one added stressor of displacement. Also educating those who are about to be displaced about the displacement process. Since the displacement of island people will not be urgent and unexpected, time can be taken to determine how the displacement process will work, to seek input from the populations affected, and to inform those affected about the process.

A second issue is that of the deliberative process that determines where the displaced will go. This is an important issue because to assess because these people will lose their entire nation, so location is an extremely sensitive issue and the voice of the host populations need to be considered as well. Through this necessary deliberation, the displaced and the host population will be able to reach an agreement. It is important that through these discussions the culture and customs of the displaced are maintained. Most importantly, as mentioned earlier, since they displaced will be able to choose where they want to live, much of the stress and trauma of displacement will be eliminated. They will not have to deal with changing climates, moving from a rural setting to an urban setting, and they will be able to pick a location that will be able to accommodate entire communities.

Finally, there is the issue of financial support. Money will be needed to facilitate the move and to establish new lives for the displaced. In this scenario there are two options. The first option is to create a fund, similar to the Global Fund, that would be used to fund the displacement and other policy goals mentioned above. This type of fund is already in place

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and is called The Special Climate Change Fund (SCCF). According to the United Nations Framework Convention on Climate Change website, the fund was established to finance projects relating to technology transfer and capacity building, adaptation, energy, industry, agriculture, transport, forestry, waste management, and economic diversification. All of these things are important and should inherently be address when dealing with climate change and displacement. However, the SCCF does not take into consideration the trauma associated with being displaced. It could possibly be considered by adding it into the preamble, allowing it to provide funds in order to deal with trauma. The funds also need to be used to help minimize the psychological effects of displacement and to educate the displaced about their displacement. One possible way to do this is to fund counseling. Additionally funds need to be allocated to establishing a dialogue between the displaced and their host population. Finally, some of the funding must be awarded to the host people for generously accepting the islander into the country and providing them with land. Having to host a new population on their land will increase healthcare costs and create a social burden.

The second option to care for the specific needs of the displaced is a welfare benefit system. This would be done by providing the displaced with food stamps, health care, education and help with housing. This would be similar to being considered a refugee and the care that come along with that. However, this would need to be more comprehensive than the refugee program and provide remedies for the trauma associated with the displacement. That being said, I believe that the SCCF is the best method for two reasons. First, the Fund already exists and to create a new welfare program would cause confusion among the international community and could decrease from the funding. Secondly, the money in the fund could have many more uses than the programs in a welfare system. Money will alleviate the variety of issues associated with being displaced and the support being offered by the international community should not be limited to the narrow scope of welfare programs. Additionally, there may be other unforeseeable issues associated with the displacement that will need additional funding and that should not be limited by the abilities of a welfare program.

Another important consideration is the equity of the polluters compared to those displaced. Unfortunately, the industrialized world is responsible for the degradation of the living and climate conditions in the island states. These countries should have some responsibility to

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provide some of the money towards the fund. It is extremely difficult to determine which countries contributed most to the specific conditions in the Pacific, but it should be mandatory for polluting countries to contribute to the Fund.

Overall, there are many lessons to be learned in looking at the four cases of displacement. The two most important are the fact that being displaced is a major cause of trauma and that the displaced should have some say as to where they are displaced to. Through policy changes and clear goals, these two important factors will be addressed and the transition for the displaced persons will be much easier. In order to facilitate this, the SCCF should be expanded in order to encompass unforeseeable issues with displacement, to compensate the country that hosts the displaced, and to be a means for the polluting countries to supply some of the funding to partially make up for the effect their polluting has had on the environment. These are important steps to take to make the displacement of the islanders a little bit easier and reduce the trauma they will experience during the move.

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**CONCLUSION**

Overall, there are two main lessons to be learned from looking at the case studies. The first is that trauma is a major effect of being displaced and the second that the displaced need to be involved in the decision making process that determines where they are displaced to. It is important to take the lessons learned from past displacements and it is not a good idea to let these lessons go to waste and make the same mistakes twice. Additionally, there are many other issues associated with the displacement of people living on island states that are addressed in the media. I decided to look at the human aspect of displacement and consider how I would want to be treated if I were to be displaced. Therefore it is important that policies that are put into place to protect these people keep in mind the following two goals: to reduce trauma and to involve the displaced in the deliberation process. Furthermore, the SCCF should be expanded to cover all of the issues associated with being displaced, including reimbursing the host country. Also in terms of equity, the polluting countries should be responsible for providing some of the money to the fund. Since this displacement is predictable, there is time to create implement these policy goals and make the displacement a little bit easier for the island people.

The issue of climate induced displacement is important, but also not very well-known. My hope is that this project brings attention to the fact that in our lifetime entire countries will disappear and hopefully this project inspires more environmentally friendly practices so future climate change can be reduced.

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