

Climate Change Impacts

Pacific Islands

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Introduction

Climate change causes temperature rises, sea-level rise, precipitation change, droughts, flash floods, and ocean warming. All these leave Pacific Islands defenseless against Mother Nature. Climate change has a huge impact on both human and natural systems. However, one must not mostly blame Mother Nature. There are studies that show evidences that show that human activities are the cause of the climate change that we have seen in the last fifty years. If nothing is done, most Pacific Islands like the Republic of the Marshall Islands (RMI) will disappear. I chose to write about Marshall Islands because it was where I was born and raised. Over the years I have seen how climate change has changed the place I call home for the worse. RMI is composed of twenty-nine atolls which each contain many islets, and five single islands. Most of these low lying coral islands are narrow and are six feet above sea level. Most of the atolls and islands are so narrow that you can walk from the lagoon side to ocean side in about two to seven minutes. RMI is halfway between Hawaii and Australia.

Climate change is already changing the coastal systems of many Pacific Islands such as RMI and Kiribati. Like RMI, Kiribati is very similar; it too has low-lying coral islands that are narrow as well. In the summer of 2012, I went back home to the capital of RMI, Majuro. I noticed and was shocked by how much erosion has deeply affected my home. There is less land and more water on Majuro than there used to be. Climate change has caused high rates of erosion and costal land loss in both RMI and Kiribati. It has been estimated that “a one meter rise in sea level would submerge over 80% of Majuro (Intergovernmental Panel On Climate Change, 2001). Kiribati has already lost two inhabited islands that were mostly used by fishermen submerged. According to

some experts if water rises between 3 and 6 feet, Marshall Islands will be submerged by 2100 thus forcing Marshallese to relocate.

Erosion has also affected the death in RMI. Cemeteries that are situated along the coastline are being eroded. Gravesites are literally falling into the sea. Ocean warming has something to do with it too because it is destroying coral reefs. These reefs are important to the Marshallese because it protects and surrounds their land mass. Coral reefs protect the islands from rough high tides waves. The coral reefs break waves consequently not allowing the waves to go on shore to erode the island. In 1999, Hoegh-Guldberg, stated that “by 2050 most evidence suggests that coral reefs will not be able to sustain” if temperatures continue to rise.

Majority of Marshallese live and rely on subsistence agriculture. Climate change will impact “not just in physical and ecological terms, but also societal terms, for coral-degradation will remove food sources that remain as important to humans as ever in Pacific Islands” (Bleakley, 2004). Climate change will cause more powerful tropical cyclones in the future and will raise the sea-level therefore impacting inshore fisheries and food supply. Ocean warming will cause coral reefs to die thus also impacting inshore fisheries. Coral reefs are home to Marshallese crucial source of protein, fish.

Water is also impacted by climate change. By far water is one of the most crucial resources we have. It has been said that it is more valuable than oil and that it runs our economy. Water sustains life. Water pollution is becoming a problem due to soil erosion. During flash floods there is pesticide and herbicide runoff. Wastes are mixed together during flash floods such as livestock waste, liquid and solid waste. Flash floods and high sea-level rise has also contaminated freshwater sources such as wells. These wells that contain fresh water are now

contaminated by waste and ocean salt water. Marshallese find themselves with too much salt water and less freshwater. With drought and accelerated sea level rise, fresh water will become a scarcity. Not only will it be a scarcity in the Pacific Islands but also all over the world. It has been “freshwater consumption worldwide has more than doubled since World War II and is expected to rise another 25 percent by 2030” (Daniel Wild, Carl-Johan Francke, Pierin Menzli and Urs Schön, 2007).

Climate change also impacts RMI’s tourism. With ocean warming the corals and reefs are dying. RMI heavily depends on island-hopping tourism. Tourists go to RMI to scuba dive, snorkel. Sport fishing is also popular among tourists and the locals as well. However, climate change is threatening the underwater scenery. Majuro is already seeing a big problem with coral bleaching.

Case Study

I read two studies that agreed that the submergence of Pacific Islands is unavoidable if climate change continues wreak havoc on the planet. In a 2009 article, the author Nunn reported that “if something is not done urgently then human societies on the Earth will be severely impacted in a number of ways”. Nunn claims that Pacific Islands will be impacted by the following: increased climate variability, changes in climate extremes, temperature rise, and sea-level rise (2009). The two cases studies I read also stated that Marshallese have already faced relocation in the past. Both studies mentioned how relocation has not been favorable for the Marshallese when they are forced to leave their own atolls. In 1946, the United States did atomic nuclear testing on one of RMI’s atoll called Bikini. “Well documented examples of relocation from atolls that relate the efficacy and challenges of the process for Pacific Islanders come from Bikini Atoll in the Marshall Islands, from which people were moved after it became clear that

atomic testing had polluted their environment” (Nunn, 2009). The Bikinians were relocated many times. At one point they were even allowed to go back to Bikini only to find themselves relocated again because the atoll was no longer safe for human habitation. Forced to rely on the United States for food and shelter they began to lose their self-reliance identity. One of studies mentioned how the relocation of Bikinians caused grave dislocation with the Bikinian communities, interfering both with indigenous cultures and long-established sustenance patterns (Sutoris, n.d). Today most Bikinians have abandoned their traditional ways of living like a Pacific Islander. Culture and traditional skills have been lost or forgotten from one generation to another. Bikinians heavily rely on foreign imported food. This is a huge problem because ever since they were introduced to Western diet there has been a high increase in obesity and diabetes among the Bikinians. Sixty years ago, diabetes was rare. Bikinians like most Marshallese ate fish, coconuts, breadfruit, and taro. Not only that but they were much more active because preparing their food required work. This problem of diabetes is also evident with Marshallese who move to the United States seeking the “American Dream”. They too like the Bikinians are forced to abandon their culture and traditional food. Obesity and diabetes is rapidly becoming an epidemic among not just the Bikinians but all Marshallese. It was reported that “9 out of every 10 hospital admissions are diabetes-related in the Marshalls, and experts are warning the disease is threatening the islands’ younger generation” (ABC Radio Australia, 2012). The statistics on diabetes are scary, it is estimated that about 80% of Marshallese are diabetic, type-2 (ABC Radio Australia, 2012).

Analysis

According to Nunn, he claimed that low (atoll) islands such as RMI “are inherently vulnerable to sea-level rises, and it is likely that some such islands will become uninhabitable

within the next 20 to 30 years”. Other experts have said that Pacific Islands like RMI will be fully submerged in 2100, about 87 years from now. Although there may be a disagreement when it will happen Nunn and most experts agreed that Pacific Islands will disappear if nothing is done about climate change.

What was interesting thought that never crossed my mind was how both “mangroves and coral reefs play vital roles in physically protecting island coasts from erosion and inundation, and both are critical in maintenance of the near shore ecosystems on which most people living in the Pacific islands depend” (Nunn, 2009). Back in RMI, most Marshallese cut down mangroves along the shore lines because some feel it’s an ugly tree plant. Others simply cut them to allow the lagoon or ocean breeze to reach their homes. Some people cut them down because mangroves block the view of the lagoon or ocean.

Nunn listed some ideas how Pacific Islands can protect themselves from climate change such as building sea walls (2009). However, he cautions that these are just short term solution. These short term solutions are not even feasible for many Pacific Islands such as Marshall Islands because they simply don’t have the money. These are countries with little economic resources. Sadly, relocation is really the only long-term adaptation option (Nunn, 2009). It is not best option but it is an option that most Marshallese like me will have to accept if one day our country is forever submerged.

Conclusion

Evidences of climate change have shown that the Pacific Islands are in danger of being submerged if things continue the stay the same way. It is critical to act now, however global negotiations among nations to act on climate change have been slow to act. Climate change will

affect everyone, regardless what country you are from. The war on climate change has already started, and Pacific Islands such as Republic of the Marshall Islands are in the brunt of this war.

Marshallese like me can't help but wonder and question the fate of our country. Where will the people of RMI go when we no longer have a country? Who will take us in? Will we be still a nation despite having no longer a country? It is scary to think that one day we Marshallese will become climate refugees.

To end my paper I thought a poem would help summed up the importance of how climate change impact Pacific Islands immensely.

Our People on the Reef

Jane Resture

The swaying palms
the gentle surf
lapping upon the sand.

A gentle breeze
so keen to please
slowly gusts across our land.

Our island home
is all we have known
as centuries rolled by.
Our island people stood alone
on reefs so barren and dry.

But as years go by
we wonder why
the shoreline is not the same.

The things we knew
as always true
somehow do not remain.

The breakers break on higher ground
the outer palms are falling down.

The taro pits begin to die
and the village elders wonder why.

For what is happening to the beautiful isles we know?

Tuvalu, Kiribati and Tokelau
the Marshall Isles
that place of smiles

The rising sea will reclaim our ground
nothing but water will abound
our people forced to leave for higher ground.

While far away they pour their fumes into the clear blue sky
not knowing and never caring why
the world is beginning to die.

So land of our forebears despite how much we cared for you
the time will soon be when we must bid you adieu.

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