Permanent Mission of the Republic of Nauru
to the United Nations

Nauru Country Report

Views on the Possible Security Implications of Climate Change to be included in the Report of the Secretary-General to the 64th Session of the United Nations General Assembly

1. Introduction: Evaluating the Security Challenges of Climate Change

The Republic of Nauru welcomes this opportunity to highlight the stark and unprecedented manner in which climate change threatens the very survival of its population and its sovereignty. This report is submitted to inform the Secretary General's report on "climate change and its possible security implications," as mandated by General Assembly Resolution A/RES/63/281, and to inform the larger debate on environmental change and its connection to international peace and security.

For the people of Nauru, there is nothing to debate. The security threat of climate change has been made painfully clear by the rising tides that flood the homes of our families and the frequent droughts that stretch our island's fragile water system to the breaking point. This reality, however, is merely a precursor to a far graver future where environmental stresses exceed Nauru's capacity for adaptation. Climate change can no longer be considered simply a developmental or environmental challenge. An analysis of the expected impacts of climate change on Nauru leads to one inevitable conclusion: climate change is a threat to the security of the people of Nauru and to the very existence of the nation itself.

The UN and its relevant organs, particularly the Security Council, must acknowledge that climate change is the single greatest threat to the security of Nauru and the Pacific region. In turn, the UN must take urgent steps to create a framework for addressing the unique and unprecedented security implications of climate change in conjunction with its previously established social, economic, environmental and human rights effects.

This report highlights the two most dire climate change impacts for the people of Nauru and explains how these pressures can have potentially destabilizing and tragic consequences for the country. In the short term, climate change will impact Nauru's vulnerable water sector, leading to insufficient supply and harmful quality, with significant ramifications for public health including an increase in water-borne diseases. In the longer term, sea-level rise (SLR) and coastal erosion will significantly decrease the availability of habitable land on the island to the point that Nauru's population may have to be relocated. The displacement of an entire country is unprecedented in human history and presents an array of challenges to national and international legal and institutional frameworks tasked with ensuring peace and security. While these are the most significant challenges facing Nauru, they are by no means the only ones, and several other exacerbating stresses produced by climate change are also discussed.

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As a particularly vulnerable small island developing state, the interaction and convergence of climate change-induced stresses is of particular concern for the security of Nauru. The impact of climate change is different from more traditional security threats, like armed conflict, in that many of these stresses in isolation might not be sufficient to threaten the peace or stability of Nauru. The simultaneous convergence of multiple climate change stresses, such as coastal degradation, sea-level rise, decreased water and food security, and increased storm volatility, has the potential to cause synchronous failures with cascading effects. The cumulative impacts of climate stresses will far outpace Nauru's capacity for adaptation, even if the island had much more favourable material circumstances. The fact that these impacts are multi-sectoral and interconnected in complex ways that are often difficult to delineate or predict, will challenge traditional, sectorally-based tools for mitigating their impacts. Approaching these challenges under the more comprehensive umbrella of "security" will therefore be the most effective strategy.[1]

2. National Context

The Republic of Nauru is a small, isolated, single-island state in the South Pacific, located 41 km South of the equator at 0° 32' South latitude and 166° 56' East longitude. With only 10 000 inhabitants, Nauru has one of the smallest populations in the world. It is only 22 km^2 in area, with the entirety of the population inhabiting a thin, low-lying coastal area constituting only 30% (6.3 km^2) of the country's total area. The remaining 70% of the island, a limestone escarpment rising 30m to a plateau, has been rendered uninhabitable by over eighty years of phosphate mining activities. Environmental reclamation projects are underway for this region, but the projected timeline for this rehabilitation is at least twenty years, by which time scientists predict the impacts of climate change will have rendered Nauru largely uninhabitable.

Compounding these issues, Nauru's status as a small island developing state means that it is financially constrained and highly vulnerable to exogenous economic shocks, including those of volatile international commodity prices such as fuel. These realities may exacerbate the impact of climate change, and make it increasingly difficult for the government to provide relief for Nauru's population.

3. Climate Change and Water Security

3.1 National Water Supply Vulnerability

Water scarcity is a daily fact of life in Nauru. This grave reality will only be exacerbated by the fact that Nauru's water supply is highly vulnerable to the impacts of climate change. This stems from the fact that the only two sources of freshwater on the island are rainfall and water produced from desalination. Consequently, Nauru's water system is highly vulnerable to decreases in precipitation, as rainfall is necessary to recharge groundwater supplies. The only surface freshwater on Nauru is Buada Lagoon, a slightly brackish lake located in the central Southwest portion of the island, at an elevation of roughly 5m above sea level. The only other reliable source of freshwater on the island is a slightly brackish 'lens' of freshwater that hydrostatically floats upon the denser seawater below it.

Nauru faces immense challenges in meeting its daily demand for water, which is estimated at 1500 tonnes/day. Nauru's population is reliant upon local wells to meet these demands. A desalination facility capable of producing 950 tonnes/day is no longer operational.

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1 For an in-depth analysis of this idea, see: Fisher, P. Brian (2009). *Reframing Global Climate Change: Achieving Human Security for Vulnerable Communities*, Dissertation, University of California, Irvine.

Nauru receives highly variable annual amounts of rainfall, and is prone to droughts. From 1916 to 1993 annual rainfall averaged 2126 mm per year but had a range of 280 to 4590 mm. Monthly rainfall data available for the period of 1977 to 1993 indicate a range of 0 to 746 mm, with 62 months out of 204 months (for which data were available) having less than 100 mm of rain.[2] These challenges are compounded by the fact that the infrastructure for water delivery in Nauru has become severely degraded due to lack of necessary maintenance over a period of several years, resulting in a decreased capacity to distribute freshwater supplies across the country. Due to Nauru's current financial constraints, addressing this fundamental problem will be challenging.

3.2 National Water Quality Vulnerability

Exacerbating Nauru's water supply concerns, Nauru's water sector is also highly vulnerable to quality issues, with implications for public health. The high population density and small area of Nauru is resulting in increasing groundwater contamination by cadmium, rubbish dump leachate, sewage and household waste water (e.g. bathroom, kitchen and laundry).

The drought period of 1998-2001, for example, resulted in an overuse of the hydrostatically floating freshwater 'lens' by Nauruans using private wells. This degraded groundwater quality, increased brackishness and resulted in contamination of the groundwater due to seepage from household sewage pits.[3] The lack of adequately clean freshwater is connected to an increase in the incidence of water-borne diseases, including typhoid and diarrhoea. This situation will be exacerbated by higher temperatures, which has been shown to increase the incidence of diarrhoeal diseases.[4] Other health issues may stem from the fact that brackish water is often used for sanitary purposes on the island.

3.3 Security Implications of Water Stresses

Nauru's water quantity and quality stresses, as described in the previous two sections, will have the following security implications. Firstly, lack of potable water resources will impact individual human security, harming human dignity, exacerbating health issues and, in cases of severe water shortage, causing bodily harm and death. Water scarcity has also been linked to higher levels of poverty. The threat of water stresses to human security will be felt unevenly across the population, with vulnerable groups like women, children, the elderly, the poor and the disabled being disproportionately affected.

Secondly, competition over increasingly scarce potable freshwater has the potential to threaten Nauru's long-standing national peace and security, cause increasing political division, and undermine the country's problem solving capacity. Resource competition as a result of water scarcity has contributed to at least 27 separate violent intrastate conflicts within the past decade, including large scale riots and civil war.[5] Even UN Secretary-General Ban Ki-moon has emphasized this connection, noting climate change-induced water scarcity as an underlying source of the current violent conflict in Darfur.[6] More alarmingly, future conflict over water resources will not occur in isolation. Rather, they will unfold in the context of other distribution conflicts and resource scarcity, including those involving habitable land, food and energy. These converging forces will amplify each other and may ultimately prove destabilizing to peace and security in Nauru and the Pacific region.

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2 SPREP, *Pacific Adaptation to Climate Change – Nauru – Report of In-Country Consultations* (June 29, 2009), p. 7.

3 SPREP, *Pacific Adaptation to Climate Change – Nauru – Report of In-Country Consultations* (June 29, 2009), p. 18.

4 IPCC AR4, WGII, Chapter 16, page 701.

5 The Pacific Institute for Studies in Development, Environment and Security, *Environment and Security Water Conflict Chronology,* Peter Gleick (ed.), November 2008.

6 Ban Ki-moon, 'A Climate Culprit in Darfur', *The Washington Post* , 16 June 2007

4. Climate Change, Loss of Territory and Security

4.1 National Vulnerability to Loss of Territory

It is well documented, most notably within the IPCC's Fourth Assessment Report, that climate change will produce significant SLR over the coming century due to thermal expansion of the ocean, and the influx of glacier and ice sheet meltwater. The IPCC projects this rise to be in the range of 30-70cm, though it does not take into account polar melting, which is occurring at an unexpectedly fast rate. Alarmingly, more recent studies project even larger larger SLR over this period, in the range of 0.5-1.5m.[7] Low-lying coastal states, especially small island states like Nauru are consequently extremely vulnerable to a loss of territory from SLR, and high tides are already inundating Nauru's coastal area with increasing frequency. At the same time, rising sea levels will further undermine Nauru's already vulnerable water supply by contaminating its limited groundwater resources with saltwater. Compounding SLR, a variety of forces are already producing noticeable coastal erosion in many areas of the island.[8]

The territorial degradation produced by the combined impacts of SLR and coastal erosion is particularly threatening for Nauru, as competition and demand for land is already high. With roughly 648 people per km^2, Nauru has one of the world's highest population densities. The true density is even more pronounced given that only 30% of Nauru is habitable. The entirety of the population lives in the low-lying coastal region of the island, the very area that is most vulnerable to the impacts of climate change and that will eventually be uninhabitable due to SLR. In addition to the residential sector, this coastal area is also the location of all government and commercial activities, including valuable infrastructure like Nauru's sole airport. Furthermore, erosion is already evident in several areas in Nauru as a result of the decline in the health of the coral reef system and the loss of coastal vegetation. Nauru's lack of an effective drainage system means that surface water runoff exacerbates this erosion.

Unlike other island states that have been able to relocate populations internally (as in the case of the Cateret Islands in Papua New Guinea and Tegua Island in Vanuatu), the potential of relocating the coastal population and infrastructure to another region of Nauru is non-existent due to the island's small size and its uninhabitable interior. The people of Nauru will be trapped between the rising water and the inland pinnacles of rock.

Not all of Nauru's vulnerabilities are visible or quantifiable. Indeed, perhaps the most problematic vulnerability lies within the very mindset of Nauru's people. Despite the ever increasing evidence of coastal inundation and water insecurity, it is difficult, even impossible, for Nauruans to accept the eventual reality of forced displacement. Environmental hardships in Nauru have long been a fact of life, one the population has proved willing to endure because their sense of identity is intimately connected to the island itself, and there is no reason to believe that this resolve will weaken as the impacts of climate change worsen. The denial of the grave inevitability of climate change will cause Nauruans to expose themselves to the ever-worsening biophysical impacts of climate change. Furthermore, given the long and tightly woven relationship between the people of Nauru and their island, the destruction of Nauru's territory will likely cause psychological and emotional damage, and result in the unravelling of social networks that provide support in times of need. The end result of these processes will be the exacerbation of existing vulnerabilities to the security threats described below in Section 4.2.[9] While the severity of this impact is impossible to quantify, it is also impossible to ignore.

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7 Katherine Richardson, Will Steffen, Hans Joachim Schellnhuber, Joseph Alcamo, Terry Barker, Daniel Kammen, Rik Leemans, Diana Liverman, Mohan Munasinghe, Balgis Osman-Elasha, Nicholas Stern & Ole Waever, *Synthesis Report – Climate Change: Global Risks, Challenges and Decisions*, University of Copenhagen (March 10-12, 2009), p. 9.

8 Republic of Nauru, *First National Communication under the United Nations Framework Convention on Climate Change*. (1999), p. 60.

9 Fisher, P. Brian (2009). Reframing Global Climate Change: Achieving Human Security for Vulnerable Communities, Dissertation, University of California, Irvine.

4.2 Security Implications of Loss of Territory

The destruction of Nauru's territory by climate change represents an unprecedented and irrevocable violation of the country's peace and security. While those living in less vulnerable countries, with larger areas and higher elevations, may be unable or unwilling to acknowledge the harsh realities of territorial degradation, for Nauruans the projected impacts of climate change will lead to a single, inescapable outcome. Within the foreseeable future, SLR and coastal erosion, combined with increased storm volatility, water and food insecurity and exacerbated public health issues, will threaten the very lives of the people of Nauru should they remain where they are. Due to the extremity of the stresses that climate change is introducing, adaptation measures will be insufficient to ensure food and water security for an increasingly constrained population. As such, the only long term viable option for continued survival will be the relocation of Nauru's people.

The outright destruction of a sovereign state by climate change is unprecedented in human history, yet it clearly bears many connections to traditional security concerns, such as violent interstate conflict. While waves of invading armies violating international borders may appear to be markedly different, both they and climate change are manmade in origin. At a fundamental level, climate change represents an external and anthropogenic attack on the people, territory and sovereignty of Nauru and many other small island developing states.

Yet despite the undeniable fact that climate change will produce the large-scale displacement of people, the international system is currently marked by a dearth of any kind of legal or institutional framework to address these migration flows. Indeed, the unprecedented nature of "climate displacement" is evidenced by the fact that there is not even a consensus regarding what to call these people, let alone an international agreement for protecting their legal rights. There are clear gaps within the UN system on this issue, particularly in regards to the 1951 Convention on the Status of Refugees and the mandate of the UN High Commissioner for Refugees. Consequently, there are numerous security concerns for such displaced people, with questions of legal status and rights paramount among these. Refugees fleeing violence and persecution are granted certain rights by the international system, but there is no guarantee that these protections will exist for the victims of climate change.

There are serious and troubling logistical concerns that will need to be addressed for this kind of migration to successfully occur. First amongst these is the need to find recipient countries willing to accept those forcibly displaced by climate change. While all countries contribute to greenhouse gas emissions, it is clear that the vast majority of responsibility falls upon the world's major emitters, particularly in the developed world. It is not at all apparent, however, that major emitters are willing to face their responsibilities in this regard. While certain segments of Nauru's population, including the more affluent and well-educated may face fewer barriers to emigration, the same will likely not be true for the most vulnerable sections of the population, including the poor and disabled.

Once a recipient country has been located, however, the security issues will not vanish. Migration flows can produce conflict in recipient countries, particularly when the inflow is large and ad-hoc. Given the current lack of an international framework to address people displaced by climate change, there is the very real possibility that future relocation efforts will be disorganized and exacerbate tensions in the recipient country. Immigrants often encounter resistance from receiving communities, especially in those places facing socioeconomic problems of their own. Historically, most large-scale migrations have been from one developing country to another – at least in part because poorer countries are less able to control their borders – and there is no reason to believe that this trend will not continue. Without a sea change in perspectives on developed country responsibility, those displaced by climate change will be forced to move into the countries with the least ability to accept them.

Conflicts of national, ethnic or religious identity can fuel social conflicts that can be violent in nature, as has been true in the case of the recent wave of xenophobic attacks on law-abiding migrants in South Africa. The unique realities of climate change displacement will exacerbate these tensions. Recipient countries will undoubtedly be dealing with the impacts of climate change themselves, with competition over scarce resources further exacerbated by migrant inflows. There will also be an inescapable permanence to these flows. For traditional refugees, there is a continued connection with their country of origin, often in the form of remaining friends and family, and there usually remains the potential to return to their homes once peace and stability has been restored. In the case of climate change, this will clearly not be possible for islands like Nauru, as the rising oceans swallow traditional homelands completely.

5. Additional Destabilizing Climate Change Stresses

While water security and territorial degradation issues are Nauru's primary climate change induced security threats, climate change will have a number of other impacts that will exacerbate these threats. Increased drought periods, for example, result in a higher incidence of fires, which is particularly problematic given Nauru's water supply problems and high density of population and infrastructure. Droughts and fires would also have severe impacts on Nauru's flora, including agriculture, thus threatening food security and coastal infrastructure. During the 1998-2000 drought period, for example, exposed pinnacle rocks on the central plateau were heated resulting in an up-draft of hot air that was observed to cause a dispersal of clouds over Nauru. This led to the death of as much as 40% of the island's ubiquitous coconut trees, with many other plants either dead or dying.[10]

The coral reef system surrounding Nauru currently exist near the upper limits of their tolerable ocean temperatures (25-29°C).[11] As such, these reefs systems are very vulnerable to increases in ocean water temperatures and the coral bleaching that would result. Coral bleaching would severely impact the marine ecosystem surrounding Nauru, with resultant food security and economic implications stemming from a reduction in the viability of primary sector and part-time/subsistence fisheries. This ecosystem also faces damage from the influx of sediment from coastal erosion, as well as leachate from increasingly contaminated water sources. The coastal reef systems also serve a vital role as a coastal buffer against wave action. Any coral die-off would decrease this buffering capacity and increase coastal erosion, exacerbating the displacement threats outlined above.

6. Conclusion

Climate change poses a very real and serious threat to national, regional and international peace and security. Given the wide scope of projected climate change impacts and the complex, destabilizing way in which they will interact, it will be impossible to address their collective impact through traditional means. As such, it is clear that the international community cannot treat climate change solely as a humanitarian, environmental or development issue. The UN system must take steps to rectify its current inability to address the security implications of climate change. The Security Council, as the primary organ tasked with ensuring the maintenance of international peace and security must recognize that it has an important role to play in confronting this threat and protecting the rights, physical well-being and futures of those who will be gravely impacted by climate change.

10 Peter Jacob, *The Status of Marine Resources and Coral Reefs of Nauru,* Nauru Fisheries and Marine Resources Authority, Nauru, (2000), pp. 5-6.

11 Republic of Nauru, *First National Communication under the United Nations Framework Convention on Climate Change.* (1999), p. 64.

7. Recommendations

- The United Nations should examine ways in which the various organs, especially the Security Council, can be mobilized to address the security implications of climate change, including immediate actions to reduce these implications.

- The international community should immediately begin considering options for enhancing and expanding existing international agreements and institutions to ensure the rights of people displaced by climate change.

- The UN should include the multi-sectoral, non-linear and mutually reinforcing dimensions of climate change and their potentially destabilizing effects in their human impact assessments.

- The relevant UN organs should examine state responsibilities, not only for CO2 emissions, but also for the impacts climate change has on developing countries, especially the most vulnerable.

- Given the growing nature of the threat posed by climate change, the linkage between climate change and security must be a permanent focus of deliberations in the United Nations. In this regard, it is recommended that this question be regularly addressed via an annual agenda item in the United Nations.

- A focal point within the United Nations be established to keep track of the growing security implications of climate change.