

Island security and disaster diplomacy in the context of climate change

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Abstract

This paper explores how inter-state relationships could be affected when extreme events exacerbated by climate change cause concerns for island security through potential evacuation. The focus is "disaster diplomacy", how disaster-related activities do and do not bring together enemy states, by examining the influence on inter-state relations of islander evacuation due to climate change. Two main areas are examined. First, possibilities are reviewed for re-creating island communities, either by becoming integrated into another state or by re-creating their island community on existing land or on newly created land. Second, the resulting operational ethics issues are explored, incorporating consequent legal questions. The ethical-legal themes covered relate to the responsibility, funding, decision-making authority, and prioritization of sovereignty for island evacuees.

The results lead to four interlinked conclusions. First, islands can lead to significant inter-state concerns and deserve more prominence than they usually receive. Second, the discussion applies beyond extreme events exacerbated by climate change, suggesting that climate change is only one component within all island security concerns. Third, disaster diplomacy continues to yield mixed results, with disaster-related activities rarely creating new diplomacy, but providing a potential for catalyzing existing diplomatic processes. That potential is not always realized. Finally and overall, climate change compounds already-existing security threats facing islands and forces those threats onto inter-state relations with mainly failures in subsequent disaster diplomacy; however, climate change exacerbated extreme events do not introduce new or unique island challenges.

1. Climate Change and Extreme Events in an Island Context

1.1. Island Challenges

Climate change refers to "statistically significant variations that persist for an extended period, typically decades or longer" in "classical measures of climate (e.g. temperature, precipitation, sea level, plus extreme events including floods, droughts, and storms)" (IPCC, 2001 and see other papers in this volume for more discussion on climate change). That definition explicitly involves climate-related extreme events, for instance sea level changes, floods, droughts, and storms. When casualties or other disruptions to society result from such extreme events, a disaster has happened where a disaster is "A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources" (UNISDR, 2006).

Regarding climate change exacerbated extreme events, two categories are distinguished. First, disaster events which have onset and decay. They could occur more rapidly such as such as cyclones, blizzards, and temperature extremes or they could occur more slowly, such as droughts. Climate change affects event frequency, intensity, and location. Second, disaster conditions which affect the baseline, for example desertification, salinification of freshwater supplies, and sea-level rise. Glantz (1999 and 2003) uses the terms "creeping environmental changes" and "creeping

environmental problems”. Climate change affects the rate and direction of such creeping changes. In reality, this disaster event/condition classification should not be binary but, a continuum from rapid-onset, spatially and temporally well-delineated events such as a specific cyclone through to ongoing, poorly-defined changes without fixed starting or ending points in time or space, such as glaciation and coastal subsidence.

Climate change impacts, including related to extreme events, will be particularly felt on small islands (Ghina, 2003; IPCC, 2001; Lewis, 1990; Lewis, 1999; Parks and Roberts, 2006; Pelling and Uitto, 2001; UN, 2005). Islands tend to experience exacerbated environmental and social vulnerabilities, particularly due to island characteristics of isolation, insularity, small size, and a small resource base, yet those same island characteristics can also lead to strong and successful coping mechanisms (Barnett, 2002; Dolman, 1985; <http://www.islandvulnerability.org>; Howorth, 2005; Kelman et al., 2006; Lewis, 1999; Méheux, et al., 2006; Pelling and Uitto, 2001).

For example, small and isolated populations are vulnerable to small events, yet they produce tight kinship networks and a strong sense of community which help to tackle challenges faced rapidly and cohesively (Howorth, 2005). Meanwhile, rather than the traditional economies of scale, diseconomies of scale and economies of smaller scales are advantageous for island livelihoods. Another example is traditional island knowledge which is becoming lost amidst global cultural homogeneity, yet which provides adept skills permitting islanders the flexibility of adjusting to sudden events and long-term trends (e.g. Gaillard, 2006; Mercer et al., 2007). These lessons in vulnerability and in reducing vulnerability are frequently lost because islands are marginalized due to their small size and isolation.

Yet islands should not be underestimated. Islands are worthy of study on their own terms (McCall, 1994, 1996), especially for their contribution to the world. More than 10% of the world’s population live on small islands and they yield rich cultures, languages, societies, histories, and livelihoods. More than one fifth of the world’s sovereign states are islands or archipelagoes along with over 90% of dependent territories. For the latter, complications emerge due to different forms of governing non-sovereign islands (Dommen, 1985; S. Kerr, 2005) including being part of another jurisdiction (e.g. North Carolina’s barrier islands, USA), being a local authority (e.g. Orkney, Scotland), and self-governing but not sovereign (e.g. Niue in the south Pacific).

Considering France, for example, in addition to islands such as Corsica and les Îles du Ponant which are legally part of France and which are near the mainland, four other statuses of French islands exist around the world:

1. Islands which are overseas departments of France and are thus legally part of France and the European Union. They are Guadeloupe, covering nine inhabited islands, Martinique, and Réunion. French Guiana is a non-island overseas department.
2. Overseas territorial collectivities, which are Mayotte and Saint Pierre et Miquelon.
3. Overseas territories of France, which are French Polynesia, French Southern and Antarctic Lands, New Caledonia, and Wallis and Futuna.
4. Possessions of France, which are Bassas da India and the Glorioso Islands.

Baldacchino (2004), Dommen (1985), and S. Kerr (2005) provide background to the complications which arise for governing non-sovereign islands while Kelman et al. (2006) describe implications for disaster risk reduction. Non-sovereign islands tend to have limited interest in sovereignty (Baldacchino, 2004), instead enjoying the advantages of different non-sovereign autonomies (Baldacchino, 2006). One advantage is the governing state which would be officially responsible for the non-sovereign island during crises. Although this responsibility might not always be acted upon, the connection to the governing state can provide a psychological crutch in the hope that, after a disaster, it will become a physical crutch. The crutch could be part of an expectation that

external assistance will always be available, hence preparation is unnecessary: the ‘handout mentality’ identified for islands (Tuiloma-Palesoo, 2004).

Non-sovereign islands also tend to be the subject of bitter disputes, mainly because sovereignty over land gives sovereignty over the terrestrial and marine resources accorded to that land by international law, although national pride plays a role at times (Table 1). Although indigenous peoples’ claims to islands, including some views that land cannot be owned, tend to be ignored in many island disputes, much confrontation occurs over uninhabited islands.

Table 1: Examples of disputed islands

Island Group and Location	Disputing Countries	Habitability	Reasons for Conflict
Dokdo Islands or Takeshima Islands	South Korea Japan	Limited due to lack of freshwater.	Resources of fish and gas; strategic militarily; and national pride.
Hans Island	Canada Denmark	Limited due to small size, lack of resources, and climate.	Sovereignty was never resolved (indigenous views are not considered). The location is potentially strategic for navigation. The resolution could affect Canada’s other arctic sovereignty disputes. Oil might be present.
Hawar Islands	Bahrain (awarded by the International Court of Justice) Qatar	Reasonable. A resort and military garrison are currently on the islands.	At the moment, eco-tourism is important but oil and gas resources could be present.
Spratly Islands (South China Sea)	Brunei China Taiwan Vietnam Malaysia the Philippines	Limited arable land and freshwater, but dozens of soldiers have live in garrisons with external assistance. Malaysia has built a resort.	Resources of gas, oil, and fish along with a strategic navigational and surveillance location.

Island sovereignty, governance, and ownership have additional layers when extreme events exacerbated by climate change affect inhabited islands. After a disaster, due to their small size and limited resources, islands tend to require off-island assistance, possibly incorporating an off-island evacuation. Sub-national and national borders could be crossed or the potential exists for many countries to be involved to render assistance. As well, many island states or islands from several different states could be affected simultaneously.

In these situations, the climate change exacerbated extreme event has caused an international matter amongst islands or has threatened an island’s viability for habitation. Hence island security concerns have arisen.

1.2. Island Security: Focus on Evacuation

Oxford English Dictionary (2006) defines security as “free from danger, threat, or peril”. Absolute security cannot exist, but security can be augmented or diminished. Aspects of extreme events exacerbated by climate change are most likely to reduce island security and to inhibit its improvement, although there always exists the potential for improving island security. The particular threat to islands is that a relatively small event could cause significant problems due to the island characteristics and challenges mentioned in the previous section.

A distinction is helpful between absolute impact, such as the total number of fatalities or the total monetary value of losses, and proportional impact, such as percentage of a community killed or percentage of assets lost (Lewis, 1999). Prior to the 1995 start of volcanic activity on Montserrat, a UK Overseas Territory in the Caribbean, the total population was approximately half the death toll from the 26 January 2001 earthquake in Gujarat, India. Superficially, it appears that the tragedy in India far surpasses any event which could possibly afflict Montserrat. Proportional impact illustrates that Montserrat has greater vulnerability than India. Since Montserrat’s volcano started rumbling, every resident of Montserrat, 100% of the population, has been directly affected and close to 100% of Montserrat’s 1995 infrastructure was severely damaged or destroyed (see background in Clay, 1999; Davison, 2003; and Pattullo, 2000).

On 25 June 1997, pyroclastic flows killed at least 19 people on Montserrat, a small number considering the Gujarat earthquake, but which proportionally would be equivalent to more than one million people dying in a disaster in India. Without downplaying disasters in India which are devastating in their own right, disasters on islands deserve equal prominence even if the absolute impact is comparatively small.

Islands can also experience “knock-out” disasters, where the entire island state or territory has limited post-disaster habitability and limited prospect exists for salvaging or constructing infrastructure (see also Pelling and Uitto, 2001). Examples of islands which have been entirely evacuated due to volcanic activity are Niua Fo’ou (Tonga) in 1946 (Lewis, 1999), Tristan da Cunha (a UK Overseas Territory in the South Atlantic) in 1961 (de Boer and Sanders, 2002), and Vestmannaeyjar (Iceland) in 1973. In each case, the islanders returned to rebuild and resettle, even against the wishes of the governing state.

In contrast, large-scale disasters in other countries such as the Gujarat earthquake or Hurricane Katrina hitting the USA in 2005 (Handmer, 2006; Kelman, 2007) are national emergencies but rarely threaten the state’s existence or viability. The latter does happen, but small states provide more examples than larger states. Poor response following the 1970 cyclone in East Pakistan contributed towards a subsequent revolt that led to the creation of Bangladesh (Lewis, 1999). The 1 November 1755 earthquake and tsunami which devastated Lisbon challenged Portugal’s position as a state and empire (Dynes, 2005).

Therefore, a significant security threat for islands, due to climate change exacerbated extreme events is potential evacuation because the island is no longer viable for habitation. In the volcanic cases cited, evacuations were temporary and resettlement was feasible. For sea-level rise, the only long-term option might be permanent evacuation. Care must be taken in assuming island destruction because the expected physical changes to low-lying islands under sea-level rise scenarios have not been well-studied. Significant geomorphological changes are likely, but complete inundation and loss of all land is not inevitable (e.g. Harvey and Mitchell, 2003; Kench and Cowell, 2002); however, non-destruction does not necessarily imply habitability.

An example of a significant event-based geomorphological change occurred on Tuvalu, then the Ellice Islands, during Cyclone Bebe on 21 October 1972. The storm surge which inundated Funafuti

Atoll created a coral rubble wall 18-19 km long and 30-40 m wide with a mean height of 3.5 m—larger than some of the atoll's islets (Baines and McLean, 1976; Maragos et al., 1973). Continual similar events might increase island land but reduce island habitability.

Chemical, rather than geomorphological changes, could also reduce low-lying islands' habitability. Oceanic absorption of atmospheric carbon dioxide has led to ocean acidification (Caldeira and Wickett, 2003; Royal Society, 2005) which is likely to adversely affect coral reefs and potentially have detrimental effects on coral islands. Given the uncertainties surrounding the changes along with the possibility that rapid, continuing changes to islands would make them uninhabitable, permanent evacuation must be examined, especially with IPCC's (2001) comment that "Sea-level rise poses by far the greatest threat to small island states relative to other countries".

Precedents exist. Nunn (2000) and Nunn and Britton (2001) describe sea-level fall and regional changes in the Pacific climate approximately seven hundred years ago which altered the environment of Pacific islands and the culture of Pacific island communities. Many coastal settlements were abandoned and islander travel patterns were disrupted, making it likely that some islands were abandoned or cut off. Nunn (2001) provides a wider view of Pacific island changes from the arrival of the first humans on the islands. Both environmental change and human impacts are considered to be factors in island community changes, which include the disappearance of humans from islands, perhaps by evacuation or perhaps by mortality. Today's island security concern of evacuation is not unique to contemporary times.

Nor is it unique to islands, because many coastal settlements could suffer similar evacuations due to climate change exacerbated extreme events. As with islands, that could be due to a creeping change or due to a knock-out event. Although non-island coastal settlements have an "inland" to which they can move, some islands have that too, especially larger and hilly islands; for example, Puerto Rico and Fiji's largest island Viti Levu. The strategy of moving inland (and upwards) was employed by some Pacific islanders during the changes approximately 700 years ago (Nunn, 2000). Therefore, although this paper focuses on evacuation as being the dominant island security threat from climate change exacerbated extreme events, the discussion must always be placed within wider contexts of equally-affected non-islands and of non-evacuation island strategies.

Additionally, while the bleakness of some island futures are the overriding reality, that must not subsume possibilities for extracting positive outcomes from the mess facing many islanders. Despite the challenges, some rewards might be reaped by peacefully dealing with extreme event challenges before the catastrophe occurs and by forging interstate and intrastate ties which lead to positive outcomes that would otherwise not have been witnessed. A specific example of this approach, which could be a significant component of island security and climate change, is disaster diplomacy.

1.3 Disaster diplomacy: Disasters Inducing Cooperation Amongst Enemies?

To define and explore disaster diplomacy, Kelman and Koukis (2000, p. 214) asked the question 'Do natural disasters induce international cooperation amongst countries that have traditionally been "enemies"?'. Could disaster-related activities, pre-disaster and post-disaster, positively affect relations amongst states which would not normally be prone to such cooperation? The term 'enemy' thus has a wide remit which is not confined to violent conflict, but which refers to states which have not been collaborating diplomatically or politically. Examples included the earthquakes in Greece and Turkey in 1999 (Ker-Lindsay, 2000), monitoring hurricanes which could hit both Cuba and the USA (Glantz, 2000), and preventing a drought disaster across southern Africa in the early 1990's (Holloway, 2000).

The initial conclusion from Kelman and Koukis (2000) was that disaster-related activities could spur on a diplomatic process which had another basis, but only disaster-related activities were unlikely to generate new diplomacy. Disaster-related activities can catalyze, but do not create, interstate cooperation.

Discussion about disaster diplomacy has since widened, with a growing set of case studies and theoretical analyses (<http://www.disasterdiplomacy.org>). The core question has now been modified to “Can disaster-related activities induce cooperation amongst enemy countries?” (e.g. Kelman, 2006). Other disaster diplomacy case studies include rapprochement between India and Pakistan following the 26 January 2001 and 8 October 2005 earthquakes (Kelman, 2003, 2006); the USA providing aid to Iran after the 26 December 2003 Bam earthquake (Waarner, 2005); the 26 December 2004 Indian Ocean tsunamis considering conflicts in Sri Lanka and Aceh, Indonesia (Kelman, 2005b; Rajagopalan, 2005); and Hurricane Katrina striking the USA in 2005 (Kelman, 2007). Kelman (2006) describes how the theory of disaster diplomacy can be actively used in practice.

One spin-off which has emerged from this work is “environmental diplomacy” which considers whether environmental management issues and treaties could lead to lasting, positive diplomatic outcomes beyond environmental management (e.g. Kelman, 2003). Another spin-off is disaster paradiplomacy, examining whether or not disaster-related activities would cause non-sovereign governments to deal with international agencies or with state governments which are not their governing state (Kelman et al., 2006).

This literature supports the conclusion from Kelman and Koukis (2000) that evidence exists that disaster-related activities can catalyze diplomacy, but evidence does not exist that disaster-related activities can create diplomacy. A humanitarian imperative rarely dominates diplomatic decisions and actions. Instead, political expediency, history, culture, different leadership approaches, media and public pressures, or ideological beliefs tend to dominate diplomacy, conflict, and peace. Additionally, disasters are often short-sightedly seen as rare “one-off” events, even though successful disaster risk reduction is a long-term endeavor and needs to be integrated into development and sustainability processes (Lewis, 1999; Mileti et al., 1999; Wisner et al., 2004). The unfortunate intermittency of many disaster-related activities, usually spurred on by disaster events rather than thinking ahead of disaster, implies that it is challenging to maintain sustained interest in a peace process based on only disaster-related activities.

Regarding islands, disaster diplomacy has so far examined some case studies. Glantz (2000), Kelman (2003), and Kelman (2006) detail Cuba-USA disaster diplomacy, demonstrating that other political factors must be present for disaster-related activities to bring those states closer together while Cuba’s leader Fidel Castro is alive. Kelman (2005b) and Rajagopalan (2005) looked at tsunami diplomacy following the 26 December 2004 tsunamis around the Indian Ocean which affected many islands in different conflict circumstances. Kelman et al.’s (2006) disaster paradiplomacy discussion used island case studies—that is disaster diplomacy for non-sovereign island territories—concluding that *de facto* instances of island disaster paradiplomacy occur, but opportunities for doing so are often not pursued, even when encouraged by easier logistics or by inadequate assistance from the island’s governing state.

Climate change has so far not been directly addressed in detail by the disaster diplomacy literature; however, creeping environmental changes are part of several case studies. This paper is therefore an exploration of how inter-state relationships could be affected when extreme events exacerbated by climate change cause concerns for island security through potential evacuation. The two dominant areas, detailed in the next section, are re-creating island communities and the operational ethics issues which arise.

2. Implementing Disaster Diplomacy for Island Security

2.1 Post-Evacuation Island Communities: Integration or Re-creation

The two main possibilities for evacuated islanders are becoming integrated into another state or re-creating their island community elsewhere. Either way, disaster diplomacy implications result; however, more failures than successes would be expected.

Resettlement due to climate change related island emigration has so far yielded mainly conflict. The Pacific island state of Tuvalu is a prominent example (e.g. Connell, 2001; Parks and Roberts, 2006; Ralston et al., 2004). Tuvalu, with its highest point approximately five meters above sea level, comprises nine inhabited coral atolls supporting approximately 11,000 people. Other Pacific island states with similar concerns include Tonga (Lewis, 1990) with a population of 115,000, Kiribati with a population of 105,000, and Marshall Islands with a population of 60,000. Non-sovereign Tokelau, population 1,400, and the Maldives in the Indian Ocean, population 360,000, are similarly threatened with evacuation. Tonga, the only island group of these six which is not mainly coral atolls, and Kiribati have some hilly islands, but the majority of the population lives in low-lying coastal areas. Many other island groups, including Antigua and Barbuda, could also have their habitability severely restricted.

With IPCC (2001) suggesting sea level rise of 0.20-0.90 meters by 2100, much of these islands' currently inhabited land could be inundated or exposed to waves and storms along with the resulting difficulties in obtaining food and water (Connell, 2001; Edwards, 1999; IPCC, 2001; Larson, 2002; Lewis, 1989, 1990; Parks and Roberts, 2006; Ralston et al., 2004; Roper, 2005). In the small likelihood that the West Antarctic Ice Sheet collapses raising global mean sea level by approximately five meters (Vaugh and Spooze, 2002), many of these islands would drown.

The islanders would need resettlement locations, preferably on land similar to, but more secure than, their current abodes. That might not be feasible, since most low-lying islands and coasts would suffer similar fates. Another preference might be to re-establish sovereign states and non-sovereign territories meaning that other states would need to cede tropical islands. Due to proximity, history, affluence, and available islands, Australia and New Zealand are usually suggested as the most likely candidates to provide the needed land. Other countries including Indonesia, the Philippines, the Solomon Islands, Vanuatu, the USA, or Japan are mentioned less frequently.

Australia has shown limited interest in resettling islanders, but New Zealand has created a special immigration category: "The Pacific Access Category is a ballot system that allows up to 250 people from Tonga, 75 from Tuvalu, and 50 from Category (PAC) Kiribati, to gain residence each year. Applicants must meet character, health and age requirements, have basic English language skills, and a job offer" (New Zealand Department of Labour, 2003). The principal disadvantages of this scheme are that it drains the islands of their healthiest and most skilled workers and that it is designed for integration, rather than for re-establishing island communities.

Moreover, many potential island candidates for re-creating island communities are protected as environmental, tourist, and/or scientific havens—for example, Australia's Great Barrier Reef islands and New Zealand's Kermadec Islands—or are uninhabited because they are uninhabitable (Table 1). The Spratly Islands summarize concerns (see also Denoon and Brams, 1997, Elferink, 2001; Gjertnes, 2001; Wang 2001). Military garrisons and a resort survive amongst the Spratlys with external support, but transplanting thousands of people would tax the area. The military garrisons further limit the creation of new island communities, because the disputing countries would claim national security and national pride concerns. While all disputing parties might agree

to give up some islands to evacuated islanders thereby yielding disaster diplomacy, the Spratlys' natural resources include oil and fish which are becoming increasingly valuable. Finally, many of the Spratlys are low-lying, so their existence could be threatened too.

Governance models would be important for re-creating island communities. A redefinition of "state" or "territory" could occur. Island governance already includes multiple forms, as noted in section 1 with other examples being:

- Provinces, e.g. Prince Edward Island, Canada.
- Sub-national states, e.g. Tasmania, Australia.
- Sovereign states, e.g. Barbados.
- Full self-government in free association with a governing country, e.g. the Cook Islands and Niue with respect to New Zealand.
- Self-administering territory, e.g. Tokelau with respect to New Zealand.
- Compact of free association with a governing state, e.g. the Federated States of Micronesia and Palau with respect to the USA.
- A commonwealth in political union with a governing state, e.g. the Northern Mariana Islands with respect to the USA.
- Overseas territories, e.g. St. Helena and Pitcairn Island with respect to the UK.
- A dependency of a territory, e.g. Ascension Island and Tristan da Cunha with respect to St. Helena.
- Semi-autonomous, e.g. Zanzibar with respect to Tanzania.

Additional forms of governance with varying degrees of autonomy have been implemented or proposed for many non-island territories including indigenous reserves in the USA and Canada, Nunavut and Québec in Canada, the Catalan and Basque areas of Spain, and Scotland and Wales in the UK. In many instances, differences amongst governance labels yield limited practical differences for divisions of power and decision-making.

Given this creativity and diversity in achieving governance, further possibilities could be considered for the diverse situations facing islanders due to climate change exacerbated extreme events. Suggestions examined here are territory governed by more than one state; non-physical or non-territorial states; and building new mobile or non-mobile islands.

Territory could be jointly governed by more than one state, with divisions of power detailed and potentially requiring approval from all interested states for major decisions. Precedents of island-related power-sharing amongst states include Antarctica, Northern Ireland, and Svalbard (although Svalbard is unambiguously an island whereas Antarctica's and Northern Ireland's island status is debatable).

The Antarctic model of power sharing is through the Antarctic Treaty System, the foundation of which is the Antarctic Treaty, signed in 1959 and entered into force in 1961. Articles IV and VI set aside territorial claims, neither accepting nor denying any state's claims to any area south of 60°S. Antarctica is not owned by any state despite claims on its territory. In Northern Ireland, one example from various attempts (e.g. M. Kerr, 2005) was the Anglo-Irish Agreement of 1985 "within which the Irish Government may put forward views and proposals on the role and composition of bodies appointed by the [UK's] Secretary of State for Northern Ireland or by Departments subject to his [or her] direction and control" (Article 6). The Svalbard Treaty of 1920 gives Norway sovereignty over all islands between 10°E and 35°E and between 74°N and 81°N, but nationals of all contracting states can access the natural resources including:

- "the rights of fishing and hunting" (Article 2).

- “access and entry for any reason or object whatever to the waters, fjords and ports...subject to the observance of local laws and regulations, they may carry on there without impediment all maritime, industrial, mining and commercial operations.” (Article 3).
- “methods of acquisition, enjoyment and exercise of the right of ownership of property, including mineral rights” (Article 7).

Any such power-sharing mechanisms could be implemented or altered for islanders who must resettle on another state’s territory.

Non-physical or non-territorial states could be considered where individuals lack physical land belonging to their state, but retain the passport, nationality, and statehood responsibilities of their original state while living in communities of a host state or host states. An example would be I-Kiribati people moving to Auckland, Los Angeles, Sydney, and Melbourne yet still comprising the Kiribati state and maintaining their I-Kiribati nationality. This approach might not be practical. Dispersal of individuals tends to be an effective way of removing coherent identity and diluting culture, especially in the first generation born in the host location. A long, slow, painful decline of state and culture could occur. Judicial and currency systems could also be problematic. For the former, would I-Kiribati be accountable to an I-Kiribati justice system operating in parallel with the American, Australian, and New Zealander systems? Or accountable to the host’s justice system or to both justice systems? Similarly, would multiple currency systems operate in parallel?

These problems are neither theoretical nor insurmountable. Parallel and complementary justice systems for indigenous people operate in Canada (e.g. Andersen, 1999; Baskin, 2002) and New Zealand (e.g. Goren, 2001; Gibbs and King, 2002). Parallel currency systems operate around the world through barter networks and local currencies. Local Exchange Trading Systems, for instance in Ithaca, New York (Crowther et al., 2002) and Skye, Scotland (Pacione, 1997), lead to further social and economic advantages especially for more marginalized communities (Croall, 1997; Williams, 1996). Many border towns, for example Enniskillen in Northern Ireland near the border with the Republic of Ireland, use two currencies to facilitate business and to avoid losses by exchanging money in banks. Methods exist for creating and maintaining non-physical or non-territorial states as long as both the islanders and the host state(s) are amenable.

Islands can be created. The Spratly island of Layang Layang was artificially created by Malaysia through filling in the shallow sea between two reefs and it now serves as a resort. The Palm Islands offshore of Dubai were built to create residential, leisure, and entertainment areas. Islands could be built which are high and wide enough to prosper despite climate change exacerbated extreme events. Kardol (1999) explores some legalities of artificial island states. Even more challenging could be constructing large mobile islands, drifting the seas as mobile states or territories.

For constructing territory, questions to resolve are:

- Who would pay for construction and maintenance?
- How would territorial disputes be resolved, such as territorial water ownership from the construction of static islands and the use of marine resources around mobile islands?
- Could a nation and a state be viable in a mobile setting or is human culture too dependent on fixed land? Would lessons from nomadic people (e.g. Markovits et al., 2003; Salzman, 1982) be helpful in establishing mobile island states?

2.2. Operational Ethics and Consequent Legal Questions

Ethics is “The science of morals; the department of study concerned with the principles of human duty” (Oxford English Dictionary, 2006). “Operational ethics” refers to the practical aspects of examining ethics in situations where the ethical answers would affect policy or decision-making. Operational ethics has been discussed for climate issues (e.g. Glantz, 2003; Parks and Roberts,

2006), disaster risk reduction (e.g. Kelman, 2005a), and islander values (e.g. Gattuso and Shadbolt, 2002). Operational ethics leads to some legal questions which are also addressed here.

Fully preparing for as significant an event as moving a state's or territory's entire population could require several years of preparation—perhaps a generation or more. A climate change exacerbated knock-out event could strike any day, so it might not be appropriate to take that time. Alternatively, plans could be in place for when the knock-event happens, but to depart only afterwards, rather than giving up potentially decades of productive island life by trying to depart as soon as possible. Immediate departure tries to avert a catastrophe on the island, but might cause psychological harm by forcing a move prior to readiness or acceptance. Delaying departure permits psychological and logistical readiness, yet risks loss of life and assets when a major event strikes.

If the host state(s) decide the timing and mechanism for evacuation and the islanders disagree or suffer as a result, then conflict could be exacerbated and hope for a smooth transition would diminish. Similar ill will could manifest if islanders unilaterally set the timetable and demand that their decision be accepted. Disaster diplomacy would be unlikely in either circumstance and ethical questions emerge regarding unilateral decision-making. Alternatively, Larson (2002) emphasizes that multilateral negotiations have aided climate change related conflict resolution for small islands and that island-initiated proactive cooperative approaches have defused some tensions. Larson's (2002) analysis suggests that disaster diplomacy could be likely in the future as long as open-minded and legitimate negotiations continue on climate change related island security issues.

An ethical choice currently exists regarding whether or not to accept the forced migration as “emigration”, implying a planned choice for migration, rather than “refugees”, implying necessity of migration due to a crisis (the use of “refugee” for this context is becoming more common, but does not match UNHCR's (1951/1967) international law definition). A further challenge is that in the wake of a disaster, particularly a knock-out event, other states might be more willing to accept these (environmental) refugees even when still opposing (environmental) immigrants. Such an attitude is a disaster diplomacy success in that interstate relations improve due to a disaster, but it is a disaster diplomacy failure in that a disaster is required to instigate diplomacy, rather than using disaster prevention for diplomacy.

Another potential source of conflict between islanders and hosts is the land which would be ceded. Ethically, the land provided to the islanders must be habitable, including arable land, freshwater supplies, and limited exposure to environmental and human hazards. Land with those traits is usually the first to be used by the host nation and it would be neither ethical nor politically feasible to evict current residents in order to resettle islanders. Moreover, the host might be willing and able to accept integration only or to cede only inland and mainland areas, rather than islands or coastal areas. These circumstances would ensure that the island community and island culture would undergo major transformations. If the islanders stay on their island, they are doomed. If they move to mainland areas or accept integration, then their culture might disappear anyway. A decision must be made. What is ethically the best decision and who should decide?

Another operational ethics issue which is liable to lead to inter-state conflict rather than cooperation would be re-creating an island community which perpetuates views and actions that violate human rights. The Maldives has been cited for preventing peaceful political protests (Amnesty International, 2005) while Tonga still retains whipping and death by hanging as possible crime punishments (Laws of Tonga, 1988).

Within these debates, another ethical dimension is communication of the choices and concerns. The phrases “Abandonment” and “permanent evacuation” have more emotive connotations than “relocation” and “permanent departure”. Language is powerful, with the choice of words translated

from and translated to being as important as the medium and manner of communication, especially considering that some languages are inherently more emotive than others and some languages might not be able to express the full range of connotations from the various phrases. A recommendation cannot be made for more or less emotive language, or for harsher or subtler connotations, because those options depend on the specific culture involved and how that culture feels it best to approach these topics. The method of communication could make the difference between disaster diplomacy and disastrous diplomacy, as evidenced by communication difficulties which have impeded the disaster diplomacy case studies of Iran-USA (Waarner, 2005; Kelman, 2007) and Cuba-USA (Glantz, 2000).

Operational ethics issues regarding island security and climate change exacerbated extreme events are starting to be raised in legal contexts. An illustration of the lack of diplomacy which arises from the disaster of climate change was Tuvalu's 2002 threat to sue Australia and the USA over those states' greenhouse gas emissions (Allen, 2004; Ralston et al., 2004; Jacobs, 2005). The lawsuit was dropped when the Tuvaluan prime minister promoting the legal action lost an election. Possibilities currently exist to sue for environmental human rights violations, for genocide, and for indigenous people's rights being violated (Reed, 2002). Future international law mechanisms could include defining environmental crimes against humanity or environmental genocide with the potential for an International Environmental Court or International Environmental Criminal Court.

The difficulty of unambiguously attributing a specific climate change related extreme event or creeping environmental change to specific actions of a specific state could stymie legal cases. Alternatives could be pursuing criminality for failure to act "reasonably" or holding state groups (e.g. the United Nations, the European Union, the North American Free Trade Agreement parties, or the G8), corporations, or heads of corporations responsible for observed global consequences. Such legal alternatives have significant ethical ramifications for how states and state groups should be acting individually and globally and for how much legal responsibility states and state groups should have for the actions of individuals, corporations, other individual states, and other state groups. These issues are emerging in areas other than islands and climate change, from the behavior of multinational corporations through to rendition of individuals for interrogation (e.g. see the legal and ethical discussions by Monshipouri, 2003 for multinational corporations and by Forcese, 2006 for rendition). Evolution in legal mechanisms and arguments could provide opportunities for tackling ethics in inter-state disagreements on climate change related extreme events.

For the role of state groups, Chasek (2005) and Larson (2002) describe the importance of island alliances. The Alliance of Small Island States (AOSIS) is an inter-governmental organization dealing with climate change from an island perspective. AOSIS "functions primarily as an ad hoc lobby and negotiating voice for small island developing states (SIDS) within the United Nations system" on climate change (<http://www.sidsnet.org/aosis>). As climate change increasingly affects island security, and perhaps non-sovereign islands to a greater extent than their governing states, island states and territories could become increasingly vocal and politically aggressive on the international stage through their alliances. Disaster diplomacy and disaster paradiplomacy could be further effected due to climate change—or aggression could lead to more confrontation.

A balance exists between the potential for legal mechanisms and political alliances to ferment conflict and to avert conflict. Despite the confrontational nature of many court cases and international fora, they might promote disaster diplomacy by encouraging states to exchange disaster-related views and to reach settlements, even if mandated rather than voluntary, in ostensibly neutral and non-violent venues. In contrast, Edwards (1999) draws upon and analyzes Thomas Homer-Dixon's work (<http://www.homerdixon.com>) in the context of examining potentially violent pathways for Pacific islands countering climate change related security difficulties, especially evacuation.

Another legal and ethical dimension regarding island evacuation is who owns the marine resources surrounding an abandoned or disappeared island. Barnett and Adger (2003) and Edwards (1999) discuss the implications for Exclusive Economic Zones. The further possibility exists for mineral resources on an island's land to be inundated by sea-level rise or storms—and those resources might have already been partially extracted. Less tangible resources enter the debate: the right to access shipping lanes through an island group or to test weapons on abandoned islands before they become completely submerged. An ethical question arises regarding why these legal issues draw attention when people, cultures, and states remain to be assisted in a decision-making process and in enacting decisions made.

From this discussion, four sets of operational ethics and legal questions emerge which are applicable to the scenarios discussed and which are likely to impinge further on disaster diplomacy due to their contentious nature and relevance to inter-state relations. These categories are:

1. Responsibility. Who—states, groups of states, individuals, organizations, or a combination—has the responsibility, and who should have the responsibility, for resolving climate change exacerbated island security issues, especially evacuation? The affected islanders must be at the forefront of decision making, but who else should be obligated to take responsibility and who else could take responsibility? For sub-national islands, the governing states have legal responsibility, but should they always have full responsibility for territories?

2. Funding. Moving people and heritage will cost, as will purchasing or building territory. Who should pay that cost? Would there be a difference in who pays and the price if land is purchased from less affluent countries such as Fiji or Indonesia rather than more affluent countries such as Australia or the USA? Could territorial waters or the rights to territorial waters or abandoned land be exchanged for territory in a host state or for funds to construct and maintain new mobile or non-mobile islands?

3. Sovereignty (as an ethical, not just legal, issue). Is maintaining sovereignty of island states as important as saving the individual islanders? Should sub-national islanders use the opportunity to seek sovereignty or to reduce their autonomy, such as by evacuating their island to live in the governing state? How many resources should be used to maintain national identity given the likelihood of its loss under many resettlement options?

4. Decision-making. In the above three sets of questions, how will the answers be determined? Are ethical or legal criteria more important or should an equal balance be achieved? Many of the problems discussed here arise in other circumstances too, with volcanic eruptions already mentioned. Should climate change be highlighted as a focus or should the issues be addressed for wider contexts? When differences emerge between which communities are able to answer the questions and which communities would be most affected, how should different interests be accounted for? A core disaster diplomacy question is how will conflicts be resolved and are the debates, questioning, and answers likely to generate conflict or to forge deeper diplomatic links?

3. Lessons and Conclusions

Much of the material which has been presented here is speculative yet it informs difficult decisions which ought to be made despite limited precedents. This paper does so with four principal, connected lessons.

First, small, marginalized locations can lead to significant inter-state concerns. Islanders are ignored by non-islanders at non-islanders' own peril. Climate change and related extreme events have led to

island states and territories interacting with non-island states on territorial questions, particularly about the prospects for resettling island populations. Elements of both disaster diplomacy and the opposite are witnessed. This lesson extends beyond climate change as aptly demonstrated by two UK Overseas Territories which caused difficulties and international embarrassment for the UK government:

- Montserrat, due to ongoing volcanic eruptions which started in 1995 (e.g. Clay, 1999; Davison, 2003; Pattullo, 2000).
- Pitcairn Island, where a crisis resulted when, in April 2003, UK authorities charged several men with sex crimes (for background, see Trenwith, 2003).

Island states and territories are small, isolated, and marginalized. They are nonetheless important, impacting international relations, inter-state conflict, and conflict resolution.

Second, a persistent theme throughout this paper is that the discussion, consequences, and potential approaches apply beyond extreme events exacerbated by climate change (see also Barnett, 2002; Edwards, 1999; Kaly et al., 2002; Roper, 2005). Other than volcanic (e.g. Vestmannaeyjar) and criminal (e.g. Pitcairn) security threats mentioned, entire islands could require evacuation due to tsunamis, non-climate related fisheries decline, disinterest in island life, human-induced environmental degradation, and being overwhelmed by external cultures. In evaluating island security and island futures, climate change must be prominently considered, but alongside other equally prominent security concerns which could lead to consequences similar to climate change exacerbated extreme events.

Third, disaster diplomacy continues to yield mixed results, more often not working and being dominated by other concerns than producing direct successes (Kelman and Koukis, 2000; Kelman, 2006; Kelman, 2007). As in other disaster diplomacy case studies, the climate change exacerbated disasters are not creating new diplomacy, but they provide the potential for catalyzing existing diplomatic processes. That potential is not always realized.

Fourth, and collating the previous three conclusions, climate change compounds security threats facing islands and forces those threats onto inter-state relations. Contemporary climate change, however, does not engender new situations which have previously been absent from islands. From the regional changes in the Pacific climate and sea-level fall approximately seven hundred years ago to the modern trend of emigrating from marginalized areas to large cities (see also Edwards, 1999), island security has frequently been threatened to the extent of evacuations being necessary. Climate adds another potentially devastating dimension to those security threats and island communities are unlikely to be able to tackle those threats on their own; outside assistance is essential (e.g. Barnett and Dessai, 2002).

Yet despite authors such as Barnett and Adger (2003) focusing on “climate dangers”, bleakness and dependency represent only one cluster of the issues: the negative side. Islanders have rich cultures with successful ways of dealing with challenges that would teach lessons to the rest of the world. Within the constraints of climate change consequences which the globe has imposed, islanders should be choosing their own fate with the support and guidance, but not manipulation or pre-determinism, of the world (see also London, 2004). This focused, clear, and open approach, with the full support of and interaction with non-island communities, could reap further rewards by setting a precedent on how to deal peacefully with extreme event challenges at a global scale and by forging diplomatic ties which lead to positive outcomes which would otherwise not have been witnessed.

The option exists for island security to be enhanced through disaster diplomacy due to climate change exacerbated extreme events. A choice must be made to exercise that option.

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