Islander mobilities: Any change from climate change?

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Abstract

Climate change is often stated as being likely to cause the forced movement of millions of people, especially from low-lying island communities. Without denying such potential, these statements are not always placed in wider and deeper understandings of mobility and non-mobility. Instead, the mobilities literature demonstrates the complexity of the topic and the extensive factors influencing choices and lack of choices, with poverty being a significant factor for the latter. To contribute towards understanding these complexities, this conceptual paper applies wider mobilities literature to the specific case of low-lying island communities potentially threatened by climate change, demonstrating the relevance of the wider mobilities literature to the discussions of islander mobilities under climate change. The key message is that different forms of mobility and non-mobility together could be used by islanders to address climate change, as long as resources are made available for the islanders to enact their own choices. Overall, without denying the major challenges which climate change brings to islanders, climate change nonetheless brings little substantive which is new to discussions of islander mobilities. Instead, islander mobilities under climate change will be understood best by placing climate change in context as one driver amongst many of mobility and non-mobility.

Keywords

climate change, culture, displacement, environmental change, islanders, islands, migration, mobility, refugee

1. Introduction

Should people be born, live, and die near the same place? Are mobility and non-mobility truly a matter of choice? Climate change has emerged as a threat that is stated as being likely to cause the forced movement of millions of people, with low-lying island communities said to be particularly vulnerable (Barnett and Campbell, 2012; Brown, 2008; IPCC, 2013-2014; Pilkey and Young, 2009; UN, 1994, 2005). Such statements are not usually placed within wider and deeper mobility literature including mobility and non-mobility from island communities (e.g. Christensen and Mertz, 2010; Lewis, 1990; McCall and Connell, 1993; Sheller, 2009; Tabucanon, 2012; Wertheim, 1959). That literature demonstrates the complexity of the topic and the extensive factors influencing choices and lack of choices regarding mobility and non-mobility, with poverty being a significant factor for the latter.

An illustrative case study comes from India. DasGupta and Shaw (2013) report that Lohachara, an Indian island in the Bay of Bengal, is the first island that has disappeared due to climate change. Banerji et al. (2012) describes the combination of climate change with other factors such as cyclones causing coastal erosion and mangrove destruction, alongside the people's poverty and lack of education limiting their response options. The island had a population of 10,000 and it plus another nearby island, Suparibhanga which did not have permanent inhabitants, disappeared between 1982 and 1986 (Banerji et al., 2012; Kumar et al., 1994; Tuhin et al., 2003). The residents moved to a larger neighbour, Sagar, demonstrating islander mobilities under climate change, but now Sagar is eroding, most likely with climate change being one factor amongst many (Gopinath and Seralathan, 2005). Approximately another dozen islands in the area, some of them inhabited, are in danger of experiencing a fate similar to Lohachara and now Sagar (DasGupta and Shaw, 2013; Tuhin et al., 2003). To add to the confusion, some media reports suggest that Lohachara is currently re-emerging from the sea, but no academic literature was found to corroborate these reports. These islands demonstrate the complexity of islander mobility, especially considering climate change in tandem with other environmental factors (e.g. cyclones) and social factors (e.g. poverty).

To contribute to understanding these complexities, this conceptual paper applies wider mobilities literature to the specific case of low-lying island communities potentially threatened by climate change, demonstrating the relevance of the mobilities literature to these discussions. The key message is that different forms of mobility and non-mobility together could be used by islanders to address climate change, as long as resources are made available for the islanders to enact their own choices. This analysis does not deny the influence of environmental factors, including climate change, on islander mobilities. Nor does this analysis deny the relevance to contexts beyond low-lying island communities. It does apply wider analyses on climate and mobility (e.g. Bettini, 2013; Felli and Castree, 2012; Hartmann, 2010; and Nicholson, 2014 amongst other publications referenced in this paper) to conclude that climate change brings little which is new to discussions on islander mobilities and non-mobilities.

The next section provides a brief overview of topics and foundations of mobility, non-mobility, choice, and lack of choice, with a strong emphasis on case studies of low-lying island communities. Developed from the mobilities and islander mobilities literature, Section 3 then explores six categories—uncertainty; attachment to place; family and livelihoods; culture, tradition, and faith; social and political networks; and environmental change across scales—as an illustrative typology of climate change influencing and not influencing islander mobilities. The conclusions summarise this paper's key messages, noting that climate change forms one factor amongst many with respect to islander mobilities and non-mobilities and climate change should be better placed in these wider contexts.

2. Mobility, non-mobility, choice, and lack of choice

From the mobilities literature (e.g. Desbarats, 1983; Guan and McElroy, 2012; Hugo, 1996; King and Connell, 1999; Petersen, 1958), mobility encompasses all forms of movement, including:

- shorter-term, more voluntary mobility and non-mobility such as for work, leisure, and social purposes;
- shorter-term, more forced mobility, such as evacuations due to chemical leaks or tornadoes, and non-mobility, such as denial of temporary work or education opportunities;
- longer-term, more voluntary mobility and non-mobility, such as emigrating to another country or staying put for work or family; and
- longer-term, more forced mobility, such as asylum seekers escaping persecution in their home country or homes remaining flooded for years or longer, and non-mobility, such as people wishing to emigrate but being denied visas or not being able to afford to apply for visas and moving.

In the above classifications, care is taken not to create binary categories of short-term/long-term or voluntary/forced, because the mobility literature is clear that differentiating time scales and delineating voluntarism in mobility is not straightforward (e.g. Desbarats, 1983; Foresight, 2011; Hugo, 1996; Petersen, 1958; Tickell, 1989). Some people's movement fits clearly into specific categories. An example is asylum seekers' movement being long-term and forced. For many others, strict categorisation is not so clear, such as business owners who lose their assets in an earthquake and decide to try setting up their business in a different location, temporarily at first to determine whether or not it works out.

Many individual and community characteristics impact the choices and lack of choices for mobility and non-mobility (Desbarats, 1983; Foresight, 2011; Guan and McElroy, 2012; Hugo, 1996; King and Connell, 1999; Petersen, 1958; Tickell, 1989). Poverty, age, and health problems limit options. The potential host might not wish to receive migrants with certain characteristics. The lack of access to information, emotional attachment to one's home, and fear of losing social networks or cultural ties can "voluntarily" support non-mobility. Migration is sometimes viewed as a disruption of the relationships between people and their environment that results in losing the cultural tools affecting livelihoods and, therefore, migration can be resisted or frowned upon (Bourdieu, 1986). Certain power relationships deter mobility of some segments of the population, with Brown (2008) noting that the poorest people who already lack livelihood opportunities and social networks are frequently the last to consider moving, even under severe resource scarcity or severe danger—mainly because they lack the resources to consider mobility as an option. Having mobility and non-mobility options often depends on external assistance, such as elderly in Japan with poor health being supported by their children to move or not (Brown et al., 2002).

Island communities are one location where all these forms of mobility and non-mobility are, and have long been, undertaken (Baldacchino, 2007; Guan and McElroy, 2012; King and Connell, 1999; Lewis, 1999). Climate change is now impacting many island communities with significant discussions about climate change causing mobility from low-lying islands (e.g. Barnett and Campbell, 2010; Brown, 2008; IPCC, 2013-2014) as well deconstructions of that discussion (e.g. Farbotko, 2005; Kelman, 2014). Yet it is not inevitable that climate change impacts will make low-lying island communities uninhabitable (e.g. Rankey, 2011; Webb and Kench, 2010) or that islanders will wish or choose to move simply because of climate change threats, especially where poverty and lack of resources inhibit them from controlling their own mobilities (Felli and Castree, 2012; Nicholson, 2014). In many situations, as happened for Niue in the Pacific after Cyclone Heta in 2004, islander mobility due to damage to their community occurs in the context of a "culture of migration" within the place affected (Connell, 2008, p. 1021).

Sometimes non-mobility occurs within a culture of non-migration, for instance when islanders affected by tropical cyclones must stay on their island and ride out the storm because there are no off-island places to evacuate to (e.g. Treadaway, 2007 for remote communities of the Solomon Islands). Moving inland on the same island, preferably to higher ground, in order to avoid storm surge is not an available option on the low-lying atolls of Tuvalu and the Federated States of Micronesia where the main evacuation option for the islanders is moving to the few buildings with upper stories (or, locals sometimes suggest, climbing a tree). Sometimes, mobility cannot be considered due to poverty or people's perceived need to stay behind and protect their meagre assets (e.g. Felli and Castree, 2012). As such, the mobilities literature including for islanders demonstrates the interactions amongst mobility and non-mobility choices and lack of choices. Mobility—permanent, temporary, or circular—is rarely special, extreme, or unusual, instead being an inherent part of island community cultures and frequently permitting the island community to survive. Within that, climate change has become an important factor.

3. Interactive influences of climate change on mobility and non-mobility choices

Studies examining the impact of climate change on islander mobility and non-mobility in the context of a wide range of factors (e.g. Bedford and Hugo, 2012; Foresight, 2011; Guan and McElroy, 2012; King and Connell, 1999) conclude that it is not the norm for climate change only to lead to mobility and non-mobility choices by islanders. Instead, even factoring in climate change, mobility and non-mobility choices usually arise from social factors—with prominent examples being poverty, education, family, livelihoods, governance, culture, and identity—which in turn sometimes inhibit climate change adaptation, sometimes support it, and sometimes do both simultaneously (see also Nunn et al.,

2014). The interactive influences of climate change on choices and lack of choices of islander mobility and non-mobility thus need to be explored in detail, with this section presenting some categories from the mobilities literature particularly focusing on low-lying island communities (e.g. Bedford and Hugo, 2012; Christensen and Mertz, 2010; Foresight, 2011; Guan and McElroy, 2012; Hugo, 1996; King and Connell, 1999; Lewis, 1990; McCall and Connell, 1993; Sheller, 2009; Tabucanon, 2012; Wertheim, 1959) and interpreting climate change within that illustrative typology.

3.1. Uncertainty

Despite many sources giving specific ranges of numbers of expected migrants due to climate change (e.g. IPCC, 2013-2014), detailed studies critique those numbers, the methods, and underlying assumptions (Felli and Castree, 2012; Bettini, 2013; Gemenne, 2011; Hartmann, 2010; Nicholson, 2014). In fact, population mobility and non-mobility has long been a response to natural hazards and other environmental changes including those which are human-induced (Foresight, 2011), but calculating numbers for these movements is notoriously difficult. Some efforts have started such as IDMC (2011) reporting in the years 2008, 2009, and 2010 that, respectively, 36 million, 17 million, and 42 million people are estimated as being newly displaced due to sudden-onset environmental hazards (IDMC, 2011).

For the years 2008, 2009, and 2010, IDMC (2011) also lists respectively 56%, 91%, and 91% of the displaced people as being climate-related. Although the focus is sudden-onset hazards, an inevitable question is how longer-term hazards and hazard driver would impact mobility—along the voluntary/involuntary continuum—with climate change being at the forefront of these concerns. For mobility linked to climate change, "Forecasts vary from 25 million to 1 billion people with a figure of 200 million being the most widely cited estimate" (IOM, 2009, p. 5). These figures are not produced with robust empirical and verifiable methods (Bettini, 2013; Hartmann, 2010; Nicholson, 2014) and those producing these figures have yet to respond completely to the critiques of the numbers. Similarly, many recent reports (e.g. ADB, 2012), while referring to later publications, do not address concerns raised about the analyses, such as Hartmann's (2010) description of the constructed securitisation of the 'climate refugees' discourse which then permits a militarised response. Finally, the numbers of people who will allegedly move due to climate change are rarely matched with numbers describing people who will choose or be forced not to move due to climate change.

The disparity between the projections and reality became especially prominent in 2010 after UNU EHS (2005, p. 1) publicised a claim that "by 2010 the world will need to cope with as many as 50 million people escaping the effects of creeping environmental deterioration". A solid basis to calculate such a claim does not exist, so this suggestion quietly disappeared in the following years. Tirado et al. (2010) and Tirado (2011) then revived it, stating that the UN suggests 50 million environmental refugees by 2020, yet no source was provided for this figure. Gemenne (2011) provides a powerful analysis of the disparities amongst the numbers, demonstrating how insufficient the evidence is regarding climate change and mobility.

Many of these debates become particularly poignant for low-lying island communities, because they are suggested as being amongst the first and worst to be affected by climate change (IPCC, 2013-2014). Empirical evidence of low-lying island geomorphological behaviour under climate change is limited, but inundation and disappearance as one realistic outcome from sea-level rise (IPCC, 2013-2014) is not inevitable (Rankey, 2011; Webb and Kench, 2010). Irrespective, changes to freshwater, food supply, and geomorphology due to climate change might make many low-lying island communities uninhabitable, leading to mainly forced mobility (IPCC, 2013-2014; Kelman and West, 2009). This uncertainty poses a dilemma to the islanders in terms of trying to decide whether they should migrate immediately, start planning to migrate, or wait and see before finally deciding. Recognising that these options exist, accepting the uncertainties, and giving those affected the power and resources to make and enact decisions for themselves is a different approach than popular documentaries such as the film *Climate Refugees* from 2010 which makes panicked calls that the richer countries will soon be overwhelmed by climate refugees from the poorer countries.

Such discourses are exploited by some islanders using the uncertainties and disparate views to drive their own agenda. Kothari (2014) describes the situation on The Maldives. The government has proposed consolidating the county's population from over 200 islands to approximately a dozen islands as an environmentally sustainable strategy for the country in the face of climate change and the uncertainties brought by climate change. Kothari (2014) then describes how the consolidation policy has been in place for at least three decades, with the government arguing that it is not economically sustainable to have communities scattered over so many islands. Now, despite changes in government, climate change and the uncertainties for the low-lying islands are being used as an excuse for the government to do what it wishes to do anyway with respect to forcing Maldivian population consolidation.

3.2. Attachment to place

Topophilia (e.g. Tuan, 1974) refers to attachment to a place, for factors such as home, identity, livelihoods, and culture. For islander mobility, aspects of topophilia have been researched, although it is not often theorised as place attachment. Topophilia has been seen in numerous case studies of island volcanoes, with examples of evacuated residents returning

against official advice in Niuafo'ou, Tonga which erupted in 1946 (Lewis, 1979) and Vestmannaeyjar off the south coast of Iceland which erupted in 1973 (Chester, 1993). The draw of economic opportunity failing to lead to mobility is another example of islander topophilia, demonstrated by rural New Zealand demonstrating (Sampson and Goodrich, 2005). That is, irrespective of hazards from nature (e.g. volcanoes) or society (e.g. unstable livelihoods), many islanders would try to avoid mobility or would try to return home as soon as possible.

Tristan da Cunha, a South Atlantic island which belongs to the UK, is a particularly powerful illustration of both forms of topophilia. After the volcano started erupting in 1961 and the islanders were evacuated to England, conflict erupted when the UK government tried to impose a decision of non-return (de Boer and Sanders, 2002; Mackay, 1963; Samuels, 1963). The islanders disagreed and held a poll in which the vast majority voted to return and then did so. Tristan da Cunha continues as a community today with just under 300 inhabitants, still lacking either an airport or a large harbour, and with highly limited livelihood options but without unemployment since everyone must work to help the community (Dodds, 2012; Munch, 1970). Their place attachment remains strong with no talk of leaving the island permanently.

There are lessons for the attempts to impose the label "climate (change) refugees" on islanders in low-lying communities, as shown by McNamara and Gibson (2009) who analysed policy documents on, and interviewed Pacific island UN ambassadors regarding, the climate refugee topic. Their analysis showed that, irrespective of topophilia, the ambassadors do not reject the likely need to move due to climate change but do reject the "refugee" label because they feel that it removes power and choice from themselves while denigrating their attachment to place. The policy documents which uncritically accept the refugee discourse implicitly discount the abilities and interests of the islanders to request assistance when they need it while retaining control over their own fates and homes (see also the Many Strong Voices programme described in section 3.5). As the Pacific islanders and mobilities literature note, islanders have long understood, accepted, controlled, and enacted mobility options, all along the voluntary-involuntary continuum, with climate change being no different in this regard.

3.3. Family and livelihoods

All communities have baselines of factors such as family and livelihoods underscoring all drivers—including climate change—of mobility and non-mobility. Livelihoods have always played an important role in islander mobility (Bedford and Hugo, 2012; Foresight, 2011), including in returning to the island of origin such as Puerto Ricans who leave the mainland USA due to lack of opportunities and poverty (Oropesa and Landale, 2000). New Zealand's Pacific Access Category permits certain numbers of citizens from Kiribati, Tuvalu, and Tonga (mainly low-lying island communities) to move to New Zealand as long as they have certain skills and meet health and character requirements. This agreement is often reported as being linked to the effects of climate change on the low-lying islands (e.g. Adger and Barnett 2005; Pilkey and Young 2009), but to date, New Zealand's official information (http://www.immigration.govt.nz/opsmanual/46183.htm) has not mentioned climate or environmental topics. Similarly, a court case was heard in New Zealand in 2013 from a citizen of Kiribati trying to claim climate refugee status, but he was denied that so far (Priestley, 2013). Instead, the Pacific Access Category is meant to give people with skills the choice to move to New Zealand, ostensibly for better livelihoods and also for easing the population pressure on the small island communities.

Yet there is a dark side to this mobility choice. The most skilled islanders depart the island community, producing a brain drain away from the island while the remaining population shows a concentration of less skilled people, which is called a "trapped population" because they have forced non-mobility (Foresight, 2011). This influences the livelihoods of those left behind which tends to comprise a population with limited skills, higher poverty, and lower capability to deal with the challenges they face, of which climate change can be prominent. If the "trapped population" wishes to move—and not all do—then they must focus on illegal, often dangerous measures (Foresight, 2011), which in turn impact the predicted or expected outcomes from the mobility process.

For Caribbeans, Bakker et al. (2009) note how children who have moved tend to face language barriers, stigma, and ostracising by local children which affects their success of finding livelihoods in the new location. Conversely, where only a parent moves, the children left behind can experience difficulties due to separation from one parent and feelings of abandonment. The older siblings must frequently provide parental care for younger siblings, taking time away from their own education (Bakker et al., 2009). Yet one parent or part of a family moving can influence the choices and decisions of other members not to move, by providing remittances which help to make life viable in the original island community (Amuedo-Dorantes et al., 2010). Brown (2008) and Nunn et al. (2014) note how population movement away from a community can give other members of that community an opportunity to stay longer because of reduced stress on resources, slowing down any large-scale mobility, even in situations where a community is expected to be uninhabitable in the future. Island communities have long used mobility as a strategy to sustain livelihoods and communities on the islands for exactly these reasons (Bertram and Watters, 1985; Lowenthal, 1985). Dependency on remittances, thereby reducing possibilities for permanent family reunification is one consequence. When the remittances are sporadic, reduced, or unable to meet local needs, then children left behind sometimes leave school anyway to share responsibility for generating income or assisting with subsistence livelihoods (Bakker et al., 2009).

The low-lying island communities of Kiribati demonstrate how not taking into account these aspects of mobility and non-mobility led to the failure of climate change projects. Gaillard (2012) shows that the Kiribati Adaptation Project, comprising several multi-million dollar projects, was not as successful as expected because people were more focused on day-to-day family and livelihood issues, playing down the long-term challenges brought by climate change. The people were still considering mobility in terms of remittances and non-mobility in terms of daily challenges and local livelihoods, whereas the Kiribati Adaptation Project imposed climate change as a stand-alone topic. Gaillard (2012) suggests that the government of Kiribati highlighting climate change has brought in aid money, but has not addressed the people's needs or interests, including with respect to mobility and non-mobility.

3.4. Culture, tradition, and faith

Many islanders are suggested as having a culture of mobility, such in the Caribbean and Pacific where mobility has long been a means to seek economic and educational opportunities (Bakker et al., 2009; Bedford and Hugo, 2012; Connell, 2008). That does not mean that all islanders from those locations seek mobility. Any community can have a mix of mobility and non-mobility values and decisions. Meanwhile, external knowledge and culture have created many typically urban and comparatively modern island communities such as Bridgetown, Barbados subsuming much of the people's traditional knowledge and culture (Pugh, 2013).

Yet no knowledge system, local or external, should be presented as supplying everything needed. Traditional knowledge is limited to phenomena, time scales, and space scales which humans can observe. Probing deep into the ocean, underneath the earth's surface, or back millions of years in time is not usually feasible with traditional knowledge. Meanwhile, scientific knowledge rarely captures the intuitive understanding of changes, often subtle and small-scale, that are accepted (even if not proven) simply by having lived in the same location for decades. One challenge of contemporary climate change is that the rate and nature of the environmental alterations is making many peoples' traditional understanding of their environment less robust; that is, traditional knowledge is becoming out-of-date or, at least, responses based on traditional knowledge are failing more often than before (CICERO and UNEP/GRID-Arendal, 2009; Kelman and West, 2009).

Nonetheless, a culture's knowledge cannot simply be dismissed because of that factor, since people identify with their traditional knowledge and need it to make sense of the world and to frame decision-making especially for dealing with environmental change (Shaw et al., 2009; Sillitoe, 1995; Wisner, 1995). Their traditional knowledge and wisdom still provide a foundation and anchor for them to interpret the environmental changes which they are experiencing as well as a basis to consider how to effect any mobility and non-mobility options (Pennesi et al., 2012; Piccolella, 2013; Speranza et al., 2010). Using a community's own knowledge as a basis, even if it is becoming outdated, promotes trust and self-help within that community (Gaillard, 2007; Shaw et al., 2009). That includes acknowledging and working within power relations that are inherent in combining knowledge types while avoiding power relations that are unwelcome and exploitive—from any party connected to the work (e.g. Lewis, 1999; Wisner 1993, 1995). It is also important to avoid assuming that community knowledge is one coherent, homogeneous entity.

Faith and belief systems can be the foundation for mobility and non-mobility related decisions, rather than a focus on informed, ostensibly rational decision-making. When Merapi, a volcano in Indonesia, erupted in 2006, many local residents had faith in the mountain and refused to move (Donovan, 2006), a faith which cost dozens of lives during the 2010 eruptions. Despite the islands of Tuvalu being low-lying, many residents have trouble reconciling climate change projections with their Christian faith interpreting that Biblical flood survivor Noah was promised by God that such a flood would never again happen (Farbotko, 2005). Tuvaluans have long moved to other countries, notably New Zealand, and climate change is one more factor in the decision-making process, but culture might generate a bias towards non-mobility based on climate change projections alone. Given the complexities involved in future environmental projections and mobility processes (see also Section 3.1), significant care is needed in trying to challenge fundamental beliefs in order to analyse all possible mobility and non-mobility options.

Culture and identity are discussed by many islanders, especially in low-lying communities, in the context of climate change (e.g. Rudiak-Gould, 2013; Connell, 2013; Shen and Binns, 2012). Some say that they will never move, irrespective of the situation on their island. Others accept the inevitability of moving, but recognise the destructive effect that it will have on their culture. There are implications for both the emigrant and immigrant locations. In moving to another country, it is usually difficult to maintain one's culture and traditional knowledge, especially through the generations (Alba and Waters, 2011). Immigration always has an element of assimilation, which is viewed positively and negatively with respect to culture, depending on what is sought by emigrating. Meanwhile, the destination location will experience changes in culture and traditions as immigrants bring diversity, leading to discussions regarding how much locals and immigrants should each adapt to each other (Berry, 1997).

Climate change related mobility and non-mobility do not change any of these aspects. Focusing on only climate change related mobility without the wider contexts, as noted by Kothari (2014) for the Maldives (and see also Bettini, 2013;

Hartmann, 2010; and Nicholson, 2014), cannot fully account for culture, faith, and tradition which often dominate decisions and, in this case, might be strong drivers for non-mobility even if that might mean death. Rudiak-Gould (2013) uses field evidence to illustrate for the low-lying Marshall Islands, investigating Marshallese perceptions, feelings, and responses to the suggested threat of climate change. He shows significant acceptance that climate change is happening, is human-caused, and needs to be dealt with, but the solutions are seen to be domestic—to be enacted within the Marshall Islands rather than blaming outsiders or moving to another location. Rudiak-Gould (2013) explains this attitude through Marshallese culture and tradition. One consequence is that externally imposed responses are then likely to fail, especially if they focus on climate change rather than on Marshallese needs, interests, and traditions, such as the already existing cultural aspects of mobility and non-mobility.

3.5. Social and political networks

Social networks support mobility and non-mobility, as shown by Foresight (2011) noting that population movement has mostly been noted among people with more skills or with extended family in the destination. That applies when climate change is involved in decision-making, with low-lying island communities exemplified by the Many Strong Voices programme (MSV; http://www.manystrongvoices.org with key references being CICERO and UNEP/GRID-Arendal, 2008; Kelman and West, 2009). MSV was founded in 2005 at the request of peoples from the Arctic and Small Island Developing States (SIDS). SIDS are several dozen countries and territories in the tropics and sub-tropics which have joined forces under UN auspices to tackle their similar development and sustainability challenges (UN 1994, 2005) focusing on their vulnerability to climate change. Many Arctic peoples are also islanders in low-lying island communities, such as those from Greenland, Baffin Island (Nunavut), and the Aleutian Islands (Alaska).

For dealing with climate change, the Arctic and SIDS peoples are willing to take responsibility for their own actions, but they recognise that their own knowledge and abilities cannot provide everything needed, so they request external support and resources (e.g. Bronen and Chapin III, 2014; CICERO and UNEP/GRID-Arendal, 2008). Their requests, alongside their own knowledge and wisdom, tend to be sidelined, in terms of not only describing their observations of their changing climate, but also possible solutions from their own experience as well as possible measures for which they are requesting outside assistance to pursue (see also Pugh, 2013).

Many measures relate to mobility. A SIDS example for low-lying islands is people from the Carteret islands in Papua New Guinea deciding to move because climate change is making their communities uninhabitable (Yamamoto and Esteban, 2014). The same occurs in the Arctic for the low-lying island communities of Kivalina and Shishmaref in Alaska (Bronen and Chapman III, 2014). As with Newtok, Alaska, these communities decided for themselves that mobility was the desired option, principally as a result of climate change impacts, and they are working themselves to effect that option and to seek the external support that they need for it. MSV has supported this decision-making, and the need for networks to assist, by putting people from the Carteret Islands in touch with people from Newtok, so that they can exchange stories and experiences. The participants report that, despite the immense differences in culture and climate of the two locations, the MSV network provides needed support, understanding, and information for carrying out appropriate mobility-related decisions.

3.6. Environmental changes across scales

Studies of island communities describe mobility and non-mobility as strategies for dealing with environmental change, sometimes with rapidly forming hazards such as volcanoes (Lewis, 1981) and tropical cyclones (e.g. Campbell, 1984) and sometimes with slower-onset hazard drivers, such as climate change (Nunn et al., 2007, 2014; Reuveny and Moore, 2009). With respect to climate change, mobility is viewed as both an adaptation strategy for climate change impacts and as a failure to adapt to climate change (e.g. Black et al., 2011; IOM et al., 2009; Tacoli, 2009)—arguments which apply equally to non-mobility. As such, since both mobility and non-mobility can be seen as both adaptation to climate change and a failure to adapt to climate change, factors other than climate change are needed to contextualise mobility and non-mobility choices and decisions. Those factors include environmental change at shorter time scales as well as the factors discussed in sections 3.1-3.5.

The climate change literature could highlight further that mobility has always been a life strategy for islanders—for responding to environmental and social changes, for seeking improved livelihoods, and for adventure (e.g. Connell, 2008; Guan and McElroy, 2012; Hau'ofa, 1993; King and Connell, 1999). Mobility has been an adaptation strategy as much as non-mobility, often with mobility and non-mobility complementing each other, such as one or some household members migrating in order to support the rest of the household which remains. Yet not all mobility and non-mobility is adaptation; sometimes mobility and non-mobility are forced since they are an inability to adapt, as shown throughout history for Pacific islanders in low-lying communities (Dickinson, 2009; Nunn et al., 2007). That does not justify forcing Pacific or other islanders to move due to contemporary climate change, which is a problem largely caused by outside forces. It does indicate that mobility as a strategy for islanders dealing with environmental change has precedents. Historical incidences and wider contexts should provide information and guidance for today's climate change influenced decisions.

In particular, many policy documents and media discussions iconise islands, islanders, and low-lying island communities, portraying them as hapless victims of climate change who are being forced to move from their idyllic lifestyles (see analyses by Farbotko, 2005; Kelman, 2014; and Shen and Binns, 2012). Such discourse is full of myths (e.g., Baldacchino, 2007; Farbotko, 2005; and Gerrard and Wannier, 2013) and—as islanders in MSV work towards—should be countered, especially challenging the view that island communities are idyllic and are victimised with climate change being the main source of the problems experienced (see also Gaillard, 2012). There is also sometimes an underlying (and unwarranted) assumption that all islanders wish to stay in their current location and that mobility is always forced. The focus on climate change, while constructing climate's future as the main threat, reinforces a paradigm whereby nature—even if exacerbated by human activity, as with climate change and many other hazards—is the main danger and the main reason for making mobility-related decisions (e.g. Kelman and Gaillard, 2010; White, 2004). For low-lying island communities, despite climate change, many mobility and non-mobility drivers are not related to nature, with the social aspects in Sections 3.1-3.5 dominating.

The key is to recognise that many (not all) environmental changes, including climate change, are manageable through mobility, non-mobility, and a combination, as long as resources are made available for the islanders to enact their own choices. Examples where environmental change is clearly the main driver of mobility (rather than non-mobility) include a volcano destroying a settlement and sea-level rise inundating a community. Thus, environmental change at all time scales can be a driver, but it is one driver amongst many with varying levels of influence.

4. Conclusions

All the mobility and non-mobility factors discussed in section 3 have long been associated with island communities, low-lying and otherwise, and they continue to affect island life irrespective of climate change, yet the climate change focus often precludes consideration of the wider factors (see analysis by Farbotko, 2005; Gaillard, 2012; King and Connell, 1999; McNamara, 2009; McNamara and Gibson, 2009). As a truism from the non-climate change literature (see also Felli and Castree, 2012), mobility and non-mobility are multi-dimensional, with numerous factors and drivers—often most notably access or lack of access to resources—influencing decisions, choices available, and voluntariness. Studies of mobility and non-mobility have long explored these dimensions, developing a deep understanding of mobility and non-mobility, long before climate change became a major part of scientific or political agendas. Climate change work could usefully examine that scientific literature more deeply in order to draw on lessons that apply for contemporary decision-making, especially decisions driven by various social factors such as poverty, inequality, and justice that interact with climate change. This paper has presented low-lying island communities as an example of how climate change can be placed within wider and deeper mobilities and non-mobilities contexts. It notes that climate change impacts could be dealt with through mobility, non-mobility, and their combination as long as the islanders affected have choices available to them alongside resources to pursue those choices.

This analysis does not and should discount that climate change is precipitating mobility decisions in many low-lying island communities, such as the Carteret Islands, Lohachara, and Shismaref (all discussed earlier). Other islanders are expected to be forced to move in the future with climate change as a principal trigger. Despite the poignancy of the challenges from climate change, its slow-onset nature means that climate change might yield options for planning for mobility or non-mobility through controlling to some degree the timing, rate, and trigger for mobility choices—if resources are available to examine options and enact the islanders' choices.

As always in dealing with environmental hazards, care is needed in assuming that all plans will go according to expectations. A specific hazard event such as a cyclone or tsunami could wreak havoc on low-lying island communities long before climate change is fully felt. Even after a hazard event, people might choose to move at different times. Again, the need to draw on previous scientific literature—from research on disasters, mobility, development, and poverty—is shown since lessons exist which could and should apply to climate change. As in Alaska and Papua New Guinea, that also means working with low-lying island communities to understand their historical and current reasons and desires for mobility and non-mobility; to explore how environmental hazards and hazard drivers including climate change might affect those reasons; and to analyse the positive and negative impacts of mobility and non-mobility.

Bettini (2013), Felli and Castree (2012), Hartmann (2010), and Nicholson (2014) point out that climate change work frequently assumes a specific mobility or non-mobility outcome from climate change, especially one forcing a direct causal link with a specific phenomenon related to climate change. Drawing on these authors and others referenced throughout this paper, it is instead important to understand how climate change could and could not influence islander mobility and non-mobility, amongst other drivers. These choices should not be imposed on islanders by others, but instead should be developed in consultation with those affected, while assisting them with resources and information, demonstrated by MSV's approach. Many factors contribute to and interplay with mobility and non-mobility, driving these decisions with different proportions of voluntariness and involuntariness.

Climate change, despite its importance in many instances, is not the full or dominating picture for all islander mobilities and non-mobilities which instead display a rich and long history including, but not limited to, changes in the environment. A factor which more frequently dominates is poverty and lack of resources and choices to deal with social and environmental changes. Climate change influences all these factors, but those factors also influence the extent to which climate change impacts ultimate decisions. In the end, climate change does not substantively change mobility and non-mobility choices of many living in low-lying island communities. Consequently, even though climate change brings little substantive change to discussions of islander mobilities, that conclusion does not ignore the major challenges which climate change has brought to some islanders over the centuries and brings to many islanders today. Nor does that deny that some islanders have moved and are moving almost exclusively due to climate change—when they have the resources to do so. This paper does indicate that climate change needs to be placed within wider contexts regarding mobility and non-mobility analyses and that many locations see little change in mobility and non-mobility discussions and options as a result of climate change, despite populist views otherwise.

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