# 更多数学建模优秀论文联系微信: WriteOK

# ICM Problem F Issue Paper



As noted in the problem statement, several island nations are at risk of completely disappeadue to rising sea levels. [1] The issue is quite complex. It is not simply a matter of identifying how to move a certain number of people around the globe – it is also about recognizing that these people are human beings who have rights and who are the last living representatives of their unique culture. In this Issue Paper, we highlight three of the essential ideas that frame this problem: relocation decisions as they relate to human rights, nation-state responsibility, and individual choice; the tension between assimilation and accommodation as part of resettlement and cultural preservation; and time factors such as the rate of the nation disappearing, the timing of these losses aligning with a global rise in nationalism, and the difficulty in making sound predictions about the size of this issue.

### Relocation Decisions: Human Rights, Nation-State Responsibility, and Individual Choice

Considering the relocation issue, you might think that such EDPs would have similar rights as other UN-recognized refugees, but the United Nations High Commission on Refugees (UNHCR) and the widely adopted 1967 protocol has historically only afforded rights to those who are displaced due to politically related security issues, such as ethnic or religious persecution. However, in a very recent ruling, the UN has acknowledged this issue and recognized that some EDPs might qualify as refugees. Although a ruling has now been made, there is not yet a vision on how the international community should respond as these situations increase in magnitude and frequency.

Rights awarded to these refugees include right to work, freedom of movement, and protection by host governments. Additionally, the UNHCR, in collaboration with other aid organizations, work to provide aid and assistance to refugees until they are resettled in another country, become naturalized by their host state, or repatriate to their country of origin. Now, with this new ruling, the former inhabitants of the disappeared nation may be eligible for some of those rights or aid, but there is no hope of repatriation as the land itself is gone.

Even if EDPs are eligible for rights somewhere else, it is not clear where this new home would be or who would be responsible for making that decision. There are individual and international considerations related to whether the selection of a new long-term residence is made by individuals or if the choices are made or swayed by immigration policies developed by nations in isolation or as part of a cooperative effort coordinated by the United Nations. Possible migration policies could consider the financial ability of the new nation to absorb these new individuals, but there is also discussion of setting up burden-sharing based on nations' relative contributions (pollution) to the environmental conditions that is leading to the loss of these nations. In other words, the international community may press nations with high pollution records to contribute more to the resettlement of EDPs in some equitable manner.

#### Resettlement and Cultural Preservation: Assimilation versus Accommodation

In terms of the cultural preservation issues, the nations that are most at risk are arguably some of the most culturally distinct in the world with languages, music, art, dances, social norms, and ways of life that can be different from island to island even within the same island chain. As a result, the loss of one of these nations could represent a significant cultural loss. While the displaced inhabitants may be able to preserve some aspects of their culture, some are geographically specific. For example, traditional ocean fishing techniques used in The Marshall

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Islands are unlikely to continue to be practiced by families who settle in the Alps. As anoth example, perhaps the language could be preserved, but this would require host nations to be more accommodating and less strict on the assimilation requirements of these special new residents who may be trying to preserve their culture in a new land. For example, France cu requires refugees who resettle there to learn French, but if there were international pressure, perhaps France would waive this requirement for groups of EDPs who are trying to preserve a lost culture.



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This leads to a tension between accommodation and assimilation as other nations volunteer to absorb the populations of the former nations. It is important to note that it is the lack of a UN protocol for dealing with EDPs that forces other nations to *volunteer* to settle and naturalize those affected. In fact, the loss of a nation falls into the no-man's land between several UN charges – the care of refugees (UNHCR), the protection of world culture (United Nations Educational, Scientific, and Cultural Organization (UNESCO)), and emergency aid response (United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)). And while the residents of a handful of small island nations might be absorbed relatively easily by volunteer nations, the fact is that climate change has been ushering a literal wave of more frequent and more intense environmental disasters. Imagine a major tsunami taking out a nuclear power plant and causing enough other significant damage that a more heavily inhabited nation may become uninhabitable; or a place being hit by so many repeated severe storms that rebuilding was deemed unwise; or a place where climate change is making it impossible for a nation that was formerly flush with crops to provide for its people. At what point should the UN step in, and in what role?

### Time Factors: Raging Waves, Rising Seas, and Rising Nationalism

If a nation is wiped out as a result of a rapid catastrophic event, such as a tsunami or hurricane, then there is no time to prepare, even if the country knew they were at risk of such an event. When a nation is sinking as a result of slowly rising sea levels, then there are issues about how a migration could be coordinated and planned, or even how the loss could be mitigated through land-preserving measures taken by the at-risk nation with or without international support. It is not clear how the timescale of the loss would impact, or should impact, the ultimate decisions that need to be made concerning the resettlement of a population, the protection of their human rights, and the preservation of their culture.

Additionally, as the urgency to address this issue is literally rising with the sea level, the world is also experiencing a rise of nationalism, so the global response today may be very different than it would have been at other periods in history where globalism may have been more in favor than nationalism. If policies, or a lack of policies, end up pushing EDPs towards a subset of welcoming nations, then those countries may get overwhelmed and become less welcoming in response. Therefore, the changing global political climate may also be an important factor to consider.

Lastly, all of these challenges make the size of this problem extremely difficult to predict. Credible studies have predicted anywhere from 140 million to one billion EDPs by 2050. [4,5]

#### **Summary:**

In summary, as a nation disappears, it is not clear if an international cooperative and coordinated effort should be adopted to address the loss of homes, the need to resettle, and the preservation of culture. This issue is complex, and no model or report would be able to adequately address every

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aspect in detail, but excellent reports need to be aware of these different aspects and how the interrelated. There is the aspect of human rights, which are now recognized in theory, but he never been applied in practice. There is the balance of individual choice versus policy-drived migration. Another aspect is defining equitable burden sharing which could be driven by the capacity for nations to absorb new residents and/or obligations due to contributions to climate change; specifically, whether the nations with the largest contributions to climate change have any ethical obligations to take on a higher burden in assisting climate refugees. Yet another aspect is a balance between assimilation and accommodation, as new residents preserve their culture and/or blend into their new home. Some nations may disappear slowly, such as sinking under rising sea levels or loss of the ability to produce food, while other nations may be wiped out in a catastrophic disaster; and the immediate needs and ability to plan for the long-term needs in these situations are different. Furthermore, the situation is evolving over time as climate change advances and as we see a global rise in nationalism. Lastly, all of this complexity has made it difficult to even measure the problem or predict how quickly it will escalate.

#### **Cited References**

Note that these are provided as citations to support claims in the Issue Paper. We have already pulled the important ideas from these resources for you, so although your team may use these sources, access to these is not required. Instead your team is encouraged to look for other sources to support your claims.

- [1] Letman, J. (2018, November 19). Rising seas give island nation a stark choice: relocate or elevate. National Geographic. Retrieved from https://www.nationalgeographic.com/environment/2018/11/rising-seas-force-marshall-islands-relocate-elevate-artificial-islands/.
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- [3] Su, Y. (2020, January 29). UN ruling on climate refugees could be gamechanger for climate action. Retrieved from https://www.climatechangenews.com/2020/01/29/un-ruling-climate-refugees-gamechanger-climate-action/.
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- [5] Kamal, B. (2017, August 21). Climate Migrants Might Reach One Billion by 2050. Retrieved from http://www.ipsnews.net/2017/08/climate-migrants-might-reach-one-billion-by-2050/.