

Robin Bronen

Extreme weather events combined with decreased arctic sea ice and thawing permafrost are causing accelerating rates of erosion in Alaska Native communities located along the western coast of Alaska. These climate-induced environmental changes are causing Alaska Native communities to choose the relocation of their entire community as the only long-term adaptation strategy that can protect their culture and subsistence lifestyles. Preventive relocations, which occur prior to an extreme weather event that causes land to permanently disappear and displaces populations, can be a critical disaster risk reduction tool that can save lives and offer long-term protection. No institutional mechanism currently exists in the United States, or anywhere in the world, to determine when a preventive relocation should occur, who should make this decision, or how the decision should be made. Community-based social-ecological monitoring and assessment tools may be a critical mechanism to determine whether and when relocations need to occur.

International law requires nation state governments to protect vulnerable populations from climate-induced environmental change. The government responsibility to protect people through the implementation of preventive relocations may require relocation against people's will (Ferris 2012). However, government-mandated relocations have been uniformly disastrous for the people relocated. Development projects, particularly dams, have displaced approximately 280–300 million people between 1990 and 2010 (Ferris 2012). Governments have also forcibly relocated people for geopolitical motives (Tester and Kulchyski 1994). During World War II, the U.S. government forcibly relocated Alaska Natives living on the Aleutian Islands, theoretically to protect them from the Japanese (Mobley 2012). These government-mandated relocations weaken social, cultural, and political institutions, disrupt subsistence and economic systems, and affect the culture and traditional kinship ties within a community (Jha 2010). In Alaska, the forcible relocation of the Aleuts caused the death of approximately 10% of the relocated population.

To address both the severe consequences of government-mandated relocations and the lack of a methodology to assess climate change risk in relation to the ability of people to remain where they currently live, I propose the design of an adaptive governance relocation framework. One component of such a framework is a social-ecological monitoring and assessment tool.

An adaptive governance framework means that governance institutions can respond dynamically to environmental changes and can shift their efforts from protection in place to managed retreat and community relocation (Bronen 2011, Bronen and Chapin 2013). A community-based social-ecological monitoring assessment tool that can engage community residents in a collaborative decision-making process with government representatives to determine whether and when to relocate may avoid or minimize the harmful effects of government-mandated relocations and can foster the protection of human rights. Human rights must be embedded in any relocation process to ensure that people will not suffer as a result of the permanent loss of home. Community-based social-ecological monitoring and assessing can foster human rights protections so that community residents are empowered with the information they need to determine whether, when and how relocation needs to occur.

Community-based integrated assessments can foster empowerment, promote human rights protections, and encourage transparent decision-making processes, all of which are elements of good governance (Alfredsson 2013). Human rights principles, based on the fundamental freedoms inherent in human dignity, can be an important foundation on which adaptation strategies are designed and implemented (Moyn 2010, Bronen 2011, Tanner et al. 2015). The right to self-determination is the most important human rights principle to guide climate change adaptation. In the context of climate-induced environmental change that threatens the habitability of the places where people live, self-determination means that people have the right to make decisions regarding adaptation strategies (Bronen 2011, 2014). The right to self-determination also means that people have the right to make fundamental decisions about when, how, where, and if relocation occurs to protect them from climate-induced environmental threats. To operationalize this right, people need the capacity to assess and document the environmental changes and sociological effects and vulnerabilities caused by climate change (May and Plummer 2011). However, the ability of this community-based process to foster human rights will depend on the capacity of governance institutions to collaborate, be transparent in decision-making, and be inclusive of all sectors of society.

Designing and implementing adaptation strategies also require the involvement of multi-level institutions. Community-based integrated social-ecological assessments can facilitate communication between community residents and local, state, regional, and national actors who can bring technical expertise that may not exist at the local level to better assess and implement adaptation strategies. Local knowledge can provide not only a long-term historical perspective, but an understanding of the connections between people and the environment, while Western scientific approaches can generate projections of future change in the context of broader global scientific data analysis (Kannen and Forbes 2011). Through this collaborative data-gathering process, local scenarios can be integrated into regional or national models of climate change scenarios (Lewis 2012). In this way, both residents and government agencies can anticipate vulnerability to implement a dynamic and locally informed institutional response.

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