

# A Study of Climate Change Induced Migration in Somalia

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E.J. MEEKING, DEC 23 2013

**Use the climate adaption framework described in the article ‘Migration as an Adaption to Climate Change’ by McLeman and Smit to evaluate the likelihood of climate change induced migration in Somalia.**

The position that climate change poses an imperative threat to both state and international security is a concept that has long overshadowed the international political landscape (Nordas & Gleditsch, 2007, p. 628). As the predicted impacts of climate change manifest states will be forced to face significant fluctuations of global and regional temperatures, an increase in both the occurrence and devastation of natural disasters, changing rainfall patterns, the degradation of land and rising ocean levels. Furthermore, climate change is not an entity limited to one specific area or state, but presents a global and shared challenge that threatens the wellbeing of each and every individual. Although the majority of the global community will eventually face levels of exacerbated damage within their specific states, the vulnerability of the global south places its developing states in an inadequate position to economically and politically adapt to or mitigate these effects.

This essay will examine the increasingly prevalent threat of anthropogenic climate change induced migration. To achieve this, the following essay will utilise McLeman and Smit’s ‘concept of vulnerability’ equations (2006) to identify the climate sensitivity and consequential adaptive capacity of Somalia to effectively withstand predicted climate change scenarios. I will argue that the forced migration of people and the factors that influence this displacement vary significantly within each nation and are highly dependent upon their political, economic and social position. In turn this shall determine how extensive civil and international conflict, subsequent inadequate governance and already prevalent environmental degradation have contributed to the ongoing displacement of Somali populations, utilising historical and current facts to support this theory. Overall this essay will both highlight the limitations of isolating the climate ‘signal’ when determining the ultimate effects of climate change in a state where migration is a response to multiple ‘stresses’ and how, as a “threat multiplier”, climate change significantly exacerbates these pre-existing and interwoven societal processes.

To successfully evaluate the influence of changes in climate upon human migration patterns McLeman and Smit (2006) implement an analytical system, or ‘concept of vulnerability’ equations. The first of these, as modified by Smit and Pilifosova (2003) determines the vulnerability of human systems (governments and related institutions) in relation to their exposure and adaptive capacity in any given location, time or system (McLeman & Smit, 2006, p. 34). Within this model exposure refers to probability frequency of hazardous natural conditions, and subsequent events, that are “relative to human occupance at a particular location and time” (ibid.). Adaptive capacity, in correlation with this, is determined by the ability of any given system to cope and respond to this exposure and its potential aftermaths. These two key elements can have significant effects upon the vulnerability of a state or community, with increases in exposure heightening the impact of climate stress upon this given community and adaptive capacity working to minimize exposure (ibid.). In accordance with this model, migration manifests as one possible adaptive measure, which arises as one outcome of adaptive capacity when faced with a form of climatic stress (McLeman & Smit, 2006, p. 31).

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When assessing the exposure and adaptive capacity of Somalia, the impoverished state is one of many Northeast African states in a position of extreme vulnerability with limited capacity to effectively respond to impending climate change impacts. Consequently Somalia stands to experience the mass displacement and forced migration of its population due to unmitigated exposure to climate stress and dwindling resources. Although it is considered a primarily agricultural state, with 80% of the population was dependent upon agriculture in 2008, Somalia harbours only 2% arable land (Corfield, 2008, p. 119). Of this arable land, 69% is dedicated to the grazing of low-intensity livestock and 17% is deforested (ibid.). Somalia is expected to experience land degradation, declining ecosystems, water stress, threats to food security and the revitalisation of already prevalent armed conflict (Reuveny, 2007, p. 657). In 2009, 250 million Africans faced significant risk of water shortages (Moss, 2009, p. 45). If access to water is restricted through a rise in temperature and evaporation or increased competition, the entire Somali state is affected. As a recent example of this, 2012 saw over 10 million people in dire need of international aid and faced with the result of extensive exposure to climate stress; famine (Secretary-General, 2012). The harsh drought resulted in extreme water scarcity, limiting the agricultural sector and directly threatening the security of each individual. Faced with limited water storage, increased risk of disease, dehydration and hunger families were forced to flee their homes in the search of water and food. Although Somalia is now recovering from this famine, it is clear that the state is unable to provide its population with necessary food and water security in the face of natural disaster and within both rural and urban settings.

Much of Somalia's population resides in low-lying coastal areas, bordering the Indian Ocean and Gulf of Aden. With frequent fluctuations in temperature and rising sea-levels expected to occur in an increase in extreme weather and natural disasters states, such as Somalia, are becoming increasingly exposed and may be forced to evacuate these region. Considering this the increasingly dire predictions of sea-level rise, migration has the potential to become one of the only options available to much of the Somali population (McLeman & Smit, 2006, p. 37). Furthermore those residing within rural communities have limited access to the economic or academic resources of their urban counterparts and are less able to protect themselves in the face of natural disaster and there remain significant spatial discrepancies in adaptive capacity within states as well as among them. As observed in both the 1991/92 and 2011 Somali famines these poorer minorities were hit hardest by the famine and, due to both their rural location and the intervention of the anti-governmental Al-Shabaab faction, were limited in their access to humanitarian aid (Majid & McDowell, 2012, p. 36). The unequal distribution of wealth between rural and urban populations, in an already poor nation, also limits the population's access to adequate healthcare and economic opportunities. These limitations provide a significant basis for the migration of numerous rural communities to urban, richer regions in the search of work, shelter and healthcare. Upon arrival within these larger regions, rural migrants are faced with similar issues, increased competition and conflict as many of Somalia's urban cities remain underdeveloped and unable to provide for its exponentially increasing population.

Similar to Smit and Pilifosova (2003), Robards and Alessa (2004) present a concept model equation in which vulnerability remains in direct correlation with exposure and adaptive capacity, yet is expected to alter due to changes in these variables over time. As exposure in this context varies due to frequency, longevity and spatial extent, a further understanding is necessary when assessing the vulnerability of each state and their exposure to natural hazards exacerbated by changes to climate. Therefore exposure can now be understood as a "function of the natural systems that gives rise to natural hazards", such as flood, with significant impacts upon local economies and their societies (McLeman & Smit, 2006, p. 35). Simultaneously this vulnerability equation also emphasises the importance of societal processes upon adaptive capacity such as access to economic opportunity, social and human capital and reiterates the heightened effect of climate change within damaged and poorer communities such as Somalia (ibid.). Therefore, adaptive capacity focuses specifically around the economic stability and ability of government and institutions within a given state to "recognise and asses risk and adaptation needs, and implement suitable options" to ensure greater adaptive capacity which are beholden to their state's economic and social situation (ibid.). In relation to Somalia, political and economic instability have rendered its population with little academic capacity for the population to neither expand their understanding of environmental economics and climate change nor develop imperative and relevant information or technology to address these issues. Somalia's limited access to education directly impedes the development of alternative adaptive measures, including the improvement of individual security in any one place rather than the trauma of forced migration. Within his article 'Capacity Building to Deal with Climate Change', Sterner (2012) reaffirms the overarching influence of economic instability arguing "that

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the inability of the poor to afford proper investments to protect themselves and adapt in response to the pressures on their livelihoods posed by climate change renders them most vulnerable". With approximately 2% (\$9557 million) of the world's gross domestic product (GDP), there is no doubt that Somalia represents a similar understanding of poor (The World Bank, 2013). Thus, an improvement in education and environmental studies would be highly beneficial and allow this struggling state to improve their adaptive capacity through informed governmental policy. However, Somalia's heavy reliance upon a fading agricultural industry and their current economic situation has ensured that any governmental investment within the Somali population must first address their overall economic and conflict situation.

When addressing climate-induced migration within Somalia, there can be little doubt that climate change maintains a significant impact. However the increasingly prevalent security issue cannot be held solely accountable for the forced migration and mass displacement of Somali populations, rather it must be seen as an exacerbating factor of numerous 'stresses'. As previously discussed, the vulnerability of a state is interwoven with political and economic instability and institutional weakness (Giddens, 2011, p. 180). Climate stress can promote conflict which, in turn, can significantly decrease the strength of governmental systems and their vulnerability and their adaptive capacity (Gallopın, 2006, p. 295). This conflict can heighten competition for dwindling resources and result in further ethnic tension, distrust and highlight the inability of a state or community institutions, particularly in situations of extreme climate change (Reuveny, 2007, p. 660). The ongoing conflict in Somalia, coupled with subsequent and significant political tension, are a strong example of this. With a vast history of civil war, militant factions (Al-Shaabab) and international conflict, the Somali government has historically weak institutions that are have been unable to cope with drought and famine. As a result communities and individuals have been forced to implement their own adaptive strategies and migrate from the area to those they deem better able to accommodate their needs (McLeman & Smit, 2006, p. 37). With little faith in the poor governance and inability to resolve the ongoing and devastating human security issues, the Somali government has lost the trust of their population. As a direct consequence of this, they have also lost the ability to implement any significant climate change policy or increase their adaptive capacity through political initiatives. Although the hold of anti-governmental forces has begun to loosen, the population have yet to achieve a standard of living that correlates with the basic human rights of freedom from want and fear (United Nations High Commission of Refugees, 2013). This political unrest and growing competition for resources have directly contributed to the displacement of approximately 1.3 million Somali people internally, and forced approximately 1.1 million (refugees and asylum seekers originating from Somalia) from the country (UNHCR. 2013). Of these millions 215290 have fled to neighbouring Ethiopia (ibid.).

As reiterated by McLeman and Smit (2006), the "nature of migration, the mobility of the population and the forces and drivers that influence migration are different" within every state and remain interconnected with societal processes. The equations of vulnerability present a strong argument for the significant influence of climate change upon states and their populations and, as observed through the mass displacement of Somali populations away from climate stresses and conflict, the strength of this influence within developing nations. However it is important to note that migration is a longstanding issue within Somalia as conflict, political unrest and subsequent famine continue to result in mass internal displacement, unhindered by weak governmental institutions and low adaptive capacity. With this in mind climate-induced migration remains a likely occurrence in Somalia, yet to isolate and determine the full influence of climate change in a state where political and economic unrest continue to contribute to human migration patterns remains problematic.

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## **A Study of Climate Change Induced Migration in Somalia**

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