

# Urbanism, Climate Change, and Community Adaptations in the Horn of Africa

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## Introduction

Africa is on a growth trajectory in several aspects, including population, urbanisation, and development.<sup>1</sup> Yet, this growth is threatened by increased adverse climatic changes, along with persistent challenges such as inequality, poor governance, poverty, and unemployment. Increasing extreme weather events are resulting in flooding, excessive heat, and mudslides, making climate change adaptation a necessity, not an option. In addition, African cities are experiencing major rural-to-urban migration flows, with the majority of people who arrive forced to settle in increasingly overcrowded informal settlements that also face adverse effects from climate change.<sup>2</sup>

This article examines the severity of the negative impacts of climate change in the Horn, with a specific focus on cities that face both adverse climate changes and high levels of inward migration, due to the need for people in other parts of the country to flee from dire and devastating climate change impacts in those areas. The article also looks at some of the efforts undertaken by state actors and communities in the Horn to address climate change. It concludes with an urgent call: If climate change in the Horn is to cease being a threat multiplier, action needs to be taken now.

## Climate Change and its Effects: A Matter of Survival

The implications of climate change in the Horn are dire and urgent because they affect human security. In the Horn, climate change has a multiplier effect on armed conflict.<sup>3</sup> Future risk climate change assessment models demonstrate that a one-percent increase in temperature in degrees Celsius and increases the risk of violence by 4.5 percent in the same year.<sup>4</sup> These types of assessments exemplify the exacerbating role climate change can have on insecurity in the region.<sup>5</sup> In July 2022, an estimated 20 million people were at risk of death due to severe drought in the Horn.<sup>6</sup> These 20 million people in immediate need of food and water are dependent on the arrival of international humanitarian assistance.<sup>7</sup>

Ethiopia is one of the countries with the highest vulnerability to climate change and the negative impacts of the subsequent multiplier effect.<sup>8</sup> Since 1980, the country, which is largely dependent on rainfed agriculture,<sup>9</sup> has experienced five major droughts, extreme floods, and heat waves. This has resulted in increased poverty levels, food insecurity, land degradation, and migration. All this is in the

midst of rapid population growth, weak institutional capacities, and limited abilities to manage disasters. Climate change in Ethiopia also has implications for its neighbour, Sudan: An estimated 63,000 Ethiopians have sought refuge there.<sup>10</sup>

In Somalia, deforestation and drought are changing pastoralist routes as they seek water and pasture, which is exacerbating violent land conflicts between farmers and pastoralists.<sup>11</sup> These conflicts account for approximately 35–40% of violent conflicts in Somalia, increased internal displacements, death, and destruction.<sup>12</sup> Somalia is estimated to have 3.7 million internally displaced persons (IDPs), with 700,000 of these a result of drought.<sup>13</sup> An additional 800,000 Somali refugees are spread across other countries in the Horn.<sup>14</sup>

The situation in South Sudan is equally fraught, with 95% of the population dependent on climate-sensitive activities and resources.<sup>15</sup> These include rainfed agriculture, livestock husbandry, and wood fuel.<sup>16</sup> The increase in extreme rainfall resulting in flooding, along with high temperatures, heightens pressures on already meagre usable water resources and strains the agricultural sector.<sup>17</sup> In a country that has had multiple civil wars, coupled with high poverty levels and low adaptability capacities, there is urgent need to address the frequent droughts and floods.<sup>18</sup>

Similarly, in Sudan annual flooding affects 200,000 people.<sup>19</sup> In 2020, the peripheries of the capital, Khartoum, experienced flooding that affected 80% of the temporary structures and re-displaced thousands of IDPs, who already face urban poverty.<sup>20</sup> These climatic changes have contributed to increased inter-communal conflicts by increasing competition over water and pasture, and negatively impacting food production and livelihoods that occur amid political challenges, in places such as West Darfur.

Correspondingly, Kenya suffered one of its worst droughts in 2022.<sup>21</sup> With the country being heavily dependent on rainfed agriculture, this drought occasioned increased food insecurity.<sup>22</sup> Climate change has also negatively impacted the Kenyan economy, with an annual 3–4% reduction in the gross domestic product since 2020.<sup>23</sup> In terms of conflict, in some parts of the country such as Baringo, Laikipia, Turkana, and West Pokot, dry seasons are linked to increased incidents of violence over competition for scarce water and pasture resources.<sup>24,25</sup> Kenyan adaptation and response capacities to climate change are limited by high

poverty levels, with 8.9 million Kenyans living on less than USD 2 per day and 7.9 million being food insecure in 2022.<sup>26</sup>

Across the Horn, the search for basic human needs such as food and water due to unfavourable climatic changes has resulted in substantial internal and external migration,<sup>27</sup> which is increasing poverty levels, destroying and shifting livelihoods.<sup>28</sup> These fluctuating livelihoods include a shift to new migration routes, which intensifies the possibility of violent conflict, as these new routes can encroach on the land of other people.<sup>29</sup> In 2019–2020, parts of Ethiopia, Kenya, and Somalia also suffered a massive locust infestation as a result of climate changes, specifically high temperatures and rising water levels.<sup>30</sup> This resulted in crops being destroyed, which aggravated food insecurity, and increased financial dependence on the international community by approximately USD 70 million.<sup>31</sup>

According to the Intergovernmental Panel on Climate Change, climatic changes in the Horn have contributed to violent conflicts as a threat multiplier.<sup>32</sup> This is a result of competition over scarce resources, including water and pasture across the region. These conflicts include: tensions between host communities and those migrating as a result of adverse weather conditions; tensions between farmers and pastoralists as the latter move in search of pasture; and strained livelihoods that lead people to join violent extremist groups; for example, in places such as Darfur.<sup>33</sup> Nonetheless, the direct linkages between climate change and conflict across the Horn are not adequately documented for stronger claims to be made.<sup>34</sup>

## Climate Change and Cities in the Horn of Africa

Urban areas increasingly experience extreme rainfall, wind, and temperature patterns as a result of climate change.<sup>35</sup> Cities in the Horn are no exception and are directly impacted by climate change.<sup>36</sup> This is concerning: 86 million internal climate migrants are projected in sub-Saharan Africa by the year 2050.<sup>37</sup> Cities in the Horn are already struggling with a myriad of challenges, including rapid population growth, speedy and haphazard urban development, high poverty levels, and limited energy options.<sup>38</sup> The situation is further complicated by a range of factors, including lack of awareness of the risks of climate change, limited political will, and weak institutions that are insufficiently capacitated to address the challenges posed by climate change.<sup>39</sup> According to the climate change vulnerability index, cities in the

Horn, including Addis Ababa and Kampala, are at extreme risk.<sup>40</sup> This is due to rapid population growth, severe climate change (including drought and flooding), increased food scarcity, and water shortages, without the necessary adaptation capacities.<sup>41</sup>

In response, cities in the Horn have a role in addressing the negative effects of climate change by replacing forests, grasslands, and streams that have been affected by housing, infrastructure, and other urban developments that contribute to shifting climatic conditions and decrease the resilience of cities to shocks.<sup>42</sup>

In Nairobi, climate change vulnerability is being experienced through the spread of climate-sensitive diseases such as malaria, in-flows of climate change displaced populations, and an increasing frequency of drought and flood episodes.<sup>43</sup> This is compounded by financial and technical constraints, lack of sufficient policies, and inadequate institutional and implementation frameworks to support climate change resilience efforts.<sup>44</sup>

## A Beacon of Hope: State and Community-Focused Initiatives

Collective responsibility and response are critical if the Horn is to escape the dire outlook and predictions of the impact of climate change in coming years. Complementary to government efforts, communities in countries and cities in the Horn have taken the initiative to increase their resilience to the negative effects of climate change.

### Addis Ababa

In February 2019, Ethiopia launched the “Beautifying Sheger” project in Addis Ababa, aimed at developing green spaces to address climate change challenges and provide employment.<sup>45</sup> The three-year project focuses on the rehabilitation of tributaries of two major rivers in Addis Ababa; namely, the Kurtime and Bentyketu.<sup>46</sup> The initiative is spearheaded by the Office of the Prime Minister in collaboration with the Ministry of Agriculture, the Environment, Forest, and Climate Change Commission, and the Ministry of Water, Irrigation, and Energy.<sup>47</sup> Some of the Beautifying Sheger project activities include the rehabilitation of water bodies, the reclamation of riverbanks, and landscaping.<sup>48</sup> In the same year, the government launched the

Green Legacy Initiative campaign, which aims to plant 20 billion trees in four years, as a move towards climate resilience efforts.<sup>49</sup> The project has planted approximately 4 billion trees in 2019 alone, including 354 million trees being planted in July alone, during a one-day nationwide campaign.<sup>50</sup>

Moreover, in two urban districts in Addis Ababa (Yeka and Akaki Kaliti), the “Promoting Autonomous Adaptation at the Community Level” project was implemented from 2012–2016 by the Ethiopian government, with support from the United Nations Development Programme.<sup>51</sup> The project is spearheaded by the Ministry of Environment, Forest, and Climate Change and aimed to: reduce the vulnerability to unfavourable effects of climate change; enhance adaptive capacities to climate change; and ensure there was transference and implementation of adaptation technology at the local, national, regional, and global level. Activities undertaken include the provision of trainings and workshops for community leaders and sub-national government representatives, GIS modelling and farm management technologies; and establishment of early warning networks and climate information centres. Among its successes, the project: enhanced the transfer and adaptation of existing traditional climate resilience mechanisms; institutionalised policy-based decisions towards actions, infrastructure, and technology; and encouraged diversification of socioeconomic and cultural practices.

In August 2015, the Ethiopian government launched climate resilience strategies covering the agriculture, energy, forestry, irrigation, and water sectors as part of its 2011 vision towards a Climate Resilient Green Economy to address the adverse effects of climate change.<sup>52</sup> In 2017, the government launched an accompanying all-inclusive National Adaptation Plan to facilitate implementation towards a Climate Resilient Green Economy, which embraced gender sensitivity, stakeholder involvement, partnership, and equitable implementation as part of its guiding principles.<sup>53</sup>

## Nairobi

The word “Korogocho” means “crowded” in Swahili and is the name of the fourth largest informal urban settlement in Nairobi.<sup>54</sup> As of 2012, Korogocho was ranked 48 out of 49 in a wealth index classification of Nairobi locations in terms of elevated poverty levels, crime, school drop outs, and high levels of unemployment.<sup>55</sup> In 2017 in Korogocho, a team of young people previously engaged in criminal activities and on a reformation journey formed a community-based organisation, Kombgreen Solutions.<sup>56</sup> The primary objective of the organisation is to restore

Nairobi River riparian land by engaging in urban farming and landscaping. As a result of cleaning efforts, Kombgreen Solutions has removed 280 tonnes of waste from the Nairobi River and the Kibagare River, in collaboration with the Kenya Ministry of Environment. As Kombgreen work also includes reclaiming green spaces, the organisation has created a green recreational people’s park for community members in Korogocho in an area previously used as a criminal hideout, which has contributed to crime reduction in the area. As part of efforts to give back to the community, Kombgreen Solutions runs a feeding programme for children and the elderly, and has a mentorship programme for youth on environmental conservation (including landscaping and the riparian ecosystem) and human rights. In the recovered riparian space, Kombgreen Solutions also runs a community library to promote literacy and organises sports activities for children and youth. During the Covid-19 pandemic, Kombgreen Solutions was instrumental in providing vegetables to community members vulnerable to food insecurity, with the vegetable grown on a quarter-acre plot in the people’s park.

## Conclusion and Recommendations

The challenges posed by climatic changes in the Horn of Africa are dire. The commitments by both state and community actors show a growing recognition of the severity of the problem. This has not translated into commensurate and needed action, however, in particular by state actors. In addition to climate change, the Horn faces myriad other significant challenges, including: political governance; socioeconomic and insecurity challenges; a bulging population; and increased poverty levels. These are all challenges that need immediate attention, making prioritisation a challenge.

Although there have been attempts across cities in the Horn to address the negative effects of climate change, these efforts have been siloed. Countries and cities undertake initiatives without speaking to one another, as evidenced by missing regional or cross-country efforts.

As climate changes worsen in the region, there is a likelihood that individual countries will lean towards protecting their own interests and people. While the need to deal with the (intensifying) impact of climate change in the Horn is very urgent, this requires a collective effort by both state and non-state actors. State actors can provide the necessary resources and awareness on ways to prevent the negative effects of climatic change. Non-state actors can undertake grassroots-led efforts at the community level, utilising



already available local knowledge. If this is not done, countries in the Horn might have good intentions to address adverse climatic changes, but these good intentions may never translate to good actions.

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