Fighting Climate Change in Somalia's Conflict Zones

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Principal Findings

What's new? Somalia went through a prolonged, extreme drought between 2020 and 2023 that caused a humanitarian emergency and fuelled conflict with the Islamist militant group Al-Shabaab. Local resentment of the group's harsh methods during severe water shortages eventually led to a military offensive that put the insurgents on the back foot.

Why does it matter? In Somalia, climate change and conflict are increasingly intertwined. Al-Shabaab uses access to water and other natural resources to levy taxes and fees on herders and farmers, as well as to punish communities that resist its control. But it has also proven persuadable by social pressure during climate shocks.

What should be done? Somalia urgently needs to build infrastructure to withstand future extreme weather more effectively. While funds are trickling in, Mogadishu needs help with adaptation measures. Given the country's immense needs, the government should consider making climate resilience a central part of its efforts to engage Al-Shabaab in talks.

Executive Summary

Ever more frequent and severe droughts and floods are killing and displacing people in Somalia, with important implications for the conflict between the government and the Islamist insurgency Al-Shabaab. Amid the country's devastating drought from 2020 to 2023, Al-Shabaab imposed harsh constraints on aid to areas under its control – and deliberately destroyed water infrastructure – stirring clan resentment. Outrage at the group's actions helped drive a military campaign, beginning in 2022, that pushed the insurgents out of parts of central Somalia. That offensive has since stalled, however, leaving Al-Shabaab in charge of swathes of territory. Meanwhile, the country is struggling to get the funds and technical support it needs to prepare for weather shocks, water shortages and the like. With donor backing, the government should redouble efforts to strengthen the country's climate resilience, provide services and water infrastructure in recaptured territory, and, where necessary, reconsider its ban on contact with Al-Shabaab so that communities can negotiate access to humanitarian relief and reliable water supply.

Somalia is among the countries most vulnerable to climate change in the world. Serious weather shocks are hitting more often, harming livelihoods and economic growth. The 2020-2023 drought and later flooding highlighted the plight of millions of Somalis who rely on seasonal rains to grow crops or raise cattle. In the years to come, Somalis will continue to battle rising temperatures, erratic precipitation and biodiversity loss linked to climate change and deforestation.

Neither drought nor climate change created Al-Shabaab or caused Somalia's instability, but both are now reshaping the conflict. From its origins as the enforcement wing of the Islamic Courts Union, a group of clerics who brought relative order to much of south-central Somalia after the central state collapsed in 1991, Al-Shabaab has positioned itself as an insurgency and the de facto governing authority in areas under its control. Over the years, overstretched Somali and partner forces have hunkered down in urban locales, while Al-Shabaab has established firm footholds in rural areas, above all in the south and centre of the country, where it has staged attacks on African Union forces, Somali troops and public officials.

As these rural areas succumb to the effects of climate change, Al-Shabaab has sought to capitalise on droughts by using access to water as a means of putting pressure on local people. But recent events have shown that this strategy can backfire. Frustration with Al-Shabaab's demands for money and recruits, as well as its violent collective punishment for non-compliance during the drought, fuelled an uprising by clan militias, with which the Somali federal government allied to launch an offensive in August 2022. A number of desperate residents fled areas under Al-Shabaab's control, bringing the group into discredit, causing its revenues to fall and heightening its exposure to attack from land and air. In response to the uprising, Al-Shabaab has made half-hearted efforts to deal with the harmful effects of climate change, on occasion building water infrastructure in a bid to curb local discontent. It has also taken rudimentary measures to protect the environment, like digging irrigation canals and reservoirs, banning logging and planting trees.

Despite initial gains, the offensive has been disappointing. The federal government is struggling to persuade locals in areas recaptured from Al-Shabaab that it can serve them better. With the help of international partners, it will have to step up local service delivery and look for ways to curb Al-Shabaab attacks, especially those on supply routes for humanitarian aid.

While it does so, Mogadishu should do more to build resilience to extreme weather throughout the country. Somalia sorely needs adaptation measures such as sand dams, solar-powered irrigation and flood defences to reduce its climate vulnerability and improve the lives of its people, whose incomes mostly rely on agriculture or pastoralism. Ensuring that aid, basic services and support for climate adaptation measures reaches all Somalis amid conflict is no easy matter. But the government has signalled its interest in building climate resilience, and initial funding has been secured. In October, the Green Climate Fund approved a $95 million project for Somalia that, among other things, aims to revitalise degraded land and rebuild water infrastructure. It will also allow the Somali government to show prospective donors that its efforts to cope with future weather shocks are serious. Its reputation may well be on the line. Ranked among the world's most corrupt countries, Somalia is dogged by perceptions of widespread graft.

Getting investment into areas controlled by Al-Shabaab will pose some of the hardest dilemmas. In those parts of Somalia likely to remain under the militants' rule for the time being, the government should allow community leaders to engage with Al-Shabaab before and after extreme weather events or, at the very least, refrain from interfering with them. At present, elders may face arrest for meeting or signing agreements with Al-Shabaab. Even so, some Somali communities have negotiated access to water or pressed militants into lifting blockades, with local NGOs or private contractors stepping in to provide essential services. Without a doubt, there are dangers in local dialogue with Al-Shabaab, which has repeatedly destroyed basic infrastructure and provides no guarantees that it will honour any agreement. But even if negotiations under these conditions are far from ideal, they may nevertheless be one of the few options communities have for securing aid and preparing for future climate shocks.

Should the government choose to engage with Al-Shabaab in the future, the sides might also find common ground in attempts to alleviate climate stresses. By putting the emphasis squarely on delivering vital services like water, even in areas controlled by Al-Shabaab, the government could show that its priority is meeting Somali citizens' needs. It could build trust with militants and pave the way for including climate policies on the agenda of dialogue seeking an end to the conflict.

If the sides agree to a political settlement, or even if Mogadishu weakens Al-Shabaab to the point of irrelevance, the problem of climate change will persist. Fresh emergencies could arise that other non-state armed groups may seek to exploit. Fighting climate change in Somalia is fraught with challenges stemming from conflict, disputed territorial control, scarce resources and corruption. Addressing the Somali people's needs in the face of an often cruel climate will not only alleviate hardship but also weaken the sway of Al-Shabaab or other threats to the state.

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I. Introduction

Somalia now ranks sixth among the world's countries in vulnerability to the adverse effects of climate change, after Guinea-Bissau, Micronesia, Niger, the Solomon Islands and Chad. Weak governance and widespread insecurity compound the problem.[1] From late 2020 onward, an historic drought in the Horn of Africa caused huge distress among Somalia's population. Parts of the country's southern and central regions saw almost three consecutive years of poor rains between late 2020 and 2023.[2] Though rainfall gradually improved, floods in November 2023 displaced more than half a million people.[3] It will take the country years to recover from these weather shocks.[4]

The drought and floods also put the Islamist militant group Al-Shabaab, which has been battling the authorities in Somalia for nearly eighteen years, on the back foot. The group, whose name means "the youth" in Arabic, first emerged as the armed wing of the Islamic Courts Union, a group of clerics who sought to stabilise the country after the central government collapsed in 1991. In the wake of Ethiopia's 2006 military incursion to topple the Union, Al-Shabaab mounted a campaign of resistance that included high-profile bombings in public places and attacks on officials and journalists. The group later developed links to the transnational jihadist organisation al-Qaeda.

Despite a costly African Union-led intervention force and sustained donor support for a federal government that was re-established in 2012, Al-Shabaab continues to hold extensive areas in southern and central Somalia, even if its influence has ebbed and flowed over the years. Determined to strengthen its grip on communities in areas it controls, Al-Shabaab has sought to capitalise on the drought by using access to water as a means of coercing local people into doing its bidding.

This report assesses the ill effects of climate change in Somalia against the backdrop of the war with Al-Shabaab. It outlines Al-Shabaab's responses to extreme weather crises, including the drought that ended in late 2023, and looks at how Al-Shabaab has used access to water to put pressure on residents of areas it controls. It also examines how the militants have changed their attitudes to building water infrastructure.

[1] "ND-GAIN Country Index: Vulnerability score", 2022.

[2] Crisis Group analysis of Climate Hazards Infrared Precipitation with Stations (CHIRPS) data from the Climate Hazards Center shows that, as of December 2022, the cumulative annual rainfall in southern and central Somalia was about 30 per cent less than normal. "Somalia Acute Food Insecurity Classification (May 2023)", FEWS Net, May 2023. "June to September rainfall season: Dry conditions expected in the northern parts of the Greater Horn of Africa", ICPAC, 24 May 2023.

[3] "El Niño expected to last at least until April 2024", press release, World Meteorological Organization, 8 November 2023. "Once-in-a-century flooding swamps Somalia after historic drought – UN", Reuters, 10 November 2023.

[4] "After a historic drought, Somalia now braces for El Niño rains: At least a million people at high risk of flooding", World Vision, 16 October 2023.

The report builds on previous Crisis Group publications focusing on Al-Shabaab's response to drought, the government's offensive against the militants and the possibility of negotiating with the insurgency.[5] It also draws upon more than 150 interviews with residents of southern and central Somalia, current and former Somali officials, employees of the UN and other international bodies, NGO representatives, researchers, journalists and academics. Interviewees included people who had fled Al-Shabaab-controlled areas. Around one third of the interviewees were women.

In addition to quantitative analysis that Crisis Group has produced itself, the report incorporates data from the U.S. National Aeronautics and Space Administration (NASA) on vegetation density, as well as other data from the Climate Hazards Center at the University of California-Santa Barbara and the Armed Conflict Location & Event Data Project (ACLED).

[5] See, eg, Crisis Group Africa Briefings N°125, *Instruments of Pain (III): Conflict and Famine in Somalia*, 9 May 2017; N°193, *Avoiding a New Cycle of Conflict in Somalia's Galmudug State*, 25 September 2023; and N°187, *Sustaining Gains in Somalia's Offensive Against Al-Shabaab*, 21 March 2023; as well as Crisis Group Africa Report N°309, *Considering Political Engagement with Al-Shabaab in Somalia*, 21 June 2022.

II. Somalia's Climate Challenges

Somalia is vulnerable to weather extremes, which are increasingly undermining the livelihoods of farmers and herders. Rainfall patterns in the Horn of Africa, including Somalia, have become more erratic over the past decade. The country has been going through more dry spells (in Figure 1 below, note the rising number of orange areas) as well as more periods with above-average rains (the blue areas).[6] Parts of Somalia experienced six consecutive below-average rainy seasons over three years between late 2020 and mid-2023. In 2019 and 2020, abnormally heavy rainfall led to flash floods in other places. Especially since 2020, these weather shocks have reduced agricultural productivity in parts of the country.[7] Desert encroached on farmland due to the scant precipitation. Then, combined with strong winds, the sudden floods created ideal conditions for locust infestations that destroyed more than 200,000 hectares of crop fields and pastures in Somalia, Kenya and Ethiopia.[8]

Changing weather patterns magnified the severity of the 2020-2023 drought are intensifying floods, too. Scientists say climate change made this drought 100 times more likely than usual.[9] What made the drought exceptional was not just below-average rainfall but also higher temperatures that scorched parts of the country, particularly at the beginning of 2022 and 2023.[10] Although dry spells are common in Somalia, the 2022 April-June rainy season, known as the Gu, was among the driest on record.[11] In 2023, the drought's consequences endured, though it eased.[12] In 2024,

[6] How to read Figure 1: Precipitation anomalies, or deviations from normal, are shown. Blue bars indicate the share of Somalia's land area receiving abnormally high rainfall in a given month, while orange bars indicate areas with unusually low rainfall. The higher the bar, the larger the area affected by lower or higher rainfall. The more consecutive orange bars, the longer the dry spell. Note that the same month can have a blue and an orange bar, indicating that different parts of the country received unusually heavy rainfall and dry weather simultaneously.

[7] Crisis Group analysis of NASA's MODIS NDVI data. Since 2020, up to 40 per cent of the country's land, including agricultural land in southern and central Somalia, has been showing exceptionally low levels of vegetation density. "The Impact of Disasters and Crises on Agriculture and Food Security", FAO, 2021.

[8] "Desert locust threat continues", World Meteorological Organization, 17 July 2020.

[9] Scientists from Kenya, Mozambique, South Africa, the U.S., the Netherlands, Germany and the UK assessed the extent to which human-induced climate change has increased the likelihood of the low rainfall, as well as the quicker evaporation, that has led to the extreme droughts. See "Human-Induced Climate Change Increased Drought Severity in Horn of Africa", World Weather Attribution, 27 April 2023.

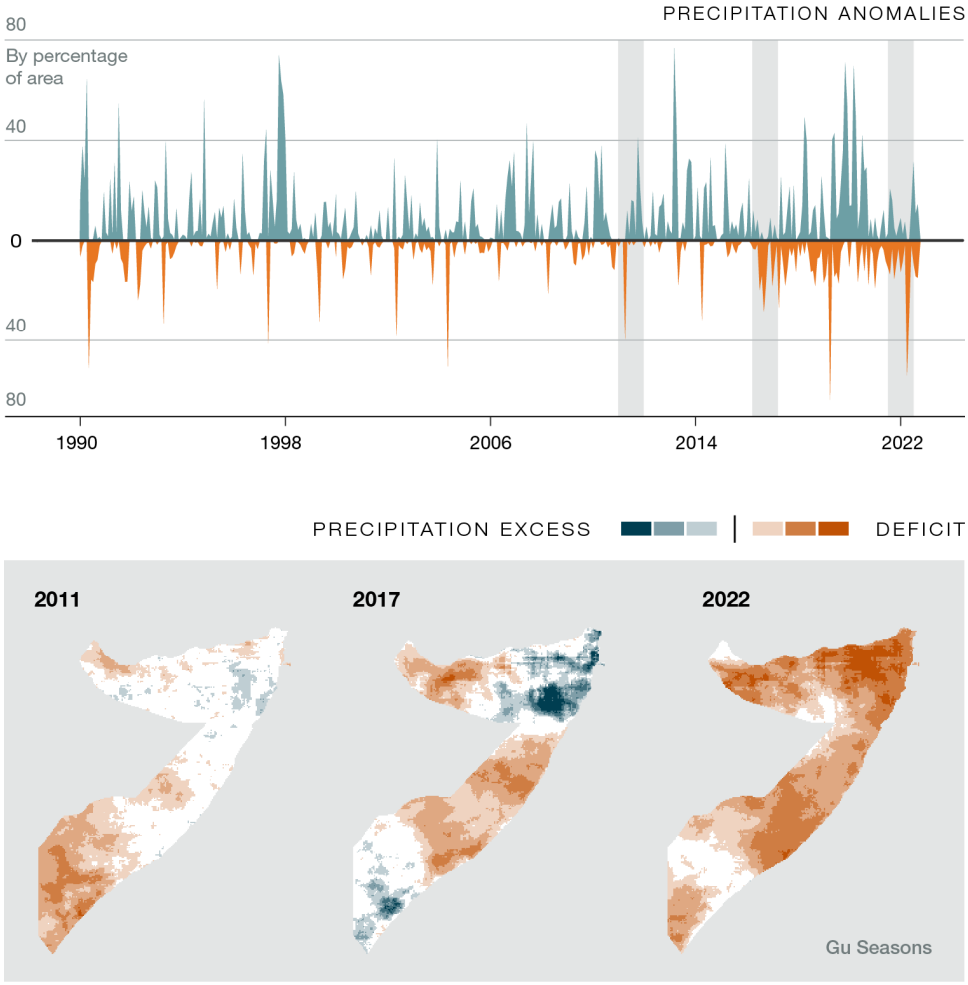
[10] Ibid. The World Weather Attribution study found that stretches of heat and dryness as extreme as the early 2020s drought have about a 5 per cent chance of happening each year in the Horn of Africa. It predicts that such episodes will become more frequent due to global warming.

[11] CHIRPS data, Climate Hazards Center, March 2023. In Somalia, the Gu rains started earlier than usual, with slight to moderate rains in March 2023 that intensified in April. Rainfall varied across the country, with below-average rainfall in north-western and central Somalia and heavy rains in southern Somalia. The latter resulted in severe flooding in the Shabelle and Juba River valleys (based on NASA, ICPAC, CHC and Crop Monitor data).

[12] Crisis Group analysis of CHIRPS Prelim and GEFS data shows that rainfall in October, November and December 2023 ended the drought in southern and central Somalia.

the Gu rainy season brought heavier than usual rains and floods, displacing thousands of people in thirteen affected districts.[13]

Figure 1: Precipitation Anomalies, 1990-2023: Spotlight on Recent Droughts
Area affected by abnormal precipitation: excess (blue) and deficit (orange). Rainfall patterns in Somalia have become more erratic and extreme over the past decade, with more persistent dry spells and more periods with above-average rainfall episodes.



Source: Crisis Group analysis based on CHIRPS data, Climate Hazard Center, March 2023. CRISIS GROUP

Flash floods are also becoming more frequent across the Horn of Africa.[14] Heavy rainfall in the Ethiopian highlands, and occasionally in Somalia, swells the Juba and Shabelle rivers, especially during the Gu (which means "spring" in Somali) and Deyr (which means "autumn"), the country's two main seasonal rainfall periods, which occur from April to June and October to December, respectively.[15] From late March

[13] "Somalia: 2024 Gu Season Heavy Rains and Floods Flash Update No. 3", OCHA, 6 May 2024.
[14] "Sustainable Flood Management and Risk Reduction Action", UN Environment Programme/ Somali Ministry of Energy and Water Resources, 28 March 2022.
[15] Xagaa, which means "summer rains" in Somali, is an additional rainy season that happens mainly in coastal areas from May to July. Crisis Group interview, Somali water ministry official, Mogadishu, February 2023. See also "The Juba and Shabelle rivers and their importance to Somalia", FAO,

to April 2023, downpours in Ethiopia flooded Juba and Shabelle, displacing around 100,000 people in Somalia; the UN described it as a once-in-a-century event.[16] The following May, severe flooding uprooted more than 200,000 people nationwide.[17]

Deforestation, meanwhile, worsens the impact of droughts and floods.[18] Somalia lost approximately 4.9 per cent of its tree cover between 2001 and 2021.[19] Demand for firewood and charcoal is the primary reason trees are felled.[20] Most Somalis living in towns have charcoal stoves, while rural and nomadic populations use firewood for cooking.[21]

The combined effects of drought and deforestation have decimated farmers' livelihoods and pushed hundreds of thousands to migrate to cities, while herders must travel longer distances to find pasture.[22] The loss of tree cover also accelerates soil erosion and reduces the land's capacity to retain water. Extreme rainfall is more likely to cause flooding in areas with thin or degraded forests.[23] While some evidence suggests groundwater levels are rising in parts of the Horn of Africa, climate experts in Somalia note that dry soil becomes less capable of absorbing water, limiting the recharge of groundwater and aquifers that nourish plants and roots.[24] Overgrazing creates additional stress on the soil, as livestock eat pastures bare and come back for more before the grasses have time to grow back. This phenomenon was exacerbated by the drought: Somali pastoralists, who follow a transhumant lifestyle, found that seasonal migration routes for their flocks were often blocked following clan disputes. Confined to a smaller number of ranges, livestock ended up degrading the land further.[25]

3 June 2016; and "Water Security and Governance in the Horn of Africa", SIPRI, March 2020. There is no transboundary cooperation around the rivers in the Juba-Shabelle basin.

[16] "Once-in-a-century flooding swamps Somalia after historic drought – UN", Reuters, 10 November 2023.

[17] "SOMALIA: Gu rainy season 2023 – Flash Floods Update No. 2", UN OCHA, 3 April 2023. "Eastern Africa: Heavy rains and flooding Flash Update #4", UN OCHA, 30 May 2024. In November, 14,000 people were displaced by flooding in Beledweyne, a town in Somalia's central Hiraan region.

[18] "Inside Somalia's vicious cycle of deforestation for charcoal", *The Guardian*, 22 August 2022.

[19] Abdirahman Zeila Dubow, "Somalia needs its trees to restore landscapes and livelihoods", Africa Can End Poverty (blog), World Bank, 27 July 2021.

[20] "The State of the Environment in Somalia: A Desk Study", UN Environment Programme, December 2005. The UN blames deforestation and land degradation in Somalia on political and economic mismanagement of land tenure, along with the breakdown of legislative and traditional controls governing access to natural resources.

[21] "Inside Somalia's vicious cycle of deforestation for charcoal", op. cit.

[22] In these circumstances, animals lose weight and value en route to livestock markets. A farmer from Jilib told Crisis Group that 90 of the 100 animals in his herd had died during the drought. At the Dollow livestock market, a goat fetched $60 in 2022, compared to $94 before the drought in 2020, largely due to lower weight. Crisis Group interview, Dollow, September 2022.

[23] Karolina Eklöw and Florian Krampe, "Climate-related Security Risks and Peacebuilding in Somalia", SIPRI, October 2019.

[24] "The Horn of Africa has had years of drought, yet groundwater supplies are increasing – why?", *The Conversation*, 1 November 2022. Crisis Group interview, climate expert, Somalia, 22 June 2024.

[25] "National Voluntary Land Degradation Neutrality Targets", Directorate of Environment, Office of the Prime Minister, Somalia, 2020. This Somali government report revealed that the country lost a staggering 147,704 sq km of land, 27 per cent of its total land area, to degradation between 2000 and 2015.

The confluence of climate shocks and environmental harm threatens Somalia's hopes for stability, regardless of what happens in the state's conflict with Al-Shabaab. That said, the conflict indisputably exacerbates these climate threats and places major obstacles in the way of efforts to address them.

III. Al-Shabaab and Somalia's Drought

The climate shocks in Somalia in the last decade have much to do with the vicissitudes of Al-Shabaab's fortunes. Like many insurgencies, Al-Shabaab has sought control of water and other natural resources to sustain its fighting capacity, generate revenue and exercise governance.[26] During droughts in 2011, 2017 and 2020-2023, it used access to food and water as a weapon. Particularly in areas where it has been under military pressure, the group has deliberately worsened residents' plight by damaging, destroying or poisoning water points. These practices predictably alienated many locals, which in turn ended up bolstering counter-insurgency efforts.

Conversely, the group has at times used its grip on resources to win hearts and minds. In southern areas where it governs with little resistance, Al-Shabaab has on occasion intervened to help locals struggling with the consequences of extreme weather. This kind of assistance nonetheless remains sporadic, displaying a selective and opportunistic approach to resource control.

A. *Conflict and Natural Resources*

1. Al-Shabaab and the environment

Al-Shabaab's control of natural resources serves multiple purposes, including revenue generation, population control and the exercise of influence over local communities. Natural resources are at the heart of Somalia's conflict. Both the government and Al-Shabaab understand the strategic importance of controlling water and land, which is vital in an arid to semi-arid country where most people rely on agriculture and pastoralism. During droughts or famine, water access becomes highly contested, fuelling tensions among clans and insurgents. Al-Shabaab exploits these frictions to strengthen its territorial grip and to extort money from those living under its control via illegal taxes and fees imposed on farmers and herders.[27] (The Somali government, for its part, has also, on at least one occasion, weaponised resources by restricting water access in an area of central Somalia controlled by Al-Shabaab as part of its counter-insurgency strategy.[28])

[26] What Al-Shabaab's treatment has done to the Banaanis, a Sufi religious group from the Bay region, is illustrative. In 2014-2015, the group demanded control of the Banaanis' dwindling water wells and a cohort of Banaani boys and young men as recruits. When community leaders resisted, Al-Shabaab reportedly killed at least sixteen people. The militants renewed these demands in 2019, prompting around 1,600 people to flee to Baidoa. Al-Shabaab detained Banaani elders, though it later released them. Then, during face-to-face negotiations in March 2022, Al-Shabaab killed two senior Banaani men. Crisis Group interviews, Banaani community leaders, Baidoa, February 2023.

[27] The U.S. Treasury says Al-Shabaab generates over $100 million annually by shaking down local businesses and Somali citizens. "Treasury Designates Transnational al-Shabaab Money Laundering Network", U.S. Department of the Treasury, 11 March 2024. The group collects taxes from farmers, traders and transporters. It also often blockades roads or restricts the supply of food and water to government-held areas or to people who oppose it in the areas it controls. Crisis Group interview, farmer, Mogadishu, February 2023.

[28] Crisis Group interview, two Somali politicians, Mogadishu, February 2023. In January 2023, politicians accused the federal government of blocking essential supplies to areas controlled by Al-Shabaab in Galguduud, in central Somalia.

Access to water – perhaps Somalia's most precious commodity – has proven a particularly useful way for Al-Shabaab to generate revenue and assert its authority over the population in areas it controls.[29] In Jubaland, for example, militants charge herders 5,000 shillings ($0.50) each time a camel drinks from a trough.[30] In Adan Yabaal, a town in the southern Middle Shabelle region which was under Al-Shabaab control between 2016 and 2022, the group managed several boreholes using diesel pumps to bring up water. A trader from Adan Yabaal told Crisis Group that Al-Shabaab expected residents to maintain the pumps but forced them to pay for their livestock's water as well. Farmers from the Al-Shabaab-controlled town of Jilib must pay the militants at least $20 before they sow crops, regardless of how much land they are cultivating.[31] Al-Shabaab then obstructs the flow of water to the fields of anyone who refuses.[32]

Exploitation of forests has also formed part of Al-Shabaab's revenue portfolio. For years, the charcoal trade served to boost the group's war coffers, with militants taxing exports to Gulf states.[33] After the UN Security Council prohibited charcoal exports from Somalia in 2012, military pressure from an African Union mission to Somalia forced Al-Shabaab to abandon Kismayo, the capital of Jubaland and a strategic port.[34] As a result, Al-Shabaab lost much of its income from charcoal exports.[35] At checkpoints, the group continued to levy taxes on charcoal transported within Somalia. Still, UN sanctions monitors noted in 2019 that Al-Shabaab had stopped taxing the product and instead started sabotaging charcoal shipments, probably in a bid to undermine Jubaland's export earnings.[36]

The group's stance toward deforestation has fluctuated, however. In 2018, it prohibited tree cutting in zones under its control and banned single-use plastic bags, in the name of protecting the environment.[37] In the coastal town of Xarardheere, about 500km north east of Mogadishu, Al-Shabaab reportedly planted thousands of trees

[29] Crisis Group interviews, current and former security officials, Kismayo and Nairobi, January-February 2023.
[30] Ibid.
[31] Crisis Group interview, farmer from Jilib, February 2023.
[32] Ibid.
[33] "How the Gulf's appetite for shisha is fuelling one of the deadliest terrorist groups in the world", *Forbes*, 27 May 2019.
[34] "United Nations Security Council Resolution 2036", UNSC S/RES/2036, 22 February 2012.
[35] In the group's absence, the Jubaland state government took over Kismayo and its port, allowing the lucrative export trade to continue, though it remained illegal. "Report of the Panel of Experts on Somalia submitted in accordance with Resolution 2444 (2018)", UN Panel of Experts on Somalia, 1 November 2019.
[36] Crisis Group interview, UN official, Nairobi, October 2023.
[37] "Eco-jihadism: Somali terrorist group bans plastic bags", VOA, 3 July 2018. "Qaamqaam: The Somali village where chopping trees is banned", Al Jazeera, 21 August 2021. Crisis Group correspondence, former UN expert, 30 October 2023. Al-Shabaab has publicised its ban on cutting down trees, though it is unclear if the group enforces the measure. Crisis Group spoke with a woman who had fled Tiyeeglow, a town Al-Shabaab controlled in Bakool. She told militants she needed to cut down trees to dig a shallow well and plant crops. Al-Shabaab demanded money that she was unable to pay. Crisis Group interview, Baidoa, September 2022.

when it was in control there.[38] Observers say militants sought to maintain the forest cover in order to shield themselves from drone attacks.[39]

2. The military offensive and beyond

Following a protracted process to select a new leader, Hassan Sheikh Mohamud assumed the Somali presidency in May 2022. His return to power – he had been president before – coincided with mounting discontent with Al-Shabaab, particularly among the politically dominant Hawiye clan. In August 2022, a militant attack on a Mogadishu hotel that killed twenty persuaded the government to launch a fresh offensive against the Islamist insurgency.[40] The federal army partnered with clan militias in regions that had already started to rise up against Al-Shabaab in order to dislodge the militants from central Somalia. Aided by U.S. airstrikes and other foreign support, the operation yielded the most comprehensive territorial gains since the mid-2010s, booting Al-Shabaab fighters out of areas the group had held for years.[41] Much of the progress came down to local clan collaboration, while international ground forces, in particular the African Union Transition Mission in Somalia (ATMIS), helped with supplies and logistics but did not engage in direct combat.

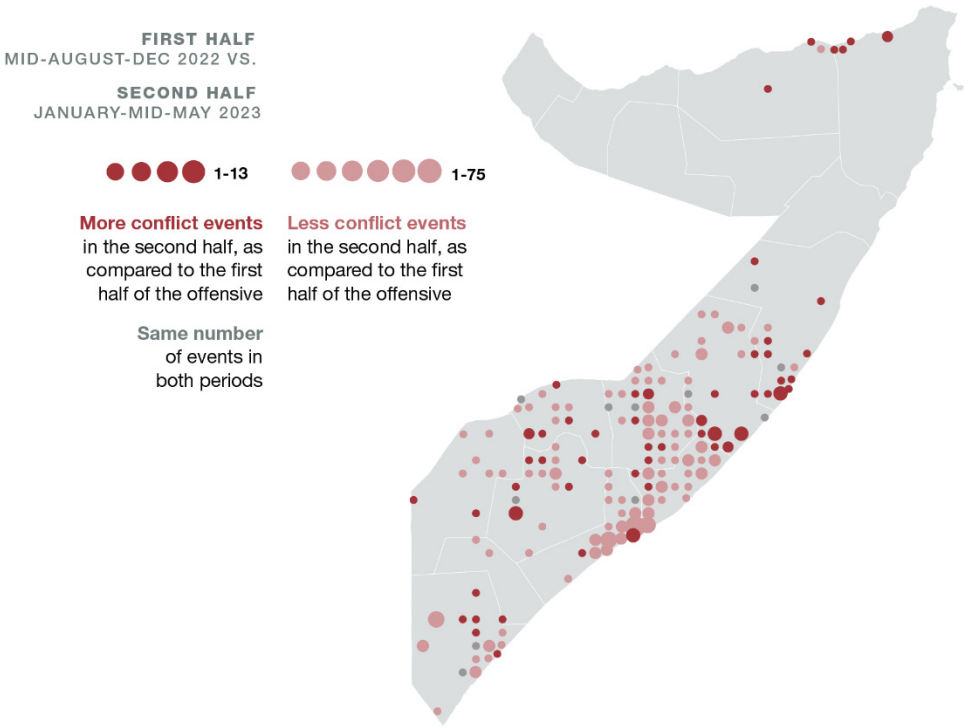
As a next step, Mogadishu planned to send soldiers into Al-Shabaab's southern strongholds. But phase two of the campaign, which always promised to be more difficult, has stalled for now (see Figure 2 below).[42] The government is still struggling to assign forces to provide security in recaptured areas and step up service delivery there, while distrust among local communities has hampered a unified effort against the militants. As a result, Al-Shabaab still holds large areas of rural territory in central Somalia and remains a significant threat.[43]

Plans approved in August by the African Union for a successor to ATMIS, the AU Support Mission in Somalia, would see a new 12,000-strong mission deployed to Somalia from January 2025 until as late as December 2029. The mission is meant to serve as a holding force that provides security in key urban centres and infrastructure such as airports, while Somali soldiers continue the offensive against Al-Shabaab.[44]

[38] Al-Shabaab controlled the town for fifteen years until January 2023. Crisis Group interview, Somali government official, Mogadishu, February 2023.
[39] Crisis Group interview, former Somali security official, January 2023.
[40] "Somalia's president vows 'total war' against Al-Shabaab", VOA, 24 August 2022. The government simultaneously piled financial pressure on the insurgency. It clamped down on the insurgents' financial transactions and shut down hundreds of bank and mobile money accounts linked to militants. "Over 250 bank accounts linked to Al-Shabaab closed down in Somalia", *Garowe Online*, 12 January 2023.
[41] Crisis Group Briefing, *Avoiding a New Cycle of Conflict in Somalia's Galmudug State*, op. cit.
[42] How to read Figure 2: Light red dots show areas with fewer conflict events involving Al-Shabaab after January 2023, while red dots represent areas with increased events. Details are in Appendix B.
[43] Ibid.
[44] Crisis Group interviews, Somali security officials and foreign diplomats, Mogadishu, October 2024.

Figure 2: Conflict Events Involving Al-Shabaab Slow Down After the Offensive First Phase

Military actions against Al-Shabaab have substantially slowed since January 2023.



Source: Crisis Group analysis based on ACLED data. CRISIS GROUP

B. *Al-Shabaab's Reaction to Past Droughts*

Al-Shabaab's behaviour during climate crises has done huge, lasting damage to the group's reputation. In both 2011 and 2017, during catastrophic droughts that led to famines, the insurgency imposed harsh restrictions on movement and access to aid, costing itself considerable local support.

The drought and famine in 2011 coincided with an offensive by the predecessor to ATMIS, the African Union Mission in Somalia (AMISOM), in which Al-Shabaab lost territory and U.S. drone strikes killed several of its leaders.[45] Despite losing control of many towns and cities during this period, the group managed to keep its foothold in rural areas of south-central Somalia, largely by avoiding direct combat and infiltrating areas that were supposed to be under government rule. The group also weathered bouts of internal dissent, often employing repressive tactics to maintain a unified front and survive a leadership transition in 2014.[46]

Over this period, the group became paranoid about espionage and stopped foreign aid agencies and their local partners from delivering relief. Senior Somali politicians and aid workers blamed Al-Shabaab for the famine in 2011, which killed a quarter of

[45] On Al-Shabaab's handling of the 2011 and 2017 droughts, see Crisis Group Briefing, *Instruments of Pain (III): Conflict and Famine in Somalia*, op. cit. See also "Another Humanitarian Crisis in Somalia? Learning from the 2011 Famine", Feinstein International Center, 14 August 2014.
[46] Crisis Group Report, *Considering Political Engagement with Al-Shabaab in Somalia*, op. cit.

a million people, mainly children.[47] Domestic pressure eventually pushed Al-Shabaab to establish a coordination office later that year, however, allowing national relief agencies to distribute aid to people living under its control on the condition that the agencies provided documentation of their activities and paid the militant group as much as $10,000 in so-called registration fees, as well as additional "taxes", depending on the type and size of deliveries or projects.[48] Fearful of violating broadly worded U.S. counter-terrorism laws on providing material support to jihadists, many aid agencies declined to take up the offer, notwithstanding the hardships facing many who remained out of reach of assistance.[49]

Al-Shabaab granted international agencies more room to deliver aid during the drought that began in October 2016 and ran well into the following year.[50] Likely fearing a repeat of the 2011 calamity, and anxious to avoid the opprobrium it had earned then, the group also allowed people living in areas it controlled to seek aid in federal- and state-controlled territory.[51] While the group heavily restricted both international agencies and most national agencies from delivering aid to its strongholds, it refrained from attacking them when they trucked supplies to government-held towns.[52]

Yet Al-Shabaab's approach hardened again by June 2017, when it threatened locals with violence to stop them from getting aid.[53] As Crisis Group reported at the time, Al-Shabaab worried about a mass exodus that could expose its fighters to intensified drone strikes and ground attacks, especially because drought conditions were severe in areas of southern and central Somalia that the group controlled.[54]

[47] Crisis Group interviews, former senior Somali official, Nairobi, January 2023; Somali NGO country director, Mogadishu, September 2022. See also "Al-Shabaab and Somalia's Spreading Famine: Interview with Rashid Abdi", Council on Foreign Relations, 10 August 2011.

[48] Ashley Jackson and Abdi Aynte, "Talking to the Other Side", ODI, December 2013.

[49] In 2011, the UN Security Council voted to exempt the work of humanitarian agencies operating in Somalia from a resolution that obliges states to impose financial sanctions on groups and individuals who obstruct efforts to restore peace and stability in the country. See UNSC Resolution S/RES/1972 (2011).

[50] Crisis Group interviews, NGO officials, Mogadishu, February 2023. Some humanitarian workers attribute Al-Shabaab's more lenient stance in 2017 to the group's control of larger parts of the country. Many also say the clan origin of Al-Shabaab's local leadership was the key, as commanders were more likely to permit humanitarian access to a given area if they belonged to the same clan that lives there.

[51] Several international and national organisations, including the UN, Red Cross and Red Crescent, provided life-saving cash assistance throughout Somalia during this time.

[52] Crisis Group interviews, humanitarian officials, Mogadishu and Baidoa, February-March 2023. See also "Somali Islamists let drought-hit civilians roam in search of food", Reuters, 16 March 2017.

[53] Jason Burke, "Al-Shabaab militants ban starving Somalis from accessing aid", *The Guardian*, 27 July 2017.

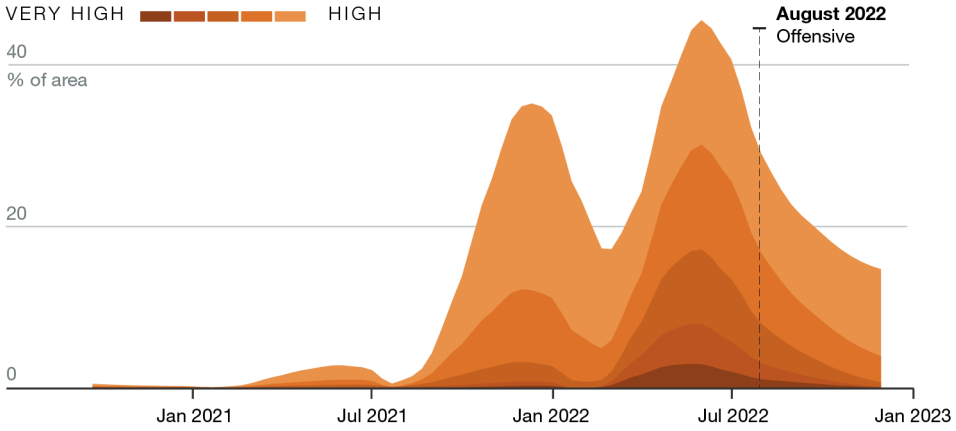
[54] The U.S. military conducted 39 drone strikes on Al-Shabaab in 2017, a significant increase over the previous year's sixteen. "U.S. Air Strikes, Drone Strikes and Ground Raids in Somalia", New America, 2018. See also Crisis Group Briefing, *Instruments of Pain (III): Conflict and Famine in Somalia*, op. cit.

C. *Al-Shabaab and the 2020-2023 Drought*

The parts of central and southern Somalia held by Al-Shabaab were hit hard again by drought between 2020 and 2023, as well as by flooding, fuelling displacement and weakening the group's influence. In 2022, Al-Shabaab-administered areas received barely half of their average annual rainfall.[55] Approximately 40 per cent of the land in areas controlled by Al-Shabaab in central Somalia were suffering from a major shortage of healthy vegetation just before the government began its offensive in August 2022.[56]

Figure 3. Vegetation Loss in Somalia, 2020-2022

Approximately 40 per cent of the land in areas controlled by Al-Shabaab was suffering from a major shortage of healthy vegetation just before the government began its offensive in August 2022.



Source: Crisis Group analysis based on NASA's MODIS Normalised Difference Vegetation Index data, July 2023; and a Somalia Control Map published by Political Geography Now in January 2023. CRISIS GROUP

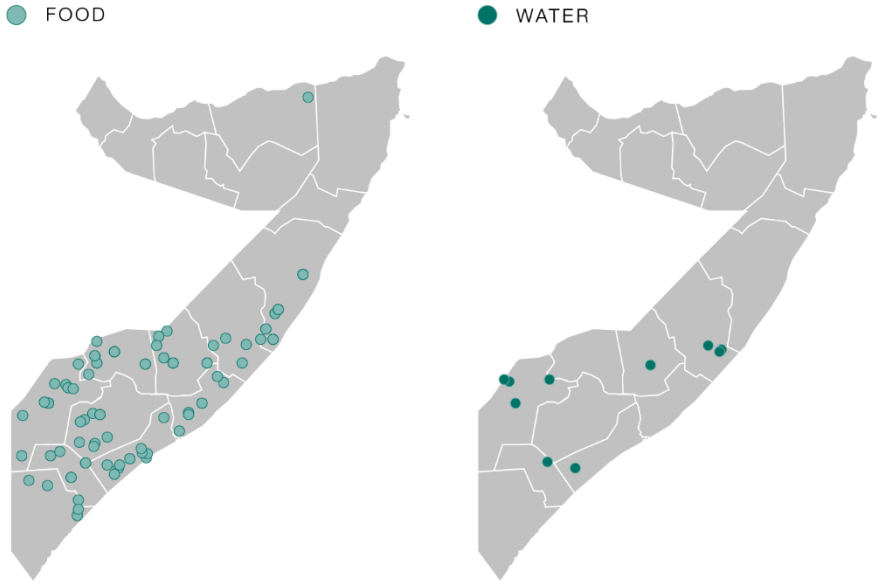
Once again, however, Al-Shabaab appears to have hurt its own standing with Somalis through its drought response. It delivered some supplies, but it was either unwilling or unable to provide substantial humanitarian assistance, despite establishing a drought response committee in 2021.[57] Crisis Group recorded 127 deliveries of food and water claimed by Al-Shabaab in eleven regions between April 2021 and November 2022 (plotted on the map in Figure 4).[58] But Crisis Group analysis of videos posted by Al-Shabaab suggests that the deliveries were as much a propaganda exercise as

[55] Crisis Group analysis of CHIRPS data.
[56] How to read Figure 3: Negative vegetation density anomalies, or deviations from normal, are shown. The higher the orange area, the larger the area affected by low vegetation density. The darker the colour, the stronger the intensity of the vegetation deficit.
[57] "Food crisis, drought risks fueling Islamist militancy in Somalia", Bloomberg, 26 April 2022. Crisis Group interview, UN official, Nairobi, March 2022. "Next Africa: Drought, Russia's war opens a window for al-Shabaab", Bloomberg, 29 April 2022.
[58] The light green dots refer to distribution of staple foods such as rice, flour, sugar, dates and cooking oil by Al-Shabaab. The dark green dots represent water deliveries by the group. Both men and women seemed to benefit. There is no evidence suggesting that women heads of household faced special difficulties in getting aid.

a genuine attempt to ease food shortages.[59] In the videos, the camera often zooms in on aid recipients cursing "infidels" and attending religious lectures. Overall, it was assistance from international partners that did the most to avert famine during the drought.[60]

Figure 4: Distribution of Drought Aid Claimed by Al-Shabaab, April 2021-November 2022

These maps show aid deliveries Al-Shabaab claims to have made between April 2021 and November 2022.



Source: Crisis Group analysis based on information gathered from Al-Shabaab affiliated websites. CRISIS GROUP

Overall, in fact, Crisis Group research shows that Al-Shabaab's actions during the 2020-2023 drought worsened conditions for the population.[61] Despite the drought's severity, the group maintained blockades in towns such as Wajid, Hudur, Qansadheere and Dinsor in south-western Somalia, making it difficult for residents to seek aid.[62] One mayor told Crisis Group that residents were punished for refusing to use Al-Shabaab's justice systems or pay its "taxes".[63] Militants also imposed taxes, barricaded strategic roads and destroyed supplies of food and water. Such behaviour fuelled

[59] Crisis Group gathered the information in the map from videos and photographs posted on Al-Shabaab-affiliated websites, including *Somalimemo*. Data gleaned from such sources is difficult to verify. Hence this map should not be read as a precise record of Al-Shabaab's relief work but rather as a snapshot of how the group presents these efforts.

[60] "Famine in Somalia slowed but not averted by donor support, World Food Program chief says", PBS, 17 January 2023. According to UN figures, international NGOs aided approximately 1.34 million people in Somalia in 2022, including 800,000 women and children. But nearly 660,000 people in Al-Shabaab-controlled areas, of whom around 375,770 are in urgent need of assistance, remained largely inaccessible. "Somalia Humanitarian Fund Annual Report 2022", UN OCHA, 25 April 2023.

[61] Crisis Group interviews, local government officials and aid workers, Baidoa and Hudur, February-March 2023.

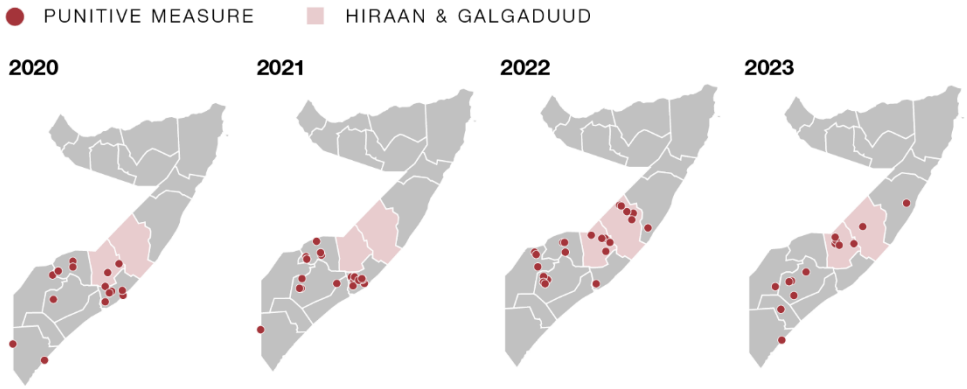
[62] Ibid.

[63] Crisis Group telephone interview, mayor of Hudur, September 2022.

resentment of the insurgents among the population, above all in central Somalia.[64] As clans in that area mobilised militias to fight Al-Shabaab, the federal government saw an opening to reclaim territory from the militants. Soon thereafter, it launched a major offensive against the group.

Figure 5: Punitive Measures Related to Food or Water

The geographic spread of Al-Shabaab's punitive measures evolved over time. Between 2020 and 2023, the number of attacks on food and water resources increased in Hiraan and Galgaduud.



Source: Crisis Group analysis based on ACLED data. CRISIS GROUP

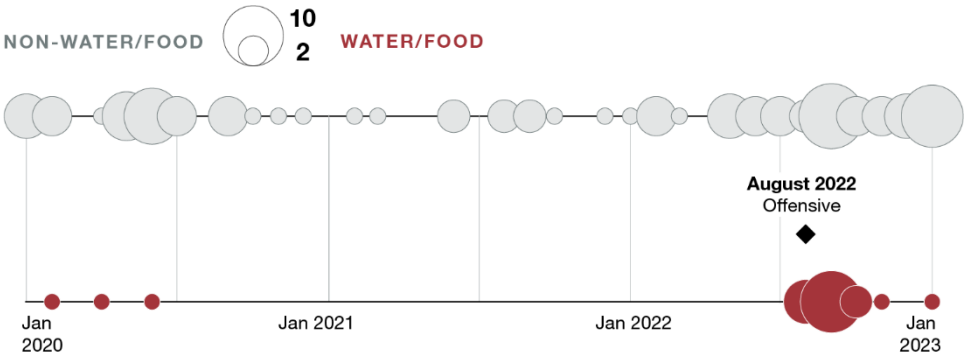
In response to the 2022 offensive, Al-Shabaab intensified a pre-existing pattern of attacks on water points and other infrastructure, most likely as a way to punish local clans for cooperating with government forces.[65] This escalation included atrocities afflicting Hawadle civilians in Hiraan, which took place shortly after the clan began resisting Al-Shabaab. In early September 2022, for example, Al-Shabaab launched a brutal assault in Hiraan, killing at least nineteen Hawadle, including women and children.[66]

This same pattern had been identifiable throughout the drought: Crisis Group identified at least 65 attacks on both convoys carrying food supplies and wells between October 2020 and December 2022, nearly twice the number that had occurred in the two previous years.[67] The attacks also took place over a wider geographic area: Panels C and D in Figure 5 above show raids on food and water supplies in Hiraan and Galgaduud between 2022 and 2023.[68] But, as the Figure 6 below indicates, militants stepped up such attacks during the offensive that the government began in August 2022.

[64] Crisis Group Briefing, *Sustaining Gains in Somalia's Offensive against Al-Shabaab*, op. cit.
[65] Crisis Group interview, Somali state minister for water, September 2023.
[66] "At least 19 killed in Somalia in attack by al-Shabaab insurgents", *The Guardian*, 3 September 2022.
[67] The number of events is an approximation, as the data is subject to potential under-reporting.
[68] Details are outlined in Appendix B. The number of events reported here is an approximation, as the data may be subject to under-reporting, specifically in Al-Shabaab-controlled areas.

Figure 6: Al-Shabaab's Recent Punitive Measures

Al-Shabaab stepped up raids on food and water supplies during the drought, and especially after the onset of the offensive, with the intent of punishing local clans who cooperated with government forces.



Source: Crisis Group analysis based on ACLED data. CRISIS GROUP

Growing fury among local communities over these punitive measures has nevertheless led the group to adopt a slightly more flexible approach since late 2022. This approach has included renegotiating terms for humanitarian access with certain clans and communities in southern Somalia to dissuade them from joining the government offensive. In the Bay region of South West state, for example, Somali employees of an international NGO told Crisis Group that they were able to enter villages close to Al-Shabaab-controlled territory from late 2022 onward, apparently with the group's tacit consent.[69] In Garasweyn, near Bakool region, around 200 households received relief, including biscuits, dates, cooking oil and milk as well as mobile money transfers.[70] A Somali NGO told Crisis Group that Al-Shabaab reached out to local businesspeople and elders in 2022 to request that they help people displaced by the drought with water and cash. The NGO declined to assist due to donor restrictions on engagement with Al-Shabaab.[71]

The change of tactics may partly be a consequence of worsening hunger and disease within Al-Shabaab's own ranks. Aid workers and security officials reported that fighters and their families in the Al-Shabaab-controlled Gedo and Bay regions looked thin and physically weak.[72] Male defectors reportedly told Somali security forces that they survived on a single portion of white rice per day.[73]

Other evidence indicates that community pressure – and concern about resentment of the group among clans – helped soften Al-Shabaab's stance toward aid deliveries. Previously, insurgents would regularly make threatening telephone calls to prominent citizens with connections to relief projects in Bay and Bakool regions, but

[69] Crisis Group interviews, humanitarian workers, Baidoa, March 2023.
[70] Ibid.
[71] Crisis Group interviews, Somali NGO staff, Mogadishu, February 2023.
[72] Ibid.
[73] Crisis Group interview, senior security official, Mogadishu, September 2022. A displaced woman farmer, however, told Crisis Group that militants are less affected by dry weather because they are constantly on the move and seize animals or demand money from farmers. Crisis Group telephone interview, woman married to an Al-Shabaab member from Saakow, September 2022.

these calls stopped in August 2022.[74] The group has also offered food to communities in central Somalia and parts of the southern Jubaland state, or agreed that militants will not openly carry weapons in urban areas.[75] Some humanitarian workers are hopeful that Al-Shabaab will eventually relax its restrictions on aid further.[76]

That said, Al-Shabaab continues to resist outside humanitarian assistance. International efforts to negotiate consistent access to people living in Al-Shabaab-controlled areas have largely failed.[77] The group seems determined to restrict the movements of both Somali and foreign NGOs, mostly limiting aid to medical care and cash transfers through local intermediaries, or demanding "taxes" of up to 40 per cent on the assistance or cash that is to be provisioned – the latter a condition that foreign aid workers are typically unwilling to meet.[78] The paranoia about outsiders has persisted. In 2022, Al-Shabaab killed Somali contractors working on water projects funded by international donors.[79]

These same tensions are visible in Al-Shabaab's treatment of water provision. Al-Shabaab's attacks on water supplies have continued, representing a deliberate attempt to undermine the efforts of central and local governments to provide essential services. Between January and February, the group claimed responsibility for at least eighteen attacks, including several on water trucks using improvised explosive devices.[80] Attacks on 20 and 24 January destroyed water trucks in Afgooye and Bossaso (Puntland) regions, respectively, with no casualties.[81] A subsequent attack on 15 February hit an ATMIS convoy travelling between the villages of Bular Mareer and Golweyn, destroying another water truck and reportedly killing three soldiers.[82]

At the same time, Al-Shabaab occasionally builds water infrastructure itself. In 2020, for instance, the group oversaw the construction of a well in Qudus, about 40km from Kismayo.[83] The militants also transported drilling equipment from Mogadishu

[74] Crisis Group interviews, humanitarian workers, Baidoa, March 2023.
[75] Crisis Group interview, senior security official, Kismayo, February 2023.
[76] Crisis Group interviews, Somali humanitarian workers, Mogadishu and Baidoa, February 2023.
[77] Crisis Group interviews, UN officials and implementing partners, Nairobi and Mogadishu, September 2023. Before the government offensive against Al-Shabaab, UN agencies and some international NGOs seemed more willing to allow Al-Shabaab to take aid to avert a famine, although no change in access rules happened in the end. Another adjustment by the UN and international NGOs that made it possible to reach people close to Al-Shabaab-ruled territory was an increase in cash assistance, which does not require the same physical access to territory as the provision of goods.
[78] Crisis Group interview, Nairobi, January 2023. Western NGOs as well as Turkish and Gulf-based Muslim charities typically refuse to pay these "taxes".
[79] Crisis Group interviews, NGO worker, Nairobi, 16 February 2023; NGO workers, Mogadishu, February 2023. In September 2022, Al-Shabaab killed twelve Somali men drilling a well in Geriley in southern Gedo, near the Ethiopian border, and burned their equipment. Some suggest the contractors had not received a green light from Al-Shabaab to start drilling. Others say the group was concerned about Kenyan military activity at this strategic location. "Fate of 5 aid workers kidnapped by Al-Shabaab unknown", *Horn Observer*, June 2018.
[80] Crisis Group analysis of ACLED data.
[81] "Boosaso: Booyadi Biyaha U Dhaamin Jirtay Ciidanka PPMPF oo Qarax Lagu Burburiyay", *Puntland Post*, 24 January 2024.
[82] Ibid.
[83] Crisis Group interview, current and former security officials, Kismayo and Nairobi, January-February 2023.

to Tiyeeglow, a district in the southern Bakool region, where contractors working for the group reportedly dug wells in forested areas.[84] In Buulo Fulaay, a town Al-Shabaab controls in the southern Bay region, the group built a reservoir. In May 2023, Al-Shabaab released a video featuring the reservoir, with supposedly prominent locals saying the nearest alternative water source was 60km away.[85] An Al-Shabaab leader also spoke of plans for similar reservoirs elsewhere.[86] Using satellite imagery, Crisis Group confirmed the construction of a reservoir, a canal and a water tower in Buulo Fulaay, and verified work in three locations where Al-Shabaab claims to have rehabilitated canals.[87]

Local water needs have, at times, served as avenues for negotiation with Al-Shabaab. In 2020, residents in Afmadow district in Lower Juba region wanted to dig wells with money collected from the diaspora. The government controls Afmadow town, but Al-Shabaab retains sway in the surrounds. At first, Al-Shabaab refused to grant permission for villagers to dig a *berkad*, a large cistern or shallow reservoir that collects rainwater, before letting them do so.[88] In 2021, a Somali aid organisation built a sand dam in Gedo region after residents persuaded Al-Shabaab that the barrier, which helps store water during droughts, was important.[89]

D. *Displacement in Southern and Central Somalia*

As mentioned above, climate change, drought and Al-Shabaab's harsh governance are driving displacement. Somalia ranks among the countries with one of the highest populations of internally displaced persons globally.[90] According to the UN, an additional 228,237 people have been displaced since April, due to flooding, drought and conflict.[91]

Several people told Crisis Group that they fled Al-Shabaab's rule because they could not meet the group's onerous tax demands, because they did not have enough food or water, or both.[92] It is unclear if Al-Shabaab has a singular policy on movement

[84] Ibid.
[85] "Mahruuca Biyo Xireenka Buulo Fulaay", *Somalimemo*, 4 May 2023. A traditional elder in Buulo Fulaay town, Ali Mohamed Cusman, explained that despite Al-Shabaab digging wells, the group did not find water. As a result, it decided to construct a dam in the Bohosha area.
[86] Ibid. Sheikh Hama Abu Jacfar, governor of the *wilayat* of Bay region, mentioned that other dams are on the drawing board. Al-Shabaab claimed it had undertaken water projects, including well drilling and bridge and canal construction, as well as canal rehabilitation, in various regions.
[87] Imagery from Planet Labs. Al-Shabaab also reacted to the unprecedented flooding in late October and November 2023. On 10 November 2023, spokesperson Ali Dhere announced the formation of a flood management committee comprised of four men. He mentioned that the group had led the repairs of the Juba and Shabelle riverbanks. Crisis Group cannot confirm this claim. Local Al-Shabaab leaders also reportedly approached an organisation to seek assistance in keeping boreholes free of contaminated flood water.
[88] Crisis Group interview, Jubaland officials, Kismayo, February 2023.
[89] Crisis Group interview, Somali NGO worker, Nairobi, January 2023.
[90] Somalia Crisis Response Plan 2024 IOM, 8 May 2024.
[91] Displacement Tracking Matrix (DTM) Somalia – Emergency Trend Tracking (ETT) – Round 27, 28 September-2 October 2024, IOM.
[92] Crisis Group interview, people who fled Middle Juba, Baidoa, March 2023. From October 2020-July 2023, 842,000 displaced people arrived in Mogadishu, 489,000 in Beledweyne, 277,000 in

in and out of its territory, but its policies are generally restrictive. At times, the militants have allowed residents to move in and out of the areas they control. On other occasions, militants have stopped men from leaving, perhaps because they could be recruited to fight. Displaced people in Baidoa and Dollow told Crisis Group that they were afraid of being imprisoned, tortured or killed if caught leaving Al-Shabaab territory.[93] Most escaped detection by leaving in small groups or travelling under cover of darkness. Some discreetly moved their children out of militant territory one at a time.[94]

Those who manage to leave Al-Shabaab territory and secure shelter in a camp for displaced people face dire conditions. An overwhelming majority of Somalia's displaced are women and children – men often want to stay behind to look after the family property or are prevented from leaving by Al-Shabaab.[95] Life in these camps is precarious for many people, with donors rightly putting the needs of pregnant women and infants first when distributing food and other necessities. Moreover, gendered divisions of labour, which hold women responsible for tasks like fetching firewood outside camp, mean that women and girls are exposed to sexual violence that is generally perpetrated by men acting individually or in groups. Resources for sexual and reproductive health care are lacking.[96]

Baidoa, 272,000 in Dhusamareb, 53,000 in Dollow and 84,000 in Kismayo. "Protection & Return Monitoring Network Data", UNHCR, July 2023.

[93] Crisis Group interview, UN staff, January 2023. Most displaced people come from areas where Al-Shabaab has partial control. In contrast, only 6 per cent of the displaced come from areas where Al-Shabaab has direct authority over security and administration.

[94] Crisis Group interviews, displaced women and men, Baidoa and Dollow, September 2022-March 2023.

[95] Crisis Group interviews, displaced women and aid workers, Baidoa and Dollow, September 2022 and February 2023. A 70-year-old woman told Crisis Group that pregnant and lactating women in her village were malnourished due to drought and remained food-insecure due to Al-Shabaab's restrictions on relief.

[96] Crisis Group interviews, Somali aid workers, Baidoa, February 2023. Gender-based violence in displaced camps rose in 2022 and worsened further during the first quarter of 2023, according to UN Population Fund officials. See also "In Somalia, a spike in gender-based attacks compounds the plight of displaced women, girls", VOA, 8 May 2023.

IV. Tackling Climate Change's Ill Effects

Somalia will continue to face extreme weather in the foreseeable future, while its capacity to cope with climate disasters is among the lowest on the planet.[97] On its own, the Somali government has neither the money nor the technical expertise needed to deal with its most pressing problems. In December 2023, Somalia secured $4.5 billion in debt relief under an International Monetary Fund program for poor countries, which should help it invest more. But the country still needs an estimated $5 billion annually to address climate change, and it used the COP29 summit in Azerbaijan as an opportunity to seek more funds.[98]

Foreign partners, meanwhile, have sought to alleviate acute humanitarian crises caused by droughts and floods rather than develop long-term strategies that could help the government fight climate change, such as investing in water infrastructure or supporting agriculture and pastoralism. In large part, they have chosen the short-term priority because the aid flows are not generous enough to address both.[99] On top of that, widespread corruption related to aid deliveries means that scarce resources are already under great strain. In September 2023, a confidential UN report revealed cases of extortion of cash assistance in 55 displacement camps.[100] Critics of fluctuating humanitarian relief argue that this pattern of aid disrupts long-term local peace efforts and draws communities toward overcrowded areas where resources are constantly running low.[101] They have proposed redirecting a larger proportion of aid to projects that can bolster Somalia's resilience to climate shocks.[102]

[97] "BTI 2022 Country Report – Somalia", Bertelsmann Stiftung, 2022.

[98] Crisis Group interviews, Somali delegates at COP29 in Baku, November 2024. See also "IMF and World Bank Announce US$4.5 billion in Debt Relief for Somalia", press release, IMF, 13 December 2023; and "Country Focus Report 2023", African Development Bank.

[99] Of the $17 billion in official development assistance that donors channelled to Somalia between 2012 and 2021, only $1.5 billion went toward climate resilience projects. In 2020, the World Bank funded Somalia's largest climate adaptation project to date, rebuilding infrastructure damaged by flooding and drought, while developing disaster preparedness. Mitigation projects are usually aimed at expanding access to electricity. One such project in 2021 improved power grids in Mogadishu and Hargeisa, as well as providing solar energy to public buildings. See "Aid Disbursements to Countries and Regions", OECD, 2023; and "Aid Activities Targeting Global Environmental Objectives", OECD, 2023.

[100] Colum Lynch, "Exclusive: UN probes pay-for-aid scam in Somalia", *Devex*, 18 September 2023.

[101] Crisis Group interviews, government officials and aid workers, Kismayo, Baidoa, February 2023. See also Dustin Barker, "'Working with humanitarians is a nightmare': dynamics surrounding locally led peacebuilding in Somalia", Overseas Development Institute, 6 August 2024.

[102] Crisis Group interviews, government officials and aid workers, Kismayo, Baidoa, February 2023. "Four steps to help avoid future famines in Somalia", *The New Humanitarian*, 12 September 2022. At the June 2023 Paris Summit for a new global financing pact for climate change, delegates agreed that no country should have to choose between reducing poverty, on one hand, and fighting climate change and preserving biodiversity, on the other. "At Paris summit, World Bank, IMF take steps to boost crisis financing", Reuters, 22 June 2023.

A. *The Quest for Climate Funds*

Like many countries riven by conflict, Somalia struggles to get access to climate financing.[103] In 2009, wealthy nations pledged to provide $100 billion annually by 2020 to help developing countries cope with climate change. That amount falls well short of the trillion dollars needed to respond to global needs.[104] Even then, rich countries are not honouring their promises, while the distribution of climate funds remains grossly unequal. On average, countries grappling with climate change and conflict receive only a third of the climate financing per capita compared to countries at peace.[105] At the COP29 summit in Baku, negotiators pledged $300 billion per year by 2035 to improve climate finance access for vulnerable nations like Somalia, but this sum still falls far short of what is required to meet adaptation needs.[106]

Somalia's government is well aware that it needs to protect the country from floods and droughts. But while donor funds have been slow to arrive, things are tentatively heading in the right direction. In 2021, Somalia's Ministry of Environment and Climate Change obtained $2 million indirectly from the Green Climate Fund (GCF), a fund based in South Korea that is part of the UN Framework Convention on Climate Change, to help communities adapt to increasingly severe weather caused by climate change.[107] In October, the GCF signed an agreement with UN Food and Agriculture Organization (FAO) and the Somali government for a $95 million climate resilience project, which it says will benefit around 1.2 million Somalis nationwide.[108] Denmark, for its part, has pledged $150 million to Somalia over the next five years, with approximately 40 per cent of this amount earmarked for conflict-sensitive climate adapta-

[103] The Green Climate Fund provides the largest share (43 per cent) of climate financing in Africa, followed by the Global Environment Facility (27 per cent), the Clean Technology Fund (13 per cent), the Least Developed Countries Fund (9 per cent) and the Adaptation Fund (4 per cent). "Landscape of Climate Finance in Africa", Climate Policy Initiative, September 2022.

[104] "A climate finance goal that works for developing countries", UNCTAD, 14 June 2023.

[105] Somalia is ranked 71 of 79 among low to lower middle-income countries in terms of funding approved by multilateral climate funds. "Why we urgently need to fund climate adaptation in fragile and conflict-affected countries like Somalia", *Sparc Blog*, 10 November 2022. Crisis Group Visual Explainer, "Giving Countries in Conflict Their Fair Share of Climate Finance", 1 November 2022.

[106] Crisis Group interviews, climate campaigners, Baku, November 2024. See also "Developing nations blast $300 billion COP29 climate deal as insufficient", Reuters, 24 November 2024. The agreement sets an ambitious target of $1.3 trillion in annual climate finance by 2035. Still, it relies heavily on voluntary contributions from public and private sources, with no assurances that funds will be provided as grants rather than loans. "New collective quantified goal on climate finance", UNFCCC, 24 November 2024.

[107] Crisis Group interviews, GCF official, October 2023; Somali minister of climate change and environment, Nairobi, September 2023. The funding did not go directly to the Somali government, but to the UN Development Programme and Global Water Partnership, which are GCF-accredited entities.

[108] In March, GCF's executive director, Mafalda Duarte, led the first-ever GCF delegation to Somalia. "Green Climate Fund approves funding worth over $130 million for FAO-led projects in Somalia and Iraq", FAO, 23 October 2024. If the Somali government wishes to claim larger finance packages directly from the GCF, however, it needs to be an accredited entity in the country – a status it is currently pursuing with UN help.

tion projects.[109] Somalia may also lobby for bilateral climate resilience funding from the Gulf states.[110]

B. *Managing Water, Fixing Infrastructure and Regenerating Land*

Somalia's outdated water infrastructure urgently requires investment if the government wants to build resilience to climate shocks. Piping is antiquated, and most of the country's irrigation and flood control structures date back three decades, leaving it ill prepared for floods.[111] Years of conflict, deforestation and lack of maintenance have eroded river embankments and barrages, as well as filled canal systems with debris and soil. Drainage systems have silted up. Farmers often breach riverbanks to alter water flows in order to irrigate their crops.

The government, with donor assistance, has already tried to alleviate irrigation and infrastructure problems, but Al-Shabaab's presence has frequently delayed or blocked these efforts.[112] There are opportunities for delayed resilience projects to move ahead, however, as the military offensive has improved security in towns whose surrounds were previously too dangerous for authorities to work in long-term. For example, in Jowhar, the capital of Hirshabelle state, authorities want to rehabilitate irrigation and flood control infrastructure, which would enable canals north of the town to collect floodwater from upstream regions. The water could then be stored in a reservoir in Balad, to the benefit of hundreds of thousands of people.[113]

Another challenge is the dearth of hydrological and weather data in many regions throughout Somalia. The government lacks both the funding and personnel to establish additional weather stations and water monitoring systems.[114] The paucity of data makes it difficult to determine the appropriate depth for boreholes, for example, an issue made all the more important by the fact that many wells have run dry, particularly in farmlands near rivers. The shallow water in other wells is often saline and unusable.[115]

Still, the authorities are taking steps in the right direction. The Ministry of Energy and Water Resources is developing policies to improve water resource management, with the aim of developing local expertise to respond to droughts and floods, create warning systems and build flood defences and water catchments for dry spells.[116] The Somalia Disaster Management Agency, meanwhile, is working with the World

[109] Crisis Group interview, official at Danish embassy in Nairobi, April 2024.
[110] Crisis Group telephone interview, INGO manager, November 2023.
[111] Crisis Group interview, Somali government officials, Mogadishu, February 2023.
[112] Crisis Group interviews, Somali government official and international NGO staff, Mogadishu, February 2023.
[113] Crisis Group telephone interview, FAO official, October 2023. Negotiations are in progress for local leaders to establish a committee inclusive of all local clans to manage water resources. The project is estimated at $140 million, with donors pledging approximately half of that sum. The project's success hinges on governance discussions involving all communities as well as on security, which is mainly provided by African Union forces. Al-Shabaab carried out a damaging attack on Somali forces in Balad in August. "Balcad SNA base overrun by Al-Shabab", The Somali Digest, 13 August 2024.
[114] Crisis Group interview, Somali official, Mogadishu, February 2023.
[115] Crisis Group interview, Somali water expert, July 2023.
[116] Crisis Group interview, water resources ministry director, Nairobi, October 2023.

Bank and UN agencies to prepare for the impact of heavy rainfall and flooding.[117] For example, Somalis, including those living in Al-Shabaab-controlled areas, receive flood risk warnings via an automatic ringtone mobile message.[118]

Tensions between Mogadishu and federal member states around climate resilience measures do not make matters easier. The latter often complain of the central government's interference, feel they are not consulted or do not receive any development projects. The GCF-funded project highlighted above will be executed in all federal member states, including Puntland.

Some donors, for their part, are investing in drilling to pump underground water. A project started by Ruden Energy, a Norwegian company, that the Somali government is now handling with the support of the UN, is assessing how much water the country has deep underground.[119] This water is typically in aquifers anywhere from 500m to a few kilometres below the surface. These aquifers can safeguard water from pollution and contamination and are, in some cases, less susceptible to immediate climate fluctuations, as they rely on precipitation that could be millions of years old. Somalia's deep aquifers are replenished by rainfall hundreds of kilometres away in the Ethiopian highlands.[120] In tandem, the UN Food and Agriculture Organization, with Somali government backing, is gauging the environmental, socio-economic and conflict risks of this deep drilling project.[121]

C. *Handling Conflict Risks*

Handling conflict risks and involving communities in planning water projects in Somalia has not been straightforward. In the case of one irrigation project in the Marka/Janale region that began in 2021, the FAO and the International Organization for Migration helped create water management committees bringing together feuding clans, with members including women and young people.[122] Progress was slow, however. Despite protection from Somali soldiers for local contractors, Al-Shabaab militants threatened people and hid improvised explosive devices along a canal. They also took people connected to the project hostage, holding them for three months.[123] The

[117] The World Bank is spending $2 million on building the agency's capacity to respond to weather-related disasters. Crisis Group telephone interview, World Bank official, September 2024.
[118] Crisis Group telephone interview, Somali Disaster Management Agency official, October 2023.
[119] Crisis Group telephone interview, Ruden Energy staff, August 2023. Crisis Group interviews, Somali government officials, July 2023. Crisis Group correspondence, FAO staff, October 2023.
[120] Satellite data can show how much water is resupplying the system. "Identifying additional groundwater resources in Somalia by using oil data", press release, UN, 1 June 2023.
[121] Crisis Group interviews, Somali government officials, July 2023. Crisis Group interview, FAO official, October 2023. Untapped rainfall from Ethiopia that flows underground through streams could provide sufficient water for 75 million people annually. These streams are naturally resupplied each year. While deep drilling offers a solution to water scarcity, it poses risks of elite capture and conflict.
[122] Crisis Group telephone interview, IOM official, October 2023. The UN agencies also commissioned research on clan and conflict dynamics in the area to deepen understanding of the population.
[123] Crisis Group telephone interview, IOM official, August 2024. Although the Marka/Janale canals brought local representatives together despite tensions, large landowners planted water-intensive crops like bananas, harming the soil quality and the environment around the canals. Crisis Group interview, Somali NGO employee, September 2024.

$4 million, EU-funded project was eventually completed in March 2023, giving around 3,000 families, including people who live in Al-Shabaab-controlled areas, access to water for farming.[124]

Officials involved in this and similar initiatives, such as the projects in Galmudug and Hirshabelle known as the Deegan Bile, say donors and communities have drawn many lessons from their experiences. Dialogue with local communities and clear, agreed norms for managing natural resources tend to reduce conflict risks. They can also enhance local authorities' legitimacy by linking them with informal governance mechanisms and improving the delivery of essential services.[125]

Several international organisations working with Somali partners have even relied on local networks and, at times, used intermediaries to negotiate with Al-Shabaab in their attempts to ensure that aid reaches vulnerable people despite inhospitable security conditions. These initiatives include the Somalia Resilience Program, a collective effort of seven international and national NGOs, which has raised $151 million since 2012.[126] It provides cash aid during flooding to vulnerable people, including women, and focuses on relocating farmland and constructing long piping for irrigation systems. Similarly, the Building Resilient Communities consortium has invested heavily in water access and drought resilience.[127]

[124] Crisis Group telephone interview, FAO staff, October 2023. Crisis Group interview, Christophe Hodder, UN climate security and environmental adviser to Somalia, September 2023.

[125] Crisis Group online interview, IOM official, August 2024. IOM led two projects, known as the Deegan Bile (meaning sustainable environment in Somali) in Galmudug from January 2022 to June 2023 and Hirshabelle from August 2022 to February 2024. Research in the wake of the projects showed they helped establish credible, inclusive local institutions to manage natural resources. They also promoted collaboration between public officials and often mistrustful rural communities.

[126] Crisis Group telephone interview, Nishant Das, Somalia Resilience Program, May 2024. Since 2012, this program has raised $151 million from the EU, the World Bank, UN agencies and private organisations. They provide vulnerable people, including women, approximately $80 a month in cash during flooding.

[127] Crisis Group telephone interview, senior consortium official, July 2023. This consortium has invested $242 million in climate resilience activities since 2013. A Somali NGO in the consortium introduced cash vouchers for water in 2019, which gave communities the flexibility to shop for better prices and buy more water. Funding also helped rehabilitate a borehole water system in Guriel for around 12,500 people, allowing farmers to grow fodder for their animals and make them more resilient to drought. Similar projects at building infrastructure that adapts to both climate shocks and local needs in conflict zones have been backed by the Norway International Support Foundation.

V. Ways Forward

The overlapping challenges of conflict and climate change are major causes of death and displacement in Somalia. Ideally, the Somali government should swiftly establish its presence in communities liberated from Al-Shabaab rule, working alongside international partners to improve the lives of locals. Donors should also support humanitarian organisations that undertake climate adaptation projects through local NGOs or private contractors.

With the Somali government's offensive against Al-Shabaab stalling, however, it is unlikely that the group will cede territories it controls, leaving hundreds of thousands of people vulnerable to weather shocks and exposed to predation at the militants' hands. The government is therefore in a tight spot. Defeating Al-Shabaab by force of arms is proving elusive. Abandoning these communities to the group's control could entail dire humanitarian consequences. On the other hand, contact between national or state officials and Al-Shabaab seems unrealistic for now and potentially hazardous. Direct negotiations between local officials and the group over issues such as water-related relief could inadvertently legitimise Al-Shabaab's rule, especially if the group were able to portray itself as a public service provider.

The government will inevitably need to tread carefully. Given Somalia's dire climate projections, strengthening funding for building resilience to extreme weather might offer a less contentious and more effective way to establish trust between Al-Shabaab and the government, perhaps laying the groundwork for eventual dialogue as a means of winding down the conflict. In the meantime, the government should enhance water and resource management in areas it controls.

A. *Boosting Aid for Climate Resilience*

The continued danger of Al-Shabaab and the cautious approach of climate donors, motivated in part by concerns about corruption, are slowing down Somalia's progress on climate adaptation. Over the medium to long term, international donors should look to support climate resilience projects like the GCF-funded adaptation project, which could help break Somalia's dependence on aid. Large-scale water harvesting projects that take care not to harm the ecosystem should be the top priority.[128] Initiatives should include flood barriers that encourage tree planting along riverbanks, which mitigate environmental degradation and enhance flood resilience.[129] Projects such as the aforementioned offstream canal in Jowhar in Hirshabelle could help the country better withstand climate-related shocks. Donors could also boost Somalia's climate expertise, for example, by offering grants to Somali students at top water engineering faculties.[130]

[128] Crisis Group interview, Somali water ministry official, Mogadishu, February 2023. Crisis Group telephone interview, Somali water expert, July 2023. Crisis Group correspondence, UN climate security and environmental adviser, 4 October 2023.
[129] Crisis Group correspondence, UN climate security and environmental adviser, 4 October 2023.
[130] Crisis Group telephone interview, Somali official, June 2023. A successful approach highlighted by the official is the long-term collaboration among the Netherlands, Ethiopia and Kenya. These partnerships spanned more than two decades and allowed people from Ethiopia and Kenya to pur-

Another option is incorporating climate and environmental expertise into humanitarian relief and development. Given the expected decline in humanitarian aid available to Somalia due to crises in Ukraine, Gaza, Sudan and elsewhere, UN agencies and other international aid bodies should be more flexible, coordinate better and share resources with local NGOs.[131] They should ensure that water scarcity and related humanitarian challenges are addressed through more durable solutions that also consider conflict and environmental risks. One way to do so is by investing in hydrological surveys and conflict-sensitive projects to store and harvest water.[132] In following this course, they should ensure the government creates opportunities for women to shape climate adaptation strategies by sharing their needs and expertise with decision-makers.

Serving communities hit by drought, flooding and conflict also requires improving livelihood opportunities and other services such as sexual and reproductive health care. The UN and international NGOs should help the government provide more displaced people with cash transfers to pay for housing, enabling beneficiaries to choose to stay in cities if they want to seek work there. With donor support, the government should improve access to prenatal and maternal health services, especially in rural and displaced areas, by deploying mobile clinics to reach remote communities. To help herders stay in rural areas, donors should help regenerate degraded land and develop crop varieties that can survive harsh temperatures and droughts.

The government, for its part, also bears its share of responsibility in ensuring that foreign aid reaches Somalia and achieves its intended goals. Above all, Somali authorities should also make fighting corruption a priority: some international donors told Crisis Group that they need to see more progress on this issue.[133] More broadly, a major GCF donor noted that Somalia and other conflict-affected countries should bolster the state's fiscal management, such as tax systems, in order to become credible loan recipients. Lastly, the Somali government should cooperate with civil society, community leaders and peace activists, including women, to gain better insights into how local communities could address climate and environmental change.[134]

B. *Natural Resources in Liberated Territories*

With the help of foreign partners, the Somali government should continue to restore basic services, including water access and food production, to newly accessible areas from which the army has expelled Al-Shabaab. These areas, some of which the militant group treated badly for years, are in desperate need. Data from REACH, a human-

sue Ph.D. programs at Dutch universities. This initiative equipped them with the expertise necessary for effective training and the maintenance of climatic and water monitoring systems.

[131] "NGOs call for urgent funding surge as Somalia is expected to face famine", press release, joint NGO statement, 5 September 2022. Local NGOs receive about 2 per cent of relief money directly. International NGOs receive approximately 20 per cent, with the rest going to UN agencies.

[132] "After scorching drought, floods destroy lives in Somalia's Baidoa", Anadolu Agency, 12 October 2023.

[133] Crisis Group interview, diplomat, Oslo, June 2023. See also "Somalia is the most corrupt country in the world", *Quartz*, 2 February 2023.

[134] Crisis Group interview, Somali government official, Mogadishu, February 2023. See also Emilie Broek and Christophe Hodder, "Towards an Integrated Approach to Climate Security and Peacebuilding in Somalia", SIPRI, June 2022.

itarian initiative, has highlighted a steep decline in herders' livelihoods in Xarardheere district in Mudug, which was under Al-Shabaab's control until January 2023.[135]

While Al-Shabaab may have provided a degree of justice and security in some places, the government is far better positioned to facilitate international humanitarian aid after droughts or flooding, as well as essential social services such as health clinics and education. The government can also obtain foreign financial support for climate resilience and adaptation. By providing the means to meet communities' water needs, the government can offer a sharp contrast to Al-Shabaab's use of water access as leverage over local people. Water infrastructure may nevertheless be at risk of attack by Al-Shabaab, especially when the group is under military pressure or suspects that locals will resist its rule.

Somalis living in liberated areas would also benefit from the inclusion of water and livestock in efforts to establish better relations between sub-clans once Al-Shabaab is no longer in control and, thus, by extension, between communities and the state.[136] As droughts and floods are likely to become more common, the government, along with the UN and local NGOs, could sponsor local dialogue over resource management, both during periods of typical weather and during droughts.[137] As noted above, the Deegan Bile projects, which link climate action with local peacebuilding, reportedly strengthened local authorities' legitimacy, especially in areas where the state's presence rarely amounts to more than an army garrison.

C. *Engagement with Al-Shabaab*

Engagement with Al-Shabaab is already a reality for many Somali communities. Local communities can sometimes persuade Al-Shabaab of the importance of climate resilience projects. Local NGO staff on the ground in many of the most affected areas often communicate and sometimes negotiate with Al-Shabaab. In response, the government has on occasion arrested male elders for communicating or negotiating agreements with the militants.[138] Instead, it should consider lifting its ban on engagement with the group. In the short term, communities should, where necessary, take steps to explore the possibility of dialogue with Al-Shabaab around relief from climate disasters and the development of sustainable water infrastructure. They should do so where the need is greatest and in areas where Al-Shabaab appears more attentive to the resentment that its heavy-handed tactics have stirred. Such engagement is also more likely to succeed in regions where militant leaders share clan affiliations with the local population.

[135] See "Zoom-In: Humanitarian Situation Monitoring in Xarardheere District, Somalia," REACH, 11 January 2024.

[136] In Muriale, Balad, the IOM mediated a conflict between pastoralists and farmers through a local partner in July 2022.

[137] The IOM, with the support of the UN's climate security adviser, has been leading environmental peacebuilding projects in Galmudug, Lower Shabelle and Hiraan. It conducts training on climate change and conflict mitigation through natural resource management. The NGO Shaqodoon has been its partner on some of the projects. Crisis Group interviews, participants at IOM workshop on environmental peacebuilding, Nairobi, 10 November 2023.

[138] "Galmudug forces arrest three traditional elders for cooperating with Al-Shabaab", *Hiiraan News*, 25 December 2022. "Somalia detains elders over links to Al-Shabaab", *Garowe Online*, 31 January 2023.

Channels of communication to the groups could be initiated in various ways. After severe flooding, Al-Shabaab has shown greater willingness to alter its restrictions on humanitarian relief. Local communities could use this leniency to see whether the group would allow a surge in relief or the construction of more permanent flood barriers. In one concrete case, in the south-western city of Baidoa, business leaders and clan elders negotiated the lifting of an Al-Shabaab blockade in July 2023, for which the government did not punish them.[139] Although the town is under state control, critical water sources remain in militant-held rural areas. Local leaders in Baidoa could, in the future, also explore deals with Al-Shabaab-approved contractors to drill boreholes in areas beyond government control, which would help refresh the town's increasingly strained water supply.[140]

Over the medium to long term, even if the government consolidates its military gains and goes on the offensive elsewhere, Al-Shabaab will not be easily defeated. Crisis Group has argued that the government should keep the possibility of negotiations open as a means of ending the war.[141] The climate risks Somalia is facing could let the government find common ground with Al-Shabaab, if and when the time comes for political dialogue, and might even help ease tensions ahead of talks. The government and Al-Shabaab could, for instance, agree to ensure that relief supplies are delivered across territorial lines, under the guise of a humanitarian truce. The government might also tone down its rhetoric against Al-Shabaab by acknowledging mutual climate-related challenges.

The possibility of high-level engagement between militant and government leaders also depends on Al-Shabaab's stance. Al-Shabaab has, in the past, rejected the idea of dialogue. Nevertheless, credible sources have indicated to Crisis Group that constituencies within the organisation may be more amenable to negotiations than its public statements suggest.[142]

Addressing climate resilience involves expensive, long-term projects that will require funding and security. In the interim, some communities might need to work with Al-Shabaab to find immediate water solutions. While these efforts may not necessarily directly involve the central government, they should at least have its implicit acknowledgement or consent. Climate shocks affect all Somalis, regardless of their stance in the conflict, and a cooperative approach involving all parties offers the best hope of a long-term solution.

[139] Crisis Group telephone interview, Somali NGO worker, July 2023.
[140] Crisis Group interviews, South West state officials, Baidoa, February 2023.
[141] Crisis Group Report, Considering Political Engagement with Al-Shabaab in Somalia, op. cit.
[142] Ibid.

VI. Conclusion

While droughts and climate change did not create Al-Shabaab or cause Somalia's instability, they have shaped the environment in which the conflict is taking place and influenced the militant group's tactics and evolution. Al-Shabaab's behaviour amid a severe three-year drought showed its predatory characteristics and strategic manoeuvring – but also its vulnerabilities. In certain places, Al-Shabaab exacerbated the environmental impact of Somalia's worst drought in decades, often deliberately through attacks on water supplies. The group's harsh policies have driven displaced people out of its territory and contributed at least in part to a major backlash that has cost it control of parts of central Somalia. But even if Al-Shabaab's grip weakens or a peace agreement is reached, the underlying threats posed by climate change will persist, potentially creating opportunities for the group or other armed outfits to exploit.

The responses of the federal government and international donors to the overlap between climate shocks and armed conflict will be crucial to curbing violence, meeting Somalis' basic needs and preparing for a future of increasingly volatile weather. Boosting foreign aid for climate resilience is vital, particularly if the assistance improves natural resource management and builds long-term solutions to climate shocks. Secondly, restoring essential services and empowering communities in liberated areas will help stabilise regions as the government re-establishes control. Finally, engagement with Al-Shabaab, while inevitably contentious, could pave the way for immediate relief efforts and lay the groundwork for future dialogue on shared climate risks.

There is a risk that government inaction or acknowledgement of community negotiations with militants over essential resources might unintentionally strengthen Al-Shabaab. Yet, given the protracted conflict, the government must consider alternative strategies to achieve peace and ensure public well-being. If it does not, it risks leaving Somali citizens exposed to the ravages of flooding, disease and famine.

Nairobi/Brussels, 10 December 2024

Appendix A: Map of Somalia

Appendix B: Data and Methodology for Charts and Graphs

The notes below explain the methods Crisis Group used to prepare the graphs and data maps featured in this report.

Figure 1: Precipitation anomalies – time trend and maps
The time trend and maps delineate precipitation anomalies in Somalia based on the Climate Hazard Centre's CHIRPS rainfall data at a spatial resolution of approximately 5km.

The time trend displays the country area's share affected by precipitation deficit (orange) or excess (blue) between 1990 and 2022. Z-scores are considered at the pixel level, comparing each month's precipitation to the average of the same month of previous years, 1990-2022. Z-score = $(\text{mean}_{i\,m\,y} - \text{mean\_baseline}_{i\,m}) / (\text{sd\_baseline}_{i\,m} + 0.01)$, with *i*, *m* and *y* denoting the pixel, month and year, respectively. A small value of 0.01 is added to the denominator to avoid high Z-scores in areas with low inter-annual precipitation variability. Next, the sum of pixels with Z-scores below or above 1 is summarised to derive the country's share affected by rainfall deficit or excess in a given month.

The maps reflect the April to June (Gu) rainy season rainfall anomalies of 2011, 2017 and 2022, respectively. Instead of considering anomalies on the month level as for the time trend, Z-scores are calculated for a given Gu season. In other words, the maps compare observed precipitation levels of a given Gu to the Gu average of previous years, 1990-2022. Z-score = $(\text{mean}_{i,\,\text{Gu}\,y} - \text{mean\_baseline}_{i,\,\text{Gu 1990-2022}}) / (\text{sd\_baseline}_{i,\,\text{Gu 1990-2022}} + 0.01)$, with *i* and *y* denoting the pixel and year, respectively. Anomalies are displayed on the pixel level.

Figure 2: Al-Shabaab conflict – map
Conflict events, based on data from the Armed Conflict Location & Event Data Project (ACLED) generate a map of conflict events involving Al-Shabaab. ACLED event counts over the first months of the government offensive (mid-August to December 2022) and the subsequent months (January to mid-May 2023) are aggregated to the 25km grid cells. To reduce the risk of systematic measurement errors, only events classified as "battles", "riots", "violence against civilians", or "strategic developments", with geo-precision 1 or 2, and with one of the actors being Al-Shabaab are considered. Subtracting the number of events between mid-August and December 2022 from those between January and mid-May 2023 yields a comparative measure of Al-Shabaab activity in a given grid cell.

Figure 3: Vegetation deficit – time trend
MODIS NDVI data at a spatial resolution of approximately 1km from NASA generates a time trend showing vegetation deficit patterns in Somalia.

The time trend displays the share of the country area affected by negative vegetation anomalies from the beginning of the drought in October 2020 to December 2022. Z-scores are considered at the pixel level, comparing each month's NDVI value to the same month of previous years, 1990-2022. Z-score = $(\text{mean}_{i\,m\,y} - \text{mean\_baseline}_{i\,m}) / (\text{sd\_baseline}_{i\,m} + 0.01)$, with *i*, *m* and *y* denoting the pixel, month and year, respectively. A small value of 0.01 is added to the denominator to avoid high Z-scores in areas with low inter-annual variability in vegetation density. Next, the sum of pixels with Z-scores below -1 is summarised to derive the country's share affected by intense vegetation deficit in a given month.

Figure 4: Drought relief measures – maps
Crisis Group collected drought relief data from videos and photographs posted on Al-Shabaab-affiliated websites, including *Somalimemo*. Verifying the accuracy and completeness of Al-Shabaab's alleged aid efforts is virtually impossible. Dark green dots represent the distribution of water; light green dots represent the distribution of food.

Figures 5 and 6: Punitive measures – maps and time trend
Maps depicting conflict events associated with punitive measures taken by Al-Shabaab against the population by the year (2020-2023), based on data from the Armed Conflict Location & Event Data Project (ACLED). Desk research and manual cross-checking revealed that ACLED events with the following characteristics include relevant events: Al-Shabaab is listed as an actor, and the event type is classified as "Strategic developments", sub-event type "Looting/property destruction" or event type "Violence against civilians". Moreover, only geo-precision 1 or 2 events are considered to ensure map location accuracy. In a subsequent step, event notes are manually checked to remove false positives and categorised into "food- or water-related" and "other" punitive measures based on the information provided in the variable "notes". The maps only show events related to food or water.

The time trend is based on the same data, showing the number of punitive measures in Hiraan and Galgaduud monthly from January 2020 to April 2024. Red dots represent punitive measures related to food or water, and grey dots represent all other events. The bigger the dot, the higher the event count in the respective month.

Appendix C: About the International Crisis Group

The International Crisis Group (Crisis Group) is an independent, non-profit, non-governmental organisation, with some 120 staff members on five continents, working through field-based analysis and high-level advocacy to prevent and resolve deadly conflict.

Crisis Group's approach is grounded in field research. Teams of political analysts are located within or close by countries or regions at risk of outbreak, escalation or recurrence of violent conflict. Based on information and assessments from the field, it produces analytical reports containing practical recommendations targeted at key international, regional and national decision-takers. Crisis Group also publishes *CrisisWatch*, a monthly early-warning bulletin, providing a succinct regular update on the state of play in up to 80 situations of conflict or potential conflict around the world.

Crisis Group's reports are distributed widely by email and made available simultaneously on its website, www.crisisgroup.org. Crisis Group works closely with governments and those who influence them, including the media, to highlight its crisis analyses and to generate support for its policy prescriptions.

The Crisis Group Board of Trustees – which includes prominent figures from the fields of politics, diplomacy, business and the media – is directly involved in helping to bring the reports and recommendations to the attention of senior policymakers around the world. Crisis Group is co-chaired by President & CEO of the Fiore Group and Founder of the Radcliffe Foundation, Frank Giustra, as well as by former Foreign Minister of Argentina and Chef de Cabinet to the United Nations Secretary-General, Susana Malcorra.

Comfort Ero was appointed Crisis Group's President & CEO in December 2021. She first joined Crisis Group as West Africa Project Director in 2001 and later rose to become Africa Program Director in 2011 and then Interim Vice President. In between her two tenures at Crisis Group, she worked for the International Centre for Transitional Justice and the Special Representative of the UN Secretary-General in Liberia.

Crisis Group's international headquarters is in Brussels, and the organisation has offices in seven other locations: Bogotá, Dakar, Istanbul, Nairobi, London, New York, and Washington, DC. It has presences in the following locations: Abuja, Addis Ababa, Bahrain, Baku, Bangkok, Beirut, Caracas, Gaza City, Guatemala City, Jerusalem, Johannesburg, Juba, Kabul, Kyiv, Manila, Mexico City, Moscow, Seoul, Tbilisi, Toronto, Tripoli, Tunis, and Yangon.

Crisis Group receives financial support from a wide range of governments, foundations, and private sources. The ideas, opinions and comments expressed by Crisis Group are entirely its own and do not represent or reflect the views of any donor. Currently Crisis Group holds relationships with the following governmental departments and agencies: Australia (Department of Foreign Affairs and Trade), Austria (Austrian Development Agency), Canada (Global Affairs Canada), Complex Risk Analytics Fund (CRAF'd), Denmark (Ministry of Foreign Affairs), European Union (Instrument contributing to Stability and Peace, DG INTPA), Finland (Ministry for Foreign Affairs), France (Ministry for Europe and Foreign Affairs, French Development Agency), Ireland (Department of Foreign Affairs), Japan (Japan International Cooperation Agency and Japan External Trade Organization), Principality of Liechtenstein (Ministry of Foreign Affairs), Luxembourg (Ministry of Foreign and European Affairs), The Netherlands (Ministry of Foreign Affairs), New Zealand (Ministry of Foreign Affairs and Trade), Norway (Ministry of Foreign Affairs), Qatar (Ministry of Foreign Affairs), Slovenia (Ministry of Foreign Affairs), Sweden (Ministry of Foreign Affairs), Switzerland (Federal Department of Foreign Affairs), United Nations World Food Programme (WFP), United Kingdom (Foreign, Commonwealth & Development Office) and the World Bank.

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December 2024

Appendix D: Reports and Briefings on Africa since 2021

Special Reports and Briefings

Nineteen Conflict Prevention Tips for the Biden Administration, United States Briefing N°2, 28 January 2021.

Ten Challenges for the UN in 2021-2022, Special Briefing N°6, 13 September 2021.

7 Priorities for the G7: Managing the Global Fallout of Russia's War on Ukraine, Special Briefing N°7, 22 June 2022.

Ten Challenges for the UN in 2022-2023, Special Briefing N°8, 14 September 2022.

Seven Priorities for Preserving the OSCE in a Time of War, Special Briefing N°9, 29 November 2022.

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Easing the Turmoil in the Eastern DR Congo and Great Lakes, Africa Briefing N°181, 25 May 2022 (also available in French).

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Rwanda's Growing Role in the Central African Republic, Africa Briefing N°191, 7 July 2023 (also available in French).

Élections en RD Congo : limiter les risques de violence, Rapport Afrique N°312, 30 octobre 2023 (also available in French).

Chad: Breaking the Cycle of Farmer-Herder Violence, Africa Briefing N°199, 23 August 2024 (also available in French).

Chad: Limiting the Impact of the War in Sudan on Ouaddaï, Africa Briefing N°202, 14 November 2024 (only available in French).

Horn of Africa

Toward a Viable Future for South Sudan, Africa Report N°300, 5 February 2021.

Finding a Path to Peace in Ethiopia's Tigray Region, Africa Briefing N°167, 11 February 2021.

The Rebels Come to Khartoum: How to Implement Sudan's New Peace Agreement, Africa Briefing N°168, 23 February 2021.

South Sudan's Other War: Resolving the Insurgency in Equatoria, Africa Briefing N°169, 25 February 2021.

Ethiopia's Tigray War: A Deadly, Dangerous Stalemate, Africa Briefing N°171, 2 April 2021.

Containing the Volatile Sudan-Ethiopia Border Dispute, Africa Briefing N°173, 24 June 2021.

Building on Somaliland's Successful Elections, Africa Briefing N°174, 12 August 2021.

Oil or Nothing: Dealing with South Sudan's Bleeding Finances, Crisis Group Africa Report N°305, 6 October 2021.

Ethiopia's Civil War: Cutting a Deal to Stop the Bloodshed, Africa Briefing N°175, 26 October 2021.

South Sudan's Splintered Opposition: Preventing More Conflict, Africa Briefing N°179, 25 February 2022.

Kenya's 2022 Election: High Stakes, Africa Briefing N°182, 9 June 2022.

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