

RISK ASSESSMENT: PART IV

Somalia and India

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PS 605 – Green Security: Eco-conflict

November 18, 2023

This assessment focuses on the heightened risk of eco-conflict in Somalia and India. Despite boasting an abundance of natural resources, these assets are besieged by the mounting pressures of population growth, the threat of climate change, and other internal issues. There are a variety of factors that fuel the risk of eco-conflict such as resource scarcity and competition, environmental degradation, and weak institutions. While some of these risks are shared between Somalia and India, there are also some notable differences that are unique to each country. The risk of eco-conflict in Somalia and India is likely to increase in the coming years due to population growth, poverty, climate change, and other contributing factors. Moreover, environmental issues transcend borders, and eco-conflict can be both interstate and intrastate. This adds another layer of complexity when addressing climate risks. The governments of Somalia and India – as well as the international community – need to take steps to address these challenges and mitigate the risks.

SOMALIA

Population

Somalia's rapid population growth is a major challenge for the country's development and stability. Notably, it has one of the highest fertility rates in the world, at 6.2 children per woman. If the fertility rate remains constant, Somalia's population is projected to reach 33 million people by 2050.¹ Should these projections prove accurate, Somalia's population growth will not only put a strain on natural resources, but on its social and economic infrastructure.² Population growth and poverty are two of the biggest risk factors for environmental degradation in Somalia. These two factors are interrelated and exacerbate each other. A larger population means more demand for natural resources, such as land, water, and food. It also means more pollution and waste. Somalia is already facing a number of environmental challenges, including drought, deforestation, and pollution.³ Rapid population growth is likely to exacerbate all of these challenges.

Poverty

Poverty is a major challenge for Somalia, as over 70% of the population lives below the national poverty line.⁴ It is ranked as one of the poorest countries in the world due to decades of conflict, corruption, drought, and weak institutions.⁵ Additionally, Somalia's GDP per capita is one of the lowest in the world. This year, World Bank reported,

¹ Elizabeth Leahy Madsen, "In Somalia, Beyond the Immediate Crises, Demography Reveals a Long-Term Challenge." Wilson Center, December 21, 2011.

² Abdimalik Ali Warsame, Abdikafi Hassan Abdi, Amir Yahya Amir, and W.N.W. Azman-Saini. 2023. "Towards Sustainable Environment in Somalia: The Role of Conflicts, Urbanization, and Globalization on Environmental Degradation and Emissions." *Journal of Cleaner Production* 406: 136856.

³ Global Forest Watch, "Somalia," 2023.

⁴ Vanda Felbab-Brown, "Somalia's challenges in 2023." Brookings Institute, January 27, 2023.

⁵ The World Bank, "The World Bank in Somalia: Overview." March 30, 2023.

Amid repeated shocks, growth in GDP averaged only 2% from 2013 to 2020. Owing to the multiple crises, GDP contracted by 0.2% in 2020. GDP growth recovered to 2.9% in 2021 but is projected to have fallen to 1.7% in 2022 under the regional drought and worsening global economic conditions. GDP growth is forecast to rebound to 2.8% in 2023 and 3.7% in 2024.⁶

Poor people are more likely to rely on natural resources for their livelihoods and live in areas that are vulnerable to environmental hazards. Poverty can lead to a number of environmental problems, including overexploitation of natural resources, pollution, deforestation, and degradation of land and water.⁷ Addressing population growth and poverty is essential to reducing environmental risks in Somalia. This could include measures such as investing in education and family planning services to reduce fertility rates, creating economic opportunities for poor people to reduce their reliance on natural resources, investing in infrastructure and social services to make communities more resilient to natural hazards, strengthening environmental institutions and regulations, and promoting sustainable land management practices.

Resources

Water is a vital resource that is essential for human life and economic development. However, water is also a finite resource that is becoming increasingly scarce in many parts of the world. The availability, use, and conservation of water are all important factors that need to be considered in order to ensure water security for all. Somalia is plagued by water scarcity. It is a multifaceted challenge, stemming from an arid climate that provides little rainfall, frequent bouts of drought, deforestation that hinders water absorption resulting in catastrophic flooding, and the contamination of water sources due to industrial and agricultural activities.⁸ Compounding these issues is an ailing water infrastructure that exacerbates losses and impedes equitable distribution across the nation.⁹

Somalia has a rich diverse marine ecosystem and is home to some of Africa's most productive fishing grounds. Nevertheless, the fisheries sector's development is stymied by a critical deficiency in essential infrastructure.¹⁰ These inadequacies represent a formidable constraint impeding growth and economic potential. In response, the Growth, Enterprise, Employment, and Livelihoods (GEEL) project is an initiative committed to fostering sustainable, environmentally responsible expansion within Somalia's fisheries industry. Backed by the United States Agency for International Development (USAID), GEEL operates in partnership

⁶ Ibid.

⁷ Anantha K. Duraiappah, "Poverty and environmental degradation: a review and analysis of the nexus." *World development* 26, no. 12 (1998): 2169-2179.

⁸ World Bank Group, "Somalia." *Climate Change Knowledge Portal: For Development Practitioners and Policy Makers*, 2023.

⁹ Warsame et al., 2023.

¹⁰ Research Triangle Institute. "Propelling An Economic Ecosystem in Somalia."

with a consortium of stakeholders, prominently featuring RTI International.¹¹ Its initiatives assume a critical role in mitigating the risk of eco-conflict in Somalia. Resource-related competition often acts as a catalyst for conflict in vulnerable regions, and the fisheries sector is no exception. By fostering responsible resource management and sustainable practices, international initiatives like GEEL effectively diminish resource-related tensions, thereby reducing the likelihood of conflicts arising over these valuable marine assets.

Environment

Somalia's environment is under severe stress due to the combined effects of population growth, civil conflict, and climate change. As previously mentioned, these issues have led to widespread deforestation, land degradation, and pollution.¹² Climate change is not only exacerbating the problems but is leading to more frequent and severe weather in Somalia. According to a press release by the United Nations High Commissioner for Refugees in May of 2023,

A toxic mix of conflict, severe drought and devastating floods has forced more than 1 million people in Somalia to flee their homes in around 130 days – a record rate of displacement for the country. The figures...show that conflict was among the main causes of displacement between 1 January and 10 May this year, while over 408,000 people were displaced by floods engulfing their villages and another 312,000 people by ravaging drought.¹³

A recent study by the United Nations Children's Fund (UNICEF) revealed other alarming findings regarding the impact of drought in Somalia in 2022. It estimated that 43,000 "excess deaths" may have occurred, with about half affecting children under the age of five.¹⁴ These stressors set the stage for eco-conflict, as resource-driven tensions can arise and put a further strain on an already impoverished country.

The combination of population growth, civil conflict, and climate change is creating fertile ground for eco-conflict. In fact, eco-conflict is already evident in Somalia. For example, there have been clashes between farmers and herders over access to water and land.¹⁵ There have also been reports of charcoal production and logging in protected areas.¹⁶ The charcoal trade is a major source of income for al-Shabab – a Somali-based Sunni Islamic extremist group

¹¹ USAID. "Empowering an Economic Ecosystem in Somalia: 2016-2021." USAID: Growth, Enterprise, Employment & Livelihoods Project (GEEL). July 2021.

¹² Felbab-Brown, "Somalia's challenges in 2023".

¹³ United Nations High Commissioner for Refugees, "Over 1 million people internally displaced in Somalia in record time," 2023.

¹⁴ UNICEF, "New study finds that 43,000 "excess deaths" may have occurred in 2022 from the drought in Somalia," 2023.

¹⁵ Andrew E. Yaw Tchie, "Somalia: Climatic changes effects like drought could fuel herder-farmer conflicts as communities compete for few resources," Business and Human Rights Resource Centre, 2021.

¹⁶ Climate Diplomacy, "Climate Change, Charcoal Trade and Armed Conflict in Somalia."

– and contributes to deforestation and environmental degradation.¹⁷ The international community has taken steps to combat the trade, but it remains a problem.

Other Contributing Factors

Somalia is a country with a long history of civil conflict and state collapse. The Federal Government of Somalia (FGS) was established in 2012 in an effort to stabilize the country. Despite international effort, Somalia's institutions are still weak, which is a major obstacle for development and peace.¹⁸ While the FGS has made some progress in recent years, it still faces many challenges. One of the biggest challenges is the lack of effective control over much of the country's territory. The FGS is only able to fully control about half of the country, and the rest of the country is controlled by various armed groups, including al-Shabab. A 2018 Brookings Institute article stated,

Characteristically, the most effective, even if brutal, stabilizing actors in Somalia have been Islamist groups. More than other contestants for power, they have been able to rise above clan divisions and administer a uniform rule, protect marginalized minority clans, and deliver swift, predictable, and non-corrupt justice¹⁹

Thus, al-Shabaab was not strengthened by countering an autocratic regime, rather, it was fueled by weak institutions. Given Somalia's history with conflict, weak institutions, and a lack of governance, it has created an environment that is conducive to eco-conflict. Specifically, when considering how al-Shabaab has been known to exploit natural resources to fund its activities.²⁰

Risk and Policy

Somalia has made progress in developing policy, legal, and institutional frameworks related to climate change and the sustainable management of natural resources in recent years.²¹ The country has developed a number of national plans and policies, including the National Development Plan, National Climate Change Policy, National Environment Policy, Updated NDC, NAP Framework, and National Disaster Management Policy.²² These provide a framework for addressing the country's climate change and environmental challenges. However, it is important to note that Somalia's ability to respond to environmental risks is constrained by political instability, conflict, and resource limitations. The lack of a strong central government and ongoing security concerns make it difficult to implement comprehensive environmental

¹⁷ Ibid.

¹⁸ Vanda Felbab-Brown, "Developments in Somalia." Brookings Institute, November 15, 2018.

¹⁹ Ibid.

²⁰ Claire Klobucista, Jonathan Masters, and Mohammed Aly Sergie, "Al-Shabaab." The Council on Foreign Relations, December 6, 2022.

²¹ Federal Government of Somalia, "Somalia's First Adaptation Communication to the United Nations Framework Convention on Climate Change.," Ministry of Environment and Climate Change. Mogadishu, Somalia, 2022, 14-15.

²² Ibid.

policies and initiatives. International organizations, NGOs, and UN agencies often play a significant role in providing assistance and expertise to address environmental challenges in the country.²³ According to the Somali NGO Consortium, “given the highly insecure environment, the complexity of the operating environment and the large numbers of agencies working in Somalia/Somaliland, a coordinated voice is critical to successfully conduct development and humanitarian aid.”²⁴

While the lack of a strong central government and ongoing security concerns make it difficult to implement comprehensive environmental policies and initiatives, Somalia's National Environmental Policy (NEP) directly addresses the country's environmental challenges and sets out a number of goals for environmental protection. These include conserving and managing Somalia's natural resources in a sustainable manner, preventing and controlling pollution, promoting public awareness of environmental issues, and strengthening environmental institutions.²⁵ The NEP was developed in collaboration with the UN, NGOs, and international organizations and adopted in 2000. While it reflects the country's commitment to sustainable development, it too has been hampered by conflict and instability.²⁶

Somalia's National Disaster Risk Management Policy is another comprehensive framework for reducing the risk of disasters and their impacts in Somalia. It has four main goals: (1) to reduce the risk of disasters and their impacts on people and property, (2) to strengthen disaster risk governance and institutions, (3) to build capacity for disaster risk reduction at all levels of government and society, and (4) to promote disaster risk reduction as an integral part of sustainable development in Somalia.²⁷ It was adopted in 2017 and is aligned with the Sendai Framework for Disaster Risk Reduction (SFDRR).²⁸ Adopted by the United Nations member states in 2015, the SFDRR is a global agreement that outlines a set of actions to reduce the risk of disasters and their impacts.²⁹

Climate Projections and Risk

The World Bank provides climate change projections for Somalia, indicating a projected increase in average maximum surface air temperature by 2-4°C by the end of the century. As the Figures 1 and 2 show below, Somalia faces a high risk of environmental degradation if these trends continue. Should these projections prove to be accurate, it would make Somalia one of the most vulnerable countries in the world. Not only are environmental challenges threatening the livelihoods of millions, but a state of conflict, has rendered the federal government weak and

²³ United Nations, “Somalia – UNISOM I,” Accessed November 4, 2023.

²⁴ “How we work in Somalia/Somaliland,” Somali NGO Consortium, Accessed November 3, 2023.

“Somalia’s National Adaptation Plan (NAP) Framework,” Directorate of Environment and Climate Change (DoECC), Office of the Prime Minister, February 2022, v-vi.

²⁶ Federal Government of Somalia, “Somalia’s First Adaptation Communication to the United Nations Framework Convention on Climate Change,” 14.

²⁷ The Federal Republic of Somalia. 2017. “Official Statement for the Republic of Somali Africa-Arab Platform for Disaster Risk Reduction.”

²⁸ Ibid.

²⁹ Ibid.

unable to control substantial parts of the country. All these factors contribute to Somalia’s high risk for future environmental degradation, state, and civil rights conflict (Figure 3).

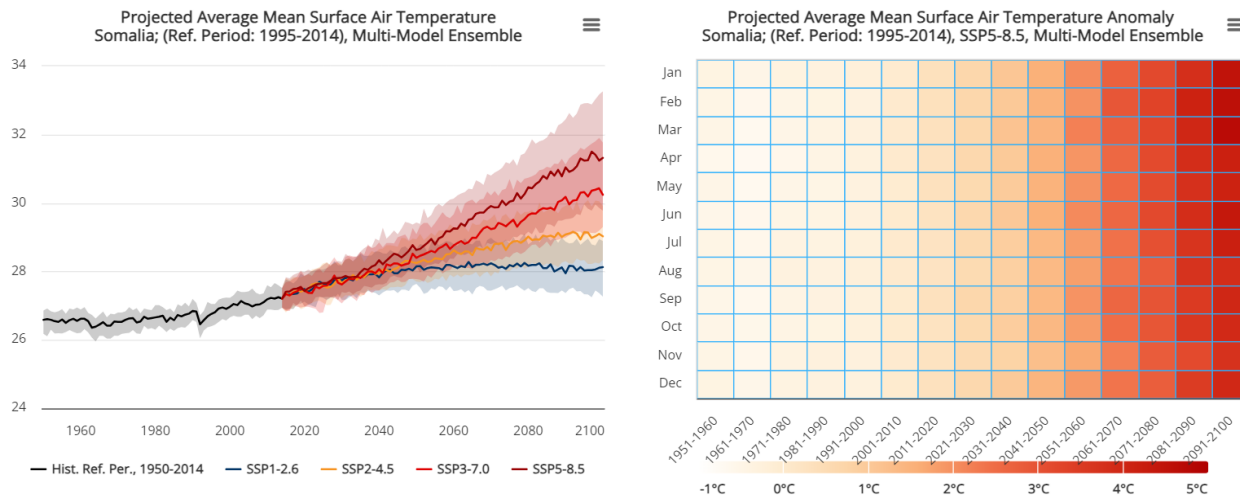


Figure 1: Projected Average Mean Surface Air Temperature and Temperature Anomaly³⁰

Units:°C	2020-2039				2040-2059				2060-2079				2080-2099			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Scenario																
SSP1-2.6	35.68 (35.05, 36.29)	37.94 (37.21, 38.58)	36.13 (35.37, 36.75)	36.33 (35.71, 36.95)	35.97 (35.26, 36.8)	38.3 (37.51, 38.97)	36.44 (35.54, 37.19)	36.66 (35.96, 37.37)	36.2 (35.36, 36.95)	38.37 (37.55, 39.1)	36.56 (35.61, 37.29)	36.76 (36, 37.53)	36.09 (35.22, 37)	38.3 (37.5, 39.2)	36.48 (35.53, 37.36)	36.76 (35.97, 37.6)
SSP2-4.5	35.7 (35.07, 36.37)	37.99 (37.28, 38.56)	36.05 (35.3, 36.72)	36.32 (35.69, 36.98)	36.25 (35.47, 37.1)	38.52 (37.61, 39.33)	36.64 (35.8, 37.46)	36.9 (36.17, 37.62)	36.75 (35.85, 37.63)	38.98 (37.97, 39.82)	37.15 (36.12, 37.96)	37.32 (36.43, 38.08)	37.07 (35.89, 38.02)	39.33 (38.17, 40.21)	37.53 (36.28, 38.38)	37.66 (36.62, 38.47)
SSP3-7.0	35.66 (35, 36.39)	37.89 (37.14, 38.77)	36.07 (35.34, 36.83)	36.32 (35.72, 37)	36.45 (35.53, 37.58)	38.64 (37.71, 39.52)	36.82 (35.83, 37.71)	36.97 (36.17, 37.94)	37.2 (36.12, 38.49)	39.46 (38.35, 40.57)	37.61 (36.42, 38.68)	37.79 (36.63, 38.89)	38.07 (36.86, 39.63)	40.3 (39.02, 41.61)	38.51 (37.11, 39.73)	38.58 (37.3, 40.06)

Figure 2: Projected Maximum of Daily Max Temperatures, by season.³¹

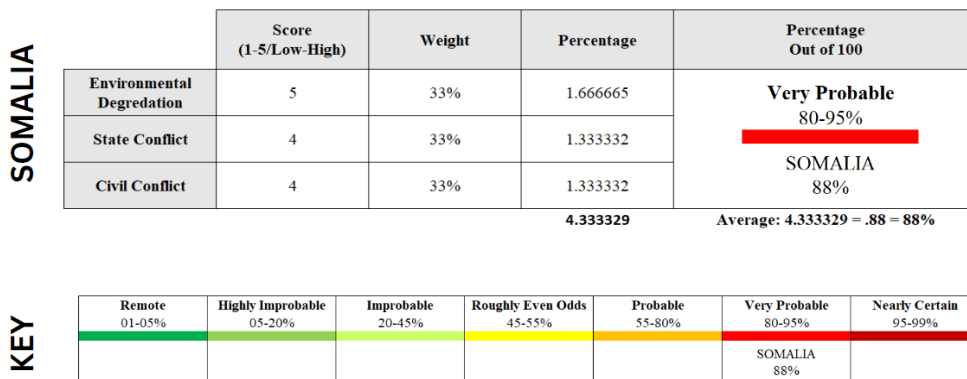


Figure 3: Risk for future environmental degradation, state, and civil rights conflict

³⁰ The World Bank Group, “Somalia: Climate Projections,” Climate Change Knowledge Portal, 2021.

³¹ Ibid.

INDIA

Population

This year, India was projected to become the world's most populous country, overtaking China, which has held the distinction since at least 1950. Its population was expected to reach 1.425 billion in April of 2023, while China's population was expected to reach 1.426 billion. Notably, the United Nations (UN) has projected that India's population will continue to grow in the coming decades, reaching 1.7 billion by 2050. Experts believe that there is a link between population growth, environment, and conflict.³² The implications of India becoming the world's most populous country are far-reaching when considering the potential for interstate and regional conflict. If these projections prove to be accurate, the country will likely face challenges in providing for its growing population, such as food security, water scarcity, and environmental degradation.

It would be prudent to recognize that this theory – that population growth increases the likelihood of conflict – has been contested. For example,

...consensus has been hard to come by because the positive empirical association between population and violence does not prove that population causes conflict. Instead, it may reflect that population correlates with other characteristics causing violence, or that violence influences population growth through its effects on mortality and fertility.³³

Some experts believe that population growth can be a contributing factor to conflict, but only when it is not accompanied by productivity growth and strong institutions.³⁴ Additionally, when considering the potential for conflict, it is necessary to address the changing nature of conflict in recent history. A 2016 RAND report found that the incidence of armed conflict has decreased overall.³⁵ There has been a decline in interstate wars, but an increase in intrastate wars and civil conflicts. These conflicts are often more protracted and difficult to resolve than interstate wars. This suggests that intrastate issues surrounding population growth, like resource scarcity, may be more likely to lead to conflict in the future due to civil unrest.

Poverty

According to a government report released in July 2023, nearly 135 million people, or

³² Nils Petter Gleditsch and Henrick Urdal, "Ecoviolence? Links Between Population Growth, Environmental Scarcity and Violent Conflict in Thomas Homer-Dixon's Work." *Journal of International Affairs*, Fall 2002, Vol. 56, No. 1, 2002.

³³ Acemoglu, Daron, Leopoldo Fergusson, and Simon Johnson, "Does population growth cause conflict?" *VoxDev*, 2019.

³⁴ Thayer, Bradley. "Considering population and war: a critical and neglected aspect of conflict studies." *Philos Trans R Soc Lond B Biol Sci*, 2009, 3090.

³⁵ Szayna, Thomas S., Stephen Watts, Angela O'Mahony, Bryan Frederick, and Jennifer Kavanagh. "What Are the Trends In Armed Conflicts, and What Do They Mean for U.S. Defense Policy?" RAND Corporation, 2017, 1.

about 10% of India's population, escaped poverty in the last five years.³⁶ This represents a significant achievement in India's fight against poverty. The report used the United Nations' Multidimensional Poverty Index (MPI) – using measurements based on indicators such as nutrition, education, and sanitation – found that that rural areas saw the strongest fall in poverty.³⁷ India's National MPI report findings are attributed to a number of factors, including India's strong economic growth, government programs to support the poor, and increasing access to education and healthcare.³⁸

Despite the recent progress in poverty reduction, India still has a large number of people living in poverty. According to the World Bank, 21.2% of India's population lived below the national poverty line in 2021.³⁹ Poor people are more likely to live in areas that are vulnerable to environmental hazards. For example, poor people are more likely to live in slums, which are often located in flood-prone areas. Additionally, they are more likely to rely on natural resources for their livelihoods, making them more vulnerable to climate change and other environmental stressors.⁴⁰

Resources & Environment

India is a resource-rich country with a wide variety of natural resources. However, they are under increasing pressure from population growth, economic development, and climate change. While rich in minerals like coal, iron ore, and bauxite, mining's environmental impact is concerning, leading to rapid resource depletion.⁴¹ India's forest cover falls below the global average, and deforestation driven by agriculture, logging, and development is a significant concern. According to a recent study, India has seen the highest rise in deforestation in the last three decades.⁴² Additionally, land degradation is widespread and poses substantial environmental threats.

Other Contributing Factors

There are several ways which India's population growth, poverty, resources, and environment could lead to interstate conflict. It is worth noting, however, that the actual impact of these factors on conflict will depend on a number of factors, such as the rate of population growth and the availability of resources. For example, India's propensity to conflict with Pakistan may be higher than other bordering countries given that tensions are already heightened

³⁶ "India: National Multidimensional Poverty Index," United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI), July 2023, xii.

³⁷ Manok Kumar, "One-tenth of India's Population escaped poverty in 5 years – government report." "Reuters, July 17, 2023.

³⁸ "India: National Multidimensional Poverty Index," 2023, xxii.

³⁹ Samuel Kofi Tetteh Baahr. Andres Castaneda Aguilar Carolina Diaz-Bonilla, Tony Fujs, Christoph Lakner, Minh Cong Nguyen, Martha Viveros. "September 2023 global poverty update from the World Bank: new data on poverty during the pandemic in Asia." The World Bank, 2023.

⁴⁰ Amita Shah, "Natural Resources and Chronic Poverty in India: A Review of Issues and Evidence. Chronic Poverty Research Centre," 28.

⁴¹ World Wildlife Fund, "Resource Scarcity in India." 2014.

⁴² Shuchita Jha, "India lost 668,400 ha forests in 5 years, 2nd highest globally: Report," 2023.

between the two states. While resource competition and political instability are factors to consider, so too is irredentism. This is a particular risk in the case of Kashmir, which is a disputed territory between the two countries. Kashmir sits in a desirable geostrategic location in Central Asia at the convergence of India, Pakistan, and China.⁴³ It is a conflict that is a product of the “interaction between many different geopolitical agents and structures.”⁴⁴ When Pakistan and India gained their independence from British colonial rule in 1947, “Kashmir’s position was left open”.⁴⁵ Consequently, control over the area has fluctuated primarily between the two countries, ultimately leading to the proliferation of regional unrest. Moreover, the deterrence complexity – nuclear deterrence, specifically – between India and Pakistan increases the likelihood that conflict could occur, especially if India's population growth is putting a strain on its resources.

Policy

India faces a number of serious environmental challenges, including climate change, air and water pollution, deforestation, and waste management. It has adopted a multi-dimensional approach to addressing these challenges, involving both national and international policies, as well as the active involvement of non-governmental organizations (NGOs). At the national level, India has established a comprehensive framework for environmental protection and management. This framework includes several key elements, such as the National Action Plan on Climate Change (NAPCC)⁴⁶, the National Green Tribunal (NGT)⁴⁷, the Environmental Impact Assessment (EIA) process⁴⁸, the Forest Conservation Act (FCA), air and water pollution control regulations⁴⁹, the National Biodiversity Strategy and Action Plan (NBSAP)⁵⁰, and waste management rules.

While these are individual policies, they comprehensively address environmental protection within India. For instance, the NAPCC outlines strategies for climate change mitigation and adaptation, such as promoting renewable energy, improving energy efficiency, and reducing deforestation.⁵¹ The NGT is a specialized judicial body that hears and decides cases related to environmental protection and conservation.⁵² The EIA process is a mandatory requirement for all new projects that have the potential to have a significant impact on the

⁴³ Fayaz, Sadia, 66.

⁴⁴ Colin Flint, *Introduction to Geopolitics*. Third Edition. Rutledge, 2017, 290.

⁴⁵ M. Lee, and Chuck Goodwin, “Kashmir Conflict.” Salem Press Encyclopedia, 2018.

⁴⁶ “National Action Plan on Climate Change (NAPCC),” Ministry of Environment, Forest and Climate Change, December 01, 2021.

⁴⁷ “National Green Tribunal,” Republic of India, Accessed November 1, 2023.

⁴⁸ “Understanding EIA,” Centre for Science and Environment, Accessed November 1, 2023.

⁴⁹ PIB Delhi. “Lok Sabha passes the Forest (Conservation) Amendment Bill 2023.” Ministry of Environment, Forest and Climate Change, July 26, 2023.

⁵⁰ Bhatt, Seema. “National Biodiversity Strategy and Action Plan (NBSAP).” World Wildlife Foundation India, Accessed November 1, 2023.

⁵¹ “National Action Plan on Climate Change (NAPCC),” Ministry of Environment, Forest and Climate Change, 2021.

⁵² “National Green Tribunal,” Republic of India.

environment.⁵³ The FCA prohibits the diversion of forest land for non-forest use without the prior approval of the central government.⁵⁴ The NBSAP is a national plan for the conservation of biodiversity.⁵⁵ In addition to these national policies and initiatives, India is also actively engaged in international efforts to address environmental challenges. For example, India is a party to the Paris Agreement on climate change and is committed to reducing its greenhouse gas emissions. This is a particularly important initiative, as India is ranked as the third highest contributor to climate change and is responsible for 9% of the world's total CO₂ emissions.⁵⁶

Like many other nations, India has already experienced extreme temperatures as a result of climate change. In addition to rising temperatures, it has experienced more extreme weather events, rising sea levels, changes in agricultural patterns, and ocean warming.⁵⁷ Various actions need to be taken in order for India to achieve its climate change commitments, such as transitioning to renewable energy, electrifying transportation, and decarbonizing industries through green hydrogen.⁵⁸ India has made an ambitious commitment to reach a net zero target by 2070. According to its Nationally Determined Contribution (NDC), India aims to

...reduce the emissions intensity of its GDP by 45% (compared with 2005 levels), achieve 50% total installed electric power capacity from non-fossil fuel energy sources and focus on building momentum for its LiFE Movement (Lifestyle for Environment). This citizen-centric programme [sic] to combat climate change promotes a healthy, low consumption and sustainable lifestyle using a circular economy approach.⁵⁹

The development of climate change control policies has helped India prioritize necessary actions and facilitate collective action amongst it and its allies. International agreements and organizations have played a significant role in global efforts to combat climate change. This highlights that India recognizes that climate change is not a localized phenomenon, and that well-planned, collective actions are necessary for mitigating its effects and ensuring a sustainable future.

Like Somalia, the UN operates within India to aid in its environmental protection policies and procedures. The United Nations Environment Programme (UNEP) has been in operation for over fifty years, and has “worked with governments, civil society, the private sector and UN entities to address humanity’s most pressing environmental challenges - from restoring the ozone layer to protecting the world's seas and promoting a green, inclusive economy.”⁶⁰ It focuses on

⁵³ “Understanding EIA,” Centre for Science and Environment.

⁵⁴ PIB Delhi, 2023.

⁵⁵ Bhatt, 2023.

⁵⁶ EPA, “Global Greenhouse Gas Emissions.” February 15, 2023.

⁵⁷ Aishwarya Subramanian, Aditya Nagarajan, Sruthi Vinod, Samarshi Chakraborty, Krishanasamy Sivagami, Thomas Theodore, Sri Sathyanarayanan, Perumal Tamizhdurai, and V. L. Mangesh. “Long-Term Impacts of Climate Change on Coastal and Transitional Eco-Systems in India: An Overview of Its Current Status, Future Projections, Solutions, and Policies.” RSC Advances, 2023.

⁵⁸ Montek Singh Ahluwalia and Utkarsh Patel, “Managing Climate Change: A Strategy for India,” Brookings, February 21, 2023, 3-4.

⁵⁹ Choudhary, Kanya. “How Is India Tackling Climate Change?” How is India tackling climate change? November 7, 2022. <https://www.lse.ac.uk/granthaminstitute/explainers/how-is-india-tackling-climate-change/>.

⁶⁰ United Nations Environment Programme, “About the United Nations Environment Programme,” 2023.

helping countries “transition to low-carbon and resource-efficient economies, strengthening environmental governance and law, safeguarding ecosystems, and providing evidence-based data to inform policy decisions,” which is particularly important in India given its high contribution to global emissions.⁶¹ Additionally, NGOs also play a vital role in India's environmental protection efforts. They raise awareness of environmental issues, advocate for policy changes, and implement projects on the ground. For example, the NGO Greenpeace India⁶² has been campaigning for the closure of coal-fired power plants, while the NGO Waste Warriors has been working to reduce plastic pollution in India's rivers.⁶³

Despite the progress that India has made in addressing its environmental risks, the country still faces a number of challenges. For example, air pollution remains a major problem in many Indian cities, and the country's waste management system is still underdeveloped.⁶⁴ However, India is committed to addressing its environmental challenges, and the country's multi-dimensional approach is essential to achieving this goal.

Climate Projections and Risk

The risks of environmental degradation, state, and civil rights conflict in India are interconnected. For example, climate change is expected to exacerbate environmental problems in India, such as water scarcity and air pollution. Climate change is also likely to lead to increased social and political tensions, as people compete for scarce resources. Where India's strength lies is in its strong institutions and commitment to democratic governance, which, in turn, contribute to its ability to manage potential risks. However, India faces significant challenges in terms of environmental degradation. The interconnected nature of these challenges poses a threat to social and political stability, potentially leading to conflicts over scarce resources. Despite these risks, India's robust institutions and democratic foundations provide a solid platform for addressing and mitigating these challenges. Effective risk management strategies should involve strengthening environmental policies, promoting sustainable development practices, and ensuring inclusive governance to address the potential environmental, state, and civil rights risks in the country.

⁶¹ Ibid.

⁶² Green Peace India, “Who We Are,” 2023.

⁶³ Waste Warriors, “Cleaning Up The Himalayas One Mountain At A Time!”, 2023.

⁶⁴ Mehta, Tanvi and Manoj Kumar. “India's New Delhi blanketed by toxic haze, world's most polluted city again.” Reuters, November 3, 2023.

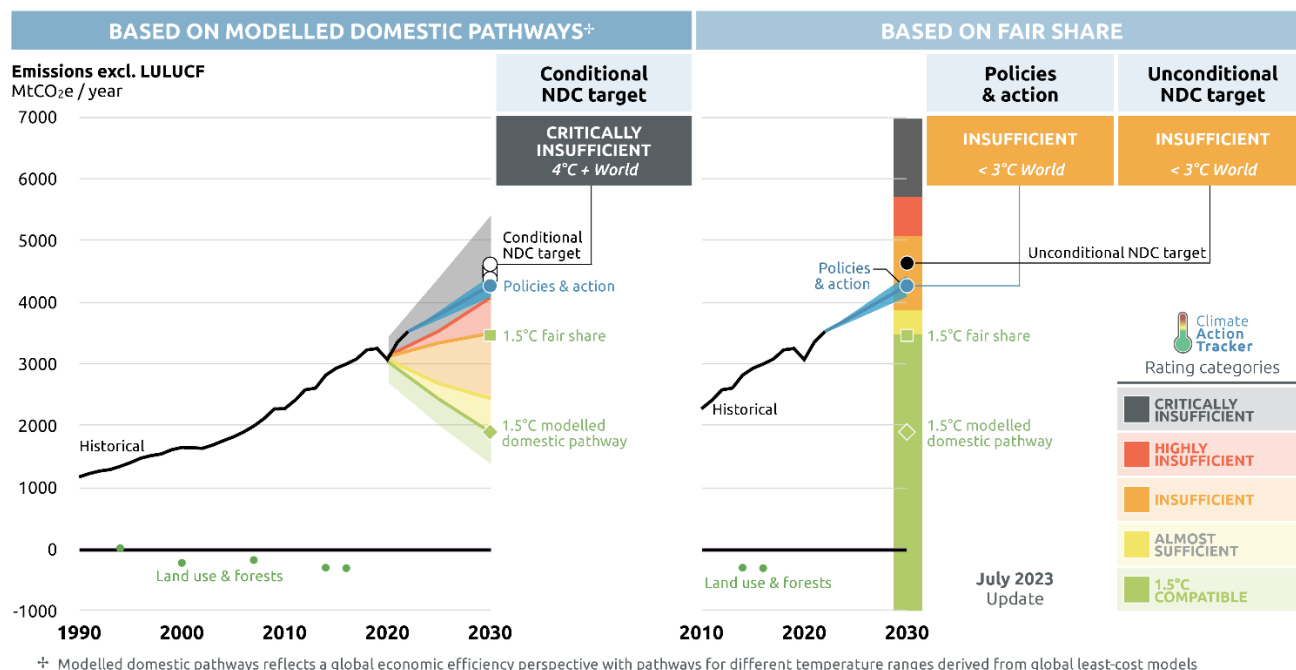


Figure 4: India's Climate Projections through 2030⁶⁵

		Score (1-5/Low-High)	Weight	Percentage	Percentage Out of 100		
INDIA	Environmental Degredation	4	33%	1.333332	Roughly Even Odds 45-55% INDIA 40%		
	State Conflict	1	33%	0.333333			
	Civil Conflict	2	33%	0.666666			
				2.333331	Average: 2.333331 = .46 = 46%		
KEY	Remote 01-05%	Highly Improbable 05-20%	Improbable 20-45%	Roughly Even Odds 45-55%	Probable 55-80%	Very Probable 80-95%	Nearly Certain 95-99%
	INDIA 40%						

Figure 5: Risk for future environmental degradation, state, and civil rights conflict

⁶⁵ "India," Climate Action Tracker, 2023.

COMPARING SOMALIA & INDIA

Somalia and India, two nations with vastly distinct historical and cultural backgrounds, exhibit a multitude of both shared and contrasting environmental conditions and risks. Both countries have large and rapidly growing populations and high levels of poverty. India is more economically developed than Somalia and has a more diverse range of natural resources. However, both countries are vulnerable to natural disasters and climate change and pose substantial risks. India faces recurrent natural disasters, including floods, droughts, and cyclones, resulting in formidable environmental challenges. Similarly, Somalia encounters a spectrum of natural disasters and is particularly susceptible to climate change-related threats.

India upholds the tenets of a democratic system, providing a foundation for governance and public participation in environmental policy. In contrast, Somalia grapples with a precarious state of governance due to enduring civil conflicts, rendering its government incapable of asserting control over significant portions of the country. An additional factor that warrants attention is the presence of al-Shabab. This group exerts control over significant swaths of territory within the nation and contributes to environmental degradation, insecurity, and conflict. Al-Shabaab's presence and influence underscores the intricate interplay between environmental concerns and the broader sociopolitical context in Somalia.

CONCLUSION

There is a misconception that environmental problems are typically experienced by non-democracies. Environmental issues are complex. This is particularly true when considering the root of environmental problems and how they may disproportionately affect a country, region, or particular group of people. Climate change knows no borders and its impacts transcend national boundaries. Environmental issues affect all, not just the few. While there does seem to be some link between democracies and the environmental degradation, countries of all political systems are susceptible to eco-conflict.”⁶⁶ India's democratic system is one of the strongest in the world, and yet it suffers greatly from environmental issues.⁶⁷ It is also the world's largest contributors to climate change. As this assessment points out, India has already experienced dangerous temperatures, extreme weather events, rising sea levels, changes in agricultural patterns, and ocean warming.⁶⁸ This assessment points out several factors that could contribute to the potential for eco-conflict in India's future.

Somalia's is significantly more susceptible to eco-conflict than India. It not only suffers from weak institutions, but it is plagued by a variety of other issues that make it more vulnerable. In fact, Somalia has already experienced eco-conflict. In 2018, there was a clash between farmers and herders in Puntland over access to water resources. The conflict was exacerbated by the government's failure to manage water resources effectively and to resolve the dispute peacefully.⁶⁹ In 2019, there was a conflict between the Somali government and al-Shabab over

⁶⁶ Paul F. Diehl and Nils Petter Gleditsch, *Environmental Conflict: An Anthology*. Westview Press, 2001, 42.

⁶⁷ Gareth Price, "Democracy in India." Chatham House, 2022.

⁶⁸ Subramanian et al., 2023.

⁶⁹ Felbab-Brown, "Somalia's challenges in 2023".

control of water resources in the Somali region of Jubaland.⁷⁰

A contrary, and perhaps more accurate statement to “environmental problems are typically experienced by non-democracies” can be made – that is that democracies can have a positive impact on environmental protection. Research evidence supports the notion that democracy is associated with lower levels of environmental degradation. There are a number of reasons for this. First, democracy gives individuals greater access to information about environmental issues, the ability to express their opinions and priorities, and the right to organize and lobby for environmental protection.⁷¹ This can lead to pressure on governments to take action to protect the environment. Second, democratic governments are more likely to be held accountable for their environmental policies. If citizens believe that their government is not doing enough to protect the environment, they can vote it out of office.⁷² This can create incentives for democratic governments to adopt policies that promote environmental sustainability.

In conclusion, the environmental risks faced by Somalia and India are diverse and multifaceted. Somalia's prolonged conflict and lack of governance have exacerbated environmental degradation, while India's rapid economic growth and large population have increased its susceptibility to environmental challenges. Despite these challenges, both countries have taken steps to address environmental concerns and promote sustainable development. Continued efforts to address environmental issues, coupled with international support, will be crucial for ensuring a sustainable and prosperous future for both Somalia and India.

⁷⁰ Ibid.

⁷¹ A. Guray, and E. Sinan. “Does democracy help reduce environmental degradation?” *Environmental Science and Pollution Research*, 28(6), 7226-7235, 2023, 2772.

⁷² Ibid, 7228.

Bibliography

- Acemoglu, Daron, Leopoldo Fergusson, and Simon Johnson. 2019. "Does population growth cause conflict?" VoxDev. <https://voxdev.org/topic/health-education/does-population-growth-cause-conflict>.
- Ahluwalia, Montek Singh, and Utkarsh Patel. "Managing Climate Change: A Strategy for India." Brookings, February 21, 2023. <https://www.brookings.edu/research/managing-climate-change-a-strategy-for-india/>.
- Baahr, Samuel Kofi Tetteh, Andres Castaneda Aguilar, Carolina Diaz-Bonilla, Tony Fujs, Christoph Lakner, Minh Cong Nguyen, Martha Viveros. "September 2023 global poverty update from the World Bank: new data on poverty during the pandemic in Asia." The World Bank, September 20, 2023. <https://blogs.worldbank.org/opendata/september-2023-global-poverty-update-world-bank-new-data-poverty-during-pandemic-asia#:~:text=At%20the%20%243.65%20poverty%20line,from%2023.6%25%20to%2024.1%25>.
- Bhatt, Seema. "National Biodiversity Strategy and Action Plan (NBSAP)." World Wildlife Foundation India, Accessed November 1, 2023. https://wwfin.awsassets.panda.org/downloads/session_7_lecture_notes_2.pdf.
- Climate Diplomacy. "Climate Change, Charcoal Trade and Armed Conflict in Somalia." Accessed October 20, 2023. <https://climate-diplomacy.org/case-studies/climate-change-charcoal-trade-and-armed-conflict-somalia>.
- Diehl, Paul F. and Gleditsch, Nils Petter. 2001. *Environmental Conflict: An Anthology*. Westview Press.
- "Disaster Risk Management Policy 2022-2026." Somali Red Crescent Society (SRCS), November 9, 2021. https://data-api.ifrc.org/documents/SO/SP_Somalia_2022%281%29.pdf.
- Duraiappah, Anantha K. "Poverty and environmental degradation: a review and analysis of the nexus." *World development* 26, no. 12 (1998): 2169-2179. [https://doi.org/10.1016/S0305-750X\(98\)00100-4](https://doi.org/10.1016/S0305-750X(98)00100-4).
- EPA. "Global Greenhouse Gas Emissions." February 15, 2023. <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>.
- Fayaz, Sadia. 2016. "Kashmir Dispute between Pakistan and India: The Way Out." *Dialogue (Pakistan)* 11 (1): 65–82. <https://search-ebcohst-com.ezproxy.bellevue.edu/login.aspx?direct=true&db=tsh&AN=115789384&site=eds-live>.
- "Federal Government of Somalia US-Africa Summit." https://obamawhitehouse.archives.gov/sites/default/files/docs/somalia_nationalstatement.pdf.

- Federal Government of Somalia. (2022). Somalia's First Adaptation Communication to the United Nations Framework Convention on Climate Change. Ministry of Environment and Climate Change. Mogadishu, Somalia.
<https://unfccc.int/sites/default/files/ACR/2023-07/Somalia%20Adaptation%20Communication.pdf>.
- The Federal Republic of Somalia. 2017. "Official Statement for the Republic of Somali Africa-Arab Platform for Disaster Risk Reduction."
<https://www.unisdr.org/files/globalplatform/somalia.pdf>.
- Felbab-Brown, Vanda. "Developments in Somalia." Brookings Institute, November 15, 2018.
<https://www.brookings.edu/testimonies/developments-in-somalia/>.
- Felbab-Brown, Vanda. "Somalia's challenges in 2023." Brookings Institute, January 27, 2023.
<https://www.brookings.edu/articles/somalias-challenges-in-2023/>.
- Flint, Colin. *Introduction to Geopolitics*. Third Edition. Rutledge, 2017.
- FSIN and Global Network Against Food Crises. 2023. "GRFC 2023 Mid-Year Update."
<https://www.fsinplatform.org/sites/default/files/resources/files/GRFC2023-MYU.pdf>.
- Gleditsch, Nils Petter and Henrick Urdal. 2002. "Ecoviolence? Links Between Population Growth, Environmental Scarcity and Violent Conflict in Thomas Homer-Dixon's Work." *Journal of International Affairs*, Fall 2002, Vol. 56, No. 1.
- Global Forest Watch. "Somalia." Accessed October 20, 2023.
<https://www.globalforestwatch.org/dashboards/country/SOM/>.
- Green Peace India. 2023. "Who We Are." <https://www.greenpeace.org/india/en/about/>.
- Guray, A., & Sinan, E. (2021). Does democracy help reduce environmental degradation? *Environmental Science and Pollution Research*, 28(6), 7226-7235.
<https://doi.org/10.1007/s11356-020-11096-1>.
- "How we work in Somalia/Somaliland." Somali NGO Consortium, Accessed November 3, 2023.
<https://www.somalingoconsortium.o>
- "India." 2023. Climate Action Tracker. <https://climateactiontracker.org/countries/india/rg/about-us/about-us/>.
- "India: National Multidimensional Poverty Index." United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI), July 2023.
- Jha, Shuchita. "India lost 668,400 ha forests in 5 years, 2nd highest globally: Report." *Down to Earth*, March 20, 2023. <https://www.downtoearth.org.in/news/wildlife-biodiversity/india-lost-668-400-ha-forests-in-5-years-2nd-highest-globally-report-88337>
- Klobucista, Claire, Jonathan Masters, and Mohammed Aly Sergie. "Al-Shabaab." The Council on Foreign Relations, December 6, 2022. <https://www.cfr.org/backgrounder/al-shabaab>.
- Kumar, Manoj. "One-tenth of India's Population escaped poverty in 5 years – government

- report.” “Reuters, July 17, 2023. <https://www.reuters.com/world/india/one-tenth-indias-population-escaped-poverty-5-years-government-report-2023-07-17/>.
- Lee, M., and Chuck Goodwin. 2018. “Kashmir Conflict.” Salem Press Encyclopedia. <https://search-ebscohost-com.ezproxy.bellevue.edu/login.aspx?direct=true&db=ers&AN=89158236&site=eds-live>.
- Madsen, Elizabeth Leahy. “In Somalia, Beyond the Immediate Crises, Demography Reveals a Long-Term Challenge.” Wilson Center, December 21, 2011. <https://www.newsecuritybeat.org/2011/12/in-somalia-beyond-the-immediate-crises-demography-reveals-a-long-term-challenge/#:~:text=A%20Demographic%20Outlier&text=In%20Somalia%2C%2070%20percent%20of,over%20the%20past%2040%20years>.
- Mehta, Tanvi and Manoj Kumar. “India's New Delhi blanketed by toxic haze, world's most polluted city again.” Reuters, November 3, 2023. <https://www.reuters.com/world/india/air-pollution-indias-new-delhi-turns-severe-some-schools-shut-2023-11-03/>.
- “National Action Plan on Climate Change (NAPCC).” Ministry of Environment, Forest and Climate Change, December 01, 2021. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/dec/doc202112101.pdf>.
- “National Green Tribunal.” Republic of India, Accessed November 1, 2023. <https://greentribunal.in/>.
- PIB Delhi. “Lok Sabha passes the Forest (Conservation) Amendment Bill 2023.” Ministry of Environment, Forest and Climate Change, July 26, 2023. <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1942953#:~:text=It%20provides%20that%20the%20de,permission%20of%20the%20Central%20Government>.
- Price, Gareth. “Democracy in India.” Chatham House, April 7, 2022. <https://www.chathamhouse.org/2022/04/democracy-india>.
- Research Triangle Institute. “Propelling An Economic Ecosystem in Somalia.” <https://www.rti.org/impact/somalia-geel-update>.
- Shah, Amita. *Natural Resources and Chronic Poverty in India: A Review Of Issues and Evidence*. Chronic Poverty Research Centre, https://www.files.ethz.ch/isn/128423/CPRC-IIPA_43.pdf.
- Silver, Laura, Christine Huang, and Laura Clancy. “Key facts as India surpasses China as the world’s most populous country.” Pew Research Center, February 29, 2023. <https://www.pewresearch.org/short-reads/2023/02/09/key-facts-as-india-surpasses-china-as-the-worlds-most-populous-country/>.
- “Somalia’s National Adaptation Plan (NAP) Framework.” Directorate of Environment and Climate Change, Office of the Prime Minister, February 2022.

<https://napglobalnetwork.org/wp-content/uploads/2022/11/napgn-en-2022-somalia-nap-framework.pdf>.

Subramanian, Aishwarya, Aditya Nagarajan, Sruthi Vinod, Samarshi Chakraborty, Krishanasamy Sivagami, Thomas Theodore, Sri Sathyanarayanan, Perumal Tamizhdurai, and V. L. Mangesh. “Long-Term Impacts of Climate Change on Coastal and Transitional Eco-Systems in India: An Overview of Its Current Status, Future Projections, Solutions, and Policies.” RSC Advances, April 19, 2023.

<https://pubs.rsc.org/en/content/articlehtml/2023/ra/d2ra07448f>.

Szayna, Thomas S., Stephen Watts, Angela O’Mahony, Bryan Frederick, and Jennifer Kavanagh. “What Are the Trends in Armed Conflicts, and What Do They Mean for U.S. Defense Policy?” RAND Corporation, 2017.

https://www.rand.org/content/dam/rand/pubs/research_reports/RR1900/RR1904/RAND_RR1904.pdf

Tchie, Andrew E. Yaw. “Somalia: Climatic changes effects like drought could fuel herder-farmer conflicts as communities compete for few resources.” Business and Human Rights Resource Centre, April 16, 2021. <https://www.business-humanrights.org/en/latest-news/somalia-climatic-changes-like-drought-could-fuel-herder-farmer-conflicts-as-settled-communities-and-livestock-herders-compete-for-few-resources/>.

Thayer, Bradley. “Considering population and war: a critical and neglected aspect of conflict studies.” *Philos Trans R Soc Lond B Biol Sci.* 2009 Oct 27;364(1532):3081-92. doi: 10.1098/rstb.2009.0151. PMID: 19770157; PMCID: PMC2781832.

“Understanding EIA.” Centre for Science and Environment, Accessed November 1, 2023. <https://www.cseindia.org/understanding-eia-383>.

UNICEF. “New study finds that 43,000 “excess deaths” may have occurred in 2022 from the drought in Somalia” March 20, 2023. <https://www.unicef.org/press-releases/new-study-finds-43000-excess-deaths-may-have-occurred-2022-drought-somalia>.

United Nations. 2012. “Sendai Framework for Disaster Risk Reduction 2015 – 2030.” https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf?_gl=1*1uuy05k*_ga*odm3ntm4mdg1lje2otkxodq3odg.*_ga_d8g5wpx6ym*mty5ote4ndc5ms4xljaumty5ote4ndc5ms4wljauma.

United Nations. 2023. “India to overtake China as world’s most populous country in April 2023, United Nations projects.” <https://www.un.org/en/desa/india-overtake-china-world-most-populous-country-april-2023-united-nations-projects>.

United Nations. “Somalia – UNISOM I.” Accessed November 4, 2023. <https://peacekeeping.un.org/mission/past/unosom1backgr2.html>.

United Nations Environment Programme. 2023. “About the United Nations Environment Programme.” <https://www.unep.org/who-we-are/about-us>.

United Nations High Commissioner for Refugees. “Over 1 million people internally displaced in Somalia in record time.” May 24, 2023. <https://www.unhcr.org/news/press-releases/over-1-million-people-internally-displaced-in-somalia-in-record-time>.

1-million-people-internally-displaced-somalia-record-time.

USAID. "Empowering an Economic Ecosystem in Somalia: 2016-2021." USAID: Growth, Enterprise, Employment & Livelihoods Project (GEEL). July 2021.

<https://www.rti.org/brochures/empowering-economic-ecosystem-somalia>.

Warsame, Abdimalik Ali, Abdikafi Hassan Abdi, Amir Yahya Amir, and W.N.W. Azman-Saini. 2023. "Towards Sustainable Environment in Somalia: The Role of Conflicts, Urbanization, and Globalization on Environmental Degradation and Emissions." *Journal of Cleaner Production* 406: 136856. <https://doi.org/10.1016/j.jclepro.2023.136856>.

Waste Warriors. "Cleaning Up The Himalayas One Mountain At A Time!" Accessed November 4, 2023. <https://www.wastewarriors.org/about-us/>.

World Bank Group. "The World Bank in Somalia: Overview." March 30, 2023.

<https://www.worldbank.org/en/country/somalia/overview>.

World Bank Group. 2023. "Somalia" Climate Change Knowledge Portal: For Development Practitioners and Policy Makers.

<https://climateknowledgeportal.worldbank.org/country/somalia/vulnerability>.

The World Bank Group, 2021. "Somalia: Climate Projections," Climate Change Knowledge Portal. <https://climateknowledgeportal.worldbank.org/country/somalia/climate-data-projections>.

World Wildlife Fund. 2014. "Resource Scarcity in India."

https://files.worldwildlife.org/wwfmsprod/files/Publication/file/k8wn3jqbl_ipop_india_chapter_summary.pdf.

Zoysa, Kiyomi de and Stefanie Tye. "Profiles of Adaptation: Somalia." World Resources Institute, April 18, 2023. <https://www.wri.org/update/profiles-adaptation-somalia>.