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Water Crisis and Water Conflict Potential in the Horn of Africa

(By Dursun Yıldız)

After the worst drought in 40 years, water insecurity poses a deadly risk to children in the horn of Africa (Djibouti, Eritrea, Ethiopia, Kenya, and Somalia).(Figure 1).

Climate change is leading to increasingly unpredictable variations in temperature and rainfall patterns in the Horn of Africa, a trend that is only expected to intensify. While some areas may receive higher rainfall, much of the region will suffer from decreased rains. The average temperature increases are also projected to rise higher and faster than the global mean (1).

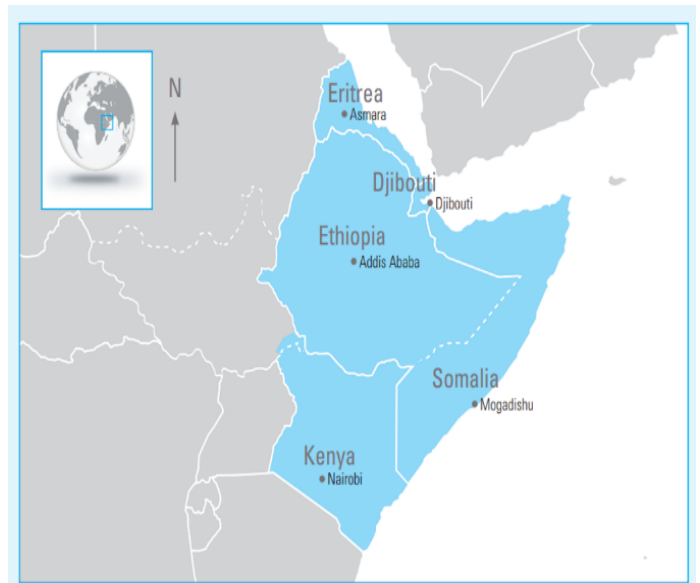


Figure 1. The Horn of Africa Countries.

Decreased rainfall will cause lower levels of surface water and limit the replenishment of groundwater aquifers – two important sources of water for communities. These decreased water levels, in conjunction with poor sanitation and hygiene, give rise to deadly waterborne diseases such as cholera and acute watery diarrhoea. Increased temperatures cause more water to evaporate from land and water surfaces, leading to lower soil moisture and greater water losses from reservoirs. This impacts agricultural production and the availability of water for household use. Intense heat can also damage water infrastructure and increase the risk of water-borne pathogens that thrive in warmer temperatures. Too much water, in the form of extreme rainfall events, also threatens water supply, as floods damage infrastructure, pollute wells and dislodge pipelines. Low-lying wastewater treatment facilities are particularly at risk. In much of the Horn of Africa region, water scarcity has resulted in demand for water resources that exceeds the available supply. In short, there is not enough water to meet the growing needs of children and families, as well as agriculture, energy, industrial and ecosystem needs

Growing Drought Crisis

After facing the worst drought in more than 40 years between 2021 and 2023, the Horn is now once again facing a growing drought crisis after failed rains in 2024 and 2025. This is leading to food and water shortages, as well as the potential loss of livestock and future harvests.

Kenya is facing a significant drought crisis, primarily due to the failure of seasonal rains since late 2024. The country's National Drought Management Authority has confirmed that 20 out of 23 counties in the arid and semi-arid lands are experiencing worsening drought conditions. (3).

In Somalia, poor rainfall, flooding and persistent conflict are driving 3.4 million people into high levels of acute food insecurity (IPC Phase 3 or above) across much of the country. Between July and September 2025, around 624,000 people have experienced emergency levels of acute food insecurity (IPC Phase 4), while more than 2.8 million people have been experienced crisis levels (IPC Phase 3). (3).

The Somali Region in eastern Ethiopia has also

experienced multiple consecutive poor rainfall seasons since 2021. In 2025, the start of the main pastoral rains (the “gu/genna” cycle) failed in large parts of the region. This has resulted in low pasture and water availability, deteriorating livestock conditions.(3).

Recurring droughts

Drought has been a recurring issue in the Horn of Africa, with drought fuelling the 2011 famine in Somalia in which over 260,000 people died. Since 2011, Somalia has had only one proper year of rainfall (in 2013) with all other years falling far short of the norm for one or both of the two rainy seasons per year.(3).

The 2021-23 drought was the worst in 60 years in Kenya and Somalia, following five failed rainy seasons. Some 23.5 million people were impacted, 13.2 million livestock died, and seven million children were acutely malnourished.

But since 2011 humanitarian assistance has increased significantly, and resilience and Early Warning Early Action approaches have also contributed to saving lives. This has meant that the impact of the droughts has lessened, and a declaration of famine has been averted, although in 2023 almost 400,000 people experienced famine conditions in Somalia.(3).

Water Crises in the Horn of Africa

The **Horn of Africa** faces one of the world's most severe and persistent **water crises**. This crisis is shaped by the interplay of **climate variability**, **hydrological stress**, **weak governance**, and **regional conflict dynamics**.

The Horn of Africa's water crisis is a multifaceted crisis exacerbated by the confluence of climate, population pressures, governance weaknesses, and transboundary tensions. A sustainable recovery for the region is possible through basin-scale planning, data-driven management, and climate-resilient policies.

A Way Forward

The region needs to consider water not merely as a "resource," but as a strategic lever for regional development and peace. Regional development projects must be developed in line with this

approach.

The following steps should be taken to help the region overcome the water crisis:

- Climate-resilient water infrastructure
- Groundwater mapping & monitoring
- Basin-scale cooperation
- Water-energy-food nexus planning
- Early-warning systems

Transboundary Hydropolitics in the Horn of Africa

The physical, socioeconomic, and political challenges in the Horn of Africa with regards to water resources are acute. Three quarters of the people in the region live within river basins and over aquifers that are shared by two or more countries.

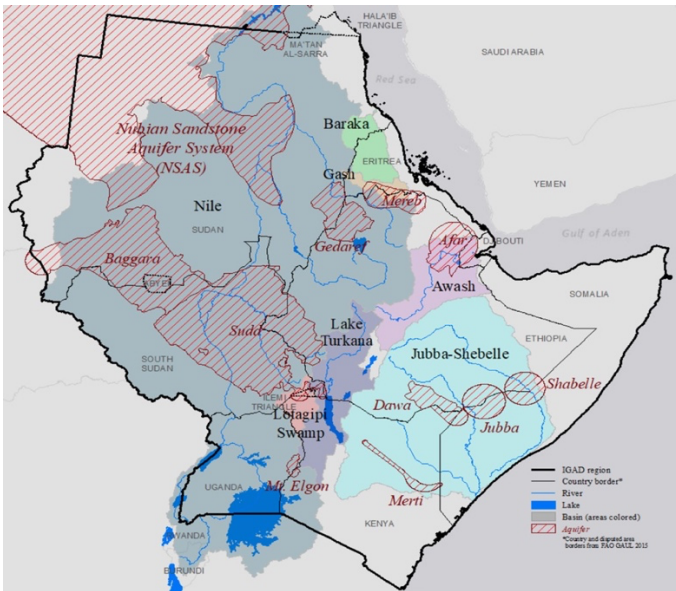


Figure 2. Map of the shared basins and aquifers in the project area / UNEP-DHI

Cross-border river basins and aquifers entirely contained within the IGAD region (8 countries), as well as the Nile basin and the Nubian Sandstone Aquifer System, which extend beyond the region(4). (Fig.2)

The Horn of Africa—mainly Ethiopia, Somalia,

Eritrea, Djibouti, and indirectly Kenya and Sudan—is shaped by a complex set of transboundary hydropolitical dynamics. River basins in this region face both high climate vulnerability and a weak institutional framework, making water a geopolitical force.

The main transboundary rivers of the Horn of Africa are:

- Juba–Shabelle Basin (Ethiopia–Somalia)
- Awash Basin (Ethiopia → Djibouti, with partial impacts on Eritrea)
- Omo–Turkana Basin (Ethiopia–Kenya)
- Baro–Akobo–Sobat (Ethiopia → South Sudan → Nile)

These basins make water critical for both state power and livelihood security.

Transboundary hydropolitics in the Horn of Africa is a high-risk water-geopolitical arena shaped by asymmetrical power balances, institutional voids, climate uncertainty, and critical interdependence. Unless countries in the region develop cooperation mechanisms, water crises will continue to deepen in terms of both humanitarian and regional security.

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About the Contributors:

Dursun Yıldız, Director at
Hydropolitics Academy Center,
Türkiye

How control of water shapes power and security in Africa

(By Anthony Turton)

Water is often taken for granted, if you're lucky enough to have it coming out of taps. Yet it lies at the heart of national security.

Controlling water means having control over a key resource that keeps an economy running and stable. Water supports jobs, businesses and livelihoods. When it is managed well, countries' economies are stronger and more secure.

I'm an academic specialist in the field of trans-boundary rivers and national security. This field of research studies the clash between the legal concept of sovereign equality (that all countries are equal under international law), and rights associated with river flows and border demarcations.

Disputes over rivers, from the Chobe and Orange rivers in southern Africa to the Nile in the north, show that being able to access water and control water sources can determine social stability, migration, investment and even international relations.

How changing rivers create border disputes

A good example is the small island in the Chobe River between Botswana and Namibia. This island is named Kasikili in Botswana and Sedudu in Namibia. Who owned the island became an important question after Namibia became independent and took the case to the International Court of Justice in 1996, claiming that the island was its territory because it always had been.

The court ruled against Namibia, citing the international norm that recognises the thalweg of the river as the actual border.

The thalweg is the deepest part of a river channel, but in fast-changing rivers, this deepest point can change over time, even after a single big flood. In

this case, the island was on the Botswana side of the thalweg and therefore belonged to Botswana.

This legal demarcation can be highly contested, especially when determining which country has access to minerals contained in rivers and the sea (border demarcation extends out to the oceans at estuaries).

Another example is the 2,200 kilometre Orange River, the longest river in South Africa. It passes through four countries – Lesotho, South Africa, Botswana and Namibia – and in 1890, the border between Namibia and South Africa was defined as running along the Namibia bank of the river (the high-water mark) rather than the thalweg (centre line).

The reason that this particular border demarcation ignores the international legal norm of using the thalweg dates back to the colonial era. At that time, hostilities existed between Britain and Germany. The British colonial authorities in the Cape Colony believed that a permanent German settlement could be prevented by denying then German South-West Africa access to reliable water flows from the Orange River.

The driver of this decision was national security and perceptions of threat. In my research, I've seen this type of thing quite often.

How borders in water affect a country's security

Control of water creates security, of which there are many forms. Control over floodwaters creates security from being flooded and drowned. Flood control usually involves building one or more dams to reduce the size of the biggest floods.

Controlling captured water in dams means that during drought, society will still have a water supply and be able to continue with business as usual. Control over water therefore generates security upon which society can start to flourish.

It is also a highly contested issue, as we see in

the Nile River. At 6,650km long, it is one of the world’s longest rivers, draining 10% of the entire African continent. There are 11 riparian states – Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda – which share the Nile and the Grand Ethiopian Renaissance Dam is the latest of many points of contention.

Egypt claims sovereign rights over the Nile. But this clashes with the sovereign rights of Ethiopia, which has constructed the dam. Egypt has accused Ethiopia of having captured the resource. The matter is legally complicated and politically fraught.

Water can also make a country, city or town more secure. In 2018, Cape Town in South Africa approached a Day Zero crisis that made international headlines. The city was faced with the reality of literally running out of water. This was because the water resources of many local rivers had been captured through a series of inter-basin transfers, and together with drought, made the city vulnerable.

Today, the city administration has developed a long-term strategy that includes the recovery of water from waste, and the development of seawater desalination capabilities at utility scale.

National security depends on water security

People are migratory in nature, so they will naturally move from areas of low security to areas of greater security. Migrating people bring capital with them – human skills and financial resources. They flow from areas of low security to areas of

higher security.

Water management needs to be based on the natural flow of humans. Internal movement of people in South Africa was once controlled by a policy called influx control. This was rejected as a violation of human rights and lay at the heart of the armed struggle for liberation.

Over the past four decades, the population has almost trebled, leading to uncontrolled migration from rural areas to cities. This has overwhelmed infrastructure, while water supply and sanitation services have lagged behind, creating a new form of national security crisis.

Capital is needed to create jobs and bring about social stability in a population shaped by migration. But investors are increasingly unwilling to flow into areas overwhelmed by migration that outstrips water supply and sanitation services.

In this way, we can see that national security depends on water security, because social stability and economic wellbeing are directly linked to the flow of people with skills and capital. Understanding water as a national security risk is key to the policy reforms needed to create conditions in which humans can flourish. Capital always flows to places where people can thrive, and water policy needs to be aligned to this simple fact.

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Note: This article is published in “The Conversation” and is available [here](#).

About the Contributors:
Anthony Turton is a retired Professor,
Centre for Environmental
Management, University of the Free

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The Africa Water Vision for 2025: Equitable and Sustainable Use of Water for Socioeconomic Development

(Part VII)

12. Investment for the Desired Water Future

To meet the challenges of the Vision and implement the Framework for Action for a secure and sustainable water future, substantial investment outlays will be required. The key areas needing investment are policy development, institutional reform and capacity-building, knowledge and information generation, water infrastructure and services to meet immediate needs and increase water productivity. The main obstacles to achieving the Vision and implementing the Framework for Action are obtaining the required investment and creating the enabling institutional environment and capacity to manage it. The detailed investment requirement and financing strategies will be established once national plans and frameworks for action are prepared based on the African Vision.

In order to give some idea of the investment needed for implementing the Framework for Action, the African Development Bank has come up with a figure of US\$ 20 billion as being necessary each year over the coming 25 years to attain the minimum condition of the desired water future. This is about 11% of the global estimate of US\$ 180 billion per year for implementing the global Framework for Action in developing countries. A summary of the aggregate investment level for the main development components is given in Table 4.

Table 4: Summary of Preliminary Investment Requirement

Framework for Action Cost Centre	Annual Investment US \$ billion
1. Water supply for basic needs	5.00
2. Sanitation and hygiene	7.00
3. Irrigation and water-productivity improvement	4.00
4. Water for industry, energy and transport	2.10
5. Flood and drought management	0.40
6. Policy and institutional reform and capacity-building	0.35
7. Knowledge and information	0.45
8. Awareness and education	0.45
9. Research-search and development	0.25
Total	20.00

13. A Glimpse at 2025 Africa

Adherence to the framework for action will result in a new way of thinking about water. It will result in fundamental changes in current policies, strategies and legislative frameworks, and also in institutional arrangements and management practices. It will result in a desirable impetus to economic and social development, water for health, and water for food. A glimpse at this water future in Africa is reflected in the following:

- New policy, strategy and legislative frameworks;
- Bottom-up institutional arrangements;

A living flood plain

Early on an April morning in the year 2025, on one of the vast floodplains of the Sahel, Ibrahim Diaw leads his herd of long-horn cattle to their dry-season pastures. The grazing routes for nomadic herders are based on the ecosystem restoration programme initiated at the turn of the millennium. Using these migration pathways no longer results in violent conflicts with farmers, as was the case 40 years ago after intensive irrigated rice schemes were constructed throughout the plain.

Now his herd prospers through access to large expanses of restored perennial grasses, including those of the new Wahta Biosphere Reserve. Throughout the wet and dry seasons, water holes provide drinking water for his animals and the floodplain "works" for the benefit of Ibrahim and the local people who can count on stable livelihoods based on recession agriculture, semi-intensive production and artisanal and small-scale commercial fishing. Ibrahim walks in the grass and thinks of the past desiccated flats, 25 years without a single wedding in the villages, his father who thought that they had been forgotten by God... He thinks that efforts to mitigate the impact of infrastructure development are about to pay off: the dikes have been put to good use, artificial flooding schemes are effective and water is not wasted anymore. Ibrahim's floodplain is alive and its water resources are used wisely.

Source: Water and Nature Vision (October draft)

- Adherence to demand-responsive approaches while meeting the basic needs of the poor;
- Food self-sufficiency.

New policy, strategy and legislative frameworks. It is envisaged that under the Africa Water Vision water policy will be framed within a comprehensive and integrated approach to the development and management of water resources. National water policies shall be adopted at the highest political level, and followed by water resources management strategies to implement them. Governments would retain control through regulation and an enabling environment, with decentralization and empowerment providing a shift from centralised and top-down administration and implementation.

Regional and national strategies would be designed and developed to implement water policies based on integrated water resources management principles. Such strategies would be aligned and integrated with other government strategies, in such areas as economic development, environmental protection, land use management and energy production.

Water laws and regulations would be modified to reflect market principles, enabling a breakthrough from an administrative system of water allocation to a demand-responsive one. This would not be done at the expense of abandoning the regulatory roles of government or the social value of water, however. The rights of people to water to meet their basic needs would be entrenched in policy, strategy and legislative frameworks across the continent.

Moreover, water laws and regulations would be revised to give more attention to issues of water quality management. In this environment, pollution of water resources would be minimized, the principles of polluter pays would be widely used, and water re-use and waste recycling would be practiced. Furthermore the location of “dirty” industries from industrialized countries to developing ones would be abolished by national and international consensus.

National legislation and regulations would be harmonized between countries; facilitating consistent basin-based management of international waters and fostering a win-win regionally integrated economy. Water-resources management would become influential upon a wide spectrum of legislation not immediately directed at water (e.g. environmental law, bio-safety).

Bottom-up institutional arrangements. As a result of the Vision, there is a geographical hierarchy of institutions, characterized by close vertical integration, and also by very close horizontal integration with other sector interests. Key principles underlying such institutional arrangements include transparency, accountability, demand-responsive approaches, and market orientation. Given their role in irrigated agriculture, in food production and in maintaining the health of families and societies, women take on key positions and functions in decision-making under the new institutional structures.

In these new structures, responsibility for key aspects of overall management is passed to the community through decentralization. There is simultaneously a shift away from provincial and district water administration to basin and sub-basin management. Governments become enablers and regulators rather than direct service providers, and this leads to an accelerated achievement of

government policy. At the regional level, river-basin commissions and river-basin authorities are established to manage water across international borders. There is a “levelling of the playing field” whereby all participating countries are able to negotiate on an equal footing for their shared and mutual benefit.

Adherence to demand-responsive approaches while meeting the basic needs of the poor. Liberalization of African economies that results from the new Vision is matched by a more market oriented approach to water-resources management. Water pricing and taxation within countries becomes sensitive to the relative availability of water within catchments boundaries and to demand. Moreover, public enterprise reform in water utilities is aimed at improved efficiency, cost recovery, and financial viability. Increased water efficiency results in lower levels of unaccounted-for water, higher levels of user revenues, and lower costs of infrastructure development. It thus becomes possible to move public funds towards capital expenditure for water infrastructure, and away from recurrent spending. As part of the economic reforms, increased private sector participation in financing water infrastructure and delivering water services is evident.

Market reforms are accompanied by the development of sound regulatory frameworks, and social criteria are built into the pricing principle to ensure that the basic water needs of the poor are addressed. Development and expansion of water-supply systems is driven by what users want and are willing to pay for. There is no insistence that all must be served with the same level of service whether they can afford it or not. Instead of this, the principle of service differentiation is also firmly established so that different socio-economic groups in different parts of an urban area or of a country are able to obtain the types and levels of services that they want and are willing to pay for. The agency responsible for providing water services is autonomous from government but manages the system under technical, financial and administrative guidelines set by national governments in order to safeguard the interests of both consumer and supplier of the service. Links between water supply and environmental sanitation are made in the planning of new programs. Hygiene education becomes crucial to planning in the sector.

Food Security. Food security is the result of a number of critical interventions. As a consequence of the Vision, countries have optimized the use of available land and water resources by considering riparian and environmental issues. They have improved watershed management practices, implemented necessary institutional reforms, established enforceable protocols for shared water basins in the region, improved databases and information sharing on land and water, and enhanced trade in food crops and products.

Second, agriculture is operated as a business with more specialized farms, optimizing the use of organic and inorganic inputs and taking into account state-of-the-art soil and water conservation techniques.

Third, surface and groundwater is managed more efficiently through improvements in technology, equipment and water storage and distribution facilities for irrigation (increasing productivity per unit of available water), aquaculture, domestic and industrial use, livestock, wildlife and nature.

Fourth, rainfed agriculture is expanded through appropriate strategic planning.

Finally, African countries achieve improved water availability and management by developing appropriate drought-and flood-mitigation strategies, improving water storage, and reducing water losses. This is complemented by cost-effective technologies for desalination, recycling of water, prevention of resource degradation and reductions in energy costs.

These are examples of conditions prevailing in 2025 as a result of the Vision; but how do we move from where we are to these desirable goals? The framework for action provides an answer.

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Note: The following part/s will be presented in our next issue/s. Stay tuned!

Source: African Ministers' Council on Water (AMCOW)

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A. Süha Umar
Ambassador (Rt.)

Dursun Yıldız -Hydropolitics Expert

Awol Kedir
PhD Candidate

Yusuf Ali Mohammed
PhD Candidate

Prof. Dr. Doğan Yaşar

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News Coordinator and Co-Editor: Yusuf Ali Mohammed
Content: HPA Technical Unit – www.hidropolitikakademi.org
Editor: Dursun Yıldız

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We need to build a future,
Where people live in harmony with nature

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