POLICY BRIEF

Cross-Border Groundwater Cooperation and International Human Rights Law

This policy brief brings to the fore the international human rights law relevant to the water cooperation discourse. It draws on the case of the Ethio–Djibouti Transboundary Water Project and the aquifer system it relies on. To safeguard its drinking water provisions, Djibouti receives groundwater from a well-field across the border, an arrangement that also benefits the Chinese Belt and Road Initiative. Such collaborations, and the providing of technical assistance, contributes to achieving several Sustainable Development Goals and to the realization of human rights.

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The world faces increasing pressure on available freshwater resources. Groundwater – and the aquifers that act as their 'hosts' or matrix underground – is significant in climate adaptation and resilience-building as aquifers can buffer the effects of climate variability. The potential of groundwater is particularly critical to address water and food security in sub-Saharan Africa, where it provides the only feasible and affordable way to extend basic water services to rural populations, and often also to inadequately served urban areas, as described in the 2022 World Water Development Report (United Nations, 2022).

A significant role is played by transboundary aquifers (TBAs). Almost 600 such have been identified, underlying almost every nation on Earth (IGRAC, 2015). However, some are not yet fully confirmed in terms of their boundaries and hydraulic connections. One of those is the Afar Rift Valley/Afar Triangle Aquifer (AF059), which may be of importance for the Ethio–Djibouti Transboundary Water Project (EDTWP). This project serves three countries' strategic but different needs: drinking water supply for water-stressed Djibouti; access to a deep seaport for land-locked Ethiopia; and an extension of China's global infrastructure network.

The EDTWP: A case of cross-border water supply

Since 2017, Djibouti has been supplied with freshwater from Ethiopia, under a contract that involves loans from China. All three countries are highly susceptible to climate change as well as to the environmental impacts and human dimensions of recurrent drought. The EDTWP is designed to transmit 100,000 m^3 water daily to meet domestic and industrial needs, and regulated in an undisclosed, 30-year agreement under which groundwater can be extracted for free. The project mobilized almost 370 million USD as part of China's Belt and Road Initiative for infrastructure development, indicating how the water transfer is of geostrategic importance to complement

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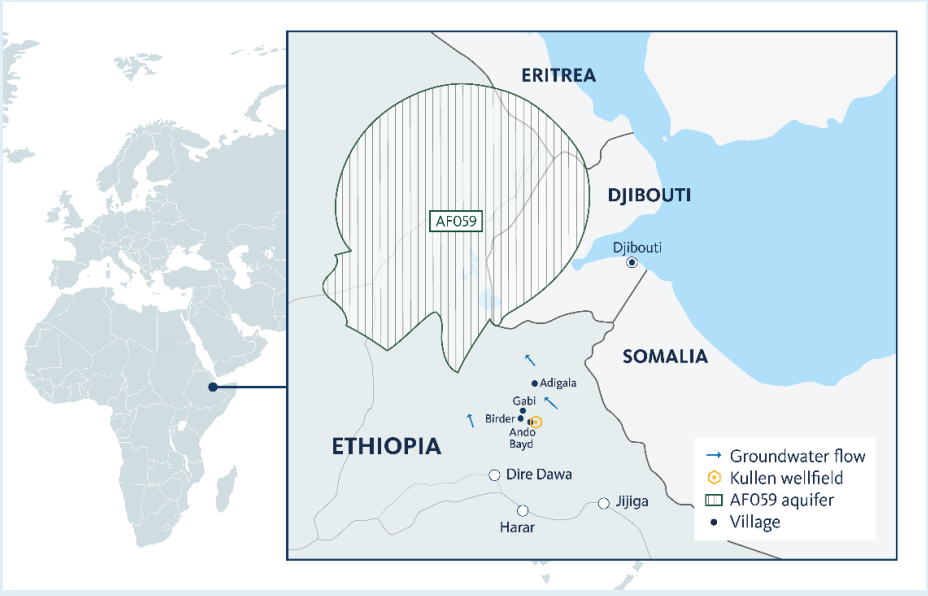
investments in the Port of Djibouti and the railway between Ethiopia and Djibouti as well as the Addis Ababa airport.

The groundwater for Djibouti is pumped and piped from a well-field in the Kullen Valley in Ethiopia's Somali regional state. It is sourced from a site close to the border between the countries that is adjacent to, and may even be part of, the transboundary aquifer AF059 (see map below). There are indications of underground hydro-connections between this aquifer (or aquifer system), and the EDTWP well-field and its recharge zones.

With many contract details being confidential, and in the absence of any environmental impact assessment conducted ahead of the siting and drilling decision, it is unknown whether the recharge zones of the well-field have been identified. It is also unclear if the groundwater flow and balance have been determined. From a sustainability perspective, accounting for the area's arid climate and considerable inter-annual rainfall variability, risks of over-abstraction and water resources stress cannot be ruled out in the long term.

Anecdotal evidence, observations, and mapping by UNICEF and consultants in the area suggest that the recharge of the well-field takes place in the surrounding mountains. It is thereby possible that the cross-border project is also of trans-regional nature, here referring to that it may involve as many as four different regional states in Ethiopia. As such, from a governance point of view, the initial decision-making and project design seem to have taken place entirely at the federal level in Ethiopia, excluding the respective jurisdictions of the Somali regional state.



Location of the Ethio–Djibouti Transboundary Water Project site in the Horn of Africa; the AF059 transboundary aquifer (from IGRAC and TWAP, 2015). General flow patterns inferred, based on findings by Ministry of Mines and the Geological Survey of Ethiopia, 2018.

Water security and interdependence

Cross-border water supply is of increasing interest as joint projects 'in the spirit of co-operation.' Agreements may be entered into on moral grounds as a result of hydro-solidarity between sovereign states as well as serving to improve social and economic collaboration under a 'give and take' principle. They can also foster political relationships between the involved countries, and contribute to the fulfillment of the human rights to water, sanitation, and a healthy environment alongside achievement of several Sustainable Development Goals (SDGs).

Water export of the kind seen from Ethiopia is not a new solution to water insecurity. Transfers take place in response to (perceived) surplus freshwater availability in one place and in demand elsewhere. They can involve large-scale engineering interventions to divert bulk water within and between river basins, and infrastructure to move water from one place to another. Transfer from one country to another may be regarded commodification of water and be regulated under Free Trade Agreements.

Cooperation over water supply can lead to greater interdependence between neighbouring countries. This applies when they share an aquifer, also when its exact boundaries are yet to be identified. Joint arrangements to protect such transboundary resources can contribute to greatly improved relations. In turn, this could not only safeguard sustainable future access to water but foster interrelated shared interests beyond the immediate benefits of the project.

Meanwhile, the hydro-politics – including the contract details, governance procedures, and everyday management decisions – behind the scenes of a transboundary water project are sometimes concealed from scrutiny. This denies locally concerned communities and other stakeholders the opportunity to become informed parties of the processes, and from being involved in operational decisions. Lack of transparency also affects accountability and may hinder regional integration and the building of confidence and trust.

Transboundary aquifer cooperation and human rights

International human rights law binds countries that are parties to the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR). Among other things, the UN General Comment No. 15 on the right to water contains authoritative explanations concerning access to *existing* water supplies and on the State's obligation to refrain from actions that interfere with such. To pastoralists and indigenous peoples in an area, water is a means of subsistence which they must not be deprived of.

Under international human rights law, UN State Parties must also respect the entitlements to water [resources] that rights-holders *outside their own territory* have, through refraining from activities with direct or indirect negative impact on the enjoyment of rights on their side of the border.

In the case of groundwater export, the State in which the well-field is located would be bound to respect existing water arrangements at the sourcing site, as well as elsewhere that may be impacted by the pumping.

The human rights to water, sanitation, and a clean, healthy, and sustainable environment

Being a party to the ICESCR treaty involves the obligation to progressively realize established human rights, and apply human rights standards and principles to existing rules, roles, and responsibilities in government. This international human rights framework is accompanied by. i.a., the African Charter on Human and Peoples' Rights (the Banjul Charter). Ethiopia ratified the ICESCR in 1993 and has thereby agreed to be bound by it; similarly, China ratified the Covenant in 2001 while Djibouti's accession took place in 2002.

The human rights to water and sanitation (HRWS), recognized in 2010, are regarded as derived from the binding rights to an adequate standard of living and to the highest attainable standard of health as provided in articles 11 and 12 of the ICESCR. The right to water underpins the 2030 Agenda target to achieve universal and equitable access to safe and affordable drinking water for all by 2030 (SDG 6.1). It covers the provision of water and sanitation services for domestic purposes.

In 2021, the Human Rights Council recognized that having a clean, healthy, and sustainable environment (HRHE) is a human right. The UN General Assembly acknowledged this right in 2022. The HRHE complements the HRWS by allowing for a wider consideration of water resources protection at a systems level.

The international human rights regime further stipulates that States have obligations to take appropriate measures to the maximum of their available resources towards realizing the rights to water and a healthy environment, and other entitlements, in full. This duty includes *receiving and accepting technical assistance*, which in turn corresponds with donor countries' duty to cooperate on the international scene. The latter involves *providing* technical assistance – in the form of financial aid, grants, and loans, and arranging meetings, partnerships, technical skills training, sup-porting fact-finding missions, and practical advisory services.

The general duty of cooperation under international law is codified in many international treaties and bi- and multilateral agreements and has extraterritorial reach. Donors should set aside official development assistance (ODA) in line with what is expected under SDG 6.a and 17.2, as part of the political commitments made by governments under the 2030 Agenda. Here, it is noticeable that SDG target 6.a –the "[a]mount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan" –also covers much of the cooperation and assistance stipulated by human rights law.

Critical parts of the international cooperation on underground water resources and hydrogeology consist of contributions towards aquifer system assessments and to building, updating, and maintaining groundwater information system services and databases. In turn, knowledge generation and data access underpin the enabling environment that groundwater governance and management require. Technical assistance can also contribute to reviewing the regulatory frameworks and policy landscape pertaining to groundwater. It can furthermore consist of partnerships for knowledge exchange and mentorship at institutional level, and frameworks for cooperation between developed and developing states. Capacity development and awareness-raising are also achieved, i.a., through practical advisory and trainings to enhance technical and soft-skill competencies of authority staff, practitioners, and others. Additionally, strengthening of water diplomacy can foster regional stability and peace in transboundary settings.

Site-specific interventions such as borehole drilling for water supply are also carried out as part of international cooperation. For instance, in Ethiopia this is done by the UNICEF, non-governmental organizations, and other actors.

Pastoralist communities in Djibouti have been hit particularly hard by the droughts. Image courtesy of International Federation of Red Cross and Red Crescent Societies.

However, the ability to 'see the unseen' groundwater resources and investigate whether aquifer systems cross administrative borders is ridden with complexities. Collaboration over shared groundwater and aquifers becomes a challenge where there are no legal agreements in place, and in the absence of formal or informal communication. Exchange of information and prior notification ahead of activities that may impact on a TBA can be critical, also from the point of view that uncertainty generally characterizes

this invisible resource. Generation of data and communication of the same are, therefore, fundamental to optimize interstate relations and safeguard protection, conservation, and sustainable utilization of groundwater.

Whether this is covered by the understanding of 'international cooperation' is a critical question, yet unanswered. It is unclear if there exists, under customary international law, any legally binding duty to exchange relevant information for management of shared aquifers. Regardless, such a principle is emerging and has found its way into several soft law instruments on TBAs that have a guiding, normative force. One prominent example is the Draft Articles on the Law of Transboundary Aquifers, prepared by the International Law Commission and adopted by the UN General Assembly.

Sustainability matters

In a case where groundwater is transferred from one place to serve a neighbouring country, economic, social, and environmentally sustainable development is at the core. Environmental protection and freshwater conservation may become major challenges to large water supply projects where these dimensions are not properly integrated into major phases of project design and implementation. For instance, measures to maintain the minimum acceptable water flow are crucial throughout the economic life of infrastructure for drinking water supply. Such concerns must address the source of the water, and social, environmental, institutional, technological, and economic development aspects – of the region in general and the project area in particular – in order to ensure long-term viability.

Planning, policy, and implementation should therefore build on the precautionary principle to encourage pro-active prevention of over-abstraction from the aquifer system. Concerted efforts are required not only by the directly involved parties but also by and through the international community, which has interests in safeguarding development cooperation and poverty alleviation through enhanced water security.

Addressing sustainability matters require an understanding of the local and regional scale, and should account for needs, practices, and knowledge on the ground. Communities often have area experience and know-how of aquifer recharge areas and groundwater flow that are valuable to capture for resource assessments and management at different stages of project implementation.

Recommendations

Interest in groundwater and aquifers follows from a steadily growing pressure on the world's water resources alongside needs for adaptation to climate change and variability. Application of international human rights law can foster improved governance and strengthened cross-border cooperation over shared groundwater and transboundary aquifers.

For this to be achieved, the policy and practice of the international community and donors as well as of concerned governments should:

- Integrate the relevant substantive content and procedural principles of international human rights law into the water cooperation discourse and into implementation measures, in order to progressively realize the rights to safe drinking water, sanitation, and a healthy environment as well as to reduce risks for future conflicts;
- Contribute to providing technical assistance, and to receiving and accepting it also where commercial loan agreements are entered for development of TBAs for water supply, respectively;
- Foster transparency to minimize negative geopolitical impacts stemming from transboundary projects – paying due respect to procedural 'good governance' principles serves to provide concerned communities with information and facilitates their participation in public decision-making;
- Consider the knowledge, needs, and entitlements of communities when exploring and developing shared underground resources – collaboration should involve local data generation and analysis as well as translating scientific findings into user-friendly information of importance to the population on the ground;
- Reflect that accessing groundwater for bulk export requires energy for pumping and distribution; the nexus dimensions of, and interactions between, the water–energy–food–climate sectors must be addressed by a renewable power generation mix in which electricity access is part of the agreement between parties. The 2021–present global energy crisis is a 'perfect storm' that may also affect groundwater access from deep boreholes, which thereby risks failing to mitigate drought;
- Recognize that cooperation over transboundary aquifers for water supply and other purposes can lead to greater interdependence between countries, especially in times when the narrative is often shaped by national sovereignty and the debate is increasingly framed in terms of securitization arguments.

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About this policy brief

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SIWI is a leading water institute, focused on water governance and capacity building in order to reach a just, prosperous and sustainable water wise world. It is well-known for its research, knowledge generation, and applied science, which helps to develop policy recommendations and supports the implementation of programmes. In addition, SIWI uses its trusted convening power to facilitate multi-stakeholder dialogues, most evident in its annual event, World Water Week.

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