

An aerial photograph of two children floating in a pond. The water is dark, and the surface is almost entirely covered with bright green duckweed. The children's heads are visible above the water, and they appear to be smiling and relaxed. The overall scene is peaceful and natural.

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# Minority and Indigenous Trends 2023

Focus on water



# **Minority and Indigenous Trends 2023**

**Focus on water**

**Cover:** Two Sama-Bajau kids smile as they enjoy doing their daily routine of taking a bath in algae-choked waters off the marsh of Pagadian City caused by high temperatures. Algae covers 75 per cent of the entire marsh area. Pagadian City, the Philippines.

*Elaine Inlab*

**Inside front cover:** A Hindu devotee bathes in the holy water of Ganges River during the Ganga Sagar Snan mela. It is believed that by performing this ritualistic bath, all the sins of the person will be washed away. Sunamganj, Bangladesh.

*G.M.B. Akash/Panos Pictures*

**Inside back cover:** A Tuareg woman sitting in Menaka, Mali.

*Tiécoura N'Daou*

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# Minority and Indigenous Trends 2023

## Focus on water

Edited by Nicolás Salazar Sutil  
and Carl Söderbergh

# Table of Contents

<b>6</b>	<b>FOREWORD</b>
6	Vandana Shiva
12	Pedro Arrojo-Agudo
<b>16</b>	<b>HAPPIER WHERE THE WATERS ARE GREENER</b>
<b>18</b>	<b>SUMMARY OF THE REPORT</b>
<b>22</b>	<b>RECOMMENDATIONS</b>
<b>26</b>	<b>Map: Countries covered in this report</b>
<b>28</b>	<b>Thematic Chapters</b>
<b>29</b>	<b>PEOPLE</b>
	‘Just-us for all’ – indigenous wisdom for human and planetary well-being
<b>48</b>	<b>PROCESS</b>
	From kin to thing – the environmental and human death zones of European waters
<b>64</b>	<b>PLANET</b>
	Vanishing waters – an overview of the water crisis in the landlocked countries of West Africa and Central Asia
<b>82</b>	<b>Case Studies</b>
<b>84</b>	<b>ACCESS</b>
86	<i>Georgia:</i> Access to water is closely interconnected with the rights of national minorities
90	<i>Namibia:</i> Lack of water access and scarcity rock Tsumkwe settlement
94	<i>United States:</i> No end in sight to the Jackson water crisis?
<b>100</b>	<b>SANITATION</b>
102	<i>Bangladesh:</i> Sanitation among Rohingya women in Kutupalong refugee camp
106	<i>Ecuador:</i> The right to water for Afro-descendant communities in Esmeraldas
110	<i>Somalia:</i> The impact of poor sanitation and improper waste disposal on the health of minority IDPs in Baidoa
<b>114</b>	<b>POLLUTION</b>
116	<i>Canada:</i> Oil sands and ongoing Indigenous Peoples’ health rights violations
121	<i>Guatemala:</i> Water pollution and the rights of Q’eqchi Peoples in El Estor
125	<i>Nigeria:</i> ‘Water was the source of life; it is now the cause of death’ – the ongoing oil pollution crisis among Ogoni people in the Niger Delta
<b>132</b>	<b>FLOODS</b>
134	<i>Australia:</i> Water crisis, rising sea levels and coastal inundations affecting Zenadth Kes Islanders

139 *Hungary*: Flood-borne environmental injustices against Roma communities

144 *Kenya*: Eviction, flooding and disability in Baringo County

149 *Pakistan*: Unequal distribution of flood relief in Umerkot District

## 154 DROUGHT

156 *Libya*: The impact of water scarcity on Amazigh communities in the Nafusa mountain region

160 *Madagascar*: Tiomena, the red sandstorm and its impact on Tandroy people

165 *Paraguay*: Lack of drinking water in the country that holds the world's largest freshwater reserve

## 172 INFRASTRUCTURE

174 *Kyrgyzstan*: The Kempir-Abad reservoir – political uncertainty or an opportunity for cooperation?

180 *Nepal*: The cost of hydropower – dispossessing indigenous Magar communities of land and water

185 *Turkey*: Water is used as a weapon against Kurdish people in south-eastern Anatolia

## 190 CONFLICT

192 *Ethiopia*: The GERD project, the Gumuz community and the escalation of conflict in Metekel

197 *Iraq*: Marsh Arabs and ecological resilience – the legacy of conflict

201 *Niger*: Ethnic conflict along the Komadugu River and the shores of Lake Chad

206 *Philippines*: Caught in the current – how nationalist development narratives threaten the future of Dumagat people

## 212 USAGE

214 *Chile*: At the ends of the world, upside down

220 *China*: Water usage in the Uyghur Autonomous Region

224 *Iran*: Baluch people running out of water due to unfair water management

## 230 GOVERNANCE

232 *Finland*: Fishing restrictions may lead to the disappearance of an ancestral way of life

236 *India*: River embankment governance and the situation of Lodha people in the Sunderbans

240 *Mexico*: Zapotec water rights and self-governance – a positive precedent for water justice

## 246 CULTURE

248 *Colombia*: The Atrato River, a landmark for biocultural rights among Afro-descendants

255 *United Kingdom*: Sewage, the Sikh minority and lack of access for persons with disabilities

261 *Vanuatu*: Water, music and cultural rights

## 266 AFTERWORD

266 Rajendra Singh

## 270 BIOGRAPHIES

# Foreword



Vandana Shiva

**Water justice and the struggles of minorities and indigenous peoples for water rights: a planetary perspective**

Water is a living cycle that connects biosphere and atmosphere. Forests, rivers and oceans are interwoven by the water cycle, keeping life on this planet in a state of constant regeneration, renewal and recycling. Water is also the flow connecting life and people. Simply put, water is the basis of life-affirming cultures. In Urdu and Hindi, water is known as *ab*. The word *abadi*, derived from *ab*, is also the word for community. This is because people settle and come together to form communities wherever there is water. *Abad raho* is used as a greeting to encourage prosperity and abundance.



Whether a community faces scarcity or abundance depends on how we relate to water and how water is distributed. Economies and cultures that disregard the water cycle and which waste, pollute or destroy water, are generating scarcity and injustice even in places where there is abundant ground and surface water. Those that save every drop, like the indigenous cultures and communities in the desert of Rajasthan, led by community organizations like Tarun Bharat Sangha and the Rejuvenate Rivers movement, can create abundance out of scarcity.

Sustainability and justice are part of the same ecological process. We are all earth citizens. We all participate in the water cycle. Our bodies carry water, and make us all participants in the endless movement, flow and distribution of life across the planet.

When the rich, powerful and dominant economic forces of society take more than their earth share, ecosystems, plants, animals, women, indigenous communities and minority groups are deprived of their share of water for life and livelihoods, leaving entire communities to carry the heavy burden of water poverty. Women in communities all around the planet fetch and carry water on a daily basis. Extraction and pollution of local water systems increase their burden.

In 2005, India's National Commission of Women asked the Research Foundation for Science, Technology and Ecology to conduct a report on women and water. Our participatory research, conducted with rural women across India, showed that if opportunity costs were considered, the cost of fetching water is almost equivalent to 160 million working days each year, which translates into 10 billion rupees.

Women are therefore the first to know when water systems are being destroyed by greed.

In the 1970s, women of the mountain regions of the Himalaya rose to form the Chipko movement. Wide-scale deforestation had led to the destruction and disappearance of water springs, destabilization of the mountain slopes and major landslides. *Chipko* means to hug. Women decided they would hug the trees to stop destruction. Chipko women reminded the world that forests are not timber mines for the extraction of profits. Forests are the sources of water, soil and oxygen.

In 2002, women from a small village in Plachimada started a *satyagraha* – an act of non-violent civil disobedience aimed at shutting down a Coca-Cola plant that was extracting 1.5 million litres of groundwater per day, causing water famine in a water-rich region. By 2004, the women had shut down the Coca-Cola plant. As a result of their efforts, groundwater was recognized as a commons for the local community to enjoy.

In Bosnia and Herzegovina, a group known as the Brave Women of Kruščica led a 503-day blockade of heavy equipment that resulted in the cancellation of permits for two proposed dams on the Kruščica River in December 2018. The Balkans are home to the last free-flowing rivers in Europe.

These and many other examples around the planet show that women not only carry water to supply households, women also tend to lead the struggle to defend, protect and fight for the life of waters in the face of rampant private ownership and extraction. Or, as Justice Balakrishna Nair pronounced in his ruling of 16 December 2003, as part of the Plachimada village case:

*The public trust doctrine primarily rests on the principle that certain resources like air, seawater and the forests have such great importance to the people as a whole that it would be wholly unjustified to make them the subject of private ownership. The said resources being gifts of nature, they should be made freely available to everyone irrespective of their status in life. The doctrine enjoins upon the government to protect the resources for the enjoyment of the public rather than permit their use for private ownership or commercial purpose...*

The World Bank has sought to impose privatization of water on the global South as part of their structural adjustment programmes since the 1990s. One of the most infamous tales of corporate greed concerning water occurred in Cochabamba, Bolivia, in what are now known as the Cochabamba Water Wars. In this semi-desert region of the high Andes, water sources are vulnerable and precious. In 1999 the World Bank recommended privatization and a monopoly over Cochabamba's municipal supply through a concession to International Water, a subsidiary of the US-owned Bechtel Corporation. In October 1999, the first water bill was passed granting the privatization of Cochabamba's water.

Privatization led to such high prices that people in this deprived region of Bolivia found themselves spending up to 20 per cent of their monthly wages on water bills. In January 2000, a citizens' alliance called Coodinadora de Defensa del Agua y de la Vida (Coalition in Defence of Water and Life) was formed. The alliance shut down the city for four days through mass mobilization. A Cochabamba Declaration was subsequently issued. Protests continued until the privatization law was annulled in April 2000. Contracts were terminated, and new water resource laws were drafted following citizens' participation.

Back in India, the World Bank imposed a water privatization project in the city of Delhi in 2001, only months after the Cochabamba Declaration. The consultants appointed for this project were PwC (Price Waterhouse Coopers). Waters from the sacred River Ganga were to be privatized and sent to the Suez-Degrémont water plant at Sonia Vihar. A water democracy movement soon came together to connect the people displaced by the Tehri dam and farmers whose fields are irrigated by the Ganga canal in the slums of Delhi.

On 8 August 2004, on the eve of Quit India Day, which marks when British colonizers were told to leave India, we gathered on the banks of the Ganga at Haridwar. We were joined by Sunderlal Bahuguna, the leader of the Chipko movement, Rajendra Singh from Rajasthan and Oscar Olivera from Bolivia, one of the leaders of the Cochabamba movement during the Cochabamba Water Wars.

We took a pledge that we will never let the River Ganga be sold to any multinational company – we will never allow our mother or her water to be sold to Suez-Degrémont or any other corporation. Ganga is revered as a mother – Ganga Maa. We carried out water pilgrimages, staged water protests and held public hearings. On 9 August 2002, 5,000 farmers gathered in a rally. In 2004, 150,000 people joined a march in the heart of Delhi, signalling a commitment to keep the waters public. The movement forced the cancellation of the World Bank project.

It is encouraging to hear that Rajendra Singh has worked in collaboration with Minority Rights Group (MRG) editor Nicolas Salazar Sutil to renew our pledge for planetary water justice, which is included in the Afterword to this report, and which has been submitted, along with my own insights, to the United Nations (UN) on the occasion of the UN Water Conference 2023, held in New York.

Like the citizens of Cochabamba, we declare that Water is Life, not merchandise. By reclaiming water from corporations and the market, the citizens of Bolivia, India and other countries have illustrated that privatization is not inevitable, and that corporate takeover of vital resources can be prevented by people's movements for water democracy and water justice at a planetary scale. The role of minorities and indigenous peoples in this fight for water justice cannot be praised highly enough.

This report shows that the examples from Bolivia and India are not isolated ones, and that the unjust privatization of water in water-stressed countries is a global pattern of grotesque proportions, as the case studies of Chile, Georgia, Iran and Libya in this report clearly illustrate. The Cochabamba Water Wars of 2000, and the Delhi Water Rallies of 2001, are far from over. In fact, the struggle to secure water justice for communities, especially those belonging to minorities and indigenous peoples, has intensified all around the world.

Thus, according to a recent UN report on the state of the world's water, 'over the last few decades, the water crisis has deepened on a planetary scale. 75 per cent of available freshwater is now used for chemical- and water-intensive agriculture, which also leaves rivers and lakes polluted with nitrates and pesticides.' Phosphorus pollution generated by intensive agriculture and run-off has led to major environmental crises in water systems across the world – Lake Erie in the United States and the River Wye in the United Kingdom being two iconic examples of destruction due to industrial agriculture.

According to the same UN report, more than 5 billion people could suffer water shortages by 2050 due to climate change, increased demands and polluted supplies. In the name of the Green Revolution or mass production of foods to satisfy global markets and consumption, lands once known to be abundant in water are being transformed into areas of critical water stress. Punjab, the land of five rivers, is one of many examples of this.

Globalization has led to the export of water from the global South, further intensifying the water crisis worldwide. A tragic example of this is Lake Chad in Central Africa. The 20,000 square kilometre lake has shrunk dramatically, as 80 per cent of the water that recharges the lake is being diverted to irrigate commercial crops. The consequence is growing water conflicts, as the Niger case study in this report vividly shows. Operating across the four countries that share the lake, Cameroon, Chad, Niger and Nigeria, Boko Haram is an example of how the destruction of water sources can directly or indirectly cause the breakdown of civil society and the rise of violent extremism.

As Luc Gnacadja, former Executive Secretary of the UN Convention to Combat Desertification (UNCCD), has stated:

*[T]he depletion of Lake Chad has helped create the conditions for conflict. In much of northern Nigeria, Muslim herders are in competition with Christian farmers for dwindling water supplies. The so-called religious fight is about access to vital resources. It is not just about Boko Haram. In the Sahel belt, you will see almost the same challenge in Mali and in Sudan. Furthermore, men who were or would have been gainfully employed as farmers, fishermen, fish sellers and pastoralists have now been conscripted into Boko Haram, with many of them participating in the deadly night raids of the terrorist groups.*

As the third chapter in this report reveals, the case of landlocked regions across the Sahel is not dissimilar to that of Central Asian countries, where the desiccation of major lakes and seas – for instance the Aral Sea – has also led to the breakdown of social cohesion and large-scale conflict across and among former Soviet republics, affecting many minority and indigenous communities (see for example the Kyrgyzstan case study in this report).

The latest threat to planetary water justice and water rights is the financialization of water. As Maude Barlow and I wrote: ‘We are horrified that on December 7, 2020, CME Group – the world’s largest financial derivatives exchange company – launched the world’s first futures market in water, opening up speculation from financiers and investors seeking to profit from the planet’s water crisis.’

If water is put on the open market like oil and gas, it will inevitably lead to rising water prices in a world desperately in need of water for life. Nearly two million children die every year due to dirty water – a situation made more critical in a time of Covid, when half the world's population lacks access to a place to wash their hands with soap and warm water. This, in itself, is a travesty. To imagine that wealthy hedge fund speculators and faceless derivatives gamblers will have the right to drive up the price of water for their own profit is totally unacceptable and must be stopped.

Ten years ago, the UN General Assembly adopted a resolution recognizing that clean water and sanitation are basic human rights. The move to commodify water on Wall Street directly threatens these human rights and puts billions of people in jeopardy.

We demand that people everywhere – and all governments – reject the commodification and financialization of water, and that water is finally recognized as a public trust as well as a human right in law and practice for all time.



**Pedro Arrojo-Agudo**

*UN Special Rapporteur on the human rights to safe drinking water and sanitation*

I am grateful for the honour of this invitation to write the Foreword to this important publication for Indigenous Peoples and minorities worldwide; I must confess that I am overwhelmed by the consideration I have received.

When, at the beginning of my mandate, I committed to producing a thematic report that would end up being entitled *The Human Rights to Safe Drinking Water and Sanitation of Indigenous Peoples: State of Affairs and Lessons from Ancestral Cultures*, I was unaware of the challenges it would present. After I had started working on it, I soon realized that Indigenous Peoples' relationship with water was too complex to adequately develop a report in a few months. I felt overwhelmed by the flood of information received, so I decided to continue this commitment during the second year of the mandate with the help of my dear brother Francisco Calí Tzay, the UN Special Rapporteur on the rights of Indigenous Peoples. His unconditional support reassured me and allowed me to face this important challenge.

The world should reflect on the tremendous injustice that Indigenous Peoples, being the original peoples of islands and continents all over the planet, still live today marginalized and often in conditions of extreme poverty. In addition, the environmental degradation of their lands and natural resources, derived from voracious investments and the lack of participation in decision-making processes, poses additional risks to their livelihoods and to their collective identities by destroying the biodiversity of their territories, polluting water resources, and forcing the displacement of entire communities. In sum, aggravating their situation of vulnerability while hindering the progressive realization of their rights.

Despite suffering all sorts of injustices, Indigenous Peoples have been able to preserve their worldviews, knowledge and ancestral practices. For Indigenous Peoples, water is the blue soul of life: part of an interconnected whole that includes lands, living beings and their own human communities, and that promotes integrated territorial management based on a deep and even reverent respect for the rivers, springs, lakes and wetlands that they care for in an exemplary manner – a role particularly developed by women, who, as life-givers and transmitters of knowledge and cultural traditions, promote virtuous uses of water for present and future generations.

In doing so, the visions of Indigenous Peoples offer a genuine expression of the principle of sustainability and the ecosystem-based approach we are trying to promote today in water planning and management worldwide: understanding water as a common good rather than a commodity, accessible to all but not appropriated by anyone. Its consequent community management offers us an example of democratic water governance under a human rights-based approach that leaves no one behind.

These are, in fact, the two challenges that I have been addressing as the UN Special Rapporteur on the human rights to safe drinking water and sanitation, in order to face the paradoxical global water crisis on the Blue Planet. Today, two billion people lack guaranteed access to drinking water; however, most of them are not thirsty people without water in their living environments, but extremely impoverished people who live next to polluted rivers and aquifers. Indigenous Peoples suffer the additional consequences of systematic marginalization and the lack of *free, prior and well-informed consultation* established in the UN Declaration on the Rights of Indigenous Peoples. Even in the countries that formally recognize Indigenous Peoples, their right to self-determination and control over their territories and water is not guaranteed, and their right to free, prior and informed consent is not fulfilled or is otherwise distorted.

It is essential to highlight how, through persevering with strategic work at the international level and always preserving the unity in the great diversity that characterizes them, Indigenous Peoples have achieved significant advances in recognizing their rights. For instance, Article 25 of the UN Declaration on the Rights of Indigenous Peoples determines their right to own, occupy and use the lands, resources and waters of their territories, establishing legal recognition and due respect for their customs, traditions and land tenure systems.

To conclude, allow me to close with a self-critical acknowledgement to Indigenous Peoples, asking for forgiveness, as a white man who descends from colonizing powers, for the abuses and injustices committed; and to express my recognition and gratitude for the example of dignity, perseverance and wisdom that the Indigenous Peoples of the world have given us and continue to give us every day.





# Happier where the waters are greener

Samrawit Gougsa and Miriam Lawson

Since it began producing reports in the 1960s, Minority Rights Group has always relied on photography for its storytelling. Our annual *Minority and Indigenous Trends* publications are testimony to this. Yet year on year, the production process behind these reports has made one thing clear – the marginalization that minorities and indigenous peoples face extends to print media and photography.

While images for editorial use exist in stock databases, the minorities and indigenous communities whose stories we seek to amplify are often misrepresented. We also consistently face difficulties in finding photos taken by local people, especially the protagonists: the minority and indigenous community members themselves.

We know these photographers are out there. So, for this year's edition, we tried something new. We decided that the most prominent image of the publication – its cover photo – would be commissioned following a photography competition, for which the only eligibility requirement was for the candidate to be over 18 years old and to self-identify as a member of a minority or indigenous people.

We now have the privilege of introducing you to Elaine Inlab, the winner of this pilot competition. Her photo *Happier Where the Waters are Greener* shows two Sama Bajau children smiling while bathing in the algae-filled waters of the marshes in Pagadian City, Philippines. The Sama Bajau are a marginalized, seafaring indigenous population that is spread across Southeast Asia. In the Philippines, many are forced to abandon their traditional way of life and live in metropolitan cities. Statelessness is also a pressing issue.

We are grateful to Elaine for allowing us to present her photo on the cover of this report. Seeing youth and children belonging to minority and indigenous communities reminds us that the water crisis must be addressed with urgency to ensure that future generations can inhabit this earth with dignity and joy. Seeing their wide smiles despite the surrounding pollution reminds us that there is still hope – all the more reason for governments to act immediately.



‘My goal is to show stories of the forgotten, the left-behind and the unheard through my lens.’



A portrait of Elaine Inlab.

Elaine Inlab is a photographer based in Philippines. She is a member of the Subanen people in Lakewood, in the province of Zamboanga del Sur. She was 15 years old when her family was forced to relocate closer to the city in search of safety, after conflict put her family at risk. After attending university, she went on to become a teacher for underprivileged indigenous children in a small remote community in Mindanao. She continues to teach full-time, exploring her passion for photography on the side. Her winning photo, featured on the cover of this report, was taken during an excursion with her sister, who is also a photographer.

When asked about how she felt after hearing that she won this competition, Elaine said, ‘winning this competition is impactful for us minorities. As a Subanen, I know discrimination can impact your life. But winning this competition is helpful for all minorities in the Philippines because there is a sort of visibility to the struggles we are experiencing. Our stories, our voices are somehow being heard and seen in a global community.’

Her photography is filled with atmospheric undertones, childhood life and shared experiences among minorities. Using cinematic motifs, Elaine creates a dream-like composition for her subject matter. She loves to craft a story with her camera between the people in focus and their environment.

# Summary of the report

## *Who is listening to the Mother of Water sing?*

### Traditional Quilombola song

Waters carry the songs of the world. In the sky or on the land, waters do not sing to nations. They are only passing through. Underground, overground, across seas and oceans, waters are always in motion. It is because our frameworks for water governance are so static, territorial and nationalistic – and since we do not focus on the water cycle, only basins at best – that modern understanding has silenced water.

The hydrological cycle has been broken.

Minorities and indigenous peoples are particularly exposed to the water crisis. Indigenous peoples' deep spiritual connections to the waters on their traditional lands and their centuries' long experience of managing water sources render them especially vulnerable when these interlinkages are disrupted. Systemic discrimination leaves many minority and indigenous communities with precarious access to safe drinking water as governments and private water companies do not invest enough resources in the areas where they live, while it is precisely these groups who often face displacement by large-scale water infrastructure projects which do not benefit them. Meanwhile, many minority and indigenous populations bear the brunt of water-related disasters, such as floods and drought, while facing exclusion in the emergency relief efforts that follow.

Do not blame water. When focusing on water, one often hears complaints that there is either too little or too much; that the water is too polluted or too expensive. But the problem is *not* water. The problem is not even environmental at its very core. The water crisis is political, economic and social. A crisis of civilization and perhaps de-spiritualization. Solutions depend on restoring relations between people and planet. Our understanding will have to shift from territorial to cyclical. Instead of commercialization, communalization. Instead of nations, Planet.

This need for transition gives us the structure of the opening chapters of the *Minority and Indigenous Trends Report 2023: People – Process – Planet*. We begin with Anne Poelina's song to the Martuwarra, and through her life story, which is strung together with episodes of anti-colonial struggle, we are led to a critical study of the European roots of colonial water governance, and the historical processes in Western Europe that led, through colonial expansion, to the global commercialization and predation of water. Chapter Two pays close attention to the human impact of water colonialism,

especially when water is used as border control and a weapon for the marginalization of refugees and minority groups. This history leads into Chapter 3, where we are presented with a current account of widespread drought and devastation, focusing on West Africa and Central Asia, the world's largest landmass. These opening chapters alert us to an urgent need to repair broken relations between People and Planet. At the centre of it all are minority and indigenous worldviews that have never lost sight of that vital connection.

We are especially grateful to Vandana Shiva, Pedro Arrojo-Agudo and Rajendra Singh for joining us and for writing the Forewords and the Afterword. Singh's contribution ends with a pledge that Minority Rights Group wholeheartedly supports, while we also present a number of recommendations which have been inspired by Arrojo-Agudo's recent report on indigenous peoples and water.

There are many dimensions to the planet's water crisis. We focus on the following in our case studies: access, sanitation, pollution, floods, drought, infrastructure, conflict, usage, governance and culture. These are our 10 chosen themes. From China to Chile, from the Athabasca to the Aral, from London to Leweton – the 32 case studies featured in this report reveal a series of global and interconnected patterns.

First, the global water crisis is political. Politicians can just about agree on the climate, but they have so far been completely incapable of agreeing about water. This year was the first time since 1977 that the UN called a Water Conference, declaring this the 'Year of Water'. The call for Water Action by the UN comes very late. While Minority Rights Group welcomes the outcomes of the 2023 UN Water Conference, a key issue remains – namely that the interests of states are confined within a territorial mindset that does not encompass water as a cycle. For such a mindset the interest is the nation, the market, the development goal. Water does not develop. It is not a goal. What needs to change is not water – water cannot be genetically modified, unlike food. What needs to change is the international political system.

Second, the water crisis is economic. The planet's waters are being polluted not only by forever chemicals, run-off, plastics, sewage, but also, by the idea that we can drink money. Water has been turned into an economic currency that satisfies corporate dehydration – a mad thirst for profit. Unlike food, which we can survive without for up to a month, a human being cannot survive without water for more than three days. This necessity applies to animals, insects, plants, microbes and fungi. Water is a need, not an economic opportunity.

Finally, this is a social problem. Water does not discriminate between one group of people and another. The water crisis is an intersectional dilemma that cuts across gender, age, ability, class, ethnicity, religion and language. The irony is that we are all made up of water. Up to 79 per cent of our bodies, to be more precise. But even as John Lennon predicates in his 1972 anthem 'We are all water', written by Yoko Ono, not all people are given equal access, leaving some to go thirsty, sicken and die.

The global economic, political and social order has killed the cycle. Today, water has become a threat in many parts of the world. As the authors of this volume vividly show, water has become a weapon, a disabling agent, a disease-bearing threat, a border control mechanism and an instrument for repression. At the epicentre of this derangement, is an abuse of the rights of those who live closest to water and often furthest away from infrastructure, namely minorities and indigenous peoples.

It is not enough to say that minorities and indigenous peoples hold the key to climate solutions. Water justice must also focus on the position and responsibility of majority groups. It is imperative that water-guzzling and water-polluting corporations and the systems that support them are made accountable, taxable, punishable and socially responsible for this injustice.

Looking back on the seven-month process that it has taken us to edit this report, and considering the extraordinary indigenous and minority voices we have the honour to publish here, we feel empowered by a collective sense of purpose.. The core message is: we are also running out of time. Urgent action is required to face an existential threat. The most vulnerable, as this report shows, are women, children and persons with disabilities in minority and indigenous communities. It is time to listen to these marginalized voices.

If two-thirds of the planet's population runs out of clean water in the next 50 years, as experts predict will happen, this will affect every single one of us, regardless of whether we belong to a minority or majority group. Or, as the Lennon song puts it: 'We are all water from different rivers. One day we'll dry up all together.'

Nicolás Salazar Sutil  
June 2023

*Note from the editors: As you read this report, you will notice that the terminology changes depending on the author. We would normally seek consistency throughout the text. However, a majority of our contributors belong to minorities and indigenous peoples; out of respect for our authors' right to self-identification, we are keeping these variances in place.*



## RECOMMENDATIONS

### **Governments should:**

Uphold every person's fundamental right to safe drinking water and sanitation, regardless of their race, ethnicity, religion, language, caste, descent, gender, age, sexual orientation, gender identity, national, social or geographical origin, disability, birth or other status. This right must be respected without discrimination.

Ensure that the necessary infrastructure is in place to ensure the fulfillment of this right for all people. This includes water points that are accessible, including for persons with disabilities, collection of wastewater and water treatment facilities, where necessary.

Establish minimum adequate standards for safe drinking water and ensure secure supplies for all, without discrimination. These minimum standards should also apply to situations such as extreme weather events which affect regular water supplies. Adequate provision for emergency water supplies should be made ahead of time.

Minimize pollution through the adoption and strict implementation of regulations governing polluters. Victims of pollution should be able to seek redress through legal proceedings, including compensation and penalties for violations. Adequate, long-term investment in water infrastructure, including its maintenance, must be secured.

Take a human rights-based approach for any project involving water and sanitation. This means that all affected communities should be able to participate effectively and meaningfully in decision-making processes. Any information necessary to take informed decisions should be provided in ways relevant to the affected community.

Apply effective and meaningful participation rights to all stages of any water and sanitation infrastructure project, including the design and setting up of independent complaints mechanisms, in order to ensure that these are transparent and accessible in ways relevant to the affected communities. Resulting water and sanitation projects should be accessible to all, without discrimination.

Fully involve groups that face intersectional discrimination as members of minority and indigenous communities, including minority and indigenous women, children, elderly, persons with disabilities and LGBTQI+ persons. Their access to safe drinking water and sanitation forms a key litmus test for the inclusivity of outcomes. Collect and update data that is completely disaggregated in order to measure this.



Uphold indigenous peoples' right to self-determination, particularly their right to free, prior and informed consent, before any action is taken that affects their ancestral domains and their access to water and aquatic ecosystems. This right extends to the management of water basins and aquifers outside their territories that affect their water sources.

Record, recognize and protect communal customary land and water rights. These include access rights to water sources.

Ensure the effective participation of minorities and indigenous peoples in projects to mitigate and adapt to the adverse water-related impacts of climate change, including droughts, floods, extreme weather events, melting glaciers and rising sea levels.

Support minority and indigenous traditional knowledge systems, especially related to water management, by providing funding to communities for their documentation. Extend and enforce legally protected status to water-related cultural heritage sites.

Institute and facilitate equitable conflict resolution processes when water rights are in dispute, involving the communities themselves in their design, for instance pastoralists and settled communities.

Where drinking water is privatized, ensure that the right to clean drinking water and sanitation is respected by private sector actors, for example by instituting minimum standards of quality and access as well as regulations holding water companies to account.

Do not criminalize environmental and water rights activists, including those belonging to minorities and indigenous peoples, for their activities seeking to ensure that all persons' right to clean drinking water and sanitation is respected.

Understand that water is seen by many minority and indigenous communities through holistic cultural and spiritual frameworks. The initiation and implementation of water and sanitation projects should be accompanied by intercultural dialogues giving due place and regard to these perspectives.

## **Companies should:**

Publicly commit to the UN Guiding Principles on Business and Human Rights and carry out human rights due diligence in order to identify, prevent, mitigate and account for any adverse impacts of their activities on minority and indigenous communities' right to safe drinking water and sanitation. This includes their access to water and aquatic ecosystems, including water basins and aquifers outside their territories that affect their water sources.

Conduct effective and meaningful participation processes with minority and indigenous communities ahead of any activity that affects their right to safe drinking water and sanitation. Ensure that the free, prior and informed consent of indigenous peoples is obtained ahead of any activity affecting them.

Fully involve groups that face intersectional discrimination as members of minority and indigenous communities, including minority and indigenous women, children, elderly, persons with disabilities and LGBTQI+ persons.

Establish complaints mechanisms involving minority and indigenous communities in their design and implementation, while ensuring that these are accessible in ways that are relevant to the communities concerned.

Ahead of any activity that draws on and/or privatizes the water sources of local minority and indigenous communities, ensure that adequate alternative safe water sources remain freely available.

## **UN agencies, international financial institutions, other international and regional organizations, and NGOs should:**

Carry out human rights due diligence in order to identify, prevent, mitigate and account for any adverse impacts of their activities on minority and indigenous communities' right to safe drinking water and sanitation. This includes their access to water and aquatic ecosystems, including water basins and aquifers outside their territories that affect their water sources.

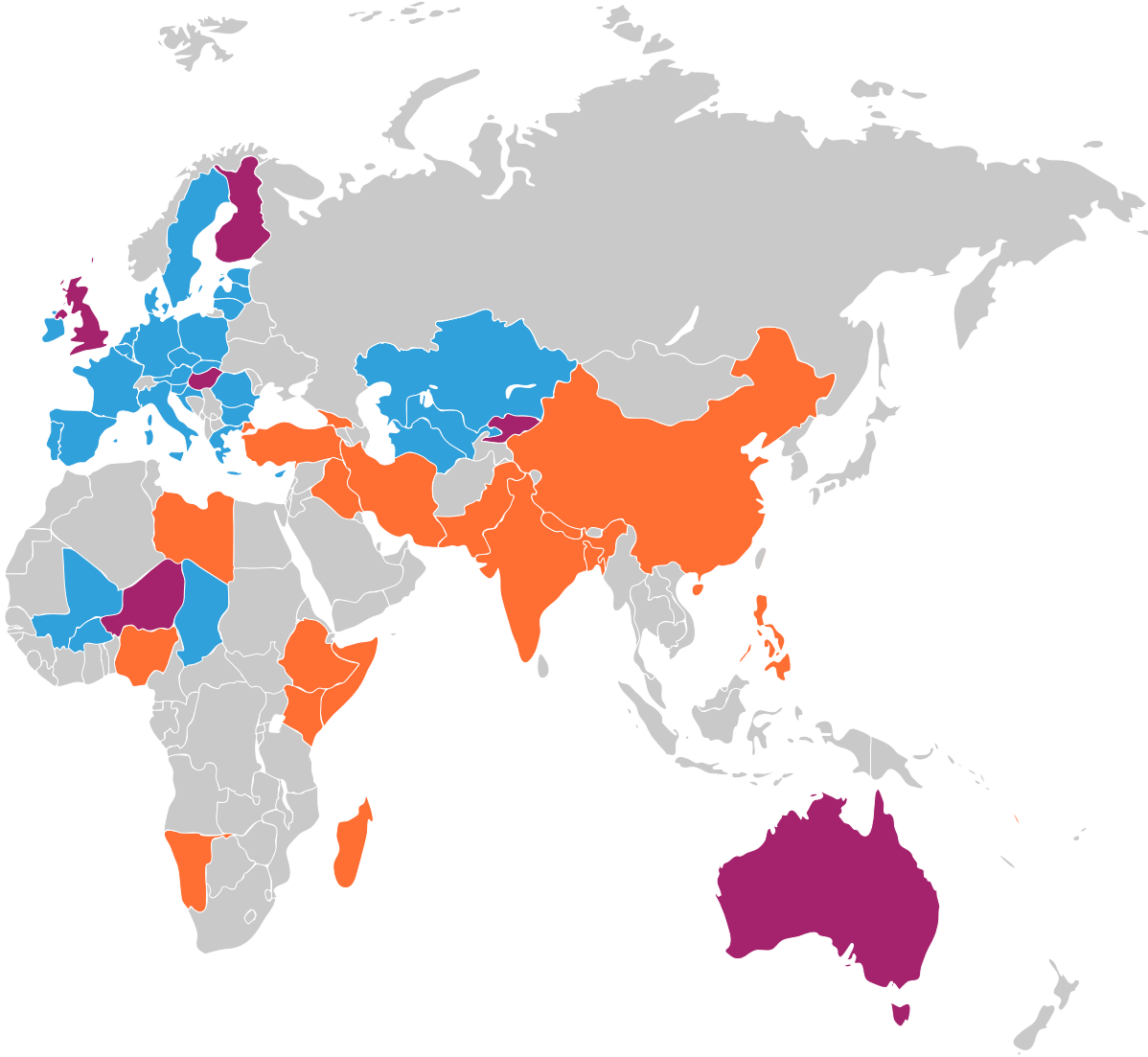
Conduct effective and meaningful participation processes with minority and indigenous communities ahead of any activity that affects this right. Ensure that the free, prior and informed consent of indigenous peoples is obtained ahead of any activity affecting them.

Establish complaints mechanisms involving minority and indigenous communities in their design and implementation, while ensuring that these are accessible in ways that are relevant to the communities concerned.

Fully involve groups that face intersectional discrimination as members of minority and indigenous communities, including minority and indigenous women, children, elderly, persons with disabilities and LGBTQI+ persons. Their access to safe drinking water and sanitation forms a key litmus test for the inclusivity of outcomes. Collect and update data that is completely disaggregated in order to measure this. ■

*For a more detailed and comprehensive list of conclusions and recommendations, please refer to the report by the UN Special Rapporteur on the human rights to safe drinking water and sanitation, Pedro Arrojo-Agudo: Human rights to safe drinking water and sanitation of indigenous peoples: state of affairs and lessons from ancestral cultures (UN Doc. A/HRC/51/24, 2022).*

# Map: Countries covered in this report





-  Thematic Chapters
-  Case Studies
-  Both

# Thematic Chapters

# People: 'Just-Us for All' – Indigenous wisdom for human and planetary well-being

Jaydi Booroo, Nyikina Ngajaoonilawal, Anne Poelina, ngayoo  
Yi-Martuwarra marnin



Professor Anne Poelina with Martuwarra on Nyikina Country.

*Lachie Carracher*

My name is Anne Poelina. I am a woman who belongs to the *Martuwarra*, renamed Fitzroy River by the colonizing settlers. I begin this story on 26 January 2023. For our Nations this day is known as 'Australia Day'. Across the globe, many people fail to realize there are Indigenous people – the First Australians – living in these lands.

As a First Australian myself, I use the Indigenous practice of storytelling to convey meaning and memory. I combine the terms First Australians with Aboriginal and Indigenous, but I recognize that these terms may be problematic as they are used by foreign systems of knowledge. Yet I belong to the oldest living culture in the world. Words italicized in this story are from my language and culture.

First Australians traded with world traders from north, south, west and east, sharing diverse resources. We have always seen ourselves as place-based world citizens. First Australians traversed the globe across land bridges and reached many of our scattered continents. My knowledge of old stories and customary practices has been passed down to me throughout life-long, inter-generational learning and practice of First Law.

I admit that some of the words in this story may be found in other stories concerning our collective journey and resistance in the face of invasion and colonialism. This is not an academic paper containing references, and I trust that the voices of others are honoured

and valued. My knowledge includes shared learnings and experiences of friends and colleagues that coalesce, and which are being mobilized by Indigenous and non-Indigenous people around the world to promote water life and water rights. Over time, I have come to realize the Australian Indigenous colonial experience is shared by other Indigenous peoples internationally. We are watching and learning from other Indigenous peoples across the planet who are also fighting within their territories for the protection of their 'Rivers of Life'.

This story is about *Relationships*, *Respect* and *Responsibility*.

## Relationships

We are *Martuwarra*, Fitzroy River, a relationship forged over thousands of generations and through time.

In our culture before a child is born, they are given a totem, known as *jadiny* or *rai* in my language. The totem can be animal, bird or plant, and is known to come from a child's birthplace: their *Oongoord*. This totem initiates the child into a deep relationship of reciprocity.



Elders remind us that the totemic creatures can teach us to be proper and decent human beings. What they instil in us is the privilege of being 'human' – we can see with our ears and listen with our eyes. Through this reciprocity we grow an ethics of mutual care and love, not just for our totem but for everything and everyone around us.

Our ancestral home is now called 'Kimberley' in 'Western Australia's' far northern Country, a magnificent ecological and cultural landscape with a deep human history that goes back at least 65,000 years. The *Martuwarra* Fitzroy River catchment is not only a geological feature for us or a resource. It is the basis of our spirituality, our Law, our home, our ancestral estate. The River is a living ancestor serpent and sacred giver of a holistic system of law, leadership and governance, which we were born into and are bound to by a moral contract, a law of obligations to nurture and protect *Martuwarra*.

This unique river system was listed in 2011 as National Heritage for its environmental and cultural values. It is also the largest registered Aboriginal cultural heritage site in Western Australia. Its catchment area is almost 100,000 square kilometres, and its floodplains are up to 15 kilometres wide. Many Indigenous Nations are connected to *Martuwarra* through one or more affiliations: birth, family connections, totemic affiliation, kinship systems, *ray/rai*, our spirit beings, intermarriage, residence, history and displacement. They all have a part in Kimberley people's Indigenous identity.

My ancestral memory and matrilineal relationship to this cultural landscape

begins with the story of the massacre of my great grandmother's people around 1867, which occurred at Kandara, renamed and known to the settlers as St George Range. My great grandmother was known as Danbarri, but her name was stripped from her and she was renamed Maggie Chalmers/Chambers. After surviving the massacre, she was moved to Noonkanbah, a ranch established on a pastoral lease to farm sheep and later cattle.

During her time, she met an amazing white man by the name of John or Jack Edgar. He was among the first party of settlers who brought herds of sheep to a place known as *Yooliwaja*, renamed Yeeda Pastoral Lease. My other great grandmother, Nani, a *Nyikina Warrwa*, belonged to the region near the mouth of the *Martuwarra*, my patrilineal bloodline. I will talk more of my grandfather William Watson later in this story. John Edgar later became a bookkeeper travelling along the *Martuwarra* and keeping the financial accounts of ranch managers in order.

John fell in love with Danbarri, and together they had two children, Emily, my maternal grandmother, and her brother John. What was unusual for the times, was the fact that John Edgar gave his two children his surname. John was, at the time, legally married. He later returned to Broome, leased Thangoo Station and resettled with his wife and family. Many of the Aboriginal people who lived and worked on the station took on the name of Edgar, as was the practice of the time, particularly since Aboriginal people were not recognized as Australian citizens.



Hozaus and Reace were raised by the River with intimate guidance from strong cultural leaders. Moments after this photo was taken, Reace called out in his language, Bunuba, the native tongue of that Country, and asked for Barramundi (a river fish); almost instantly he had one on the line. Martuwarra Fitzroy River, Bunuba Country.

*Lachie Carracher*

At around the same time, other prominent settler families started to occupy and lay claim to the property rights all along the *Martuwarra*. The pastoral ranch leases would follow the River Country to ensure settlers had access to the estates my people had managed as the 'first farmers' and to its living waters. Unlike John Edgar, these settler families became very well established in the region and realized the River Country would only suit them as 'veranda managers' due to its two seasons, 'wet and dry'. The wet season from October to March, with its cyclonic rains and high temperatures, made it difficult to live in the region.

To manage their new estates, covering millions of acres of land previously belonging to Aboriginal people, the empire of autocracy was set up. Like many other settlers, they realized that white women were very scarce in the Kimberley frontier, resulting in the birth of 'half caste' children. Half caste children helped the settlers to separate themselves from First Australians. This colonial strategy resulted in the enslavement and the continuing inter-generational violence of Aboriginal families. The new 'half caste' children are exemplified by men like my patrilineal grandfather William. There was a common practice among ranchers, which was to take Aboriginal women down south. When she was returned home, Nani was pregnant.

The other common practice among male members of the settler families, was to disguise their 'half caste' children with someone else's name, to ensure no one seeking to claim their due inheritance could be traced back to them. Despite having an Aboriginal husband, Nani was given to a drover, to ensure his name would be attributed to William and consequently to disguise his true blood line. My grandfather was known all his life as William Watson. William was taught by the ranchers to read and write. He was taught the ways of his people from both Nani and her Aboriginal husband, Balbarra. Watson grew up as one of the first 'half caste' men, which meant that he would survive and thrive in both worlds.

Grandfather Watson soon learned that to survive and thrive he would need to build relationships with both his Aboriginal and white families. The station managers were called 'veranda managers' by the Aboriginal people because they rarely left their homes, giving instructions from their verandas instead. These managers struggled to form a relationship with the land and soon gave up on visiting the River Country during the hot season. Ranch managers preferred to stay in the Kimberley region only in the dry season, when the temperature was cooler. The wet season and rain kept white settlers away from October to March most years. Furthermore, these veranda managers did not know the Country, nor did they know how to manage their own estates, calling the land of our Aboriginal people a 'harsh landscape'. Settlers relied entirely on men like Watson to keep the 'Blacks' in line and ensure the success of their pastoral leases.

When the veranda managers were not in the region, grandfather would spend time learning and speaking several Aboriginal languages, as well as learning from his Aboriginal mother and father how to hunt, capture and sell eagle claws and beaks, and dingo hides too. Dingos were heavily hunted at the time as these native animals were in competition with humans for the grassland and young sheep. The early sketches of pastoral stations where Watson grew up paint a picture of magnificent estates, managed by Aboriginal people through controlled burns and animal husbandry.

My grandfather became a competent reader and writer as well as a successful ranch overseer – a land manager. He soon had the capacity to gain extra income through the bounty hunting of eagles, dingos, kangaroos, emus: considered 'vermin'. Our native animals were seen as competition for the grasslands and living waters, and so were expected to be exterminated from settler colonies. Grandfather soon accumulated extra wealth, and from all accounts purchased and owned a vehicle long before many white settlers in the region. At the same time, my grandfather realized he was a descendant of a settler family and his hidden relationship with his half-brothers brought with it privilege and power, provided he remembered he was a 'Watson'.

As most of the white ranchers were familiar with the colonial protocols of slave management and control, they were also versed in arranging marriages between 'half caste' and their 'full blood' enslaved Aboriginal people. The marriage between my grandfather

and my grandmother, Emily, was arranged. Emily left Noonkanbah and soon began a life with William moving from Yeeda Pastoral Station to the Lower Liveringa Outstation.

Today, First Australians who have maintained their connection to their home lands are granted land, as Native Title. My extended family continues to live on our ancestral lands, which we have renamed *Balginjirr* after our sacred site and ridge. The pastoral lease known as Mt Anderson Station, where my grandfather was once a manager, plus the Aboriginal stockmen and their families, have also come back to our people. This process of reclamation was done in the early 1980s and remains in place today, so that we can cultivate new memories rooted to the land and waters.

I am reminded by a senior *Nyikina* elder named Joe Nangan about the importance of First Law stories, stories of law of the land and the inclusion of animals in our teachings. These are fundamental principles, which are underpinned by values, ethics, virtues and codes of conduct that guide us in our efforts to be good and decent human beings. Importantly, he speaks of the need to respect the world of our *Nyikina* people, which was lost when the settlers came and carved our lands by building kilometres of fence lines. Along with their imposed enclosures came property laws, the fiction of an 'empty land' and a narrative of 'nomadic' inhabitants. This label was applied to distinguish and marginalize Aboriginal people, while giving white settlers legal justifications and a sense of entitlement that impelled them to take over our lands and waters.

The First Law stories collected by Joe Nangan included extensive accounts of the colonial frontier and memory of other Kimberley Aboriginal elders navigating their own journeys in times of colonialism. Nangan's stories have been recreated in film, paintings, dance and song. My daughter, Marlikka Perdrisat, like me, has pursued multiple learning journeys recently, graduating with a Juris Doctorate in law. These qualifications and lived experiences enable us to navigate our path through colonialism. My daughter and I are being reminded by elders like Joe Nangan that our people's lifeways are always underpinned by our sense of relationship, first and foremost, and by values, virtues and ethics of care for our common good.

The combination of learning reinforces the importance of making time to stay connected with the laws of the land, as opposed to the laws of man. Marlikka has produced and directed a series of these films dedicated to Joe Nangan's First Law stories. Her work speaks back to colonialism and the power of our voices, showing the depth of our culture and relationships to the spirit of our River Country and everything around us.

Importantly, her filmmaking shows how relationships grounded in these First Law stories draw on animals to teach us about values, ethics, virtues, our deep relationship with the River Country and our non-human kin. These teachings have deep meanings that ground our moral obligation to care and love, promoting and protecting our culture, and sustaining our lifeways despite the ongoing invasion of unjust

development. Through our relationships with our human and non-human kin we engage in mutually rewarding virtuous behaviours grounded on respect.

## Respect

I return to the day I began writing this chapter, 26 January 2023. Australia Day is not only an opportunity for us to reflect on our identity and our purpose both to First Australians but also to other Indigenous Pacific nations across the waters and beyond. Respect must be our highest goal if we are to reconcile ourselves not only inwardly but also outwardly, to contribute to planetary well-being, for humanity and Mother Earth.

‘Australia’ was conceived by the British as ‘their’ new colonial settlement after the empire’s loss of the American colonies in the early 1780s. The First Fleet was thus created as a strategic means to help British rulers settle and capture free labour in Australia. Ten per cent of the British First Fleet was comprised of ‘Free Blacks’ from the Caribbean, who found themselves down on their luck, poor, invisible and soon enchained on the First Fleet ships, en route to new lands, laws and regulations. The colonial states of Australia each had their own constitutional relationship with the British sovereign rulers, established to create wealth for private and foreign interests, principally the British Crown. Australia did not see itself as a nation until the colonial states federated in the early 1900s.

According to the Nationality Act 1920 (Commonwealth), all Aborigines and Torres Strait Islanders born after

1 January 1921, gained the status of British subjects. By 26 January 1938, Indigenous Australians had become organized and were talking back to the colonizers. That was the year when Aboriginal leaders protested through the streets of Sydney. The 1938 protest by First Australians occurred at the same time as white Australians celebrated the landing of the First Fleet in Sydney Cove. The 1938 Aboriginal protest was a call for justice, equity and basic human rights, denied to Aboriginal people across the country.

Eleven years later, First Australians, Aboriginals and Torres Strait Islander people were entitled to automatically become Australian citizens under the Nationality and Citizenship Act 1948 (Commonwealth). In practice, citizenship was an illusion for First Australians. Aboriginal people were counted as part of the ‘flora and fauna’ and given names to enslave them into the rancher industry. This practice continued, but many Indigenous and non-Indigenous people worked together on the east coast of Australia for over a decade to achieve the 1967 Referendum, which led to equity in wages and other benefits. The referendum put the following question to the Australian people:

*Do you approve the proposed law for the alteration of the Constitution entitled ‘An Act to alter the Constitution so as to omit certain words relating to the people of the Aboriginal race in any state and so that Aboriginals are to be counted in reckoning the population’?*

The proposed law sought to give the parliament of Australia power to make laws with respect to Aboriginal people



Celebrated cultural authority, renowned stockman and Ngarinyin man Patrick Chungal, who grew up on a remote cattle station in the upper catchment of Martuwarra. Patrick's parents worked their entire lives for nothing more than rations of tea, flour and sugar. From the age he could ride a horse, he was put to work: 'the saddle was my school, that's where I learned from the old people, where to find food, medicine, water.' Blue Bird Springs, Ngarinyin Country.

*Lachie Carracher*

wherever they lived in Australia. It also sought to make it possible to include Aboriginal people in national censuses. The greatest financial cost was to Western Australian ranchers, who were now required to pay awards and wages to their 'free slaves'. The outcome for Indigenous people was removal from their lands into small settlements, missions and reservations. For many, this created the homelands movement, which ensured First Australians maintained connectivity to their land. Leaders saw the damage this separation was causing to their families and tribal groups, and some were able to move back to their traditional homelands, still under the control of government.

Thirteen years after the 1967 referendum, my uncle Dickie Cox

stood on my grandmother's Country and told the world: 'I'm standing on Sacred Ground.' His statement was a powerful call for justice in the face of colonial history and the decimation of our people, culture and River Country. These words from the leaders of Noonkanbah echo in my head. Their words and actions to protect our sacred sites resonate today and around the globe. Paddy Moolambin, another senior elder in First Law, stood facing proudly into the future when he proclaimed:

*We hope one day that the government might understand that we are human beings, [who] hardly can read and write, but have protection over this land we can see and can hold on to. We don't want anyone to ruin our*

*sacred places. Those are the things we see. They [government] just can't see the point we are trying to get at, how it hurts our memories.*

Another senior leader Jimmy Beindurru echoes: 'All we are saying is that we want land rights and human rights and a treaty to be signed by the Australian government so that Aboriginal people can be recognized as owners [of our lands and waters].' Paddy Moolambin and Jimmy Beindurru sought rights and recognition from government. To this day, these rights have not been effectively recognized.

Thirty-five years later, after the Noonkanbah Strike, on 17 November 2015, the Western Australian Constitution Act of 1889 was amended to recognize Indigenous people of Western Australia. The amendment promoted the view that the parliament of Western Australia should seek reconciliation with Western Australia's Indigenous peoples. The amendment was a gesture of support for Indigenous Western Australia; however, the full extent of our rights and responsibilities has not been recognized nor legitimized.

To this day the plight of our people remains a national disgrace. Despite the wealth generated out of our lands and rivers, we live in fourth world conditions. Australia's highest suicide rates are in my region, where there is overwhelming disadvantage. In 2023, Australia Day remains grounded in a settler-colonial mentality underpinned by foreign laws, regulations and policies. Australia as a country is struggling to reconcile itself not only with First Australians but also with its own history.

It can be difficult for fellow Australians born into a world of privilege to understand the meaning of respect as defined by people of colour. A world of privilege is one that sets the rules, the laws, the regulations and policies, thus determining who is in and who is out. We, the First Australians, continue to have the highest suicide rates in the world. The overwhelming disadvantage of fourth world conditions increases each year, with very little change at the level of public statistics or Indigenous-determined well-being.

Acts of systemic and structural violence continue in Australia today. I am reminded of the wisdom of Yin Paradies, Indigenous Professor of Race Relations, who often reminds us that in settler-colonial societies, interest in colonization is often focused on relatively distant colonial pasts where Indigenous peoples were displaced with relatively scant attention paid to the ongoing colonial presence in which systemic, structural, physical, epistemic and ontological violence continues to oppress, assimilate and eradicate Indigenous peoples. This is done and regulated through lawful, awful laws passed by Australian parliaments.

Senior *Nyikina* Man of High Degree, my uncle, *Kaka* Paddy Roe, told us:

*European people can't understand our law, because they've got different law. Our law is from Bookarrakarra, the beginning of time. We fuse the past, present and future into this moment. Now is the moment we must act. We must act if we want to have a climate chance.*

I tell my story from the frontline of the climate war. From here I advocate for the importance of listening to the wisdom of the oldest living culture on the planet. It is no longer justice only for our people that we call for. These unjust development projects have a negative impact on the lives of all those who live, love and die in our regions. We need a new Dream.

*Kaka* Paddy Roe said that he 'tried to explain these things but the authorities don't know what we are talking about'. He added: 'Because our law is from *Bookarrakarra*. Different law from White man law. Different. Different altogether.' What *Kaka* Paddy Roe is explaining is the meaning of why Western laws are no longer fit for purpose for either human beings or nature, particularly in the promotion and protection of our lands, living waters and ancestral beings, our kin. I write about these Western laws as 'lawful, awful laws', as they break and destroy *liyan*, the spirit of place and people.

Today, *Martuwarra* Country and its people face foreseeable harm and destruction as government continues to partner with multinational companies that seek to destroy everything around us. Fence lines and fracking grid lines stretch for miles right across the River Country. The government plan for economic unjust development for the greater good of the corporations, many foreign owned, is to frack the Kimberley region for shale gas.

The scale of destruction would be unimaginable, considering that the fracking basin stretches for more than 600,000 square kilometres, which is considerably bigger than the Canadian Tar Sands. Add to that the prospect of

the largest diamond mine in the world, which is also planned in River Country. It is clear, if government plans to give big business certainty and they are allowed to go ahead, the land of this globally intact savannah system will be stripped of its biodiversity, and the rivers and wetlands will be stripped of their living waters. Water legislation and regulations are being formulated for increased extraction of water from the Fitzroy River flood plains. This water is not required to grow food but for cotton. As Aboriginal people living on our lands, we have seen River Country changing because of climate change. Food and medicine insecurity, rising sea levels and increasing temperature bring mental distress to our people, who are already living in harsh conditions with no relief and no consultation on proposed investment in sight. To make matters worse, our region experienced the worst flooding in living memory during January 2023. The Bureau of Meteorology has predicted we will see more intense cyclonic rains. Despite the recovery phase following the recent Fitzroy River floods, it is impossible to imagine how we can recover without a total reset.

Climate change, or climate chaos and climate wars as I see it, will become the new norm. Our people know we cannot continue to devour the Earth without



paying the costs. Globally, international organizations confirm it is Indigenous people who have contributed the least to climate change, yet we are impacted the most. The history of colonial invasion and destruction that started in the eighteenth century with the arrival of the First Fleet continues today. The Australian government plans further destruction of our lands, sacred sites and ‘unlawful, awful laws’. Considering the impact of the January 2023 floods, not just on people and infrastructure but on habitat and loss of multiple species, it can’t be business as usual!

Unlike the media, who blamed the River for the recent devastation, we know that the living waters are showing signs of changes and that the devastation is caused by humans, not by *Martuwarra*. We are asking the governments and big corporations to slow down. *Martuwarra* is giving us

signs that it cannot be business as usual. It is *Martuwarra* who is asking, ‘What are humans doing?’ *Martuwarra*, our ancient and sacred serpent being, has taught us for generations that it is the geology and the watershed which govern our collective Nations.

As First Australians, our legal and governance systems were always regional and place-based. We have always abided by a law of regional governance acknowledging bottom-up governance, with each Indigenous Nation managing their own lands and waters in a place-based way. This is how we understood our own sovereign way of life. Along with our *mooja*’s or friends of *Martuwarra*, I ask questions and propose solutions for humanity and Mother Earth: ‘What are we doing? Are we fit and proper human beings?’ These are not questions aimed only at those

Reace throws a net for bait fish on Bunuba Country. Martuwarra Fitzroy River, Bunuba Country. Lachie Carracher





Nyikina Man Nelson follows the River to its source on Ngarinyin Country. Manning Creek, Ngarinyin Country. *Lachie Carracher*

who are destroying the planet, but questions I am asking every Australian, every global citizen. If we are to have a climate chance, we need to focus on justice.

I tell my story from the frontline of the climate war. From here I advocate for the importance of listening to the wisdom of the oldest living culture on the planet. It is no longer justice only for our people that we call for. These unjust development projects have a negative impact on the lives of all those who live, love and die in our regions. We need a new Dream.

### **Respect to dream the future**

Respect is a key concept in First Law. The law of the land is not the law

of man. It is the law of land, which includes living waters and our non-human family and kin. Respect is felt, it is *liyan*, our moral compass for feeling when something is right, or something is wrong. Non-Indigenous and Indigenous friends, colleagues, family can learn to feel this *liyan*. We can teach all who are willing to learn about our sense of reciprocity and responsibility. To do so we must sustain our lifeways, our place in the world. That is the only way Mother Earth and humanity can have a climate chance.

Those of us who dream the future believe we must focus on our strengths, individually and collectively. Individually first, and yet connected with a sense of *liyan*. Connection to your *liyan* will enhance your

lifeways and livelihood. A person who can dream will then be able to help themselves, their family and communities. This recognition and practice of personal sovereignty is powerful. The choice is between right and wrong, good and bad, trickery or honesty, all virtues to be a free thinker in words and deeds. As Kaka Paddy Roe said: 'Send the Dream out and walk in it.' To which I add: Share your Dream and act to change injustice.

### Respecting *Martuwarra*

According to our cultural protocol and my cultural authority, the words I spoke in my introduction to people and place are *nagyoo yimartuwarra marnin*: I am a woman who belongs to *Martuwarra*. *Martuwarra* is greatly respected and loved as it created my identity, my family and my people and the world we have duly inherited as guardians and custodians. Importantly for me and my people, this respect begins with our ancestral serpent being, *Martuwarra*. Our sacred ancestor who created our lands, living waters, languages, law and custom. We have an inter-generational moral contract to love, protect and promote the well-being of *Martuwarra*, River of Life.

In October 2016, I presented a case to the Tribunal for Nature in Brisbane. This citizens' tribunal heard cases presented by citizens and earth jurisprudence lawyers concerning the destruction of ecosystems, and the wider earth community in Australia. Together with friends of the *Martuwarra*, I brought my case, *Martuwarra* versus State of Western Australia and Federal Governments, to the tribunal. We were asking the

court to recognize *Martuwarra* as a living entity with a right to life, to live and flow, like her sister, the Whanganui River in New Zealand. The Whanganui River has stood strong, and with the help of her Indigenous guardians and the strength and wisdom of their legal and cultural governance, she has now set international legal precedents across the globe. Her rights of nature give me hope in human beings who hold the lives of the other non-human beings, the birds, the trees, the rocks, the insects and the balance of life in their hands.

Since the tribunal I have been pushing the boundaries of legal pluralism, inspired by the story in New Zealand of the Whanganui River. I was so excited that that River had got legal personhood. I went back and spoke with other elders. I told them as we sat on the riverbank, 'Do you realize that there's a river in New Zealand that the law has recognized? The river has been given personhood!' The other elders looked at me as if I was from another planet. And when I spoke of our ancestral River, they said to me: 'The River is not a human being.' They explained to me that we are pushing the boundaries of ancestral personhood. The River is more than human. The right to recognize that these places are sacred means that the rivers, the mountains, the trees, all these things have standing and merit, because they are part of our world, not because they are human or human-like.

The tribunal agreed that Fitzroy River is a living ancestral being and has a right to life and a right to flow. It must be protected for current and future generations and managed jointly

## The right to inherit a world is the key to environmental responsibility. It is our First Law.

by the guardians and custodians of the River. Following the Tribunal for Nature, custodians and guardians from the Fitzroy River catchment area met on 2 and 3 November 2016 in Fitzroy Crossing, on the banks of the River. As a result of the meeting Indigenous leaders developed the Fitzroy River Declaration.

The declaration is described by legal scholar and researcher Michelle Lim as a ground-breaking event. This declaration is Australia's first negotiated legal instrument that recognizes an ecosystem as a living being, while incorporating the Law of the River. The challenge is how to engage and reform existing state law to give effect to some of the declaration's key points. Importantly, Michelle Lim believes it is helpful to think about the window of time in which we must act as the Indigenous people of the Kimberley region of Western Australia. We are concerned by the extensive development proposals facing the Fitzroy River and its catchments. The potential for cumulative impacts on *Martuwarra's* unique cultural and environmental values, which are of national and international significance, are also of deep concern.

The custodians and guardians of the *Martuwarra* catchment agreed to work together to action a process for joint decision-making on activities in the Fitzroy River catchment:

- (1) to reach a joint position on fracking in the Fitzroy River catchment;
- (2) to create a buffer zone for no mining, oil, gas, irrigation and dams in the Fitzroy River catchment;

- (3) to develop and agree on a management plan for the entire Fitzroy River catchment, based on traditional and environmental values;
- (4) to develop a Fitzroy River Management Body for the Fitzroy River catchment, founded on cultural governance;
- (5) to complement these with a Joint Indigenous Protected Area over the Fitzroy River;
- (6) importantly, to engage with industry, regional stakeholders, shire/local and state government to communicate our concerns and ensure they follow the agreed joint process;
- (7) at the same time to investigate legal options to support the key strategies, including strengthened protections under the Environmental Protection and Biodiversity Act and the National Heritage Listing to strengthen protections under the Aboriginal Heritage Act; and finally
- (8) to consider legislation to protect the Fitzroy River catchment and its unique cultural and natural values.

Ancestral wisdom in the Kimberley region of Australia has endured for over 60,000 years and continues to be passed by our elders to the younger leaders. We continue to sing, dance, paint, cry and perform ceremony. We continue to publish articles with *Martuwarra, River of Life* as first author. These new forms of sharing our strengths and ancient wisdom are critical to telling the climate change story from an informed basis.

Our Dream is to have a bi-cultural governance framework inclusive of regional Indigenous Nations. We are coming together to inform local government engagement as part of a wider stakeholder group of business, industry and community partners. This is a model for cooperation, informed decision-making that can guarantee water justice through procedural and distributive justice for all. We need to ignite our moral contracts at the personal level if we want to take on the responsibility for what my friend Greg Campbell agrees is required: a total reset! New responsibilities, in other words.

## Responsibility

As First Australians our 'responsibility' lies in our ethics of care and love. Responsibility is grounded not only on the protection of our River and biosphere, but more importantly, in the need to ensure our young people carry on the responsibility through inter-generational equity. The right to inherit a world is the key to environmental responsibility. It is our First Law.

When I talk about First Laws, I'm talking about moral laws. It is time to put these concepts of customary law on the table. The first point I want to make is that we have not been brave enough in this country when it comes to incorporating First Law. Laws from nature, laws from the land – how do we bring them together with Crown Law? We must find the right people to help navigate the political goodwill towards the fusion of both laws and have a conversation about how we transform our legal practice. We allow inequity and injustice to continue. It cannot be business as usual.

If we as human beings seek to pursue the concept of 'Just Development' we must ground our philosophy and practice around Indigenous First Law. First Law offers a pathway to justice, equity and peace as it incorporates Indigenous lifeways and livelihoods. First Law and Traditional Ecological Knowledge, as well as Indigenous science, must be coupled with 'western' science and brought into action through genuine free, prior and informed consent. We as a Nation and across the world will need to be fully involved in addressing key questions, including:

- Who and what counts and is counted?
- How are values assigned?
- How do relationships between people and the natural world work to produce value?
- How are existing values of the riverine system understood and measured?
- Whose laws and values matter?
- What impacts and risks are accurately predicted and deemed acceptable?
- Who gets to decide? And what kind of evidence is weighed up in the decision-making process?
- How and where are decisions made?
- Whose visions of the future are being pursued?

At a time when laws, policies, management and regulations continue to collapse at every level, it is time to build a vision which unites Australians and all fellow human beings. Climate investment funds must be committed and well invested to help us adapt

and respond to climate change. This type of investment must be directed towards the design and situational context to support the collaboration of regional governance frameworks, which shifts the balance of power to local people. We need to develop a unity pathway, share information and have informed decision-making through regional governance approaches.

Today, Indigenous leaders in the Kimberley region of Australia are looking for ways to govern the *Martuwarra* Fitzroy River Watershed. We believe that if we are to have a climate chance, we need cooperation, unity, organization and multiple syntheses. Climate change is complex, so we need collective wisdoms across a pluriverse of ideas, investments and actions, all geared towards an earth-centred, decolonizing approach.

António Guterres, the UN Secretary-General, recently commented: 'We are on a highway to climate hell with our foot still on the accelerator.' Yet the solutions are right before our eyes. As my friend the Cherokee leader Jonathan Hook reminds us, if we're to survive, everyone must listen to Indigenous peoples, building links between communities and partners in genuine partnership, as equals. When Indigenous people come to the table it doesn't mean that we are simply sharing ideas, which is a very important part. It means being part of the decision-making process, not simply being informed after the fact, but being part of determining the steps that are taken forward and being true equals in that process. We are at a tipping point. Unless we act now, there will be no going back.

At the national level we have a policy in place until 2030 known as the National Reserve System, a bioregional framework where every watershed in Australia has been mapped out. Our watershed is known as Dampierlands – I do not agree with the name – in honour of William Dampier, a British explorer who came to our shores in 1688 and described our people as the most miserable and wretched people on the earth.

We need to go back to our ancient wisdom and watershed perspective. The River is the central life force providing food, medicine, sites for recreational and ceremonial activities that promote and support the health and well-being of our people. In turn, the people reciprocate as guardians of *Martuwarra*, the Fitzroy River. The focus must be to take responsibility for the well-being of Fitzroy River, and through the River, ALL people.

In response to increasing development pressure, *Martuwarra* custodians and guardians have pledged to work together to protect and manage *Martuwarra* as one of the most iconic watersheds in Western Australia. The 2016 Fitzroy River Declaration aims to protect the traditional and environmental values that underpin the River's National Heritage Listing. It is because of *Martuwarra's* exceptional natural and cultural value to the nation that the entire Fitzroy River catchment was added to the National Heritage Listing in 2011. The Fitzroy River is also listed as an Aboriginal Heritage Site under the Western Australian Aboriginal Heritage Act 1972. The Fitzroy River Declaration sets out a national standard for native land title as well as enshrining



Hozaus and Reace carefully selecting bait for the prized Barramundi fish that flourish in Martuwarra Fitzroy River.  
*Lachie Carracher*

the principle of self-determination expressed by UN Declaration on the Rights of Indigenous Peoples.

I believe there are mechanisms there that we need to get right and do right, right now. We need to look at our River Country as we have done from the beginning of time, through a bioregional *Wunan* and *Warloongarriy* Law, our First Laws. First Law governs the responsible management of *Martuwarra* Watershed through *Warloongarriy*, the Law of the River, and the *Wunan*, the Law of regional governance. The *Wunan* Law is a Kimberley-wide network of reciprocal, place-based sharing

and ceremonial exchange, based on cultural leadership, which reinforces kinship ties and extends people's social world through an ongoing circulation of goods and ceremonies.

The *Warloongarriy* ceremony re-enacts the *Woonyoomboo* story, when the ancestor being *Woonyoomboo* speared the serpent *Yoongoorookoo*. It was *Yoongoorookoo* who created the *Martuwarra* River in the *Bookarrarra*, a primordial time that is at once past, present and future. Since *Bookarrarra*, *Warloongarriy* and the *Wunan* Law have provided a framework for understanding the central role of water



Martuwarra winds its way through the Wunaamin Miliwundi Ranges. *Mark Coles Smith*

in all things, and its relationships to everything else. What is required is the total watershed perspective from the top of the catchment to the mouth of *Martuwarra*, Fitzroy River and to stop breaking everything up into little parts. We need to ensure that the voices of Indigenous leaders who are at the front line of unjust development are amplified and not crucified.

The big question at the end of the day is how we come together to promote the idea that 'It's the people that matter, Indigenous or not.' All of us need to be at the table. Thus, the guardians of the *Martuwarra*, Fitzroy River have invited industry, government and other stakeholders to work together to

achieve the principles set out in the Fitzroy River Declaration. To achieve these aspirations, three important questions must be answered.

- First, will the government invest in a water stewardship model to develop an integrated and adaptive Water Resource Management Plan for *Martuwarra*, Fitzroy River?
- Second, can we establish a conversation with decision-makers whereby First Australians are respected in their right to self-determination and management of the *Martuwarra*, with Indigenous laws for the *Martuwarra* at the heart of decision-making processes?



I conclude my story with the belief that, as my elders have sung and danced for thousands of years as part of our ‘Wake Up the Snake’ ritual performance, we can wake up the consciousness of all people. We can listen and act upon Indigenous wisdom across the planet to ensure human and planetary well-being.

- The final and third question is directed to the world and any potential partner investors: can we develop a transformational cultural governance model, combining geo-heritage and Indigenous heritage to showcase the *Martuwarra* as a new economy, transitioning from fossil fuels and large-scale agriculture to protect and ensure the survival of the *Martuwarra* as an integral component of Mother Earth and humanity?

We send this Dream out, and we continue to work hard with those who share our love and ethics of care through a coalition of hope. We uphold our law of obligations to ensure future generations can celebrate, share their due inheritance and reach

their full potential to continue to live in peace and harmony. A world of balance and full of potential is what we seek: Just-us for All.

I conclude my story with the belief that, as my elders have sung and danced for thousands of years as part of our ‘Wake Up the Snake’ ritual performance, we can wake up the consciousness of all people. We can listen and act upon Indigenous wisdom across the planet to ensure human and planetary well-being. To ensure Mother Earth will not be lonely without the vibrations of human beings, we must dance, walk upon her girth, connect to and through her, dreaming a new justice of Indigenous wisdom for human and planetary well-being. ■

# Process: From kin to thing – The environmental and human death zones of European waters

Amber Abrams, Joshua Cohen, Charlie Dannreuther  
and Markus Fraundorfer



A migrant takes a shower, on his sixth day waiting for a safe port to disembark, on board the NGO rescue boat Proactiva Open Arms Uno in the central Mediterranean Sea.

*Reuters/Juan Medina*

## The different meanings of the European water crisis

In the past, humans revered rivers and other water bodies as symbols of abundance, creation, fertility and, ultimately, life. Nowadays, water frequently conjures up images of death and human and environmental devastation. Be it in the context of the global climate crisis, when world regions across the globe are facing an unprecedented collapse of river systems. Or be it in the context of the global refugee crisis, when hundreds of refugees drown every week in the sea in search of hope and a better future – often as a consequence of the global climate crisis.

The planet is facing an unprecedented collapse of river systems and other water bodies.

Over the past 30 years, water pollution has further worsened in almost all rivers across the world due to wastewater, industrial and agricultural run-off, increased economic activity and population growth. Furthermore, the global river crisis is inextricable from wetland and ocean pollution, with approximately eight million metric tonnes of plastic entering the world's oceans per year including via rivers, estuaries and wetlands – the equivalent of one garbage truck of plastic every single minute. The collapse of freshwater systems is also a compounding factor in global warming, given the impact of water systems on the cooling capacity and climate dynamics of our interconnected planet.

But the global water crisis is more than just an environmental crisis. Like

a prism, it refracts human disasters all around us. As highlighted by the UN Refugee Agency, the UNHCR: 'The climate crisis is a human crisis. It is driving displacement and makes life harder for those already forced to flee.' Focusing on Europe, consider recent refugee tragedies in the Mediterranean Sea, where water, as a vital life force and a fluid with the potential to deliver a person from war, famine or climate-related disasters, becomes the source of drowning and death. Thinking of water through the lens of the climate and refugee crises sheds light on water access concerns and scarcity issues, for example in refugee camps. It forces thought about water as an instrument of border control, bringing watery considerations to the lived reality of border crossings, as well as a number of intersectional forms of discrimination implemented in and through water.

These human challenges are magnified by climatic shifts that have brought on more and longer drought periods (drying out some of Europe's most emblematic rivers, such as the Rhine in Germany, the Po in Italy, the Loire in France, and the Danube in Central and south-eastern Europe), devastating floods (which are only magnified by drought contexts) and persistent (forever) chemicals increasingly prevalent and concentrated in our environments.

This chapter argues that the water crisis is the result of the commercialization of water (water as a thing), an idea that originally emerged in Europe. It is fitting that our study of water governance should focus on Europe, even if Eurocentric governance systems have been spread across the globe by European empires and a state-centric international system. Simultaneously,

Thinking of water through the lens of the climate and refugee crises sheds light on water access concerns and scarcity issues, for example in refugee camps. It forces thought about water as an instrument of border control.

the ancient understanding of water as kin was gradually marginalized. This process gave rise to a global water-governance architecture that has entrenched the control of water through elaborate water infrastructures, such as canalization, sewage systems and hydropower dams. As a second step, the chapter further argues that this modern water paradigm has major implications for today's global water and refugee crises, transforming water into treacherous death zones for wildlife and humans alike.

The first section of the chapter traces how, over the past few centuries, different Eurocentric thought processes have transformed water from kin to thing. Then, there is a discussion of the failure of the ambitious European Union (EU) Water Framework Directive (WFD) to improve the water quality of the EU's water bodies because of powerful national interests and strong industry lobbying. In this context, the chapter presents recent examples of courageous civil society action campaigning in support of the WFD and introducing kin-based approaches in water policies. Thereafter, attention shifts to the implications of the commercialization of water (from kin to thing) for refugees arriving in Europe by sea. This section reveals how the instrumentalization of water has

exacerbated the European refugee crisis, as water bodies are being used as forms of fortified border control.

People in European refugee camps and minorities and indigenous peoples worldwide are being denied basic water rights as a result of a disciplined access to water infrastructure. The chapter ends with a proposal to resurrect kin-based approaches that could help us navigate more safely through today's environmental and human death zones, transforming water once again into a source of life and fertility.

## The European roots of the modern water paradigm

How we relate to and value water is tightly woven into our relationships with one another and the Earth. Many hunters and gatherers, subsistence farmers and others who pay close attention to the living world around them make no strict distinction between human society and everything else. Enrique Salmón, Indigenous Tarahumara from Chihuahua, Mexico, for example, writes that such ways of life are grounded in what he terms a kincentric ecology in which people are '[part] of an extended ecological family that shares ancestry and origins ... an awareness that life in any environment is viable only when humans view the life surrounding them as kin'.

Salmón describes a form of kinship that is more extended and all-encompassing than many people in a typical 'western' context might be used to, where kinship tends to be limited to human beings and the family ties between them. Parent to child, cousin to aunt, and

so on. It is, rather, a kind of kinship that embraces a wide array of living relationships between people, places, plants, waters, animals and ancestors – with the understanding that it is these relationships that make us all what we are, that literally enliven us.

Archaeological and historical evidence, and recent interpretations of such evidence, suggest that something not entirely dissimilar to such kinds of kinship existed before the advent of colonial modernity across much of the region now called ‘Europe’. For our watery interests here, we can cast our minds over swathes of pre-Roman Celtic Europe: to northern France, where the River Marne was known simply as ‘mother’; to traditions of making offerings of exceptionally valuable items to springs, lakes, rivers and bogs from France to Germany, Denmark and Estonia. Yet more apposite, we might think of the Celtic female divinity Nantosuelta, whose name simply meant ‘winding river’, depicted in a first-century stone relief in Saarburg, within the watershed of the Rhine. Or water spirits who, until recent centuries, were associated with treacherous waters in the Danube. These waters so threatened eighteenth-century imperial Austrian power in the region – read as the ability to control nature – that Empress Maria Theresa took dynamite to the great river’s bed in order to ‘civilize’ its flow. Occasionally, we still come across some of these water spirits today. Opera lovers will certainly recognize the Rhinemaidens, the guardians of the mystical Rhinegold, who are among the many characters of Richard Wagner’s famous opera classic.

Geographer Jamie Linton makes the point that it was within complex socio-technological processes that the notion of ‘modern water’ emerged. He argues that while Eurocentric currents of philosophy have for thousands of years understood water in both local, animistic *and* generalizable naturalistic terms, it is with the invention of ‘modern water’ that *only* generalizable naturalistic portrayals – encapsulated in 1811 by the formula  $H_2O$  – became considered as *proper* knowledge. Linton observes that imagining water as value-free, unfettered from all human entanglements, had in reality the opposite effect. Modern water – countable, governable, a potential commodity like *anything* else – did not wash human relations away from water. Instead, it fostered new kinds of relations, modulated through new infrastructures while – not coincidentally – advancing the ‘civilizing’ missions of imperial European states at home and abroad.

When people holding to such ways of relating to the world met people whose primary forms of knowledge and valuation lay in attempting to work *with* webs of relations that sustain both humans and other-than-humans,

People are ‘[part] of an extended ecological family that shares ancestry and origins ... an awareness that life in any environment is viable only when humans view the life surrounding them as kin’.

the former most often destroyed the latter. Neither their dominant ways of understanding the world nor their endlessly expanding markets could coexist within life-giving webs of kinship. Such webs could only be exploited to control cultures, save souls, and secure labour for mines, plantations and factories. Landscapes' *watery* aspects – rivers, ponds, springs – imagined exclusively in terms of their physicality after their human relations had been expunged, could with almost no moral concern be turned into exploitable resources to satisfy exclusively human ends, generally in the service of the market: as genteel leisure-scape, as transport and as depository for all kinds of waste.

So, while a small percentage of the world's human population used rivers for their own flourishing, this modern relationship to water became increasingly abusive. In many settings, human feelings of kinship with water withered, deprived of the rituals, concerns and care that are the source of any life-giving relationship. Paraphrasing ideas found in the inspiring works of Neil Kessler and Amitav Ghosh, we might well say that our ecological situation springs as much as anything from a *derangement of relationships*. Perhaps even more damning, in most regions of the world, this has become the majority and hegemonic position, against which kin-like ways of relating have become the minority and potentially counter-hegemonic position.

This derangement may have gathered its first real momentum during industrialization in Europe and its colonies starting in the fifteenth and

sixteenth centuries, but such ways of relating to water are still powerful today, tied closely to the dire state of the region's waters. They find expression in the fourth principle of the 1992 Dublin Statement on Water and Sustainable Development, which states that '[m]anaging water as an *economic good* is an important way of achieving efficient and equitable use' (emphasis added). This principle is a central element of Integrated Water Resource Management (IWRM), the dominant concept within global water governance, steering all major undertakings across national, European and global scales. IWRM is codified as part of the UN Sustainable Development Goals, namely target 6.5. Current global water-governance models, as expressed by these examples, are inadvertently reproducing the commercialization of rivers, aggravating the global water crisis.

## Water and the national interest

International legislation and legal frameworks on water cooperation first emerged in Europe, dating back to the early nineteenth century. In the wake of the 1814–15 Congress of Vienna, European powers set up the Central Commission for the Navigation of the Rhine, the first transboundary river governance framework worldwide to govern this crucial river in Central Europe, traditionally used as a vital trading and navigational route. Over the following decades, similar river commissions came into existence across the continent. One of them was the European Commission of the Danube, established in 1856 to increase

control of the second-largest river in the region and a fundamental trading link between Central and Eastern Europe. The commission was created to mediate conflicts among the many riparian powers, transforming the river into an international space to facilitate trading and navigation along its waters. Both commissions are still in place today.

The Rhine Commission and the Danube Commission are prime examples of joint diplomatic efforts among European powers to tame and control large transboundary rivers and transform them into safe navigational spaces to benefit national and imperialist interests in trading, economic growth and development. It can even be argued that these river commissions institutionally entrenched the dominant logic that still shapes global water governance today: the creation of complex legal and political governance frameworks to exploit water for economic interests, which ultimately set in motion socio-economic and political processes that facilitated the destruction of fragile water and river ecosystems.

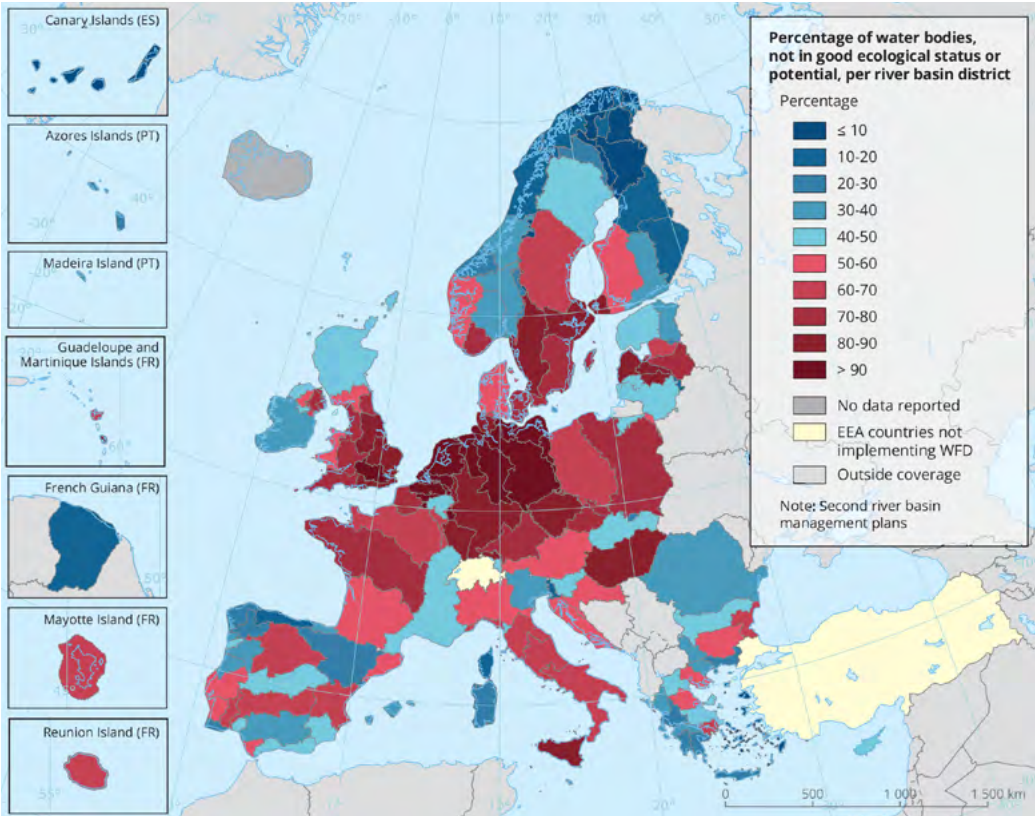
Given this long history of international cooperation that emerged to control transboundary water bodies in Europe, it is not surprising that water policies are among the EU's oldest environmental frameworks, taking shape in 1972 after the UN Conference on the Human Environment in Stockholm, the first UN conference on the environment. The EU's water policies that emerged in the 1970's and 1980's resembled a fragmented patchwork of water-use directives that aimed to monitor drinking water, bathing waters, fishing waters, shellfish water, habitats, urban

wastewater and nitrates. Apart from setting standards targeted at specific aspects of water pollution, a holistic approach that would also consider the problems and origins of water pollution was entirely missing. In other words, the EU approached water policies in an isolated way, ignoring that water bodies are embedded in larger environmental ecosystems. The 1990's witnessed a gradual shift towards a more holistic and integrated understanding of water governance, prioritizing the interconnected nature of land, water and environmental pollution, while simultaneously foregrounding ecosystems approaches that integrate environmental, economic and social aspects of water governance.

In the EU, this global trend resulted in the adoption of the WFD in 2000, aimed at establishing a framework capable of protecting European water bodies from pollution and reaching 'good ecological status'. In many ways, this directive represented a shift away from the traditional paradigm of water governance to a more holistic understanding of water bodies. While the 1992 Dublin Principles still regarded water as an economic good, the WFD goes further, emphasizing that '[w]ater is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such'.

In principle, the WFD set a new paradigm for water governance in the EU. Moving away from a command and control paradigm, the WFD established the systemic understanding of rivers as catchments rather than administrative and political boundaries that often fragment governance

**Figure 1: Percentage of water bodies not in good ecological status or potential per river basin district (European Environment Agency 2021)**



Reference data: ©ESRI | ©EuroGeographics

efforts of river bodies. A catchment approach underlines complex human–nature relationships as well as the interconnections between water bodies, land, agriculture and other environmental stress factors. This understanding also entails an interdisciplinary approach to appreciate the complexity and interdependencies within the ecosystem, and calls for a participatory approach that promotes decentralized policy-making with the inclusion of water users on the ground.

Despite its innovative wording, the implementation of the WFD has proved disappointing. More than 20 years

after the adoption of this EU directive, water bodies across EU member states remain in a critical status. Particularly in highly populated areas with significant industry, such as in Belgium, many parts of Germany and the Netherlands, more than 90 per cent of surface waters were found to be less than good. In the same vein, many parts of Eastern and Southern Europe have a low percentage of water bodies in good ecological condition.

Why is the condition of Europe’s surface waters still so dismal when considering the innovative and often paradigm-changing language of the WFD?



The often ineffective implementation of the directive's principles is largely due to two interrelated factors: first, the complexity of EU governance. And, second, the continuing dominance of the traditional water paradigm that remains deeply entrenched in pre-existing water-governance mechanisms of EU member states.

The directive needs to be implemented by EU member states and their administrative bodies at national and local levels. Member states enjoy a high degree of flexibility in their implementation efforts, which ultimately rely on pre-existing administrative bodies and socio-political mindsets at the national level. That is, EU water law principles are not imposed on member states. Rather, member states need to integrate these principles through their own legal and political order, which ultimately leads to varying degrees of implementation. The directive required member states to set up integrated environmental management systems that used an ecosystems approach, considering the water body (and pollution factors) within its larger ecosystem. This goal was to be achieved with integrated river basin management plans.

Given the often vague and ambiguous wording of the text, the WFD's integrated river basin management plans have been interpreted by member states in different ways. This was the consequence of the original negotiation process among the EU's two supranational bodies, the European Parliament and the European Commission on the one hand, which advocated for an ambitious and legally binding document, and the Council

of the European Union on the other hand, the EU's intergovernmental body and representative of EU member states, which pushed back and supported a stronger role of member states in implementing the WFD.

Also, traditional decision-making structures at the national level steeped in the old water paradigm led to narrow interpretations and reductionist implementation of the directive's goals. Hence, many countries without already established river basin management practices did not transform their administrative structures to make ecosystems thinking a priority. Instead, the WFD principles were merely added as another legal layer to pre-existing water and environmental policies. These often heavily centralized and hierarchically structured decision-making processes thwarted any meaningful transformation of water policies and river management as envisioned by the WFD. As a further complicating factor, many member states have used poorly justified exemptions to delay the implementation process or water down the directive's ambitious goals.

The pre-existing governance structures of the Rhine and the Danube are a case in point. Even in these cases of well-established collaborative governance, dating back to the nineteenth century, member states can only realize the potential of the WFD on the basis of these pre-existing international treaties, thus thwarting any serious efforts of incorporating an ecosystems approach and establishing shared responsibilities for the rivers' ecological health. After all, both the Rhine and Danube commissions were established to guarantee

the rivers' use as a vital space for trading and navigation rather than the protection of their ecological health.

In other words, an EU-led approach to transforming water policy paradigms is doomed to fail if it is not accompanied by bottom-up processes within EU member states, with civil society movements challenging these traditional political and legal structures from below.

The importance of these bottom-up processes became glaringly clear in 2018 when the European Commission embarked on a two-year evaluation to assess if the WFD is still 'fit for purpose', a standard process that all EU legislation is subject to. Many member states and industry groups from the agriculture, mining and energy sectors hostile to the WFD saw this moment as an opportunity to lobby the European Commission and weaken the directive's objectives, introduce new exemptions and postpone implementation targets. After significant pressure from European civil society, represented by the NGO-led Living Rivers Europe coalition (formed by the World Wide Fund for Nature, the European Environmental Bureau, the European Anglers Alliance, the European Rivers Network and Wetlands International), and one of the largest public consultation processes in the history of the EU, involving more than 375,000 European citizens, the European Commission decided in 2020 not to give in to political and economic pressure from member states and industry and instead to uphold the WFD.

Recently, civil society mobilization in Spain has shown that it can have

an impact beyond merely protecting the existing wording of the directive against industry and member states and, instead, stimulate transformative change in our understanding of our relationship with water, which is akin to the idea of kin. The Mar Menor is Europe's largest, and one of its most endangered, saltwater lagoons, located in the region of Murcia in southern Spain. The region is also one of the most intensely farmed in Europe, producing fruits and vegetables for the European market, and relies on a strong tourism sector. For decades, the Mar Menor lagoon has been under immense pressure from sewage discharge, metal mining, urban development, tourist infrastructure and excessive nitrate and phosphate contamination from fertilizers in agriculture.

With the impending ecological disaster, resistance has formed among the local population. In 2018, local activists decided to set up a legal campaign for a citizen-driven bill to transform the lagoon into a legal person with legal rights. This new legal status would allow citizens to hold to account the industry sectors responsible for the environmental degradation of the lagoon before the law and demand reparations for the damages caused. Within a few months, the campaign for this citizen bill gained so much public and political support that it easily reached the threshold of 500,000 signatures necessary to be discussed by parliament. And on 21 September 2022, Spain's Senate approved the bill, creating a new law that transforms the lagoon into the very first ecosystem in Europe to become a legal person. Of course, it remains to be seen how this new law is being implemented



and whether agricultural businesses are held to account. But this legal victory in Spain is inspiring similar legal initiatives in other European countries, mobilizing to grant legal personhood to the River Loire in France and the North Sea in the Netherlands.

### Denying water rights in European refugee camps

The environmental crisis facing most water bodies is compounded by a human and refugee crisis that is often linked to water. As water remains dominated by scientific management and the hierarchical control of nation-states, it also plays an important role in bordering the countries of Europe from their former colonies. Hydrology was a colonizing science that defined the public spaces and differentiated metropolitan from subaltern ones. As a physical barrier, maritime waters present

dangers to vulnerable refugees that Europe's citizens would rarely tolerate.

Access to clean water was a mobilizing call for modern nationalism in tumultuous nineteenth-century Europe. As the industrial age drew farmers out of the fields to become workers in the cities, water quality collapsed, with water-borne diseases like cholera taking tens of thousands to their graves. Science, technology, public health and moral certainty established municipal water management systems that distanced modern European metropolises from colonies. National engineering, state investment and construction to control nature were the defining hallmarks of Europe's metropolitan cities. The huge embankments in Europe's great river cities – along the Danube, the Seine and the Thames – all evidenced the modern conquest

Migrants take water from a hose outside a transport and logistics centre near the Belarusian-Polish border in the Grodno region, Belarus.

*Reuters/Kacper Pempel*

The waters of the seas have hidden many crimes against humanity.

As these bodies disappear under the waves, they enter new realities, where friends and families become corpses, and where the laws and conventions of life and civilization have no meaning at all.

of nature by humans but would also extend a 'colonial hydrology'.

Such public goods were the things that rationalized the growth of the public sphere. They were created through order, discipline and hygiene that presented an enlightened national community that was not subaltern. Water sanitation extended beyond the public sphere into the body to establish individual subjects that were hygienic and modern. For this personal transformation to be possible, water had to be clean, contained, situated and owned by private or public utilities to demonstrate value for public money or investor returns. Public virtue, personal cleanliness and private profit were closely linked around the construction of national utilities and their accessibility.

According to UNHCR, by the end of 2021 there were 89.3 million people in the world forced to flee their homes, more than double the number of displaced people after the Second World War. This displacement has been driven by forces familiar though different to the colonial era, namely, persecution, war, trade, cultural transfer, and ecological and environmental destruction. Hostility has come to characterize

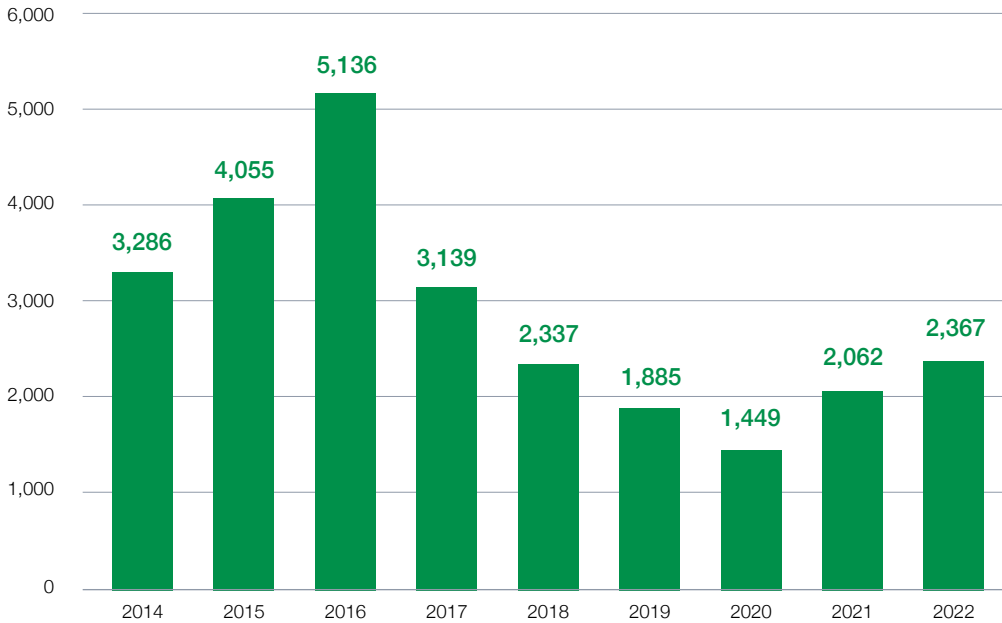
the contemporary responses of most European governments to migrants, including refugees fleeing oppressive regimes. National politicians have separated an increasingly unstable idea of citizenship from the excessive presence of 'others' in a discourse that has much in common with that of colonialism 200 years ago.

Europe's borders have been defended by stripping water of its social and human meaning and relying on its status as a thing to do unspeakable things to refugees in ways that bypass accountability under human norms and laws. The agency of water as a dehumanized thing has been essential to the maintenance of Europe's sovereign borders. Water has been securitized to allow drowning to be a tool of management in the Mediterranean Sea and controlled as a commodity to restrict access to water in refugee camps. The convergence of state, technology, commerce and subjugation continue to confirm the dependence of European countries on their demarcation from their former colonies through boundaries mediated by water.

### **Refugees and the use of water bodies as border control**

Tens of thousands of refugees and migrants have been allowed to drown in the past decade to protect European borders. And while the real numbers can never be known, the practice of European and national policy is to use water, and the risk of drowning, as an instrument of border control.

Figure 2: Number of recorded deaths of migrants in the Mediterranean Sea, 2014–22 (Statista 2023)



Using the sea to dispose of inconvenient lives is well documented as a historical practice. Slavers threw captured Africans from the British slave ship *Zong* in 1783 to save money; the MV *Struma* sank in 1942 after the British refused entry for its Jewish passengers to Palestine; and in 1973, Chilean dictator Augusto Pinochet’s thugs hurled political prisoners into the ocean from helicopters. The waters of the seas have hidden many crimes against humanity. As these bodies disappear under the waves, they enter new realities, where friends and families become corpses, and where the laws and conventions of life and civilization have no meaning at all. Once there, crimes are hidden beyond the law – the motive is dispersed, the weapon is water, and the culprit is nowhere to be seen. Unsurprisingly when bodies disappear

into the sea, they also disappear from the legal structures that regulate the world, making it extremely difficult to hold perpetrators to account.

Conventions of maritime law, social practices among mariners and voluntary rescue agencies offer kinship to those on the sea. But European states even prosecute those who seek to help refugees as they cross open water in flimsy craft. This is in contrast with the founding principles of the EU, with Article 2 of the Lisbon Treaty stating that ‘[t]he Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities.’ Principle 18 of the 1998 UN Guiding Principles on Internal Displacement stresses the importance of ensuring without discrimination safe access to

'[e]ssential food and potable water'. Several UN Special Rapporteurs have made declarations on delivering water rights to internally displaced persons, refugees, asylum seekers and migrants while en route.

But even if these rights were accessible to migrants, and even if they were enforced through legal channels, they would not guarantee access to water nor protect refugees from drowning. In many countries, the very processes used to regulate migration are drawn from penal codes. So, it is unlikely that criminalized migrants would ever experience justice. Furthermore, the delegation of authority to EU border agencies like FRONTEX has altered sovereignty over Europe's borders, creating a lack of accountability. The governance of water safety for refugees is, at best, arbitrary and far from respectful of human dignity.

Meanwhile, the growth in bordering industries has created lucrative opportunities for corporate investors to profit from these gaps. The global border industry is growing at a projected rate of 7–8 per cent a year to a total of US\$65–68 billion by 2025, especially in new drone and AI (artificial intelligence) technologies. FRONTEX awarded €50 million in contracts to service companies in 2020. In practice, the securitization of migration, on top of the long-standing use of criminal justice to manage refugees, has allowed thousands to drown in the Mediterranean Sea.

The politics of migration and the small boats 'problem' continue to reverberate in many European

societies. British politics is only one illustrative example. Politicizing refugees serves the pro-Brexit Conservative government to polarize society on human rights, just as the United Kingdom Independence Party (UKIP) successfully dragged migration into the debate over EU membership in 2009. Sustaining the idea that a 'swarm' of small boats threatens public services has extended the salience of immigration to undermine respected institutions like the Royal National Lifeboat Institution (RNLI). The RNLI declared its intention to continue to save lives at sea as they have for 200 years, despite abuse directed at its volunteers from anti-refugee groups even in their local communities.

Water can be turned from being an objective thing to a human space in which rules and frameworks apply. But these norms can also be exclusionary, and the microphysics of racist and sexist exclusion is present in the regulation of public access to clean water and sanitation to refugees and other marginalized groups. Patriarchal gender categories that designed municipal water infrastructures to be different for women and men, have seen public toilets become sites of political conflict. In the United Kingdom, for example, transgender women accessing female toilets regularly report that they face abuse. This and related debates have led to a sharp rise of transphobic hate crimes; the number recorded by the UK police rose by 26 per cent during the year to March 2022.

These quotidian forms of discipline and judgement show just how contingent the right to water is when

administered through Europe's national water infrastructures, especially when viewed from the margins of society. As access to high-quality drinking water became monetized through structured water systems, capital became a core currency, replacing water as the currency for life. Certainly, there have been examples of municipal pushback against the privatization of water companies in the last fifty years.

The World Health Organization reports regularly on the exposure of refugees to water-borne diseases because their access to quality water is compromised by poor sanitation. Refugee camps are frequently sites of exposure to water-borne diseases, as they are often located close to arrival sites rather than urban areas, and so lack the emergency infrastructure to accommodate growing wastewater disposal. Meanwhile, WASH (Water, Sanitation and Hygiene) indices capture the extent to which minority groups, such as Roma in Europe, are excluded from clean water in high-income countries. The same is true in some of Europe's humanitarian camps. Water may be conditional on the camps' access to water mains infrastructures, or water provided by private suppliers.

Yet kinship may empower people around water in remarkable ways. Since the Covid-19 pandemic, many people have sought to swim in open water as a distraction and form of exercise. For many women's groups, entering the cold sea has allowed them to reconnect with their bodies in new and empowering ways. Open-water swimming has generated communities out of locations and

generated new insights into how we relate to nature. Swimming has helped people to connect with refugees in ways that engage with vulnerability, caring and creating kinship with host communities. All around the world, refugees are sharing swimming experiences with local communities, training to become lifeguards and learning to swim again. *The Swimmers*, a feature film about a pair of refugee sister swimmers, was even nominated for a British BAFTA film award in 2022.

While making water a thing was the product of imperial nation-building, denaturing water has made it the medium for unspeakable crimes. As we rethink how we connect with water to make it clean, we also need to face up to the ways that water has been both the site of crimes against humans and the weapon for executing those crimes. Recognizing this power is another step closer to healthier forms of kinship between people and water.

### **Water as kin: challenging the modern water paradigm**

How to navigate through today's water crisis? The thingification of water over the past few centuries has created myriad environmental and human death zones on land and in the sea. These death zones not only include dried-out rivers, extreme flood events and heavily polluted lagoons. They also extend to refugee camps as zones of the denial of water rights and water bodies as fortified symbols of border control.

In the midst of these urgent environmental and humanitarian crises, some of the most inspiring

movements that have questioned and contested the modern water paradigm draw on kincentric ideas. Be it the legal rights movements that advocate for granting legal personhood to specific water bodies. Be it in the form of swimming initiatives that have helped people to reconnect with water bodies and rediscover kincentric relationships with water.

The various examples discussed in this chapter show how kincentric ideas are being rediscovered and experimented with in different ways. Kincentric ideas are ways of relating to local rivers and other water bodies as familiar and cognate living beings, intimately entangled with human life through personal, social and cultural practices defined by reciprocity. These kincentric ideas are not romantic fabrications. They are taken up by grassroots movements around the world to contest the modern water paradigm that over the past few centuries has deranged our relationship with water bodies. This return to kinship thinking in the last five to ten years, principally symbolized by indigenous-led struggles for the recognition of the personhood of rivers outside of Europe, is also increasingly inspiring grassroots movements in Europe, as the legal campaign to grant legal personhood to the Mar Menor lagoon in Spain has demonstrated.

The modern water paradigm is deeply entrenched in our political and legal systems, fundamentally influencing our own relationships with water. The commercial usage of water emerged over several centuries, shaped by developments in Europe and related imperialistic efforts, transforming the

ancient understanding of water as kin and channelling the subsequent economic interest on water into imperial and state-centric governance structures that ultimately gave rise to a European and global water-governance architecture. This architecture has shaped our understanding of water as a thing to be sold, tamed, controlled and exploited for trade, energy security, agriculture, disease control and border control. At the same time, ancient understandings of and relations with water have faded away into the murky depths of instrumental reason.

The civil society initiatives discussed in this article, taking inspiration from kincentric ideas, will not undo this process. But they can question the status quo and inspire new thinking about how to navigate through the death zones of today's water bodies. The disappointing results of the WFD, the EU's most ambitious water policy to tackle the environmental degradation of the EU's water bodies, have demonstrated that bold, new thinking is urgently needed. The humanitarian disaster on Europe's shores underscores that the legal and political status quo of water bodies as fortified border control will only exacerbate Europe's refugee crisis further.

The question is: how can the relationship between humans and water bodies be recast and regenerated? Water bodies are the living veins of the Earth's interconnected ecosystems, giving life to forests, plants, non-human animal species – and to us. Hence, no matter where we live, we cannot escape the manifold catastrophic consequences



of today's water crisis. Once, water was a symbol of creation, fertility and life because of our kincentric relationships with water. Indigenous peoples and many minorities have never lost this worldview. To tackle this crisis, we need to seek inspiration from this ancient wisdom, healing our deranged relationship with water. ■

Migrants wait at the Italian French border of Ventimiglia, Italy.

*Marco Alpozzi/LaPresse via Associated Press/Alamy Stock Photo*



# Planet: Vanishing waters – an overview of the water crisis in the landlocked countries of West Africa and Central Asia

Rob de Laet, Roméo Koïbé Madjilem and Emilia Sulek



A Tuareg woman fetches water from a pond for her daily needs. Menaka, Mali.  
*Tiéoura N'Daou.*

## A planetary dilemma

It is hard to address the impact water stress is having on minorities and indigenous peoples across the globe without considering the plight of water first. Not as resource. Not as thing. Water as living cycle. The planetary disruption of the water cycle is having a systemic impact not only on human beings, but all animals, plants and fungi on this planet. In short, the issue of water access and water shortage – of floods and droughts – is planetary. Not global – planetary. The inadequacy of global, international and national governance is evident when it comes to water. Governments can just about align when it comes to climate change, not so when it comes to water. Water is understood in terms of integrated river basin approaches at best, yet water is not only territorial. It is also atmospheric, oceanic and subterranean. Atmospheric rivers are super-saturated streams of water vapour, some containing more water than the Amazon River, which move according to distinct meteorological and geographic patterns.

Can these atmospheric rivers be mapped? Can they be included within the framework of territorial and state-based governance? Waters are cross-boundary and cross-regional. Disruption of the water cycle is happening at a planetary level. Unless states act in the interest of the planet and can include planetary forms of thinking and acting within their current water frameworks, it is hard to see a way out of the impasse. Destabilization of oceanic and atmospheric currents, the melting of permafrost and polar ice caps, the drying of rivers and lakes, are sending the world's climate into chaos. Nowhere is this collapsing planetary balance felt

most strongly than in the arid regions of Central Asia and West Africa.

For many people across this mega-region, whether minority or majority, whether indigenous or non-indigenous, water means everything. It is an existential matter. As such, water is not merely an issue for development narratives and the Sustainable Development Goals – it is a living entity that exceeds the human ability to control and manage. Water is not a line in a map. As vividly shown in the opening chapter of this report, water is First Law. Water is governed by its own principles and laws. First, water is a cycle. Second, water is freely available. Third, water is diverse – it takes on many forms and colours. Fourth, water purifies and filters itself. By interrupting its cycle, most current global, international, national and regional frameworks for water management are blind to the planetary nature of water, insisting on a territorial mindset that is inadequate when it comes to comprehending, let alone preserving, water's flow.

This chapter appeals to a planetary and therefore interconnected understanding of water, which is often found not in state laws but in indigenous forms of governance. To illustrate this underlying point, we focus on the world's largest continuous land mass, the Asia and Africa mega-region, which are interconnected by common climatic atmospheric systems and patterns of rainfall distribution. The mega-region we focus on also includes the world's largest landlocked countries, where a trail of disrupted ecological systems, as well as recurring signs of extreme water stress, have become commonplace.



Young Tuareg girls looking for water line up outside the camp's only water point. Menaka, Mali.

*Tiécouira  
N'Daou*

Across West Africa and Central Asia, lakes, rivers and aquifers are drying up. Drought has become extreme across large swathes of these regions. Desertification has also become a grave reality across many landlocked countries and nations. Large sections of land have become uninhabitable or are in the process of becoming uninhabitable for human life, sending tens of thousands of local populations into forced displacement. Many of the most vulnerable belong to minorities and indigenous peoples, as their lives are often so closely intertwined with their local ecosystems. Multiplying this immediate environmental threat is the systemic exclusion and discrimination they face, adding to their vulnerability if displaced. The impact of the planetary water crisis on minority and indigenous communities can hardly be more direct and acute.

## The landlocked predicament

The Sahara and Sahel are often cited as two of the regions of the world most seriously affected by climate change. The Western Sahel is a semi-arid area stretching from the Atlantic Ocean eastwards to Chad, bordered by the Sahara Desert to the north and the Sudanian savannah to the south. The region is also one of the poorest and most environmentally degraded in the world. This is partly due to the fact that many of the countries in the region are landlocked. The landlocked predicament, as we call it, is a major factor slowing down both the regeneration of Sahelian countries and the depletion of water sources, not least given the vulnerability of water bodies found in dry regions, far from the cooling and humidifying effect of seas and oceans. Indeed, the Sahel is one of the regions that is most vulnerable to climate change, with temperatures expected to rise

1.5 times higher than in the rest of the world. Climate vulnerability is compounded by the region's heavy dependence on rain-fed agriculture, rapid population growth and chronic humanitarian crises due to recurrent droughts, floods, food insecurity, epidemics and violent conflicts.

In order to feed growing populations in the region, it is necessary to deploy vast amounts of resources, including for instance food relief. Unfortunately, given the ongoing food, humanitarian and security crises in Chad, Niger and Mali, it is difficult to mobilize aid from nearby ports to the landlocked countries of the Sahel. For example, in addition to depending on Libya and Sudan, Chad depends on seaports in Cameroon and Nigeria. Niger's economy and commercial activities rely on the ports of Nigeria. Drought and famine have considerably increased the need to import food and other basic necessities into landlocked regions. However, the presence of jihadist groups such as Boko Haram have made routes from Nigerian ports to Chad and Niger almost completely impassable. Insecurity has made it difficult to supply assistance

and relief to vulnerable populations in areas affected by famine, water stress and insecurity, especially within remote, landlocked regions.

The Sahel and Sahara are still recovering from food crises caused by the severe droughts of 2005, 2008, 2010 and 2012. Research suggests that more than 20 million food-insecure people and nearly six million malnourished children live in the Sahel alone. With significant population growth (on average 3 per cent per year) and recurrent problems of environmental degradation, widespread poverty and political instability, climate change in the Sahel and Sahara will exacerbate existing vulnerabilities. Water scarcity, longer dry seasons and the impact of rising temperatures could trigger new conflicts and forced migration across Burkina Faso, Mali, Mauritania, Niger and Chad.

As we will see in the rest of the chapter, the dilemma faced by arid, landlocked countries in West Africa is not dissimilar, in general terms, to the case of landlocked countries in the arid regions of Central Asia. Indeed, as the 2022 *Water Risk Atlas*

For many people across this mega-region, whether minority or majority, whether indigenous or non-indigenous, water means everything. It is an existential matter. As such, water is not merely an issue for development narratives and the Sustainable Development Goals – it is a living entity that exceeds the human ability to control and manage.

produced by the World Resources Institute highlights, the world's most 'extremely water stressed regions' are found in the large swathe of landmass from West Africa through to East Asia, covering the Sahara, the Sahel, the Middle East and Central Asian regions.

## **Burning water problems across Central Asia: Melting glaciers**

One of the most dramatic ways in which water systems are being affected by human activity is the melting of glaciers. The capacity for the planet to store water in a solid state is fast declining. There are numerous consequences to this environmental issue. Melting ice is exacerbating global warming. Releasing fast-running waters onto the land is also causing floods and inundations, which reduce the capacity for soil to retain water, not to mention the devastating effects of major flood disasters on human and animal populations. The phenomenon is particularly acute in Central Asia.

Increased meltwater production in the high mountains of Central Asia threatens the populations of this arid region of the planet with water stress. Meltwater also masks predatory forms of water use. In the Tien Shan mountains of China (also known as the Tenghrityagh mountain range), where the sources of the Ili River and many other Central Asian rivers lie, peak meltwater production has not yet been reached for most of the existing glaciers. Meltwater production is expected to increase in the next two decades, before it starts declining. The situation may then change dramatically overnight.

'When glaciers shrink to a small fraction of their current size, river flow could drop rapidly, with severe consequences for many Central Asian regions', says Todd Katzner, Research Wildlife Biologist for the US Geographical Survey. Melting ice will affect not only river flow, but also the survival of many lakes in the region. Nurtazin Sabir from the Al-Farabi Kazakh National University reminds us that the volume of water in Lake Balkhash in Kazakhstan is equivalent to less than seven years of water input from the entire basin. This means that Balkhash is extremely sensitive to abrupt changes in glacial melting or evaporation.

## **Vanishing lakes**

In spite of the overwhelmingly arid climate, the Central Asia region is a rich hydrological network of rivers, lakes and mountain catchments. The Caspian Sea, which is shared by Kazakhstan, Turkmenistan, Azerbaijan, Iran and Russia, is the world's largest inland body of water. The Aral Sea, shared by Kazakhstan and Uzbekistan, used to be the fourth largest lake in the world. Lake Balkhash in Kazakhstan is the third largest in Asia and fifteenth largest in the world. Thus, the five Central Asian states that gained independence after the dissolution of the Soviet Union not only share borders but also major water systems. From the Communist period onwards, however, Uzbekistan, Kazakhstan, Kyrgyzstan, Turkmenistan and Tajikistan have inherited outdated water infrastructures and predatory approaches to water use. At the same time, the region is particularly endangered by the intensified effects of climate change.

As with other landlocked countries around the world, including Bolivia in South America and the African states mentioned earlier, the Central Asian region is affected by its landlocked condition, which means that these countries are deprived of the balancing hydrological effects and rainfall brought on by oceanic currents and air pressures. Kazakhstan is the largest landlocked country in the world, and it encompasses areas which are further away from the ocean than any other landlocked region in the world. Uzbekistan is also a major landlocked country, as are its neighbours Turkmenistan, Kyrgyzstan and Tajikistan, home to one of the world's highest mountain systems. Many river basins in Asia are formed in the mountain ranges of Kyrgyzstan and Tajikistan. Yet the particular problems experienced by landlocked countries are causing major water issues for populations across the five former Soviet Republics of Central Asia, especially among minorities and indigenous peoples marginalized within the discriminatory centralized policies operating across the region.

As is the case in West Africa, Central Asia is heavily dependent on agriculture. Farming – especially intensive or industrial farming – is impossible without irrigation. Due to poor water management policies inherited from Soviet days, the region is not only experiencing serious issues around water access, but also major national and international water conflicts. A region rich in water has become increasingly water-stressed and vulnerable to the consequences of receding water bodies and greedy national policies intent on turning

water 'resources' into economic profit. Perhaps the world's most iconic case in this regard is the Aral Sea.

## The death of the Aral Sea

Central Asia has suffered one of the most spectacular man-made environmental disasters of the twenty-first century: the destruction of the Aral Sea. This water body, previously boasting a surface area of 68,000 square kilometres, sustained the livelihoods of thousands of people. The lake was brought to near extinction within a matter of decades. The decline of the Aral Sea has led to severe environmental, ecological and social upheavals with dramatic consequences across this already volatile region.

The cause of the Aral Sea disaster was extreme overuse of the two main rivers feeding the lake: Amu Darya and Syr Darya. In the Soviet Union era, water from these two mighty rivers started to be diverted for agriculture, especially in the Soviet republics of Uzbekistan and Turkmenistan, which needed water to sustain large-scale cotton and rice production. One of the ambitious water engineering projects that made use of Amu Darya's waters was the Karakum canal. Construction started in 1954 and continued for three decades. Karakum remains one of the largest irrigation and water supply canals in the world. Over-ambitious production plans designed in Moscow forced local administrations to boost agricultural performance, resulting in unsustainable levels of water consumption. The water was allowed to run through open channels and much of it evaporated or soaked into the ground before reaching its destination. Soviet agriculturalists

also used enormous amounts of fertilizers, pesticides and herbicides, many of them hazardous, which were then washed off into the local drainage ditches and into the Aral Sea.

The first signs that the lake was receding were detected in the 1960s. By the early 1970s, boats had to be moved several hundred metres to reach the water line. In the 1980s the shoreline was already many kilometres away from human settlements once located by the lakeside. When the Soviet Union was dissolved in 1991, the Aral Sea was a shadow of its former glory. Its rapid decay caused alarm among local populations and scientists. The calls of the people of the Aral region, including many minority and indigenous communities, were ignored by central authorities, who believed the waters of this 'unproductive' lake would evaporate in the hot Central Asian climate. Today, the vestiges of the Aral Sea are three bodies of water: North and South Aral and Barsakelmes Lake, which represent some 10 per cent of the former lake surface. In many parts, salinity levels exceed those found in the Dead Sea. The rest of the Aral seabed has turned into the Aralkum desert – thousands of square kilometres of sand covered in dryland shrubs and rusting shipwrecks.

In an effort to save the North Aral, Kazakhstan constructed the Kok-Aral Dam. Finished in 2005, this dam blocks the flow from the North Aral into the South Aral, which is at a lower elevation, in Uzbekistan. The dam has helped water levels to rebound significantly, and even wildlife and fisheries returned to the basin. This shows that with some

attention and proper action, the process of desertification can be stopped or perhaps even reversed. For thousands of square kilometres of land and its inhabitants, however, this realization came too late.

## Lake Balkhash

Located in south-eastern Kazakhstan, the sickle-shaped Lake Balkhash stretches over 600 kilometres and covers an area of approximately 17,000 square kilometres. Its uniqueness lies in the fact that the lake consists of two parts featuring different water compositions. The western freshwater part is divided by a narrow strait from the eastern, brackish one. A fifth of Kazakhstan's population (over three million people) lives within the lake's basin. Balkhash is crucial for the local energy sector as well as a number of important large- and small-scale industries. The lake supports local populations engaging in fishing, animal husbandry and farming. The Ili River, which flows into the lake, creates the largest remaining natural delta in Central Asia, supporting a unique ecosystem for both wildlife and domestic animals.

Balkhash lies entirely within the borders of Kazakhstan. However, it takes most of its waters from the Ili River, a transboundary waterway that Kazakhstan shares with China. The Ili originates in the Tien Shan mountains and flows through what is nowadays the Xinjiang Uyghur Autonomous Region of China before it reaches Kazakh territory. Out of the Balkhash's total catchment area of 413,000 kilometres, only 15 per cent is located in China. Nevertheless, this



fraction is of strategic importance, as the Ili contributes as much as 80 per cent of the lake's waters. Herein lies the crux of the problem.

The demographic situation of Xinjiang and its strategic importance to China has a direct impact on the Ili River and Lake Balkhash. Home to the Uyghur minority, Xinjiang is a target of the Belt and Road Initiative, a gigantic Chinese infrastructure programme launched in 2013. Massive investment and development projects aim to transform the region, inhabited mostly by Uyghurs and other ethnic minority populations, into the main demographic and industrial centre of western China. Thousands of migrants, mostly Han, have settled in Xinjiang. This population growth is placing the fragile environment of this arid region under increased pressure. Within just the last decade the population in the area has increased by 20 per cent. Satellite images show an explosive growth of croplands in the upper Ili, as well as a number of hydroelectric power plants that have been constructed to produce energy for the expanding cities and new industries.

According to different sources, China diverts as much as 43 per cent of the water from the Ili River. Information on the water flows in the upper Ili is extremely limited. China is reluctant to share data, referring to this issue as an 'internal affair'. The River Ili crisis illustrates China's general approach to water relations with its neighbours, and also the Chinese government's appalling treatment of ethnic minorities.

Frameworks such as the Convention on the Protection and Use of

Transboundary Watercourses and International Lakes (the UN Water Convention, 1992) and the Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention, 1997) regulate the management of transboundary water resources only in theory. Kazakhstan has ratified them, but China has refused to do so. Beijing claims that these legal texts fail to represent the interests of 'upstream nations' and constitute an attack on the country's national sovereignty.

Rather than signing international treaties on transboundary water management, China insists on bilateral agreements with its neighbours. Forced into an arrangement that jeopardizes water flows and the safeguarding of Lake Balkhash, the Kazakh government has proposed a barter contract for a ten-year food supply to China in exchange for more river flow. China has rejected this proposal. Thus, Kazakhstan remains dependent on the goodwill of China and can only hope for a fair deal that would allow the necessary water flow to ensure the survival of Balkhash.

### **The Kazakh side of the problem**

The government of Kazakhstan is likewise cautious about publishing data about Lake Balkhash. Instead, it prefers to focus on reversing the negative effects of the construction of the Kapchagay reservoir, which is not being filled to the maximum currently, in order to protect the lake. Independent media reports show that the water levels in Balkhash are fast declining. Between the 1970s and

the beginning of 2000s, the southern part of Balkhash is said to have lost about 150 square kilometres of water surface. Desertified lands now cover one-third of the basin. Of the 16 lake systems located around Balkhash, only five units have been preserved. The shallowing process affects especially the western (less deep) part of the lake. At the same time, the salinity of the whole lake is increasing, and the Ili River delta faces biodiversity loss.

'It is not only China's fault', says Nurtazin Sabir, professor of Al-Farabi Kazakh National University, who has been working on Lake Balkhash for years. Sabir stresses that Kazakhstan has also contributed to the lake's problems. This has been particularly clear since the Kapchagay Dam was constructed in the middle reaches of the Ili River in 1969. The Kapchagay reservoir is important for electricity production and irrigation for farming. Already in the planning phase, critics warned of the project's negative impact on Balkhash and its ecosystem. The voices that raised concerns over the lake's future were, however, ignored by Soviet authorities, who pushed for extravagant water engineering projects and for intensified agricultural production at any cost.

As critics expected, the construction of the Kapchagay reservoir seriously disturbed the water balance of Balkhash. Between 1970 and 1985, when the reservoir was being filled, the lake's volume declined by almost 40 cubic kilometres. By 1987 the water level of the lake had dropped by over two metres. Although the situation has stabilized, the water quality has significantly deteriorated,

and it has become increasingly saline. Pollution levels in the lake increased as well. Finally, the reservoir has also had a negative impact upon fish populations. Declining groundwater levels have made long-term farming along the lake's shores impossible.

In Kazakhstan, farming also relies on the Ili River for irrigation. Irrigation is carried out in a rather outdated manner. Water travels through open, clay or concrete canals, many of them built in the Soviet Union era. Infrastructure lacks proper maintenance. It is estimated that water losses due to leakage and evaporation reach as much as 40 per cent. At the same time, flooding remains the main irrigation method. The government of Kazakhstan encourages the use of more water-saving technologies and pushes for change in the consumption habits of its population. However, many actors in the Kazakh agriculture sector cannot afford the transition to more sustainable practices. Only large companies or landowners can buy expensive sprinkle technologies. Smaller farmers have only one option: to flood.

## Toxic sands

The lakes of West and north-central Africa and Central Asia are not disappearing without a trace. Inhabitants of the former Aral Sea basin, for instance, know this better than anyone. Where once the Aral Sea was, today Aralkum, the world's youngest desert, spreads its sands. Dust storms carrying sulphates, phosphates, chlorinated hydrocarbons and other toxic substances found in fertilizers and pesticides which



accumulated in the lake over the years, travel across large distances. Inhabitants of towns and villages located hundreds of kilometres away from the lake tell of storms covering the ground with thin layers of toxic salt. 'If I watered my garden later, it would burn all my vegetables', a local farmer in Nukus, Uzbekistan, says. 'And to make matters worse, we have to breathe burning air,' she adds.

Salinized soil loses its value for farming and livestock breeding, pushing local populations into economic precarity. According to local sources, six million hectares of agricultural lands were destroyed due to salinization and desertification brought about by the decay of the Aral Sea. Thousands of people who worked in fishing and fish processing industries lost their economic base. Unemployment ravaged the region, forcing people to migrate internally or abroad, for legal or illegal work. In Kazakhstan,

many of those who worked on the former shores of the Aral Sea sought jobs in the fishing sector in Kapchagay reservoir and Balkhash. In Uzbekistan, the areas around the former Aral Sea still have the highest poverty levels in that country.

Even more dramatic is the impact desiccation of the Aral Sea has had on human health. Inhabitants of the former Aral basin lack sustainable sources of potable water. The water that is available is often brackish and not appropriate for consumption. Due to dust storms carrying salt and other toxic particles, respiratory diseases, liver and kidney ailments and anaemia are common. At the same time the infant mortality rate, especially in Karakalpakstan, an ethnic minority region in the southern Aral basin of Uzbekistan, soared to levels never before recorded. The desiccation of the Aral Sea has impacted the climate as well. Summer temperatures have increased, and

Men scramble around a rusty shipwreck in the former Aral Sea port of Muynak, in Karakalpakstan, Uzbekistan.

*David Trilling*



A woman carries water from a canal in the village of Aliaul, near the former Aral Sea, in Karakalpakstan, Uzbekistan.

*David Trilling*

winter temperatures have decreased by several degrees Celsius. 'We're paying for this brutal case of water mismanagement, and we're paying with our health, our climate and our livelihoods,' says Yusup Kamalov, a minority rights activist from Uzbekistan, who has fought for the preservation of the Aral Sea. The case of the Aral Sea, he argues, shows the extent—and inhumanity—of regional and ethnic discrimination. Downstream regions face water shortages or are forced to use waters polluted in the middle and upper basins. 'This is the case of Aral, but also Balkhash and other rivers and lakes,' he says. 'If the water stops flowing, we are the first to feel the consequences, also in our health and economy.'

## The situation of Central Asian minorities and indigenous peoples

One of the population groups most affected by the desiccation of the Aral Sea are Karakalpaks. This Turkic-speaking ethnic minority native to Uzbekistan inhabits the southern part of the former Aral Sea basin and the lower reaches of Amu Darya. Estimated to number over 700,000, Karakalpaks are Uzbek citizens, but the majority live in an autonomous republic within Uzbekistan. Karakalpaks were given autonomous status within the Soviet Union and were able to preserve this status until now, although not without difficulties.

Covering 40 per cent of the landmass of Uzbekistan, Karakalpakstan used to be a fertile agricultural region. Traditionally, Karakalpaks lived a nomadic lifestyle, while embracing a mixed economy that relied not only on livestock breeding but

also on farming and fishing. When the waters of the Aral Sea shrank and the salty seabed was exposed, it was the Karakalpaks who had to cope with this dramatic change. At the same time, the economic and social benefits of their fishing, farming and tourist industries came to an end. The 1990's and early 2000's brought dramatic droughts. Virtually no water from Amu Darya reached the region, and the periods without precipitation continued for as long as half a year at a time. A number of international organizations entered Karakalpakstan with aid projects and well construction technologies; however, the Uzbek government seemed uninterested or unwilling to support international efforts to assist ethnic minorities within its borders.

Today, Karakalpakstan is the least prosperous region of Uzbekistan, and one of the poorest regions in Central Asia. Official sources state that unemployment is at 9 per cent, and the poverty rate exceeds 16 per cent. Many inhabitants who lost their jobs in agriculture or fishing due to the death of the Aral Sea migrated to neighbouring countries, mostly Kazakhstan and Russia. Relatives left behind rely on remittances sent from abroad. This makes local livelihoods highly insecure and unstable in the long term.

During 2022, the region witnessed a wave of political protests in response to the Uzbek government's attempt to strip the republic of a significant part of its autonomy: the right to secede. Peaceful demonstrations were crushed with brutal force. Official sources state that 14 civilians lost their lives. Local protesters claim that the number of dead and injured was

in the hundreds. Prison sentences for demonstrators followed. Although the government withdrew the proposed amendment to the Constitution, the situation in Karakalpakstan remains tense. The prospect of gaining speedier access to gas and oil resources in the region might explain why reducing Karakalpak autonomy may benefit the Uzbek government.

Investigative journalists have disclosed a state-driven policy of forced sterilization of Karakalpak women. Although the policy was documented mostly in the 1990s, some cases were reported as recently as 2012 and 2019, which suggests that the state takes active measures to keep the Karakalpak population low. Plagued by water crisis, poor health and economic poverty, Karakalpaks can only hope for a future where their rights and freedoms are respected.

### **A similar panorama across the Sahara and Sahel**

Like the Aral Sea, Lake Chad is gravely threatened by the effects of climate change. As in the case of

**'We're paying for this brutal case of water mismanagement, and we're paying with our health, our climate and our livelihoods... If the water stops flowing, we are the first to feel the consequences.'**



Boys exercise alongside a canal in Nukus, capital of Karakalpakstan, Uzbekistan.

*David Trilling*

Karakalpak people in Uzbekistan, the drying of Lake Chad is causing a major humanitarian disaster in West and north-central Africa. The countries bordering Lake Chad are Cameroon, Republic of Chad, Niger and Nigeria. In the past, this lake was one of the largest water reservoirs in the world. Due to water overuse and changing climate over the past decades, the lake has shrunk by 90 per cent, from 25,000 square kilometres in 1963 to less than 1,500 square kilometres in 2001. If the water level continues to fall at its current rate, this lake could disappear, as climate forecasts and satellite imagery produced by the US space agency NASA clearly show. Despite the unusual amounts of rainfall experienced in 2022, which caused heavy flooding throughout the region, the increase in water levels in the lake and its main tributaries, the Chari and Logone rivers, was short-lived. Given the fast-flowing nature of floods, waters withdrew or evaporated, and were

not absorbed by soils, groundwater aquifers or local vegetation, only causing further soil erosion and depletion of local environments.

In addition to the 60 per cent drop in fish populations, pastures have deteriorated leading to a drop in fodder availability (by 46.5 per cent in some areas in 2006) and a reduction in livestock and biodiversity. The Lake Chad Basin Commission, established in 1964, and officials from riparian countries, meet regularly to regulate and control the use of water and other natural resources in the Lake Chad Basin. Despite actively seeking new models of adaptive water management that take into account both traditional and modern agricultural techniques, the future of many minorities in the region, including Kanembu and Kanuri peoples, remains uncertain.

While the Republic of Chad faces the alarming desiccation of its two main rivers, in nearby Niger the Niger River

is causing equally serious concerns. According to the Niger River Basin Agency, the drying up of the Niger River is alarming and could reach its 1985 critical level (the lowest level ever observed). The low levels of the river are due to the scarcity of rainfall caused by climate change, drought and the silting up of land across the Sahel. Like many other rivers across the West African and Central Asian mega-region, specialists say that the Niger River is heading towards 'certain death' if nothing is done.

The capital of Niger, Niamey, will face major water shortages in the future due to the continued drying up of the Niger River. Currently, around 54 per cent of Niger's population lacks access to clean water, placing this country among the worst for water access in the world. According to local authorities, currently the low water period of the river in Niamey and its surrounding areas covers a period of almost four months, whereas the water shortage period was around 50 days in the years before 1960. At the same time, the flow rate of the river has dropped to 19 cubic metres per second, which has a serious impact on the water supply of the capital, more than 80 per cent of which is supplied by the river. To face this problematic situation, Niger's Ministry of Hydraulics is calling on the managers of the Niger Water Heritage Company (SPEN) to take appropriate emergency measures, particularly to prevent the river from silting up at the Goudel water retention weir (on the outskirts of Niamey), and to raise the population's awareness of how to avoid wasting water.

The Niger River is about 4,100 kilometres long and feeds nine countries; it is the third longest river in Africa. It plays a crucial role in the livelihoods of millions, not only in Niger, but in every other country that shares its watercourse. Once again, at the forefront of the impending water emergency in the Niger basin are vulnerable groups, among them displaced communities affected by the Sahelian herder–farmer conflict, the ongoing Boko Haram crisis, as well as inter-ethnic and gender violence, mostly underpinned by fierce competition for dwindling resources.

### The voices of Tuaregs

Tuaregs are a large group of nomadic herders found in more than six countries in West and North Africa. This group of indigenous pastoralists have made the Sahel and parts of the Sahara their ancestral home. Tuaregs are estimated to number more than three million in Algeria, Burkina Faso, Libya, Mali, Mauritania and Niger. Tuareg civilization is above all nomadic. As such, trans-Saharan trade plays a significant role in the Tuareg way of life.

In an era marked by the scarcity of water, it is important and urgent to better guarantee the rights of Tuareg communities in their respective countries. Article 8 of the UN Declaration on Indigenous Peoples (UNDRIP) emphasizes the threats that loom over indigenous peoples throughout the world, and hence over those of the Sahel, as well as the obligation of states to protect them. Drawing on this framework, it is appropriate to argue that, like many of the minority and indigenous

Tuareg women and girls fetching water with the help of donkeys in front of the camp's only water point. Menaka, Mali.

*Tiéoura  
N'Daou*



communities whose ways of life are threatened by climate change and water crisis in Central Asia, the right of Tuaregs to water security must be one of their core demands. Much like Fulani people discussed in the Niger case study in this report, Tuareg people need access to wells and water sources to provide for their animals. Tuaregs also require access to trans-Saharan migration routes that connect the rich hydrological landscape with cultural traditions and memory.

Unfortunately, water scarcity, coupled with the weakness of states and their inefficiency in managing water resources in a way that is inclusive of minority and indigenous rights, have aggravated underlying conflicts between herders and sedentary groups, especially in the landlocked countries of Mali, Chad and Niger. West Africa is characterized by endemic problems concerning historical sedimentation of conflict, a traumatic colonial legacy, lack of adequate governance, political instability and insecurity, to which we must add the threat of violent extremism, in particular the continued presence of Boko Haram.

Tuareg populations are used to nomadism as a means to living sustainably. Because of this way of life, Tuaregs have seen their social and family structures broken by discriminatory and brutal administrative restrictions that disrupt their lifestyle through bans on mobility. Tuareg herders are subjected to severe restrictions, such as transhumance corridors, forced sedentarism, mobility restrictions, confiscations of cattle, and denial of water access, so as to avoid conflicts with farmers. Although the reasons cited by local authorities for these restrictions are to maintain peace and social cohesion between the different communities, minority and indigenous communities are suffering gross violations of their human rights.

In the Sahel, water points are central to the management of grazing land, especially during the dry season. Herds depend on both grazing and watering. Ideally, for Tuareg families to move from one waterhole to another, water points should be open to multiple users. This is often not the case for Tuareg nomads in areas held by sedentary farmers. Even if global warming is kept below



the 2° Celsius target set out in the 2015 Paris Agreement, it would be judicious to consider disaster prevention and effective protection for minorities and indigenous peoples across the Sahara and Sahel, such as Tuaregs.

Any attempt to relocate or resettle indigenous peoples must be the result of meaningful participation by the communities concerned. Without free, prior and informed consent, there is a serious risk of violating the rights of nomadic populations across the region. In terms of public policy, legal texts at the level of the African Union must include strict provisions to this effect. Policy change must be carried out in the best interest of indigenous communities who, according to the UN Declaration dedicated to them:

*cannot be forcibly removed from their lands or territories. No resettlement may take place without the free, prior and informed consent of the indigenous peoples concerned and agreement on fair and just compensation and, where possible, the option of return (UNDRIP, Article 10).*

It should be recalled that the states of the Sahara and the Sahel, that is, those in which Tuaregs live, are obliged to establish and implement, in consultation with the communities concerned, a fair, independent, impartial, open and transparent process that takes due account of the laws, traditions, customs and land tenure systems of indigenous peoples, in order to recognize and adjudicate on the rights of Tuaregs with respect to their lands, territories and water resources

## What remains?

Unless a balanced approach that takes into consideration the entire water cycle – including atmospheric and underground water – is reached and implemented at a local water-governance level, many more Central Asian and West African rivers and lakes will disappear within a lifetime. Along with the vanishing water, countless local cultures, many of them minority, indigenous or marginalized by displacement and other factors, may dwindle or, worse, disappear. Environmental collapse will most likely lead to further migrations, and the formation of new minority groups, as well as new forms of oppression and discrimination towards displaced communities.

Solutions are right under our own noses. Answers to what seems like an insurmountable problem are often found in the worldviews and lifestyles of communities who have lived in harmony with their natural surroundings for thousands of years – namely indigenous peoples. Like all living creatures, humans are water's children and can call upon water to refresh bodies, spirit, fields and forests – a truism well-known and passed down in many minority and indigenous cultures, among them those mentioned or briefly covered in this article: Tuaregs, Fulani, Kanembu, Kanuri, Uyghurs, Karakalpaks and countless others.

If we wish to preserve the future of our planet, we must relearn how to move with water again, and call upon water's wisdom and memory to help shape a thriving future. We must learn not

Environmental collapse will most likely lead to further migrations, and the formation of new minority groups, as well as new forms of oppression and discrimination towards displaced communities.

only the techniques of water storage and conservation expressed through ancient traditions, but also cultural practices of reverence, renewal and respect. It is only since the Industrial Revolution that humans have begun to impact the living body of the planet through large-scale destruction of our biosphere, breaking up the interaction between biomes and the water cycle. Humans are disrupting this metabolism across regions, and not only across the landmass and landlocked countries highlighted in this chapter. Everywhere else in the world it is possible to find the same destructive and predatory behaviour underpinning the planetary water crisis. Life has begun to die back, and we are nearing the tipping point of irreversible freefall.

Many minority and indigenous cultures have known all along that life is interconnected as part of a

planetary system. Planetary thinking is a defining characteristic of many traditional knowledge systems across the world, where water often plays a central role as the source of cosmic life. Water carries wisdom and memory and is therefore honoured and prayed to in ceremonies, song and dance. Rivers are life-giving spirits and family members. As are clouds. Modern science is only slowly catching up with this understanding. Western science, technology and the narratives of development must catch up fast with the indigenous ethics of life. Across the world, communities will need to reconnect and learn from 'those who know'. To restore the abundance that is freely given to us, water and forests are our only gateways to planetary healing. It is this traditional knowledge that holds the key to activating our urgently needed process of planetary restoration. ■



# Case Studies





**ACCESS**

**SANITATION**

**POLLUTION**

**FLOODS**

**DROUGHT**

**INFRASTRUCTURE**

**CONFLICT**

**USAGE**

**GOVERNANCE**

**CULTURE**

**Access**



**Access to water is one of the underlying themes of this report, and one we come back to throughout. The question of access underscores many issues that could be said to be key to this report, such as accessibility and disability, infrastructure, water quality in rivers and aquifers, gender issues, to mention but a few.**

Access is a vital aspect of the rights to safe drinking water and sanitation, which directly impacts hygiene, health, livelihoods, recreation and many other dimensions of what is sometimes referred to as hydro-citizenship, that is, the complex array of water-human relationships that make up a sense of belonging. As this vital relationship is broken, minorities and indigenous peoples throughout the world are experiencing serious levels of water poverty. The problem is compounded by numerous environmental, political and social factors, at the heart of which are deep-seated forms discrimination and injustice.

In **Georgia**, the Azerbaijani ethnic minority has had to deal with lack of water access due to national policies and water governance mechanisms that discriminate against minority groups. The case of Azerbaijani communities in the Kvemo Kartli region exposes nationalistic attitudes and forms of exclusion that utilise water management to dry out and potentially displace minority groups in Georgia.

Discriminatory water governance can also be found in **Namibia**, where lack of water access among San populations represents a serious violation of the rights of indigenous peoples. The selected case study focuses on the San community in Tsumkwe settlement, where water access is a complex dilemma concerning lack of boreholes, unsuitable infrastructure, inadequate sewerage and gaps in legislation.

The **United States** case study is devoted to the predominantly Black community of Jackson, Mississippi. Water injustice in this US city cuts across interrelated forms of racial discrimination that are also reflected in infrastructure problems, lack of adequate investment and deep-seated economic inequalities.

# Georgia: Access to water is closely interconnected with the rights of national minorities

Elbrus Mamedov

As in the rest of the world, water plays an important role in the daily life of national minorities in the Kvemo Kartli (Borchali) region of Georgia. The main minority population in the region is ethnic Azerbaijanis, who in some areas of the region make up more than 80 per cent of the population. The region is also inhabited by environmentally displaced people resettled from elsewhere in Georgia. Other small minority communities include ethnic Armenians and Greeks.



Agriculture is what sustains the livelihoods of many of these communities. An equally important aspect is access to safe drinking water for personal or household needs. Thus, it is safe to say that access to water for agriculture and daily water use go hand in hand with the implementation of the rights and freedoms of national minorities. Water availability directly affects the economic stability of Georgia's Azerbaijani community.

This stability is directly related to the resilience of communities and village life in terms of ensuring food security both in the region and in the country as a whole. Food insecurity caused by water shortages has led to forced migration; indeed, national minorities have begun to emigrate en masse to other countries. When water was available and access to it was not regulated, 90 per cent of the country's agricultural crops came from the Borchali region. Since the 1990's, water-related policies advanced by the central and regional authorities have led to wide-scale privatization of land and water in the region. As a result of aggressive policies and expropriation, local farming communities have been losing their plots of land, pastures for livestock and, of course, water resources. The Azerbaijani community has decreased to less than 200,000 people (official statistics give us a figure of 233,000), from a total of 600,000 recorded 25 years ago.

Every year, from May to September, the region of Kvemo Kartli is riddled with thirst. Agricultural lands belonging to minority farmers suffer from severe water shortages. A number of human rights activists have argued in recent years that the supply of

irrigation water is regulated on a residual basis, which means that official water-governance policy in the region is guided by a discriminatory practice, according to which water is given to representatives of the titular nation. Only if there is enough water left do the villages inhabited by national minorities receive water. Human rights activists argue that this policy is an indirect way of squeezing ethnic minorities out of the region.

Asad Aliyev, a human rights activist from the village of Gachagan, notes that from 1995 to 2022 the problem of water access has been acute. He explains:

*The main income of the population of our village and the entire Marneuli region come from agricultural products. Lack of water makes thousands of hectares of arable land unsuitable for farming. There are certain forces in the region that want this situation to continue, especially representatives of the church clan from the Khujabi diocese. People who took out loans to cultivate the land became bankrupt and were forced to sell or return the leased land at half price, which forced many to leave their farms.*

Human rights activist Samira Bayramova points out:

*Most of the problems in our municipalities are caused by humans, not climate change, and are associated with a number of interrelated factors. One of the factors is the unfair distribution of the local budget in municipalities according to priorities. Another factor is the lack of special skills of Sakrebulo [Municipal Council] members and employees in the local self-government system.*



An Azerbaijani woman with cans of water in Georgia.

Bayramova adds:

*The existence of local clans also hinders the solution of social problems. Large tracts of land in many villages are illegally in the hands of officials. They do not allow small entrepreneurs to irrigate their small plots of land. If we compare villages and communities where national minorities and the titular nation live, then we observe an unequal social environment, especially in municipalities. Accordingly, the main cause of socio-economic problems in the villages is the unequal distribution of public money. Only recently, we won a case on unfair distribution of the budget.*

Over the past 10 years, more than 50 demonstrations have been staged by local residents both in the village squares and in front of municipal buildings throughout the region, as well as in other regions densely populated by ethnic Azerbaijanis. Hundreds and even thousands of written appeals,

public speeches at all levels, appeals to human rights organizations, especially before local municipal and central elections, have been presented. Before the Marneuli self-government elections in 2021, one of the promises made by mayoral candidate Zaur Dargally was to provide villages with drinking water. The promise did not include access to irrigation water. Dargally promised to provide drinking water to the residents of ethnic minority villages, yet the villages experienced severe drought during the summer of 2022.

Residents of Dashtepe village in Marneuli municipality held ongoing protests, both in the centre of the village and in front of the municipality building, over the issue of lack of irrigation water. According to residents, within three or four days of the start of the action, a certain amount of water was given to villagers. However, the same problem recurs. According to residents, a water canal near the

‘The way water is being distributed shows systemic problems that lead to massive violations of the rights and freedoms of national minorities.’

village of Imir was destroyed, yet the Marneuli municipality is not interested in repairing water infrastructure and does not want, or have the capacity, to do anything in this regard. According to the villagers, due to the lack of irrigation water, plants cultivated by them in 2022 were burned by the sun, and entire crops were destroyed.

A resident of the village of Gachagan, Nasimi Aliyev, tried to influence this deplorable practice through participation in local authority elections, but to no avail. Aliyev gives a picture of what is happening as a purposeful and conscious action by the authorities:

*The villagers gathered in the centre and held a protest action in connection with the problem of drinking and irrigation water. There is no irrigation water in the village, so they cannot water their crops. Residents say the corn, tobacco, watermelons and other crops are being destroyed due to the drought. Residents say that the authorities came to the village before the parliamentary elections and promised to address the crisis, but the problem has not yet been solved.*

Alibala Askerov, who has been dealing with the rights and freedoms of ethnic minorities in the region for more than three decades, notes that:

*[T]here is a vicious practice of restricting equal access to water. After all, there used to be a lot more population, and traditional water distribution schemes worked well. Today we see that there is a major reduction in the volume of water in our rivers and lakes, and against the backdrop of climate change, the plight of the Azerbaijani community in Georgia is becoming hopeless. Dozens more villages are likely to hold protests this coming summer. But the problem of thirst is not likely to go away ...*

Activists hope that water governance in Kvemo Kartli will be reconsidered from a human rights perspective. Currently, the way water is being distributed shows systemic problems that lead to massive violations of the rights and freedoms of national minorities. As water becomes increasingly scarce due to climate change and drought, it is imperative that discriminatory policies of water governance in Georgia are addressed as a human rights issue. It has become apparent that, since local and central government authorities are not willing to recognize the violation of rights and freedoms of Azerbaijani and other ethnic minorities in Georgia, the implementation of international legislation at the local and regional levels has perhaps become the only way forward.

# Namibia: Lack of water access and scarcity rock Tsumkwe settlement

Absalom Shigwedha



N!aici cooks government food aid at ǀomlolo village, one of the 38 villages of the Nyae Nyae Conservancy surrounding the town of Tsumkwe in the Otjozondjupa Region of Namibia.

*Tristen Taylor*

Tsumkwe is a small settlement situated about 60 kilometres west of the Botswana border and 300 kilometres east of the town of Grootfontein in Namibia's Otjozondjupa region. This case study provides a general overview of infrastructural discrimination faced by the indigenous people of Tsumkwe.

Key issues include the lack of government investment in boreholes for water supply; the lack of investment and maintenance of the sewerage system; and the lack of existing legislation that recognizes the customary rights of indigenous peoples in Namibia to water access, as well as its management and governance.

The population of Tsumkwe is composed mainly of former hunter-gatherer, indigenous people of Southern Africa (often referred to collectively as San). It is worth pointing out that the term 'San' is used pejoratively in Namibia to refer to nomadic indigenous peoples in the country. Although the term will be used in this case study, given its common usage, it is not the term preferred by the San peoples themselves, who instead identify by their specific ethnic group names.

Thus, San peoples are divided into four main groups, each with their own history, customs and language. These groups are Ju/'hoansi, Hai//om, !Kung and Kxoe. What was formerly known as Bushmenland

(which includes Tsumkwe) is the area in Namibia that is most frequently associated with San peoples. Their language differs among the various groups, but it is characterized by numerous click sounds.

San roamed the plains of Southern Africa for thousands of years in small nomadic groups. The wealth of rock paintings and engravings in mountains and hills throughout Namibia bears witness to the extent of their traditional lands. The oldest rock art in Namibia dates back some 28,000 years.

## Boreholes

Water is sparingly shared among the inhabitants of Tsumkwe from six boreholes, whose water supply also serves two local state schools with a population of 1,200 pupils and 42 teachers. Last year, the councillor for the Tsumkwe constituency, Johannes Haufiku, pleaded with the Namibia government to drill two new boreholes and repair old ones in the local community. 'There is a crisis at Tsumkwe,' Haufiku maintains.

‘There is a crisis at Tsumkwe. Schools have no water and water is only available at night. The boreholes are not able to fill six tanks and therefore, they are never full.’

‘Schools have no water and water is only available at night. The boreholes are not able to fill six tanks and therefore, they are never full.’

Although he has brought the matter to the attention of Elijah Ngurare, Director of Water Supply and Sanitation Coordination, there has been no official response to Haufiku’s demands on behalf of the people of Tsumkwe. Haufiku added that the government has promised to drill two new boreholes, but this has not yet been done. ‘People are very much angry with the government,’ Haufiku concludes.

## Sewage

In October 2022, the Otjozondjupa regional leadership brought the situation to Namibia’s Minister of Works and Transport, John Mutorwa, and the Ministry of Agriculture, Water and Land Reform, after the pump station at the settlement and schools stopped working, leading to blocked sewerage. The sewerage system in Tsumkwe has not been maintained for over nine years. A May 2010 assessment of water supply and sanitation in Tsumkwe, commissioned by the Desert Research Foundation of Namibia (DRFN), found that much of the water infrastructure at this particular settlement is in a state of disrepair,

partly due to poor management and lack of communication between the three organizations that oversee the scheme. Namibia Water Cooperation (NamWater), Namibia’s water utility company, manages the boreholes and water towers at the settlement and sells water in bulk to the Regional Council. The Ministry of Urban and Rural Development is responsible for collecting water tariffs from the residents and paying the Regional Council. It is not clear where the profit is currently being spent.

## Legislation

In terms of legislation, Namibia has a number of laws related to access to water. In Namibia, water is a fundamental right for citizens as provided by the Constitution under Article 6, which guarantees protection and respect for life. The Water Resource Management Act, No. 11 of 2013, provides for the management and conservation of all water resources in the country, including the whole or any part of a watercourse or an aquifer, the sea and meteoric water. Established through the NamWater Corporation Act, No. 12 of 1997, NamWater’s duty is to consider applications for bulk water supply by potential customers and subject to the availability of water.

## Ways forward

The problems with the water supply and sanitation at Tsumkwe are primarily caused by lack of maintenance and poor management, as nearly all the taps are in need of repair or replacement, and a significant portion of the water distribution system has been installed informally by untrained workers. The settlement will need to identify the exact location of water and sewage pipes; the locations of all lines should then be marked with surface markers to facilitate future repairs to the water lines. NamWater and the local government should determine where leaks occur and repair these leakages.

A crucial step will be community engagement and participation. Given that water is such a limited resource for the town, Tsumkwe residents want support for ways to store and conserve water. These include alternative sanitation methods such as

the use of *Otji* toilets (dry toilets) and the use of human waste as fertilizer.

These measures would ensure that the community is invested in the future of Tsumkwe and the overall well-being of the settlement. Once these steps are implemented, the local government may begin to enforce cost recovery methods. An equitable tariff should be implemented, so that the cost of water may be affordable for residents. Low-income households should pay proportionally less than high-income households. Finally, according to the DRFN assessment, an immediate priority is to ensure adequate water provision and sanitation at Tsumkwe through the repair of septic trucks, which will cater for the current sewage pumping demand. Prioritizing the various issues the community faces with regard to water is essential, which is why, of all the measures highlighted in this case study, it is the treatment of raw sewage that is the most pressing, as it presents a major health risk to the community.

*Di//ao G+kaō,  
Xoan// Niani,  
Se//ae /Ai!ae,  
N//ing /Ai!ae,  
and Baqu /ui*  
(left to right) on  
the main street  
of Tsumkwe.

*Tristen Taylor*



# United States: No end in sight to the Jackson water crisis?

Leslie-Ann Brown



A volunteer helping to carry bottles of water at a water distribution site during an emergency distribution of bottled water and tanker trucks for 180,000 people. Jackson, Mississippi, United States. *Reuters/Carlos Barria*



Less than ten years after the water crisis in Flint, Michigan, another predominantly Black city in the United States – Jackson, Mississippi – now faces a similar problem. Water shortages in Jackson are adding to an already existing social and economic breakdown, which for decades has led to high levels of violent crime. Despite a drop in the number of killings in 2022, the homicide rate in Jackson – a total of 138 murders – is the highest among major cities in the United States for the second straight year. The water crisis in this city is part of a series of systemic and entrenched problems involving race, poverty and poor management of the city's water supply that has exploded in recent years.

Jackson's water emergency broke out in August 2022, when heavy rains proved detrimental to the city's overworked and under-maintained water treatment plant, leading to significant water shortages. As a result, residents of Jackson – more than 180,000 people, 80 per cent of whom are Black, 24 per cent of whom live below the poverty line – were left without water to meet basic daily needs. There was no water to drink, wash, do laundry, fight fires, take medication or flush toilets during the summer of 2022.

A *USA Today* network investigation in 2022 revealed that the roots of Jackson's current water woes can be traced to decisions made over a century ago, compounded by subsequent neglect of infrastructure projects by previous administrations, and exacerbated by a shrinking revenue stream.

Jackson is the state capital of Mississippi. When an 1884 fire threatened to consume its business district, the city decided to source its water from the Pearl River that flowed through the state's centre. This decision meant that, unlike its surrounding towns, Jackson relied heavily on surface water instead of groundwater from wells and aquifers, which tends to be cleaner and easier to treat, ensuring fewer bacteria and producing a higher and more consistent quality. Surface water from lakes, rivers and reservoirs can vary widely, depending on its source. Surface water is also prone to more contaminants, sediments and debris that must be filtered out. Jackson has minimal access to groundwater due to the state capital sitting atop an inactive volcano. This dormant volcano stunted the growth of the area's underground aquifers. A new filtration plant built in 1914 promised to turn muddy river water into clean drinking water. Unfortunately, the facilities necessary to produce clean water were never fully developed. 'Until someone disputes this, and no one has been able to, you have probably the most complex water treatment facility in the country,' Jackson's mayor Chokwe Antar Lumumba is reported to have said at a community meeting in October 2022.

The investigation found that as recently as 2018, Jackson violated safe drinking water standards and has been under a federal order to fix the issues that affect its water system. In addition, a 2013 decree enacted by state and federal agencies requires utility firms to improve their wastewater system. The decree remains in effect and improvements have not been made.

Consistent throughout the years has been the pattern of state officials (primarily white) who blame city officials (mostly Black) and vice versa.

But who is at fault here? Consistent throughout the years has been the pattern of state officials (primarily white) who blame city officials (mostly Black) and vice versa. *USA Today* reported that every year since 2018 Jackson has requested financial assistance from the state legislature to improve its water system, but these bills die yearly in committees.

The original plant and piping that was laid more than a century ago had already begun to decline just as Jackson's wealthier white residents fled to the suburbs due to racist practices such as redlining (where neighbourhoods that were predominantly Black were excluded from services, such as access to government loan programmes or bank mortgages). By 1997, when Jackson elected its first Black mayor, the water system desperately needed repair. However, white flight meant the city lacked the customer base to afford the by-then US\$300 million improvements that were required. This lack of funds has prevented the city from keeping its two plants fully staffed throughout the years, leading to further deterioration of water conditions.

Two treatment plants serve Jackson, but the city had outgrown the Pearl River's production years ago, when it blossomed into a booming industrial town. Jason Barrett, an associate

extension professor with Mississippi Water Resources Institute, is quoted as saying that he does not believe Jackson's decision to use surface water is the issue. He acknowledges that this decision creates challenges. Still, other cities, such as Nashville, Atlanta and Birmingham, also extract water from surface supplies, with relatively fewer issues. According to Barrett, this is a matter of bad management.

I ask Gino Womack, programme manager of the community-based organization Operation Good, what a typical day has been like since the outbreak of the Jackson water crisis. Womack responds wearily, 'The day starts the day before.' Operation Good is a non-profit organization founded in 2013 aimed at helping to improve the social, educational, economic and political conditions of impoverished areas in Jackson and its surroundings. Since the start of the water crisis, Operation Good has been at the forefront of a water distribution campaign that seeks to address water access issues affecting local communities across Jackson.

'At the beginning of this crisis, we would get water in the form of donations,' Womack explains, 'allowing us to set up water distribution points. Then, we would notify the public to ensure residents who needed clean drinking water received it

when the water pressure was low.’ Womack continues, ‘Last time the pipes busted, donations were far lower than the previous summer. We are running out of water now. We need much more water to meet the community’s supply needs.’

When the crisis broke out in August 2022, Womack was dismayed to discover that many senior citizens in his city had no access to water. ‘We had elderly people who were on medication but could not take it in the nursing homes, in their houses, because of lack of water. In one nursing home we went to – the elderly had not taken their medicine for three days because they did not have any water. We took it upon

ourselves to make water deliveries to our most vulnerable population so that they could meet their basic needs.’

Frequent line breaks, shut-offs, boil water notices, toxic lead and harmful bacteria impact water availability. Womack tells me that Jackson residents fear drinking the water, even when the water pressure is up. This is mainly due to the toxins in the water supply, especially lead. The city is currently facing multiple lawsuits from civilians who claim they have been affected by lead poisoning.

Adding to the financial strain of an already economically burdened demographic is the fact that the water

Santonia Matthews, a custodian at Forest Hill High School in Jackson, hauls away a trash can filled with non-potable water from a tanker in the school’s parking lot, one of two placed strategically in the city to provide residents water. Jackson, Mississippi, United States. *Rogelio V. Solis/Associated Press/Alamy Stock Photo*



meters and the billing system, installed by German technology company Siemens as part of a US\$91 million contract in 2012, are faulty. Meters are not linked up to the billing system, which has resulted in mismeasured usage as well as the overcharging of many customers. It also means that many residents go months without billing, only finally to receive exorbitant bills. Officials also cite theft among residents and corrupt city workers as additional obstacles to the solution of this crisis.

Because the areas most affected by the water crisis in Jackson tend to be the most impoverished, economic crisis goes hand in hand with water shortage in this part of Mississippi. Along with inflation, many Black communities in Jackson require financial support to buy water. Financial aid has yet to be made readily available by state bodies or the central government.

The financial strain is compounded by workers losing their jobs in shops and restaurants due to the water crisis, as well as parents being put in the difficult position of having to choose between jobs or leaving their children at home when schools shut down due to water issues. Some residents even risk going into debt if renting a hotel room means that they can have a shower.

In sum, the worsening economic conditions caused by water shortages and the need to purchase water drive subsidiary social problems in Jackson, not least aggravating crime and insecurity. Womack explains: '[Operation Good] tries to ensure we can cover people's basic needs, hoping that that will stop the robbing and the robbing leading to the killing.' His voice is hurt when he confides, 'We spend so much money on wars abroad, but still, we can't get clean water here at home.' ■

Eddrick Botley pours water into a cooking pot from a plastic bottle as he helps his mother to cook. Jackson, Mississippi, United States. Reuters/Carlos Barria





# SANITATION



**Where access to water is restricted, sanitary conditions are soon affected. Across the globe, sanitation is a major concern for minority and indigenous communities impacted by water shortages or pollution. The World Health Organization's Water, Sanitation and Hygiene (WASH) framework reminds us that sanitation is not only a prerequisite to health, but also that it contributes to livelihoods and dignity, as it helps create resilient communities living in healthy environments.**

Many of the problems faced by minorities and indigenous peoples that do not currently enjoy safe and sufficient sanitation ultimately have to do with exclusion from the sites where decisions are taken with regard to infrastructure maintenance and development. Contributing factors include pollution, whether natural or anthropogenic in origin.

In **Bangladesh**, Rohingya refugees are exposed to sanitation issues given the pressures of overpopulation, water shortages and lack of adequate water quality, three key problems faced in the Kutupalong camp, often cited as the largest refugee camp in the world. The issue of sanitation affects Rohingya girls and women in ways that expose further intersectional discrimination. Our case study shows that Rohingya girls and women in the camp face serious challenges regarding menstrual hygiene as a result of sanitation deficiencies and gender discrimination.

The situation of Afro-Esmeraldeño communities in **Ecuador** likewise exposes discrimination against Black and Afro-descendent populations in this country. As in the US case study, the economic costs of purchasing water and the lack of economic opportunities available to Black communities are compounded by social and racial forms of discrimination which result in a lack of clean water and sanitation deficiencies affecting Black and Afro-descendent populations in Northern Ecuador.

Internally displaced minority groups in **Somalia** face comparable dilemmas to Rohingya refugees in Bangladesh. In Baidoa, internally displaced persons (IDPs) from ethnic minority backgrounds are facing a challenging situation given the grave threat posed by water-borne diseases, especially cholera. Lack of sanitary services within IDP camps in this part of Somalia means that communities have no means of dealing with wastewater or sewage, leading to serious contamination of drinking water in the camps and high levels of disease and mortality. Minority women and children, especially children with disabilities, are particularly affected.

# Bangladesh: Sanitation among Rohingya women in Kutupalong refugee camp

Isadora Belmonte

Rohingya are a stateless Muslim minority in Myanmar who for decades have experienced violent persecution in their home country. Over one million Rohingya refugees have fled Myanmar in successive waves.



Mostafa Khatun, a 34-year-old Rohingya refugee woman, takes a rest beside a neighbour's shelter after a long journey to fetch drinking water from a distant tube well, in a Rohingya refugee camp in Cox's Bazar, Bangladesh. *Sahat Zia Hero/Rohingyatographer.*



The repression by the Myanmar government intensified in 2017, resulting in mass killings, the burning of dozens of villages and the forced displacement of hundreds of thousands of people, further increasing the number of people seeking refuge across the border in Bangladesh. Rohingya refugees have primarily settled in Cox's Bazar district in eastern Bangladesh. Over 600,000 live in the world's largest refugee camp situated in Kutupalong.

Given the growing number of people living in this border region, key resources have started to become scarce. Overpopulation is exacerbated by environmental problems derived from the growth of the refugee camp, among them the high levels of deforestation in surrounding areas, and the excessive amount of groundwater extracted to supply the growing number of people. Basic infrastructure, which was once capable of coping with the numbers of displaced people, has begun to show signs of serious strain.

One of the multiple challenges faced by Rohingya refugees is access to clean water. Although lack of clean water and sanitation is a generalized problem facing the whole of the Rohingya population in Kutupalong, it affects women and girls especially. Among other things, women and girls require clean water to practise good hygiene, wash clothes and deal with their menstrual cycle.

This case study focuses on the daily experiences of four young Rohingya refugees living in Kutupalong: Rubaida Begum, aged 16; Sanjida, aged 20; Semon, aged 27 and Notiba Khatun, aged 31. These residents of Kutupalong

have been living in one of the camp's many makeshift settlements for five to six years, in family households made up of four to eight family members.

According to the women, water quality depends on where the groundwater is collected and how deep the water level is. In the refugee camp, the same water is re-used to cook, wash clothes, observe personal hygiene and drink. Given the intense use of water in the camp, it is vital that the condition of the water is appropriate for consumption and that it is not contaminated. To supply growing needs, around 15 million litres of groundwater are drawn every day for internal use in Kutupalong camp. The area is therefore under threat of critical water shortage.

Besides this immediate risk, camp residents must also worry about the issue of water collection. All four women interviewed as part of this study mentioned that water collection points are not far from their household, up to a 10-minute walk away from their home. The access route is not free of challenges, however. Thus, Semon points out that the surface of the pathway leading up to the tap is 'rough', while Notiba Khatun maintains that during the rainy season, she faces difficulties when collecting water due to the muddy condition of the roads.

Rubaida Begum and Semon also point out that they do not feel safe when collecting water, mainly because they feel exposed to the scrutiny and gossip of men. Notiba Khatun adds: 'It is much easier to collect water from the water point while wearing my burka.' The toilets and latrines are located outside the home, which is also inconvenient for

To be able to wash clothes and clean reusable pads inside the home in a safe and dignified way is an important intersectional issue, cutting across several women's rights.

the women. When asked if there was a possibility of people not using these services, Semon, 27, explained: 'Some people don't use latrines because it's far away from the household.' Contamination of water is thus a serious issue in the camp, as reported in a study made by Zahid Hayat Mahmud in 2019, which showed that 73.96 per cent of the water collected from the supplying wells were found to be contaminated with faecal coliform, and 34.5 per cent reported the presence of *E. coli*.

Bathing spaces are usually situated inside the women's households, which offers them some degree of safety, particularly when it comes to having showers, washing clothes and, crucially, washing reusable pads for the days of menstruation. Reusable pads and reusable underwear are provided by World Vision, an NGO that also raises awareness of menstrual hygiene and practices.

Sanjida agrees that hygiene awareness in the camp is vital, and she adds: 'I feel [that] now we have a good knowledge on MHM [menstrual hygiene methods] in Camp as we know how to take care of

ourselves during our menstruation.' Like Sanjida, Notiba Khatun points out that access to water and being able to wash their reusable pads is very important because most women in the camp still feel self-conscious when needing to deal with menstruation in a place shared with men. Sanjida continues: 'I wash and reuse [my pad] but after reusing it I bury it. I don't like throwing them in the waste bin because if men see them, it is a matter of shyness for us.' This shows again the nature of the relationships between women and men in the community, and the fact that hygiene is viewed as a delicate topic.

In March of 2023, a major fire broke out in Camp 11 in Cox's Bazar, which resulted in the destruction of 2,000 shelters, as well as the facilities available in that area. This disaster has made the situation related to access to water considerably more difficult. Local Rohingya photographer Mohammed Shaker states: 'We lost everything. We are only left with what we had on our bodies.' In addition to the shelters, the fire destroyed the water collection points, the toilets and latrines, and bathrooms.

The women now need to collect water at points that are eight to ten minutes away from where they used to collect it. This has led to an increase in the number of people collecting water at the same point, exacerbating the shortage of water. Lack of water to put out the fire also points to underlying problems concerning the vulnerability of refugee populations such as the Rohingya community in Cox's Bazar, who had no available water to control the flames.

The story of the young women of Kutupalong camp shows that access to water in refugee camps is a matter not only of health and basic needs, but also of safety and dignity. To be able to wash clothes and clean reusable pads

inside the home in a safe and dignified way is an important intersectional issue, cutting across several women's rights. Denying women access to clean water poses multiple threats, including the exacerbation of gender-based violence and ethnic discrimination, and increased vulnerability to major disasters, such as the March 2023 fire.

The basic right to water is at risk of being violated in Kutupalong. The experiences of these four Rohingya women, coupled with the recent devastation by fire, expose a lack of provision for minority refugees in Bangladesh, and the inadequacy of support and relief mechanisms available to the young women of Kutupalong.

Rohingya refugee women and men collecting their water from a water point in a Rohingya refugee camp in Cox's Bazar, Bangladesh. *Sahat Zia Hero/Rohingyatographer*



# **Ecuador: The right to water for Afro-descendant communities in Esmeraldas**

Shodona Kettle

The province of Esmeraldas in the northern coastal part of the country is one of the most strategically located, ecologically rich and biodiverse regions of Ecuador. It forms part of the Chocó, a celebrated ancestral territory for Afro-descendants that stretches from Panama down to Manabí province, Ecuador.



A young man lights a torch to avoid insect bites while collecting shells in the Tambillo mangrove swamp, San Lorenzo. Most inhabitants survive on this economic activity. The mangroves are in an alarming state of environmental pollution caused in part by sewage and solid waste. San Lorenzo, Esmeraldas, Ecuador. *Johis Alcarón*

Known as the *Gran Comarca* and *Reino de Los Zambos*, the Ecuadorian Chocó region is renowned for the rebellious spirit of African descendants who settled in these lands centuries ago. The historical presence of Afro-descendants in the region resulted from the establishment of *palenques* – settlements and camps made up of escaped or freed formerly enslaved persons – independent of colonial rule.

Despite the geographic and cultural wealth of the region, the Afro-descendant population in Esmeraldas – Afro-Esmeraldeños – often confront high levels of poverty. While the Afro-descendant and Black population makes up 70 per cent of the total Esmeraldas population, 85 per cent of

them live below the poverty line and 23 per cent have little or no access to basic services such as water, health and housing. Added to this is the daily racial discrimination Afro-Esmeraldeños encounter, rooted in colonial prejudices towards African descendants.

The exclusion of Afro-Esmeraldeños is evidenced by the many water challenges faced by this community. Among the problems they face is lack of access to safe drinking water and sanitation services. Ecuador broke new ground in 2008 when its parliament adopted constitutional amendments granting rights to nature and other environmental safeguards in its Constitution. Article 12 mandates that ‘the human right to water is

essential and cannot be waived'. The document adds: 'Water constitutes a national strategic asset for use by the public and it is inalienable, not subject to a statute of limitations, immune from seizure and essential for life.' Additionally, the 2014 Organic Law of Water Resources, Uses and Utilization of Water amplifies the articles enshrined in the Constitution to protect the right to water deeming it inalienable, imprescriptible and infeasible. Despite these legal frameworks, Esmeraldas' Public Water and Sanitation Company (EPMAPS) does not currently supply local communities with sufficient water.

Afro-Esmeraldeño communities are mostly located in remote and hard-to-reach areas, making access to water challenging. Even though 64 per cent of urban houses have public water access, in parts like the northern cantons of San Lorenzo and Eloy Alfaro infrastructure for water supply and sanitation is woefully inadequate. Residents often depend on public water delivery tanks or else have to purchase water storage tanks to access potable water supplies.

Such is the case for Mirian Orejuela and her family, living in the city of Esmeraldas. Water is rationed in most neighbourhoods, leaving families with supply for only two or three days of the week. Mirian explains:

*People are used to having water storage tanks in their homes in case of water failure. Quite often us Esmeraldeños are without water for two weeks at a time, sometimes three weeks, even months. Sadly, people are used to living like this. In Esmeraldas*

*people cannot live without water tanks, but not everybody can afford them.*

In the more precarious parts of Esmeraldas city there is hardly any water, yet people have no option but to continue paying water bills. 'This is absurd,' Mirian complains, 'because poorer people are paying for a service that is not even being delivered! Besides, the infrastructure has never been well thought out, that's why it fails. It always, always, fails,' Mirian concludes.

The cost of buying a water tank from a private water company can be anywhere between US\$25 and US\$40 for 8–10 cubic metres. Since purchasing water tanks is beyond the reach of many Afro-Esmeraldeños, people often rely on water supply from local rivers, canals or wells. This is especially the case in rural areas, where many communities do not have access to piped water or proper sanitation facilities; indeed, only 9 per cent of rural houses have access to public water services in the Esmeraldas province.

Rosa Mosquera, a resident from Limones, a small island that forms part of the Eloy Alfaro canton close to the Colombian border, explains: 'This has been an issue since I was a little girl. We used to collect water from the well or we would rely on water delivery in tanks to access it. We had to use water carefully to make it last. The various governments we have had over the years haven't resolved this crisis. It's a serious issue.'

Despite the investment of hundreds of millions of dollars by the National Development Bank in the maintenance and development of EPMAPS' water

Unless corruption, government inefficiency, lack of capacity and endemic racism are addressed as root problems, Afro-Esmeraldeños will continue to face major water challenges in years to come.

system, Afro-Esmeraldeños continue to be denied their right to safe drinking water. Juan Montalvo, another resident of the city of Esmeraldas, argues that despite the financing of infrastructure, there is no guarantee water quality will improve, as failures in the piping network are a regular occurrence in his neighbourhood. For Juan, governmental corruption, coupled with political and administrative deficiencies, are the root causes of Esmeraldas' water crisis. For him, widespread corruption and greed are the main reasons why Afro-Esmeraldeños cannot fully enjoy their right to water. There is no formal mechanism at central government level capable of overseeing how funds and resources are channelled, and where money is being spent at the municipal level.

Although Ecuador's constitutional and legislative provisions may seem promising on paper, the reality of Afro-Ecuadorian communities in Esmeraldas is starkly different. The implementation and enforcement of water rights is not happening on the

ground. Unless corruption, government inefficiency, lack of capacity and endemic racism are addressed as root problems, Afro-Esmeraldeños will continue to face major water challenges in years to come.

The voices of people on the ground further highlight the need for the central government to institute a governing body with a rigorous and transparent framework to oversee water investment, infrastructure, monitoring, evaluation, accountability and learning. Unequal distribution of water and sanitation services in northern Ecuador is a systemic problem that hinges on social, economic and political factors that authorities cannot continue to overlook or ignore. For a province with such vibrant historical and cultural significance as Esmeraldas, the violation of such fundamental rights as the right to water is a clear sign that Black and Afro-descendant communities in Ecuador continue to suffer neglect, even after hundreds of years of discrimination and marginalization.

# **Somalia: The impact of poor sanitation and improper waste disposal on the health of minority IDPs in Baidoa**

Mohamud Abukar Abdullahi

Baidoa is the capital of the Bay region of Somalia, situated approximately 250 kilometres west of Mogadishu. It is an ethnically diverse town with local residents originating from other parts of Somalia. Baidoa's population is estimated to be over one million. It hosts a large number of internally displaced persons (IDPs), many of whom identify with minority communities who have moved from their areas of origin due to drought, famine and poor security.



The size of Baidoa's IDP population is increasing rapidly. According to a 2020 report by the Research and Evidence Facility: 'Although UNDP [the UN Development Programme] estimated the population of Baidoa at 370,000 in 2005, the population has since then more than doubled. Currently, the IDP population alone is estimated at 360,000, settled in 485 sites in and around the city.' In July 2022, the Camp Coordination and Camp Management (CCCM) Cluster verified 498 IDP sites in Baidoa, hosting 89,476 households or 596,931 individuals. An October 2022 report by Médecins Sans Frontières suggested that, 'Between January and August 2022, more than 200,000 people arrived in Baidoa. This is in addition to the approximately 600,000 people living in the city. After the capital Mogadishu, Baidoa now

hosts the second-largest number of displaced people in Somalia'.

Most of the families or households living in the IDP camps in Baidoa have long been faced with inadequate sanitation services. As a result, many of them, especially women, children, persons with disabilities and elderly people who identify as belonging to an ethnic, religious or linguistic minority, are particularly vulnerable. These people are not protected from hunger and live under very poor sanitation and hygiene conditions, which has led to repeated outbreaks of water-borne diseases in the IDP community.

The enduring problem of poor sanitation is a root cause of diseases such as diarrhoea and cholera. Poor sanitation and lack of water are forcing residents

Harrow, a camp leader, walks through a camp and passes a group of women fetching water in Diinsoor, Baidoa, Somalia.  
*Mohamud Utaama*





Fadumo walks to fetch water at Camp Tawakal Two Diinsoor in Baidoa, Somalia.

*Mohamud Utaama*

in Baidoa's IDP camps to clean themselves with mud containing faeces or urine. Open defecation is a common practice in the IDP camps. Access to proper latrines is non-existent; where improper ones exist, they are very limited in number and serve about five times more than the standard number of 20 individuals per toilet. Most of the makeshift huts accommodating IDPs are 50 metres away from the toilets, with the sickening odour of the toilets a daily reality. Where available, these facilities are used by men, women and children who sometimes spend a long time waiting to use the facilities, which often persuades individuals needing to relieve themselves urgently to seek a close-by area they can use.

This challenging situation makes minorities in these IDP camps more vulnerable to water-borne diseases caused by the lack of clean latrines. The camps do not have accessible water for either drinking or sanitation, thus increasing the risk of vulnerability

to communicable diseases such as cholera. Women usually have to trek long distances to access any type of water, fetching water in jerrycans of about 20 litres for a household of about six persons or more. Water scarcity is exacerbated by the fact that the water accessed by minority IDPs comes from the Isha Baidoa, a heavily polluted rivulet that runs through the nearby city. River pollution is one of the major causes of death for IDPs when it comes to poor sanitation and cholera outbreaks in Baidoa.

Research carried out by the University of Southern Somalia revealed the various factors that can be attributed to the outbreak of the cholera epidemic affecting Baidoa. 'Poor sanitation' was blamed unanimously at 100 per cent for the outbreak of cholera in the IDP camps.

This analysis is consistent with the real-life story of HI, an internally displaced woman who lives in one of the camps.

‘Poor hygiene and sanitation are more likely aggravated by the lack of care because people live in huts that cannot protect themselves from rain and dust. Our existence does not matter to anyone except Allah!’

The threat of cholera is especially acute for the minority communities living in the south of Baidoa, particularly members of the Eylo ethnic group, such as HI. HI has seven children. Two of her children have physical disabilities, affecting their legs and backs, which means they cannot walk.

HI explains that her family was displaced in 2011 from an area near Bur Hakaba district, due to the drought that hit south-western Somalia. Since then, she has been living in Bur Heledi camp. She says: ‘We do not have clean water, so there is no health in this camp.’ She points out that the sources of water are open wells that are not treated; their cleanliness is very poor and so the water can make people sick, yet ‘better alternatives are not available’. The other source of water is the Abow Asharow water stream, which is about 1 kilometre from the camp.

Another female minority IDP, AHD, states that the lack of hygiene makes them ‘seriously vulnerable to diarrhoeal diseases’. She adds: ‘Some of our relatives were victims of cholera several times. There is nothing we can do about it. No help to improve our situation.’ Cholera strikes the IDPs recurrently, especially during periods of water scarcity or in the rainy season. Heavy rains often lead to unsanitary conditions in the area due to the lack of toilets and children who defecate

outside in the neighbourhood. A single outbreak may result in the deaths of many children and adults. HI tells how cholera affected her family in 2017, when one of her children died. A second child was saved after he was taken to one of the nearby hospitals.

Another IDP, an elderly male from an ethnic minority community, laments the condition of camps accommodating minorities: ‘Poor hygiene and sanitation are more likely aggravated by the lack of care because people live in huts that cannot protect themselves from rain and dust. Our existence does not matter to anyone except Allah!’ He adds: ‘Children, women and the elderly can die from malaria, which is the most recurrent disease in our camp.’

In conclusion, the challenges faced by minority IDP families in accessing basic sanitation are vast. These include lack of education and lack of awareness of the importance of sanitation and hygiene. These life-threatening issues are augmented by low coverage of services, with poor sanitation quality and a lack of security and justice. Malnutrition and disease are among the common challenges in the minority IDP camps, affecting mainly pregnant women, children and the elderly. Failing to address these challenges may lead to a catastrophic humanitarian crisis in Somalia that could wipe out large numbers of minority IDPs. ■

**POLLUTION**



**According to recent estimates by the UN Environment Programme, 80 per cent of global wastewater goes untreated, containing everything from human waste to highly toxic industrial discharges. Globally, 1,000 rivers emit nearly 80 per cent of oceanic plastic pollution, that is one per cent of the world's rivers mostly located in highly industrialized countries or countries experiencing rapid industrialization such as India, China and Indonesia. During 2022, industrialized countries like the United States and the United Kingdom experienced major pollution crises due to sewage, agricultural run-off and industrial pollution, which in turn led to many lakes and rivers being declared 'biologically dead'.**

That is the case, among others, of Lake Erie, and the Ohio and Mississippi rivers in the United States. The Severn, Calder, Usk and Wye rivers in the United Kingdom have also suffered a similar fate. Biological death has also been the fate of major rivers in the global South including the Ganges, Yamuna, Citarum and Yellow Rivers. Underlying the water pollution crisis worldwide are a series of intersecting problems, including industrial agriculture and extractive industries (e.g. mining and the petro-chemicals industry), as well as other related issues such as road run-off, sewage, unregulated plastic production and even unregulated pollution from religious practices (e.g. river cremation).

This section addresses worsening water pollution affecting the Denínu Kúǵé First Nation of **Canada**. Intense mining in the northern regions of this country demonstrates a lack of engagement with and respect for First Nations. The case study shows serious shortcomings in the way the Denínu Kúǵé people's right to free, prior and informed consent has been observed (or not) by mining corporations seeking to exploit indigenous territories, and adjacent lands and rivers. Encroachment by mining corporations within indigenous territories has not only led to serious water pollution issues, but also internal conflicts within the communities themselves as a result of the economic opportunities brought on by extractive industries.

Water pollution is also a major concern for the Q'eqchi Maya peoples of El Estor in **Guatemala**, particularly in the case of Lake Izabal. A major site of cultural connection, livelihoods and heritage for Maya fishing communities, Lake Izabal has experienced severe pollution as a result of industrial mining in the region. While internationally backed mining corporations are allowed to dump untreated chemical waste in the waters, indigenous campaigners and activists who have stood up against the destruction of ancestral lands have been vilified and labelled criminals, further entrenching the discrimination and hate crimes experienced by indigenous peoples throughout Guatemala and elsewhere in Central America.

The indigenous Ogoni people in **Nigeria** have for decades fought to defend Ogoniland and the Niger Delta from the devastation caused by oil extraction, especially the impact of operations led by the Dutch oil giant Shell. In addition to contextualizing the rights of Ogoni people in a historical overview, the case study also addresses legal and policy advances made by Ogoni communities in the last year, as they seek the repair of their degraded lands and waters, as well as compensation and restorative justice.

# Canada: Oil sands and ongoing Indigenous Peoples' health rights violations

Nicole Redvers



An oil sands tailings pond, one of the largest of its kind in the world, housing a liquid mix of toxic waste which contains dangerously high levels of mercury, arsenic, lead and benzene. Fort McMurray, Alberta, Canada. *Jan Willms*

The Denínu Kúyé First Nation, otherwise known as Moose Island or Fort Resolution, is situated on the western edge of Des Nedhé (Slave River) delta, which encompasses approximately 400 square kilometres of channels and wetlands in sub-Arctic Canada. Seventy per cent of the water flowing into Tu Nedhé (Great Slave Lake) flows from the Athabasca and Peace rivers down Des Nedhé, passing by Denínu Kúyé, located above the 60th parallel. A wide variety of animal and fish species, including moose, beaver, muskrat, whitefish, and seasonal ducks and geese, live within the beautiful Des Nedhé delta ecosystem.

Denínu Kúyé First Nation is also home to Dene and Métis Peoples who have been stewards of their lands and waters for millennia. Dene Law roots Dene Peoples to their individual, community and Mother Earth responsibilities while maintaining vital connections to language, culture, land and water. This ongoing land and water stewardship and responsibility is, however, hampered by continued colonization. Despite the existence of what were peace and friendship treaties from the Dene perspective, including Treaties 8 and 11 with the crown, the federal government has resumed the ceding of land and has not honoured rights to self-government. With complex and multi-layered governmental bureaucracy that does not often appreciate or honour traditional land and territory boundaries, environmental rights have been a difficult and contentious issue in northern Canada.

The issues surrounding Indigenous environmental rights in the region have been amplified due to the weaving



A boat is seen on the shores of Tu Nedhé (Great Slave Lake). Fort Resolution, South Slave Region, Northwest Territories, Canada. *Mike Hardiman/Alamy Stock Photo*

Dene Law roots Dene Peoples to their individual, community and Mother Earth responsibilities while maintaining vital connections to language, culture, land and water. This ongoing land and water stewardship and responsibility is, however, hampered by continued colonization.

waterways that Dene and Métis Peoples hold sacred and that are currently at risk of being polluted. The Canadian billion-dollar oil sands mining industry has been in operation in the province of Alberta for decades. In that time, approximately 1.4 trillion litres of toxic wastewater have been generated by mining operations, the volume of which would fill more than 560,000 Olympic-sized swimming pools. There has been increasing concern about the risk of an unexpected release within the local region of the oil sands operations.

The Canadian government has stated that to reduce the environmental and health risks of storing toxic waste, there is a need to examine ways to release partially treated tailings pond waste into the Athabasca River – something that is currently illegal. Industry has deemed full treatment of tailings pond waste to be not economically feasible. The Athabasca waterway itself feeds into water systems going all the way up to the Arctic Ocean, with the Athabasca and Peace rivers feeding Des Nedhé, which passes by many First Nations communities in both

Alberta and the Northwest Territories, including those of Fort Chipewyan, Thebatthi (Fort Fitzgerald), Thebacha (Fort Smith) and Denínu Kúǰé.

For decades there have been calls for an independent, government-funded, baseline health assessment, and ongoing cumulative exposure studies on and with the primarily Indigenous communities that make their livelihoods downstream from Canada's oil sands industry. Despite these ongoing and frequent calls, including from Indigenous Peoples themselves, even the most basic independent monitoring has yet to be initiated. Industry and industry stakeholders continue to downplay the health risk of exposure to mining outputs, including the tailings ponds, and no funding has been mobilized to support community health monitoring downriver from oil sands operations.

Similar to other Indigenous communities in precarious environmental situations globally, when potential health risks are identified, they are often minimized, brushed under the table by industry,



or even deflected to other potential causes. For the Alberta oil sands, the provincial cancer board did find an increase in the overall cancer rate based on general epidemiological data available within communities downstream from the mining operations; however, they specifically noted that the results were based on a small number of cases that could be due to chance, increased detection or increased risk in the community.

For the communities that live downstream from the oil sands in the Northwest Territories (north of the province of Alberta), a public-facing epidemiological assessment has never been carried out. ‘Small numbers’ are often used as the reasoning for not being able to determine significant health impacts within Indigenous communities. However, in addition to increased cancer rates possibly due to chance or increased risk in the community, what is not appreciated is that high cancer rates in this community could also very well be caused by the oil sands mining operations. Not being able to reach a population number large enough to draw a conclusion is not the same as no risk being present. This is especially true without full, independent and comprehensive health monitoring studies being carried out. There is a very real possibility that the oil sands operations are currently causing harm to Indigenous communities, and this harm has been observed by Elders through their traditional knowledges. It is important also to note that harm is independent of whether partially treated toxic tailings pond waste is released into the waterway, as the consequences of the change in

regulation would be in addition to any undocumented current health harms.

In process now within the federal government in Canada is a crown–Indigenous working group that has already begun creating oil sands tailings water release standards with draft regulations set to be released in 2024, and the final regulations due to be completed sometime in 2025. To date, there have been no public-facing hearings, no independent watchdog, no concrete plans for human health monitoring, and little to no dialogue on the process of creating the regulations, or who will be involved in their creation. Indigenous governments in the Northwest Territories specifically, including Denínu Kúé, are not currently being included as a part of the federal government process despite the tailings ponds release affecting their traditional territories. Dene rights and Dene voices on this issue have continued to be suppressed and minimized, with consequences for generations to come. This despite the Dene National Assembly in 2022 unanimously passing a resolution to oppose the release of treated tailings water from the Alberta oilsands.

Free, prior and informed consent is currently not being honoured in Canada when it comes to the re-examination of a currently illegal practice that violates the rights of Indigenous Peoples downstream

**Northern communities should not be sacrificed for industry profit.**



Avert, a young indigenous girl, walks into Lake Athabasca, in Fort Chipewyan. The oil sands are located along the Athabasca River, which flows into Lake Athabasca. *Ian Willms*

from the oil sands. The regional non-profit organization, 'Keepers of the Water', requests that allies write to the Canadian Minister for Environment and Climate Change through their website to say NO to the release of partially treated tar sands tailings effluent into the Athabasca River.

On 6 February 2023, Imperial Oil informed the Athabasca Chipewyan First Nation that ongoing overground and underground leaks were coming from the tailings' ponds – nine months

after leaks were first identified. This means that disclosure requirements to Indigenous Nations downstream from oil sands operations were ignored. The complete disregard of downstream Indigenous communities' and environmental health demonstrates a clear pattern of the industry and the Alberta provincial regulator continuing to minimize the human rights of Indigenous Peoples in the region. Keepers of the Water states clearly that northern communities should not be sacrificed for industry profit.

# Guatemala: Water pollution and the rights of Q'eqchi Peoples in El Estor

Monica Coc Magnusson

Difficulties in accessing clean water under international human rights standards are increasing for Indigenous communities globally. Mining operations are a leading cause of water contamination in many Indigenous territories. This is true for the Indigenous Q'eqchi Peoples of El Estor, located on the shores of Lake Izabal in Guatemala.



Juan Ixim, a Q'eqchi' Mayan fisherman, paddles his boat on Lake Izabal. Behind him, mining activity by CGN-Pronico has left deep scars on the Sierra de Santa Cruz mountain range. Izabal, Guatemala.  
*James Rodriguez/Panos Pictures*

Lake Izabal's basin, in north-west Guatemala, forms the Dulce River (Rio Dulce) which discharges into the Caribbean Sea. It is the largest lake in Guatemala and a primary source of food and water for communities surrounding it. El Estor is predominantly a Q'eqchi Maya community that depends heavily on the lake for their livelihoods. Indigenous leaders concerned about its contamination continuously petition the state to stop the pollution. However, their efforts have historically been met with violence and disregard for the rule of law.

Q'eqchi fishers, known as the Fishermen's Guild, count on Lake Izabal for their livelihood. The President of the Fishermen's Guild, Cristobal Pop, reports that their fishing livelihood is seriously threatened by

the contamination of the lake, and the alarming rate of algae bloom and fish-kill events. High concentrations of heavy metal pollution (cadmium, lead, zinc, chromium and nickel) is caused by intense mining in the region. Operations began in the region in the 1960s without the consent of the Indigenous Peoples and continue to be a primary source of contamination to this day. Tests carried out on the lake as early as 2004 confirm that out of the various metal pollutants found in Izabal's waters, nickel and chromium are the most dominant.

Nickel mining is being conducted by the Fenix Project, a subsidiary of a Swiss-based corporation known as Solway. The company has obtained mining rights to 36.2 million tons of nickel ore reserves with 1.86 per cent nickel, as well as the rights to an additional

‘We are criminalized and vilified when we assert our rights. However, we have no choice but to defend our waters for our children and their futures. We need the global community to hold multinational extractive companies accountable for the destruction of the environment and the violation of the rights of Indigenous peoples.’

70 million tons of resources within its licence area, making this one of the largest nickel mines in Central America. The project also encompasses a power plant and a metal processing facility.

Members of the Fishermen’s Guild note that in 2017 the lake turned red. The culprit was wastewater discharged directly into the lake by the mining company. The fishermen made several attempts to get support from the government in an effort to stop the contamination, however, their efforts were met with violence. Members of the fishing community staged a peaceful demonstration in May 2017, during which the national police fired bullets at protesters. A member of the Fishermen’s Guild, Carlos Maaz Coc, was killed. Pop claims that while local authorities took samples to test the water quality, the data was never made public because the results would be damning. The Fishermen’s Guild commissioned an independent study, with test samples sent to Germany and Mexico. Results confirmed contamination by heavy metals.

Another member of the Fishermen’s Guild, Olga Che, reports that the local authorities blame the community for contamination of the lake, instead

of holding the mining company responsible. Che insists that everyone in the community knows that the mining company uses the lake for its operations and discharges wastewater directly into Lake Izabal. Che explains that pollution in the lake has had a serious effect on the communities, especially in terms of the negative impact on health and sanitation. Che says: ‘We have got sick from eating fish and drinking contaminated water, but when we go to the government hospitals they won’t release our medical information to us. They tell us that it’s just a virus.’

Che believes that contamination is also responsible for the loss of biodiversity, including dwindling local fish stock. She recounts that the mining company introduced a new fish known as ‘Pez de Diablo’ (Devil’s Fish) to replace the disappearing native fish species. Che says: ‘The new fish is an invasive species. People don’t eat it; it has crocodile skin and it tries to bite people. We have never seen this type of fish before. They placed the fish in the lake to appease the fishing community, but this fish eats the local fish making it even harder to find local fish, and harder for us fisher people to continue our livelihood.’

Guatemala's Supreme Court found in 2019 that the Fenix Project was operating illegally as it had failed to consult the affected Indigenous communities in accordance with the International Labour Organization (ILO) Convention No. 169. While the court ordered a suspension of the mining licence, pending a consultation, the mine continued to operate in direct contravention of the rule of law.

Indigenous rights advocates organized a blockade in October 2021 to try to stop illegal mining operations. The government responded on 24 October 2021 by imposing a state of siege lasting 30 days, which suspended important rights and freedoms. Arrest warrants were issued against organizers, including Cristobal Pop, who was imprisoned and later released on condition that he does not leave his community. Despite this, Indigenous leaders continue their advocacy efforts.

On 26 April 2022, the Constitutional Court confirmed once again that the Fenix Project was operating illegally. The mining company has since gathered sympathizers. After holding meetings with supporters outside of El Estor, it has deemed that consultations have been carried out, which justifies, according to the company at least, its ongoing operations. The Fishermen's Guild and other community leaders contest these 'consultations', arguing that they do not meet international human rights standards under ILO Convention No. 169 or the UN Declaration on the Rights of Indigenous Peoples,

especially Indigenous peoples' right to free, prior and informed consent. What is more, members of the Fishermen's Guild maintain that the consultations were conducted in bad faith. Having exhausted all other options, local leaders have taken the matter before the Inter-American Court on Human Rights. This time, they are demanding that the government recognize their communities' collective title to their traditional lands as well as their sovereignty over the natural resources. The plaintiffs' lawyers began presenting their case before the court in February 2022. While the ruling is pending at the time of writing, the affected communities continue to hope for a favourable decision affirming their rights.

Mining has proven harmful to the Indigenous peoples of El Estor, resulting in water pollution, loss of livelihoods and violence. 'We want the global community to see the sustained harmful effects mining pollution has had on Indigenous peoples. The global community must pressure the government of Guatemala to uphold the ruling of the courts and protect the rights of its Indigenous peoples,' says Che. Pop adds: 'We are criminalized and vilified when we assert our rights. However, we have no choice but to defend our waters for our children and their futures.' He concludes: 'We need the global community to hold multinational extractive companies accountable for the destruction of the environment and the violation of the rights of Indigenous peoples.'

## **Nigeria: ‘Water was the source of life; it is now the cause of death’ – the ongoing oil pollution crisis among Ogoni people in the Niger Delta**

Mercy Ette, with contributions from Martha Agbani

With an estimated area of about 1,050 square kilometres, Ogoniland is situated in the Niger Delta region of Nigeria, which happens to be the third largest mangrove ecosystem in the world and second largest in Africa. Ogoniland is home to six kingdoms and two special areas including Babbe, Eleme, Gokana, Ken-Khana, Nyo-Khana, Tai, Bori National Territory and Bangha Goi. Home to about 1.5 million people, Ogoniland is also an area of great linguistic diversity. Four main languages are spoken in Ogoniland, which are all related. They are the Kana, Gokana, Eleme and Tai languages.



Ogoni women in B-Dere community replanting mangroves to reclaim land degraded by oil spillage in Gokana, Rivers State, Nigeria. Zoryii Edith Neebari

Ogonis are a distinct indigenous people with a rich cultural history and ethnic identity distinct from other ethnic groups and majority populations in southern Nigeria. Once a culturally rich and biodiverse region, Ogoniland is now cited as one of the most ecologically degraded places on earth.

The reason for this ecological decline has been the catastrophic impact of oil extractive industries in the land, which dates back to the 1950s. By the late 1960s and early 1970s the woes caused by these industries had become acute. In 1969, the first oil spill was caused by the bombing of an oil tank in K-Dere community, Gokana, during the Nigeria civil war.

A once green and high-yielding land was and still is largely reduced to oil-encrusted fields where crops shrivel and die. Local rivers and creeks are

covered in pools of floating crude oil and ecosystems destroyed; sources of livelihood have been lost and the health of the people seriously affected or in some cases damaged. Effluent discharges pour into local rivers and streams, making the water undrinkable and unusable.

Critically, the level of pollution by petroleum hydrocarbons has penetrated deep into the soil, surface and groundwater in the form of forever chemicals, that is, chemical pollution that is not biodegradable, which has taken and will continue to take a toll on the quality of life of people for generations to come. The UN Environment Programme (UNEP) Assessment Report on Ogoniland (2009–11) clearly states that due to the effect of petroleum hydrocarbon pollution, there is reduced life expectancy for the average Ogoni person, currently pegged at 45 years.



Despite a long-standing claim for sovereignty over ancestral lands and compensation for damages caused by oil extractors, Ogoni people remain marginalized by the Nigerian state.

This case study highlights the extent of environmental degradation on water resources in Ogoniland and the implications for Ogoni people's rights to self-determination and restorative justice.

### Ecological warfare

Although Shell Petroleum Development Company (SPDC), the largest stakeholder in Nigeria's oil industry, was forced to halt its operations in Ogoniland in 1993 following the passing of a 'persona non grata' order on SPDC and its contractors, its legacy of pollution is still felt as major pipelines criss-cross Ogoniland and intermittently spew out crude oil. Leaks from abandoned, ageing and dilapidated infrastructure have led to ongoing environmental pollution for decades. Recently, the activities of artisanal refiners have exacerbated the level of environmental pollution in the area.

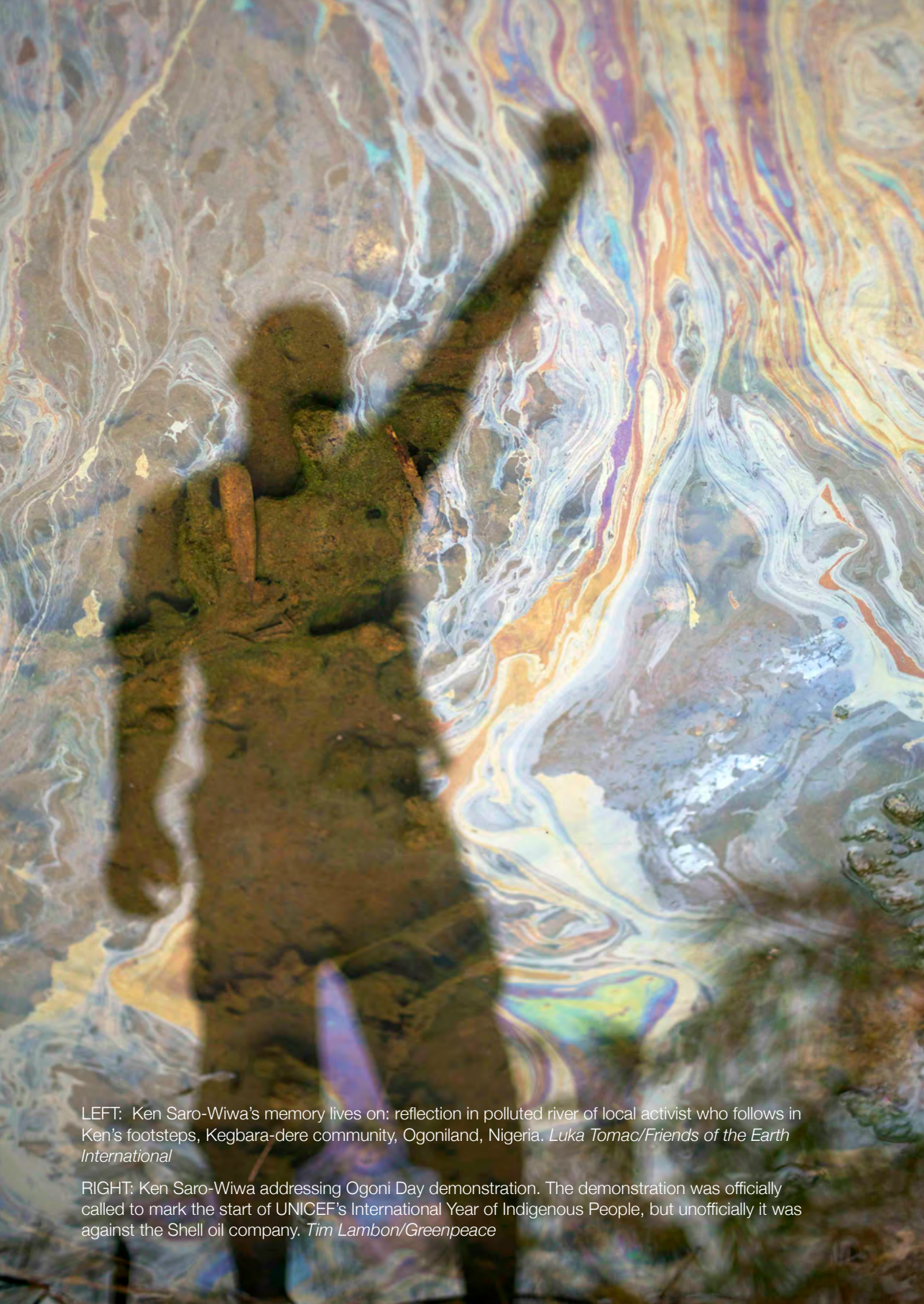
The formation of the Movement for the Survival of the Ogoni People (MOSOP) in 1990 came as a result of political marginalization, lack of control of Ogoni economic resources, under-development and ecological degradation (part of which concerned oil spills, the major challenge for Ogoni people at the time). While it was led by Dr G.B. Leton as the first president, MOSOP's spokesperson was an environmental activist, playwright and 'Right Livelihood' award recipient,

the late Kenule Beeson (Ken) Saro-Wiwa. Part of MOSOP's mission is the fight for environmental justice and halting what Saro-Wiwa called 'ecological war in Ogoniland'.

Before active oil exploration in Ogoniland was stopped, Ogoni oil contributed about 60 per cent of total oil exports from Nigeria and was also rated the best kind of oil, 'sweet crude'.

Given that oil exports were the dominant source of external revenue and the country's economic keystone, it was no surprise that the Nigerian government chose to support the oil industry and brutally suppressed the Ogoni people. In 1995, Saro-Wiwa and eight other Ogoni activists were convicted on trumped-up murder charges. The men were subsequently executed. Their deaths caused international outrage and earned Nigeria a suspension from the Commonwealth. In 2009, SPDC paid out US\$15.5 million in an attempt to settle a legal action out of court, concerning its involvement in the murder of the activists. (See *Wiwa et al vs. Royal Dutch Petroleum et al*, New York Federal Court of Appeals, Second Circuit, 2009.)

Decades later, Shell's legacy of pollution and death is still felt across the land. Ogoni environmental and human rights campaigner Celestine Akpobari argues that oil production has wrecked the land. He adds: 'Water was the source of life. Today, water is the source of death. People are drinking contaminated water because they have no choice. Even water from boreholes is contaminated.'



LEFT: Ken Saro-Wiwa's memory lives on: reflection in polluted river of local activist who follows in Ken's footsteps, Kegbara-dere community, Ogoniland, Nigeria. *Luka Tomac/Friends of the Earth International*

RIGHT: Ken Saro-Wiwa addressing Ogoni Day demonstration. The demonstration was officially called to mark the start of UNICEF's International Year of Indigenous People, but unofficially it was against the Shell oil company. *Tim Lambon/Greenpeace*



‘Water was the source of life. Today, water is the source of death. People are drinking contaminated water because they have no choice. Even water from boreholes is contaminated.’

His words are echoed by Nnimmo Bassey, a prominent Nigerian environmental justice advocate, activist, poet and also a ‘Right Livelihood’ recipient: ‘Ogoniland is a sorry situation. Much of the old pollution remains, especially in the case of complex sites that are yet to be remediated. This includes communities at Ogale where UNEP found groundwater to have benzene at 900 times above World Health Organization standards. Potable water remains a huge challenge in much of Ogoniland.’

To make matters worse, the current spate of artisanal refining in the land has contributed greatly to environmental degradation. The incomplete combustion of hydrocarbons has led to an increase in black soot with its resultant harmful effects on water quality and the environment as a whole.

## Restorative justice

In his final words before his execution, Saro-Wiwa famously proclaimed:

*I repeat that we all stand before history. I and my colleagues are not the only ones on trial. Shell is here on trial ... its day will surely come, and the lessons learned here may prove useful for there is no doubt in my mind that the ecological war the Company has waged in the Delta will be called to question sooner than later and ... duly punished.*

As Saro-Wiwa predicted, Shell has faced numerous court cases in Nigeria and abroad for the devastating pollution dumped on Ogoni lands. In January 2021, a Dutch court ordered Shell to pay €95 million (US\$111.6 million) to Ogoni communities after a 13-year legal battle waged by some of the affected communities.

In February 2023, and in representation of nearly 14,000 people from two local communities (Bille and Ogale), Client Earth filed a case against Shell’s Board of Directors for failing to move away from fossil fuels fast enough — the first ever case of its kind seeking to hold corporate directors personally liable. In May 2023, the UK High Court dismissed the case, but has since granted an oral hearing. The court case brings together schools, churches as well as individuals who request Shell to clean up their land. The communities also demand economic compensation.

To an Ogoni leader, HRH Mene Suanu Baridam, ‘taking a legal route is better than violence. It is a peaceful approach, and there is enough evidence of devastation to support the case.’ Court actions, Akpobari maintains, are also an indictment on the Nigerian government:

*If the regulatory agency was active and responsible, if the government cared about the needs of citizens, Shell would be held accountable and there would be no need to go to court*

*[overseas], because the oil company knows the damage it has caused.*

According to Bassey, ‘the communities are right to sue Shell. We are happy the court has accepted to hear the case. It is precedent setting. Sadly, no amount of cash can pay for ecocide.’

## Glimmers of hope

UNEP was commissioned to carry out an environmental assessment of Ogoni communities and make recommendations. Their recommendations called for emergency measures, as well as medium- and long-term implementation strategies that would lead to the clean-up, remediation and restoration of the land. In particular, UNEP called for a response to high levels of benzene, a known carcinogen, in the community’s sources of drinking water.

The Hydrocarbon Pollution Remediation Project (HYPREP), a government agency set up in 2017 to clean up the Niger Delta, is currently prioritizing provision of potable water in Ogoniland. Six contracts were awarded in March 2021 for water schemes that will provide potable water to the communities. If the contractors deliver these projects, Ogoni people may eventually regain access to safe drinking water. However, after two years, not a single source of potable water is to be found anywhere in Ogoniland, only gigantic water infrastructures without a drop of water in them!

In addition to the provision of drinkable water, HYPREP has other mandates which include: remediation of soil, groundwater and swamps; provision of sustainable means of livelihoods; public health assessments; restoration

and rehabilitation of mangroves, and more. The remediation project has been designed in two phases. The first focuses on hydrocarbon-impacted sites that pose medium risk and the second focuses on complex sites with extensive contamination that pose high risks to people and the ecosystem.

HYPREP and the ongoing success of the legal battles against Shell are evidence that positive changes are happening in Ogoniland, and that the fight by the Ogoni people to remediate the damages caused by the oil extraction and by the Nigerian state as co-responsible actors in this ecocidal war, may yet lead to environmental justice for the communities and the waters of this land blighted by oil production. ■

‘I repeat that we all stand before history. I and my colleagues are not the only ones on trial. Shell is here on trial ... its day will surely come, and the lessons learned here may prove useful for there is no doubt in my mind that the ecological war the Company has waged in the Delta will be called to question sooner than later and ... duly punished.’

# FLOODS



**The past year has seen some of the deadliest floods and flash floods ever recorded in Pakistan, eastern Australia and across large parts of Africa. In total, 3,861 people are thought to have died in these three flood events, leaving over 2.1 million people homeless in Pakistan alone. This section highlights the ways in which minorities and indigenous peoples are particularly vulnerable to the deadly impact of floods. The intensification of extreme weather events related to climate change is having numerous consequences on the ground in terms of aggravating the exclusion and discrimination faced by minority and indigenous communities worldwide.**

In **Australia**, we explore the existential threat faced by Torres Strait Islanders, where entire island communities are being threatened due to rising sea levels and the inundation of freshwater sources. The case study highlights precedent-setting and landmark legal advances made by Zenadth Kes activists at the UN Human Rights Committee with regards to compensation and justice for damages incurred by indigenous communities affected by the impact of the global climate crisis.

In **Hungary**, we focus on both historic floods in the recent two decades, as well as flash floods that took place in 2022, exposing a pattern of discrimination against Roma communities who have not received adequate relief, support or compensation for their losses. The case study illustrates how Roma communities live in areas and conditions that are more vulnerable to the impact of floods and flash floods, yet receive little or no support from the central and local authorities.

We turn next to the indigenous Endorois people of Lake Bogoria in **Kenya**. The Endorois have long faced the consequences of displacement from their ancestral territories. This case study focuses on the particular challenges confronting Endorois women with disabilities, at a time when environmental degradation is causing flooding in the areas surrounding the lake.

Finally, the recent flood in **Pakistan** is explored, particularly in terms of discriminatory practices during relief and humanitarian operations affecting Hindu communities in Umerkot District. A Hindu widow recounts the harassment, including sexual harassment, that she faced from the aid staff, security personnel and locals. This added to the trauma of the flood itself.

# Australia: Water crisis, rising sea levels and coastal inundations affecting Zenadth Kes Islanders

Peter Best

*To envision the impact of sea-level rise is also to picture  
an inheritance denied.*



Uncle Pabai Pabai from the Island of Boigu and Uncle Paul Kabai from Saibai Island are suing the Australian government for inaction on climate change. *Justin McManus*





An aerial view shows the community on Boigu Island, in the Torres Strait, Australia. *Aaron Bunch/EPA-EFE/Shutterstock*

## Sea-level rise is causing habitats to shrink, diminishing biodiversity

The colourful five-pointed star on the recently designed Torres Strait Island flag conveys a poignant message: Zenadth Kes is a tropical paradise made up of 274 islands (five groups), five cultures and five languages at least, as well as a long-standing sense of community and reverence for ancestors. Traditional inhabitants of the land bridge between North Queensland and Papua New Guinea, Zenadth Kes or Torres Strait Islanders are deeply connected with the land and sea country they have inhabited for many tens of thousands of years.

Biodiversity in this archipelago nation has long been astounding. Forty years ago, anthropologists eulogized:

‘This is one of the most ecologically complex areas in the world containing volcanic, continental, coral and alluvial islands, platform and barrier reefs.

The strait offers a multitude of habitats and niches for the Indo-Pacific marine fauna, which itself has the greatest diversity of the ocean world.’

Maintaining such ecologically complex and environmentally sensitive habitats is critically important for the welfare of the reliant Islander populations. Even though Torres Strait Islanders are ‘one of the most marine-oriented and sea-life dependent indigenous societies on the planet’, marine specialization among Saltwater People is possible only with honed technology and intimate knowledge of the sea accumulated over thousands of years. Any adaptation responses to current and foreseeable threats to the islands

‘We are concerned about where we are going to be relocated in the future. We are not talking about 100 years, but 30 to 50 years. We have our ancestors here. They are tying us to our land. We don’t want to leave our loved ones behind.’

and oceans of Zenadth Kes people, especially climate change and rising sea levels, must be firmly based on cultural identity and sovereignty, not just piecemeal political solutions coming from decision-makers in the national capital Canberra.

### **Access to clean water is threatened by sea-level rise**

Local sea-level rise in the Torres Strait Islands is two to three times the global average. Latest estimates suggest that levels will rise by one metre or more by the end of the century. Many of the low-lying islands need only another 20–30 centimetres of sea-level rise to lose significant amounts of land and resources. Existential threats to indigenous communities are so serious that potential migration to other islands, or even Australia, has become a real topic of debate among them. Other islands with different geophysical landscapes will be mostly inundated if the sea-level rise is more than 200 centimetres. The prospects of having to leave home, lose spiritual links and neglect responsibilities to ancestors, are traumatic.

‘Climate change is like a poison brought to our shores,’ argues Yessie

Mosby, a Torres elder and activist. This poison is deeply tied to water rights and water crisis in the islands. Water problems include scarcity of freshwater, saltwater intrusion, limited infrastructure and sometimes unsustainable use of water resources. ‘We live in fear wherever we go,’ Mosby argues. ‘We are concerned about where we are going to be relocated in the future. We are not talking about 100 years, but 30 to 50 years. We have our ancestors here. They are tying us to our land. We don’t want to leave our loved ones behind.’

Increasing ocean acidity and sea temperature, and ocean-carried sediments, microplastics and mining refuse from nearby big rivers in Papua New Guinea are affecting local fisheries, especially the traditional staple of dugongs, a marine mammal which inhabits seagrass meadows. Relying on the sea for food and livelihoods in the future is dangerous, even foolhardy.

Extreme tidal storm surges and rising seas bring salt into the freshwater springs that have existed for millennia on these low-lying islands. Extra remediation would require removing the salt as the contaminated water is pumped, diverting more rainwater into

storage, installing desalination plants or relying on imported and even bottled water. The question is: who is prepared to cover the compensation costs of climate change in this community?

According to Uncle Paul Kabai, a Torres Strait Island activist, ‘there are 17 inhabited islands in the Torres Strait and 7 of these are inundated with water due to rising sea levels. My island of Saibai is one of these,’ he adds. ‘Because of damage to the climate, we are finding it increasingly difficult to obtain clean fresh drinking water, materials for shelter, and liveable land.’

Health researchers have found that the inundation of Zenadth Kes Islands is conducive to a number of subsidiary problems, especially sanitation. Five climate-sensitive infectious diseases are particularly prevalent in the islands: tuberculosis, dengue, Ross River virus and two types of bacterial infection. To prevent health issues in the future, it is vital that a united response from Islanders on health and homelands is achieved.

### **Combating sea-level rise in Zenadth Res is setting a worldwide legal precedent**

Torres Strait Islanders have a long tradition of political campaigning, going back to the 1998 Mabo case for land rights, a significant milestone in Australian legal history. It led to the recognition of land rights for the Meriam people, traditional inhabitants of the Murray Islands in the Torres Strait. Legal and political campaigning has continued over the ensuing decades, leading up to recent proceedings against

the Australian government by two separate Islander groups.

In 2019, a group of eight Torres Strait Islanders submitted a complaint to the Office of the High Commissioner for Human Rights (OHCHR). They were acting on their own behalf as well as on behalf of six of their children. In September 2022, the OHCHR published its decision in the complainants’ favour. The UN body found that the Australian government had violated two important principles in the International Covenant on Civil and Political Rights, namely: the Islanders’ right to a home, private life and family; and their right to enjoy their culture. The OHCHR emphasized that the complainants’ right to culture, as indigenous people, is closely linked to Torres Strait Islanders’ territory and natural resources. The OHCHR decided that the state had not implemented adaptation measures in a timely manner, hampering the Islanders’ ability to maintain their way of life and transmit it to their children. It also decided that the Australian government must provide an effective remedy, including adequate compensation as well as implementation of the adaptation measures needed to secure the Islanders’ rights.

The decision sets worldwide precedents for the principles regarding state obligations – including compensation – to communities affected by climate damage. It also has significant implications for international law because it reinforces the link between climate change and human rights, emphasizing the responsibility of governments to address climate change, and paves

## Many climate researchers recognize Islander leadership as making a major contribution to an understanding of climate solutions worldwide.

the way for future international legal action. Although the decision is not legally binding on other governments, such as the island-states of the South Pacific that are also affected by sea-level rise, it could influence policy development, legal proceedings and international cooperation on climate change and human rights.

The other recent Torres Strait Islander case tackles Australian domestic policies. Uncle Pabai Pabai and Uncle Paul Kabai from Boigu and Saibai Islands filed their case with the Federal Court of Australia in October 2021, arguing that the federal government has a legal duty of care to Torres Strait Islanders to ensure that they are not harmed by climate change. They are seeking a court order to instruct the government to cut greenhouse gas emissions. The first evidence of the Pabai Pabai and Guy Paul Kabai v. Commonwealth of Australia case was submitted in February 2023.

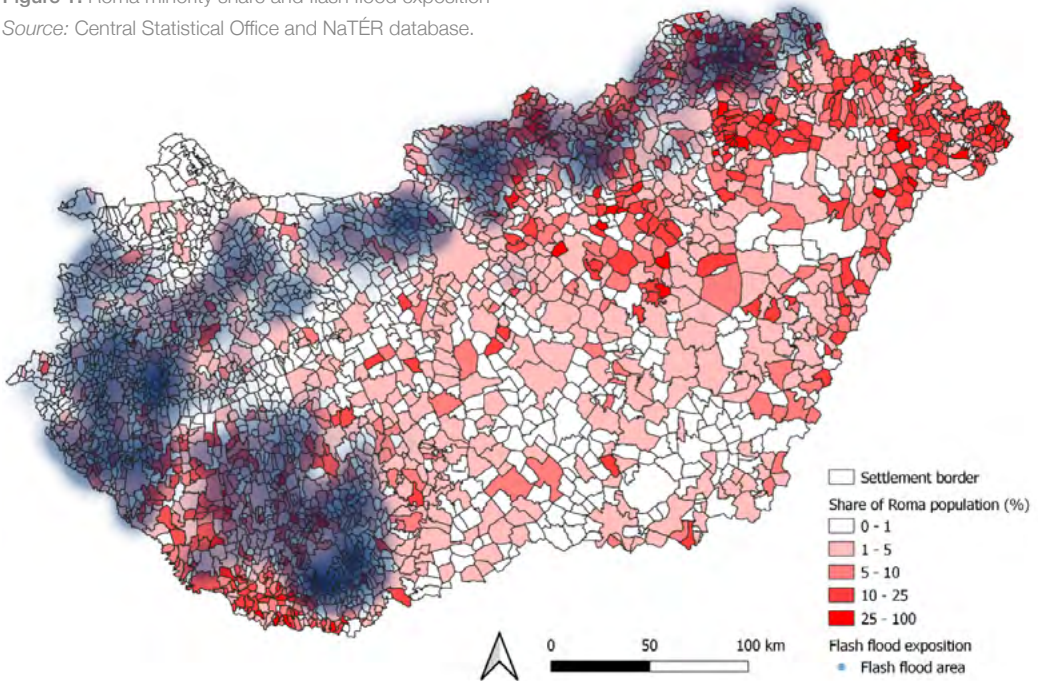
Following the OHCHR decision, the creation of a state-funded Torres Strait Climate Centre of Excellence was announced by the local authorities. The Centre of Excellence will be a First Nations-led effort guided by traditional knowledge, providing another precedent for the fight against climate change in Zenadth Kes and beyond. According to US scholars Scott Fitzpatrick and Christina Giovas, 'resilience to various extremes needs an approach from ridge to reef, to look after freshwater supplies and minimise the impacts of floods and storm-induced inundation.'<sup>1</sup> As the region becomes the focus of more cultural, scientific and health studies, many climate researchers recognize Islander leadership as making a major contribution to an understanding of climate solutions worldwide. These developments show that Torres Strait Islander Peoples must guide their region into the future, as the region becomes a leading centre of indigenous climate adaptation, supporting a positive narrative and approach in response to climate change and water crisis.

# Hungary: Flood-borne environmental injustices against Roma communities

Gyula Nagy

The Hungarian floods and flash floods that have affected Roma communities in recent years must be analysed from the perspective of environmental injustice. This case study describes the unequal burdens Roma people faced during the 2001 flood of Szabolcs-Szatmár-Bereg County and the 2010 flood of the Sajó, Herdánd and Bódva rivers in Borsod-Abaúj-Zemplén County. It also shows how these historical incidents serve as lessons for similar events that happened in the past year and are expected to recur in years to come.

**Figure 1:** Roma minority share and flash flood exposition  
 Source: Central Statistical Office and NaTÉR database.



Two hundred and twenty-seven Roma settlements in Hungary reported at least one flood-related occasion during the last decade. This case study also raises concerns over the vulnerability of Roma communities to flash floods in the mountainous areas of Hungary.

Although Hungary has not experienced major floods, only drought in recent times, past experiences show that the situation could quickly turn from excess to shortage, and back to excess water. In recent years, extreme droughts hit the Carpathian basin hard, yet heavy rainfall and thunderstorms resulted in flash floods in areas with a higher share of the country's Roma population. According to different climate models and predictions, the North Hungarian Mountains are seriously threatened by flash floods and face a higher risk of regular floods (Figure 1).

The most recent significant damage was caused by a storm in Ónod in

2022. In 2020, the most affected area was Miskolc. In 2018, the Pétervására and Füzesabony areas of Heves County suffered from flash floods, resulting in a flood emergency situation. In 2017, flash floods were also observed in the Ózd basin area, causing damage in several settlements.

According to the scientific literature, floods and flash floods can have significant health impacts on minority groups such as Roma communities, particularly those that are socio-economically disadvantaged and have limited access to resources and information. 'I can say that flash floods affect us living by rivers and streams,' says an anonymized interviewee. For example, if a flood event is not predicted and hits a community unexpectedly, it can cause physical injuries. Water-borne and vector-borne diseases can also occur. Communities living in areas with poor sanitation and waste management are particularly vulnerable to these diseases.

As part of this study, participants were surveyed and asked to rate their residential areas and surrounding environment on a scale of 1 to 10. On average, Roma respondents gave scores 1.5–2 points lower than non-Roma Hungarian respondents. Furthermore, while a significant portion of the non-Roma Hungarian group (19.7 per cent) reported feeling under-appreciated (scoring 1–3), nearly half of Roma respondents (47.7 per cent) expressed the same sentiment. These findings suggest that Roma individuals may perceive themselves as being viewed as a marginalized societal group. Additionally, a significant proportion of the Roma respondents (44.2 per cent) felt that they have no influence on socio-economic and political processes. ‘After floods or disasters, there is no help to assist us. Unemployment is very high among the community. There is no means to

get back on our feet,’ says another Roma person interviewed for this case study. This lack of perceived agency may contribute to a lack of motivation to seek change, as Roma individuals may feel there is no reason to do so.

In the case of floods, Roma settlements are disproportionately affected compared to other communities. Roma people are often marginalized and live in poverty, which makes them more vulnerable to environmental hazards. ‘Floods affect those areas the most where local conditions dictate it, where defence is inadequate, and it is inadequate in many places where Roma live,’ recalls another interviewee. In most cases, floods cause damage to Roma homes, infrastructure and crops, all of which have severe economic consequences for the already marginalized communities.



The Sajó river overflows a road near Sajóvanka, Hungary.

*Reuters/Marton Monus*

‘The county’s Roma self-government doesn’t receive funds for reducing this kind of damage. Funding can be acquired, but finding someone who will help is not common, so we can’t intervene in these situations.’

‘We all know what the situation is like for the Roma in Borsod County. This community always has a harder time recovering,’ explains a local Roma, anonymized for safety reasons. Furthermore, the lack of preparedness and inadequate emergency response to the flooding exacerbates the environmental injustices faced by Roma people. The government’s responses to the 2001 and 2011 floods were inadequate, and it took a long time for aid to reach the affected communities. ‘[S]erious protection has been built in areas such as Felsőzsolca due to the floods experienced in recent years. The situation regarding floods is reassuring there. This is lacking in many places,’ an interviewee explains. The lack of basic infrastructure, such as flood protection, water supply and sewage systems in these communities, reflects systemic discrimination and neglect by the authorities towards Roma people.

Of the group surveyed, 81.7 per cent (N = 698) reported being affected by floods in the sample area. Upon closer inspection of the distribution of the affected group, it became clear that the proportion was higher among Roma respondents, with 87.9 per cent having been affected by the floods. Another aspect of environmental injustice in this case is

the unequal distribution of benefits. ‘The county’s Roma self-government doesn’t receive funds for reducing this kind of damage. Funding can be acquired, but finding someone who will help is not common, so we can’t intervene in these situations,’ a local Roma community representative notes. While the floods had a negative impact on Roma people generally, some Roma communities, such as those living in affluent areas, may actually have benefited from the flooding. Following the floods, 14.6 per cent of Hungarian respondents did not receive any aid or assistance, while the corresponding figure for Roma respondents was 21.1 per cent. Some of the Roma community referred to the floods as ‘golden floods’ where, as one interviewee notes, ‘those who were closer to the fire [a phrase in Hungarian to have adequate connections] got more assistance and aid from the local authorities’.

In the case of affected Roma settlements, some were totally renovated and rebuilt after the floods. This was mainly in Szabolcs-Szatmár-Bereg County, while the renovations were not completed in Borsod-Abaúj-Zemplén County due to financial cuts and lack of resources. ‘As a Roma self-government, we cannot



take a stance on compensation, for several reasons. First, we do not have access to the resources, they are not distributed here or to us. Second, we have no say as to where the money should go.' This lack of consistency and disparity in distribution may also be indicative of discrimination against the Roma community as a whole.

The role and responsibility of the state in the case of floods is being questioned by some, who believe that changing the composition of the Hungarian parliament could provide a solution to the gaps in flood prevention and response. They suggest that a 'normal leadership made up of skilled professionals who know what to do in case of a flood' should lead the defence and reconstruction efforts. Others believe that during times of disaster, 'the focus should not be on

political battles and gaining political advantage', which they experienced. Instead, 'there should be agreement between parties' to ensure that the town is not sacrificed and that the defence efforts are organized.

In conclusion, the Hungarian floods in 2001 and 2010 exposed Roma communities to very real environmental injustice. And according to the interviews, future flash floods will harm Roma even more. The lack of preparedness and inadequate emergency response to the flooding, coupled with systemic discrimination and neglect by the authorities, illustrates how environmental hazards disproportionately affect marginalized communities. 'It's a bit sad, but we are quite marginalized during these events,' says an interviewee.

# Kenya: Eviction, flooding and disability in Baringo County

Christine Kandie and Lauren Avery

Lake Bogoria is located in Baringo County, in the Great Rift Valley region in Kenya. It is a salt alkaline lake, which makes it an essential breeding ground for lesser flamingos. Fringed by pastures for cattle, the lake and its surroundings constitute the ancestral lands of the indigenous Endorois people. This case study explores the community's land rights battle to retain access to the lake and the impacts that persistent flooding is having, particularly on indigenous women and people with disabilities.



Lake Bogoria is an area of spiritual importance to the Endorois community, an agro-pastoralist community of around 60,000 – 70,000 people living in Baringo County. Christine Kandie, Director of the Endorois Indigenous Women's Empowerment Network (EIWEN), explains how the Endorois have been historically connected to this lake and its waters through community rituals. To Endorois people, Lake Bogoria is a prayer site and an area of great economic value given the fertile grazing fields and the abundance of trees for timber construction and firewood.

## Eviction

In 1974, the Endorois community were evicted from their ancestral lands by the Kenyan government. Affected families received KES 3, compensation of less than US\$ 1 in today's currency. However, only a few families received this amount and many years after

they had been promised it. Kandie explains, 'after some time, our elder brothers and sisters who had activism and human rights in their hearts felt that whatever the government did to us was not fair'. These evictions, like others across the region, were part of nature conservation efforts to develop tourism through the creation of the Lake Bogoria Game Reserve.

Endorois activists began to challenge the government-led evictions by seeking justice in local courts, while facing harassment and arrests for public assembly along the way. By 2003, all national remedies had been exhausted and the community took the issue to the African Commission on Human and Peoples' Rights, represented by the Endorois Welfare Council, and assisted by Minority Rights Group, WITNESS and the Centre for Minority Rights Development.

Josephine, an Endorois community health volunteer, standing near the submerged Lobo Dispensary in Baringo County, Kenya. *Billy Rwothungeyo/MRG*

Kandie adds:

*We were accorded our rights by the Commission because they saw that our rights were truly violated. We were denied access to our own lands and waters. We were not identified as Endorois. We were not allowed to register as an organization on behalf of the community so that we could self-identify and achieve self-determination. We were not allowed to strengthen our collective identity together, despite the fact that we were being displaced.*

## **Flooding**

In the last decade, the waters of Lake Bogoria have been rising, along with six other water bodies in the Great Rift Valley region, swallowing 60 square kilometres of land traditionally inhabited by the indigenous Endorois and displacing countless numbers of people. Climate change is one of the issues contributing to the rising water levels. Environmental issues affecting Lake Bogoria are directly linked to deforestation for charcoal burning, exacerbated by high unemployment rates in the area. The impacts of these issues are felt keenly by the community, particularly as the Endorois are still dealing with the unresolved land rights case. Kandie adds:

*When we receive the decision in 2010, a new scenario started coming up slowly; the issue of climate change. We experience rainfall that we believe has been moderate, like the way it has been the previous years, but because of the bareness of the land, there is a lot of water running and bring a lot of huge soil deposits into*

*the lake. People are cutting down trees to support their livelihoods.*

In addition to the displacement of the population inhabiting the lands around the lake, the flooding has caused health facilities to close down. What is more, soil fertility has been affected, and areas for community rituals have disappeared. Some Endorois have been displaced not only once but multiple times throughout their lifetimes, as the lands on which they were resettled post eviction have been inundated multiple times by the encroaching waters.

## **Disability**

Kandie talks about Tartok, an Endorois woman with a disability whose story provides an example of the difficulties faced by those who are most vulnerable within the community. Tartok was newly married when the evictions took place and lost her sight a few years later. Having been resettled on government land that is inaccessible and underdeveloped, she is unable to provide for her family. One time she tried collecting food near her home but was bitten by a snake. Without a personal assistant, and with no means of paying for the travel that is required to get the documentation to register as disabled, she is left without access to the national social security fund for people with disabilities and must also deal with stigma. Kandie explains:

*We have the issue of stereotyping within the community, that a person with disabilities is not productive. When you are not productive, you are being rejected,*

*so it becomes very difficult to be integrated even at the family level.*

It was through her work at the community level on the land rights case that Kandie first noticed some of the key issues facing Endorois women and people with disabilities. She details:

*The moment I go to the community and the moment I view the women, after elaborating on issues of implementation of the human rights case they would come back to me asking specific, unique things. Maybe the case was not speaking to them, you know? And I realized that there is a huge gap, despite the fact that all of us are from a marginalized, indigenous community.*

Although the community was engaging in collective action to challenge the government to regain access to their ancestral lands and tackle other issues, not everyone was included or had their interests represented in this effort. According to Kandie:

*I realized that thousands of persons with disabilities were not part of the discussions. Most women were just coming to fill the chamber quota, but in a real sense, there was no ownership when it came to issues of the community.*

## Ubuntu

This realization led Christine to set up the Endorois Indigenous Women's Empowerment Network (EIWEN). EIWEN now works primarily on the rights of women and people with disabilities within the Endorois

community, focusing on land rights and economic empowerment but also working on social issues like political representation, gender-based violence, sexual and reproductive health and rights, and female genital mutilation. Kandie adds:

*You know, our story can strengthen someone else, and, in that process, we build one another. There is the issue of Ubuntu; "I am because we are". So, there is no way Africa can be improving when other people are left behind. There is no way we can also leave women with disabilities behind and talk about the issue of development. We need to make Ubuntu a reality, and that is how we came to register EIWEN in 2019.*

In addition, EIWEN has started to engage in international advocacy, through the UN Committee on the Elimination of Discrimination Against Women (CEDAW), the UN Committee on the Rights of Persons with Disabilities (CRPD) and the UN Permanent Forum on Indigenous Issues (UNPFII), trying to highlight the issues of indigenous women with disabilities across all spheres and connecting with other organizations nationally, regionally and globally which are doing similar work. Kandie explains:

*We want to break those barriers, to be in the lead in terms of making the women grow, speaking about the issues they are facing themselves. It is also very important to have those people on the team, taking the lead in terms of growing our indigenous persons with disabilities movement.*

The work of EIWEN has been well received by the local and national government, which have acknowledged that community dialogues are required to amplify the voices of those who are most vulnerable within marginalized indigenous communities, and to make their stories visible. Kandie concludes:

*Some of the government officials sit there at those higher levels, so it's very hard for them to understand what is happening at the ground. They were acknowledging that EIWEN is really trying to bridge the gap that existed before. It becomes really a good opportunity for all of us to strengthen our government to maybe understand better our specific challenges.*

# Pakistan: Unequal distribution of flood relief in Umerkot District

Huzaifa Nasir

Sindh is Pakistan's third largest province and is home to a diverse population of religious and ethnic minorities, including Hindus, Christians and Ahmadis. Despite supposedly guaranteeing equal rights to all citizens, the Pakistan Constitution falls short when it comes to guaranteeing the rights of minorities facing widespread discrimination and abuse in Sindh. As a result of the 2022 flood, Sindh also faces the greatest level of damage of all the country's provinces.

Pooni, a Hindu woman and mother of five children, passes through their flooded village Sonpur with other children and women, after working in cotton fields filled with floodwater in Umerkot District, Sindh, Pakistan. *Asad Zaidi*





Saghar, a Hindu man, feeds raw goat milk to his son. His mother, seated next to him, gave birth to the boy during the floods on a roadside with the help of other women as they were trying to find refuge. Umerkot District, Sindh, Pakistan. Asad Zaidi

Between June and August 2022, Pakistan was affected by a devastating flood, most likely the worst in the country's history. Around 33 million people were affected, including nearly 8 million displaced. More than 1,700 people are thought to have died. A post-disaster needs assessment found that total damages exceed US\$14.9 billion, and total economic losses are likely to reach about US\$15.2 billion. The recovery and reconstruction costs for Sindh alone are estimated to be approximately US\$7.9 billion, the highest of any of the provinces. According to Pakistan's Ministry of Planning, Development and Special Initiatives *Floods 2022 Report*, overall decline in GDP as a direct impact of the floods is projected to be around 2.2 per cent of the 2022 fiscal year. Among the major sectors, the value of agriculture is projected to decline most, by 0.9 per cent of 2022 GDP, with floods causing most losses to cotton, dates, sugarcane and rice crops. Around one million livestock are estimated to have perished.

The devastation was country-wide, yet the aftermath shows the underlying and systemic discrimination against minority communities affected by climate disasters. Caused by extreme cyclone rainfall, melting glaciers and a record-breaking heatwave, the 2022 flood is a clear example of how climate change is wreaking destruction on local communities, while exacerbating human rights violations due to inadequate housing policies, lack of infrastructure and unfair emergency relief policies for minority groups. Given the scale of the damage caused by the flood to Sindh, important lessons can be drawn from the experiences of minority communities living there.

Pyari, a 23-year-old Hindu widow, lives with her two children in the village of Khushlani Mohala in Umerkot, one of the districts in Sindh worst affected by the floods. Pyari's husband died three years ago. Since then, she has been working as a maid for the local landlord to support her family. She and her children were living in a tiny mud house



provided by the landlord when the flood struck. Pyari was sound asleep with her two children next to her, when suddenly she heard screams coming from the cottage next door. She managed to get out of bed and was trying to leave the house when the water gushed in through the doors and windows. She rushed back to her bed and grabbed her two children. 'I didn't know what was happening to me,' she recalls. 'I was crying for help.' Her neighbours heard her and managed to get into the house and help her and her children escape.

Pyari moved with her children to a raised road embankment. She had no shelter for two weeks until the first relief supplies reached her location. Pyari came to know about the distribution of relief funds from her neighbours. Officials at the distribution point, however, were suspicious, and they pushed her away. 'It is only after we went there', Pyari maintains, 'that I was somehow able to get my name on the distribution list, but I was unable to receive relief goods in a substantial amount. Now I have a tent and insufficient relief aid to get by.'

Pyari further adds: 'My two children and I faced harassment while receiving relief aid. We faced harassment from the aid distributors, security forces and locals. The harassment included sexually inappropriate remarks. I was told to provide these men sexual pleasures in the form of physical touch and sexual intercourse in exchange for relief aid.' Moreover, Pyari added that her children were told to renounce their Hindu religion in order to get relief aid. 'I suffered from the trauma of homelessness and instead of providing relief, the flood relief campaign actually added another mental burden on me,' Pyari said.

Women who identify as belonging to a minority are especially vulnerable in areas hit hard by climate disasters, as Pyari's story shows. Hundreds of women like Pyari have been affected by the floods in south-western Pakistan, and six months later, they are still waiting for help. Local providers have adopted a distribution mechanism that enables majority population households to be the first to receive supplies. However, human rights experts emphasize the need to set up relief committees that include minority representatives who can identify members of their communities, for instance Hindu communities in Sindh, and ensure their inclusion in the distribution process.

Despite efforts from human rights organizations to raise awareness about the situation in Sindh, the reality on the ground has continued to deteriorate. The government has been criticized for its failure to take adequate measures to protect minority rights and for its inability to prosecute those responsible for violence and discrimination reported in the aftermath of the devastating floods. The government has also been accused of censorship and controlling the media, particularly in the case of media reports that are critical of the government or its relief policies. This has resulted in a lack of coverage of the human rights abuses faced by minority communities in Sindh. In addition, many media outlets in Pakistan practise self-censorship, avoiding controversial or sensitive topics out of fear of retribution from the government or other powerful actors. This has further contributed to the under-reporting of the post-flood situation faced by minority communities in Sindh.

‘I suffered from the trauma of homelessness and instead of providing relief, the flood relief campaign actually added another mental burden on me.’

One of the most serious violations of minority rights in the region is the forced conversion of Hindu girls to Islam. This has become a common occurrence in Sindh, with reports of young Hindu girls being kidnapped, forcibly converted or else forcibly married to Muslim men. In many cases, these girls are unable to return to their families due to pressure from their captors and fear of retribution. Minority communities in Sindh also face physical violence and intimidation. Gender-based violence and sexual abuse targeting minority women have been reported by human rights monitors. The 2022 floods have only exacerbated the systemic

discrimination and violence affecting minority Hindu women in the region.

As Pyari’s story shows, the recent floods in Sindh have led to major violations of minority rights, not least in the form of discrimination during the distribution of emergency aid and other resources. Minority communities in the region have reported that they have received less aid and support than other communities. This situation has left many members of the Hindu community in Sindh without access to basic necessities such as food, shelter and clean water, and has further exacerbated the already dire economic situation they face. ■



# DROUGHT



**The planet is experiencing some of the worst droughts ever recorded, further evidence of the destabilization of the planet's water cycle and climate. Desertification and drought are affecting swathes of North, Central and South America, especially in areas like Brazil, Chile and the western United States, as well as large sections of East and southern Africa, such as in Angola, Botswana, Kenya, Madagascar, Namibia and Somalia.**

Drought is also affecting large parts of Europe during the summer months. Last summer, the drying up of major rivers like the Loire in France and the Po in Italy, as well as numerous water bodies across the Iberian peninsula, left indelible marks on the land and on the people. Likewise, lack of rainfall is affecting some of the most drought-prone nations in the world across the Middle East and North Africa (MENA) region, and beyond across the landlocked regions of Central Asia (see Chapter 3). Humanitarian crises are ongoing across these regions, affecting millions of people, in particular marginalized minority and indigenous communities.

In **Libya**, one of the most drought-prone countries in the MENA region, we focus on the Nafusa mountains and the situation of Amazigh communities, who are having to deal with not only the impact of severe drought and desertification, but also discriminatory economic and environmental policies.

The next case study concerns the devastating impact of the Tiomena, a meteorological phenomenon that causes sandstorms and desertification in large parts of **Madagascar**. The growing humanitarian crisis in this African island state is explored through the perspective of the indigenous Tandroy people, who are having to leave their ancestral lands given the devastating effect of Tiomena winds in southern Madagascar.

We finish this section with a case study that explores the severe drought affecting the Chaco region of **Paraguay** and discrimination in the development of water infrastructure in one of the world's largest aquifers. Indigenous people in this country are demanding access to their water springs and sources, and for the government to act in the face of extremely low levels of rainfall in parts of this country.

# Libya: The impact of water scarcity on Amazigh communities in the Nafusa mountain region

Malak Altaeb

Libya, a country that has been experiencing multiple political crises for over a decade, is currently going through a series of environmental challenges that directly affect people's quality of life. During the past few years, Libya has witnessed a major wave of climate-related challenges, including an unprecedented rise in temperatures accompanied by extreme weather events, such as high winds and sandstorms, with a noticeable reduction in annual rainfall and increased drought. Extreme weather events have become a reality for people trying to cope with climate change. Matters are made worse given the lack of action by successive governments.



One of the most visible problems in Libya is the multiple water crises, which are expected to worsen in the near future. The water shortage in Libya affects 4 million people, especially minority and indigenous communities. According to the World Resources Institute, Libya ranks as the most water-stressed country in North Africa. Water stress indices are labelled 'extremely high'. This is partly due to the fact Libya relies almost entirely on groundwater, which accounts for over 90 per cent of all water usage. Unfortunately, water scarcity in Libya is not limited to a specific region of the country but extends to many parts, both urban and rural – making this a nationwide issue. One of the regions that has been struggling with water scarcity most is the Nafusa mountain region, where indigenous Amazigh communities reside. The Nafusa is a mountain range that lies to the south-west of Tripoli and extends to the Tunisian border. Amazigh people rely on clean water for agriculture and grazing.

Water availability and accessibility have been an issue for decades, as the mountain region is not entirely connected to the Great Man-Made River Project (GMMRP), Libya's main water supplier, which depends on groundwater aquifers. The GMMRP extracts water from deep fossil aquifers in the south, and then delivers it to coastal areas through a network of pipes. It has been in operation since the early 1980s and is branded as one of the biggest engineering projects in the history of the country. Notwithstanding government pride in this mega infrastructure, because of the over-exploitation of the fossil aquifers it is predicted that Libya will run out of water in the next 60 to 100 years.

The ongoing reality of Amazigh communities in the Nafusa mountains is that they depend on water wells and lorries that bring water to the villages, a service that has increased in price in recent years. The problem became considerably more acute after 2011,

An Amazigh water tanker truck driver delivers water to a house.  
*Abdurrauf Ben Madi*

Amazighs in Libya have shown enormous strength in the face of many historical challenges, but the present crisis poses unprecedented economic challenges and the imposition of a development model that threatens both the economic livelihoods of communities and the social, cultural and spiritual values of Libya's Amazigh people.

following insecurity and conflict in Amazigh-populated areas, partly driven by the deteriorating water infrastructure.

The impact of climate change has been felt strongly in different parts of the Nafusa mountains including the towns of Yefren, Gala'a, Kabaw, Nalut and Jadu. It has been reported that winter is no longer as cold as it used to be, with higher temperatures and increased dryness also reported in the summer. In the past few years, wildfires have become a regular occurrence in places like Yefren. While winter has become more moderate and rainfall levels have drastically decreased, the region continues to depend on a steady water supply to sustain its agricultural economy. Nafusa Amazigh communities depend on crops such as olives, figs, grapes and almonds.

Given the nature of the Nafusa region, digging down to deep groundwater aquifers is very costly and most often ineffective. Thus, many Amazigh communities rely primarily on water tankers associated with the GMMRP network. There are too few tankers and they do not deliver to the majority of the mountain villages where Amazigh people live. Although the tankers have been in

use since before 2011, the increasing demand for water has led to soaring prices, making it difficult for members of Amazigh communities to afford it.

Najiya Alostia is a former member of Al-Qala'a municipal council and a civil society activist from the Amazigh community of Al-Qala'a. She explains: 'Before the revolution, the price of one to two-month water supply from the tanker for a single family was between 30–35 Libyan dinars [LYD; around US\$42.35, when US\$1 was about LYD 1.21]. However, the price of the tanker has now reached 120 Libyan dinars.' The economic situation has worsened, putting added pressure on ordinary citizens in the mountains, who simply have no means to afford water that was once freely available in their ancestral lands.

In Jadu, a town in the central region of the Nafusa mountains, most of those who have farms have dug ditches on their land and filled them with water from tankers. This form of makeshift irrigation is very labour intensive and has not been entirely successful or sustainable. As a result, the success rate of annual harvests is considered low. 'The water coming from the GMMRP has only



recently reached our town, but it hasn't been effective and it is not continuous. They open the network occasionally and people get to fill their well, which makes water usage daunting,' explains Alaa, a 27-year-old citizen from Jadu.

Growing anxiety over water in indigenous mountain communities is also underpinned by a lack of action by local authorities, who have failed to compensate or support people across various districts. The Libyan government has not provided subsidies to reduce the price of water from the tankers, nor indeed developed any stable water infrastructure that could enhance the availability and quality of water supply to different districts around the Nafusa mountains. Moreover, the absence of the state in monitoring and regulating the water sector raises questions around the profiteering scandal that underpins the water crisis in Nafusa, as well as the discrimination faced by Amazigh populations as a result of the GMMRP's commercial interests, given possible collusion between the state and the private sector. The lack of accountability and transparency, especially in terms of combating corruption at various levels of government, has only worsened in recent years.

Governing bodies such as the Ministry of Water Resources must establish communication channels with Amazigh communities and local water experts in the region, to develop plans and alternative solutions to the problem. Water scarcity in the Nafusa mountains is a complex issue, but with renewed efforts, it is possible to find alternatives that can alleviate the burden and suffering of Amazigh communities.

Amazigh communities in Nafusa mountains have followed ancient water management practices such as *agdal*, which is an ancient Amazigh word meaning 'precinct' or 'watered garden'. *Agdal* is a collective land use system based on the cyclical use of grazing land, a small family-sustenance approach to water use as opposed to an extractive mentality, and, above all, a set of deep social and moral values that focus on the tending and stewardship of fertile and water-rich lands. Ancient traditions such as the *agdal* have helped Amazigh communities over thousands of years to collect and store water supplies for long periods of time during rainy seasons, and to thrive in relatively harsh conditions.

Traditional methods and tools for the stewardship and responsible use of water have helped the indigenous populations of the Nafusa build resilient communities that are aware of their water consumption. Amazighs in Libya have shown enormous strength in the face of many historical challenges, but the present crisis poses unprecedented economic challenges and the imposition of a development model that threatens both the economic livelihoods of communities and the social, cultural and spiritual values of Libya's Amazigh people.

An Amazigh man from Jadu overlooks the Nafusa mountain region. Karlos Zurutuza



# Madagascar: Tiomena, the red sandstorm and its impact on Tandroy people

Emilien Rakotonandrasana and  
Paubert Tsimanaoraty Mahatante



Two men bathe in rainwater, along the RN13 (National Road 13) near the town of Ambovombe, Androy region, Madagascar. *Reuters/Alkis Konstantinidis*

Tiomena is a strong wind that blows from the sea, inland into the lands of Androy in southern Madagascar. Tiomena starts at Analapasy, which is its epicentre, from where it blows to the villages of Sampona, Maroalopoty, Maroalomainty before entering Ambovombe and Erada. In total, up to 200 kilometres of land are affected by this gusty and often troublesome wind. In recent years, the wind has been known to affect not only southern Madagascar but the island as a whole.

Tiomena is caused as warmer temperatures result in drastically different atmospheric pressures between sea and land. As the land warms up, air masses from the Indian Ocean are swiftly drawn into areas with low atmospheric pressure on land. The problem is that strong winds like the Tiomena cause significant damage inland. Soil in this part of Madagascar is red. The red dust is carried by the wind, which gives rise to the Tiomena – *tio* means ‘wind’ in Malagasy and *mena* means ‘red’.

In short, this is what climate change, and the water crisis, looks like in southern Madagascar.

Southern Madagascar is experiencing a major humanitarian crisis driven by drought and food insecurity, to the extent that 3.3 million people are in need of assistance in the Grand Sud and Grand Sud-Est regions, according to the September 2022 Integrated Food Security Phase Classification (IPC). Furthermore, an estimated 2.2 million face acute food insecurity; 479,000 children are acutely malnourished

and persistent drought in the Grand Sud has displaced more than 90,000 people between January 2019 and November 2022, according to the International Organization for Migration.

The following is an edited version of a conversation held between Emilien Rakototronandasana and Paubert Tsimanaoraty Mahatante, community leader and member of the Tandroy indigenous people of southern Madagascar. Paubert Tsimanaoraty Mahatante is also a climate expert at the University of Toliara.

Today, the population of Tandroy is 900,235 inhabitants, according to the general census held in 2018. The population increase rate was estimated at 2.7 per cent per year, according to the 2005 regional development plan.

Our hope with this case study is that the voices of indigenous communities directly and profoundly impacted by climate change and water scarcity in Madagascar will be amplified, and that we can help vocalize the priorities and needs of a community

‘These three solutions are part of a way of life that our indigenous forefathers and mothers here in Tandroy have followed for thousands of years, but which have been forgotten by many people in Madagascar. It is important that authorities listen to us, the indigenous people of Madagascar, to help address the water and land crisis that is affecting our communities.’

that is largely marginalized and made invisible within Madagascar and in the broader African context.

**Emilien:** Tell us about the Tandroy indigenous community.

**Mahatante:** I am a member of the Tandroy indigenous people of Madagascar. We are nomadic, and we live in Androy, a region of southern Madagascar located between the Mandrare River, bordering the Anosy region to the east, and the Menarandra River, bordering the south-west region. They say Androy is the poorest region of the Big Island, and it is considered among the most disadvantaged areas of Madagascar. For our ancestors or elders, Androy means or designates the village of origin. Especially when someone wants to return home, Androy is what we call someone’s village of origin. We do not want to leave our homes because of this wind. We want to stay. This is where we come from.

**Emilien:** What else would you like to share?

**Mahatante:** There is regular drought and food crisis here in Kere, as some call the Androy region. We who live here have had to migrate to the north. In the area of Tanandava within Amboasary Atsimo District, all the residents have abandoned their village. Entire houses were buried in the sand.

**Emilien:** So, the Tiomena wind is a major a threat to your people?

**Mahatante:** Tiomenas in southern Madagascar used to blow from mid-May to mid-October. Now, however, it blows almost all year long. We need to find ways to control the wind, because the wind is causing desertification and destruction.

**Emilien:** What is the cause of Tiomena?

**Mahatante:** What causes the Tiomena is the warmer climate. The hotter it is, the worse the wind blows. It is a physical law. Faced with this situation, the problem for us here in Madagascar is that we rely on what our farms produce, and especially in the southern region, we use the plough.



A woman holds part of a dead corn plant in a field covered with red sand, in Anjky Beanatara, Androy region, Madagascar. *Reuters/Alkis Konstantinidis*

Since 1966, FAO [the UN Food and Agriculture Organization] has tried to mechanize agriculture so that we no longer have to do manual agriculture and especially so that we increase production by two to three times, so that we can achieve food self-sufficiency.

**Emilien:** Has the wind affected food production and the availability of water?

**Mahatante:** Of course. Everything is dry now. The wind drives the water away. Remember that the plough removes vegetation cover from the surface. That is, the herbs are removed by the plough. Suddenly, the ground becomes bare and exposed because of the Tiomena. When the land is exposed, there is nothing to protect it. The land cannot even store the little water it receives. So, when the wind passes, it causes what is called wind erosion. Here, where we live, the soil is called lateritic soil, which is red.

The lumen, the tiny red dust, is carried by the wind. So, the dust covers the fields and water sources, burying everything. The other problem is that the wind dries up the land, turning our lands into desert.

**Emilien:** Are there ways to restore the damage caused by the Tiomena on the ground?

**Mahatante:** There are three things we could do about Tiomena. First, we need to focus on the installation of windbreaks. We need to put windbreaks in place – a lot of windbreaks. If we do this, the wind speed will decrease. Second, agroforestry could also be done. That is to say, we need international support to plant trees in our community at the same time that we encourage everyone to do subsistence agriculture, not only within our indigenous communities but throughout southern

Sand begins to surround houses close to the town of Ambovombe, Androy region, Madagascar. Reuters/Alkis Konstantinidis



Madagascar. Finally, the realization of large-scale reforestation allows the restoration of water sources, which can help reduce the temperature on the ground, which also reduces the difference in air pressure that causes the wind. If we put these three actions in place, we will reduce the wind.

Only these three solutions could stop the Tiomena. They are simple

solutions. They are part of a way of life that our indigenous forefathers and mothers here in Tandroy have followed for thousands of years, but which have been forgotten by many people in Madagascar. It is important that authorities listen to us, the indigenous people of Madagascar, to help address the water and land crisis that is affecting our communities.

# Paraguay: Lack of drinking water in the country that holds the world's largest freshwater reserve

Aldo Benítez



A member of the Arroyo Moroti community in the Paraguayan Chaco. *Aldo Benítez*

Indigenous people from the Yalve Sanga Enlhet community in the Paraguayan municipality of Loma Plata in the arid Chaco region must walk several kilometres to get drinking water.

Three years ago, a significant part of the Chaco territory endured one of the most intense droughts in recent times, with temperatures that reached up to 45° Celsius. In these conditions, under a scorching sun and a fierce dry wind, water is vital to cool off, to quench thirst. In short, to survive.

Artificial water sources in the area dry up, and the aqueduct system – so often touted by the current government of Paraguay – is not fully operational. Thus, nothing seems to indicate that this situation will change in the short term.

Yalve Sanga Enlhet is 22 kilometres from the centre of Loma Plata, one of the most important cities in the heart of the Paraguayan Chaco. Osorio Losa, leader of this community, says that since approximately 2020 the drought has intensified in the region. Although rainfall occurs, it is insufficient.

He does not remember such a long period of water scarcity. Generally, periods without rain extend only for months. What the local community is experiencing nowadays is a drought that has dragged on for almost three years without significant rainfall. Perhaps one of the most notorious environmental events in the past years happened in 2016, when in the north of Boquerón, drought led to the deaths of thousands of alligators for lack of water to drink.

That calamity was not only due to climatic conditions. It had a lot to do with the mismanagement of the Pilcomayo River – which runs through Bolivia, Argentina and Paraguay – at the height of the Cañada La Madrid, overseen by the Pilcomayo Commission, a Paraguayan state unit dedicated to local water management.

An intense drought was recorded in this same region in the 1990s, causing significant mortality among alligator populations and other recurrent problems.

### **Miles to find water**

The women and men of the indigenous Yalve Sanga community walk several kilometres to the nearest riverbank that still has water to drink, from where they carry the vital liquid back to their families. They are barefoot. The sun beats down on their faces. Their skin is tanned by the hot environment. All these people want is to get to the water. Although the country's health authorities do not recommend drinking from such water points, for





Benigno Rojas, a leader of the nearby Enxet indigenous community of El Estribo, shows one of the last water reserves of the *tajamares*, the wells that collect rainwater for drinking when other sources are unavailable in the Chaco. *Santi Carneri*

the indigenous people of Yalve Sanga Enlhet there is no other option.

‘We don’t have drinking water here in El Chaco, only rainwater. The problem is also that most of my people do not have *aljibes* [a kind of cistern that stores water], so it is always complicated for us when there is drought,’ Osorio maintains. His community alone numbers at least 2,300 inhabitants, he specifies.

In August 2022, the local authorities declared a state of emergency in Boquerón due to the prevailing drought. Back then, the National Secretariat of National Emergency (SEN) assisted affected indigenous populations and provided water tanks, which arrived at intervals of two to three days. In more remote

locations, such as Santa Rosa, home to indigenous Manjui people, trucks bearing water aid simply did not arrive.

To the problem of drought we must add wildfires, which turned much of the Chaco into an inferno of smoke and heat during the past year. According to data from the National Forestry Institute (INFONA), from 2019 to the end of 2022, 700,000 hectares have been burned in the Chaco territory – an area four times larger than London.

Albertini Rojas is an indigenous communicator of the Indigenous Self Organization (OMI), composed of Enxet Sur people. Rojas lives in the village of Santa Fe, in the community of El Estribo, located in the district of Teniente Irala Fernández, in the Department of

Presidente Hayes. Along with Alto Paraguay and Boquerón, this is one of three departments that make up the Chaco region of Paraguay.

Although in this community they also suffer from drought, in the last weeks of February 2023 rains were recorded, which offers hopes of a better future. 'In Irala Fernández, we are now receiving water after a long drought that brought many problems,' Rojas explains. He says that one of the most serious consequences of the lack of rain was that indigenous people lost their plantations, which are mostly intended for self-consumption. 'An important part of our watermelon, melon and pumpkin plantations were lost. That is why we requested government assistance,' Rojas says.

The climatic conditions in the Chaco have been extreme. While in the south of the department of Boquerón indigenous communities have endured drought for three years or so, in the north of the country, the situation is totally different, as continuous storms have left hundreds of indigenous families under water.

### **Inaugurated but not working**

On 29 September 2021, the Paraguayan government launched a water grid system that should directly benefit the communities of Yalve Sanga, Loma Plata and Villa Choferes del Chaco, all located in Boquerón. The opening of this water system is part of an ambitious project named *Acueducto*, an underground piping system that aims to transport water throughout the Chaco.

The launch event was lauded in the media and was attended by Paraguay's president, Mario Abdo Benítez. Notwithstanding the public attention, indigenous communities were once again left without drinking water a few weeks after the project's opening.

The Acueducto project has been a long time coming. The current government, which took office in August 2018, named the Ministry of Public Works and Communications (MOCP) and the Paraguayan Health Services Company (ESSAP), as the two governing institutions in charge of running the project.

In principle, the original project was intended to reach the main cities of El Chaco, where it would mainly benefit producers, ranchers and evangelical groups. However, it was later modified, allowing pipes to transport drinking water to vulnerable indigenous and other communities from the central Chaco. The goal is for the aqueduct to provide drinking water – whether there is a drought or not – to some 70,000 inhabitants of the Paraguayan Chaco, at least 40,000 of whom are indigenous.

Enlhet community leader Osorio Losa points out that the Acueducto has been marred by many problems, and that, although drinking water was available through this system at first, the supply did not last long. Though taps and water pipes were installed in indigenous lands, what has not reached indigenous populations is the water itself.

‘Tekoha Guasu has been our home since ancestral times. Within a few years, it may no longer be the place where we make our life. Without water, we do not know what will become of us.’

### The world's largest freshwater reservoir

The Paraguay River divides the country into two regions: the western region of Chaco and the eastern region.

The latter is home to the Guaraní aquifer. Specialists consider this to be one of the most important freshwater reservoirs on the planet. The aquifer also covers regions of Argentina, Brazil and a small part of Uruguay.

On the aquifer inside the San Rafael Forest Reserve, a forested remnant of the historical canopies that occupied parts of the departments of Itapúa and Caazapá, live the indigenous people of the Arroyo Morotí community, members of the Mbya Guaraní people. Local people call this area ‘Tekoha Guasu’. Guaraní language is, along with Spanish, the official language of Paraguay. In this indigenous language, the words mean: ‘The place where we make our life.’ Despite living above the heart of this major natural aquifer, the indigenous people of Arroyo Morotí have no drinking water.

In past decades, the people of Arroyo Morotí could turn to any nearby stream for water. That is almost impossible today. Most of the streams carry only a fraction of their historical flow. Those

that have enough water are no longer safe due to the high levels of pollution in the area caused by mass use of agrochemicals for the agricultural plantations that dominate the region.

Eusebio Chaparro is the leader of this community, which faces extreme poverty. He says that for the 45 families that live there, the only drinking water available is from a single natural spring, from where all families get their supply. ‘You have to carry jerrycans or buckets to be able to take water to the houses. What worries us is that this spring will stop bearing water, because the streams are drying up,’ says Chaparro in his native Guaraní.

According to the Global Water Partnership, Paraguay is the country that comes lowest on the water security index in South America. Some state functions reinforce this record. Only in May 2022 did the Paraguayan executive issue the necessary decree to regulate Law 3239/2007, its main water legislation, no less than 15 years after its initial enactment.

This regulation will ensure that large multinationals pay a fee for the use of water from aquifers. In addition, it establishes a system for the protection

of the country's wetlands, as well as an updated inventory of water channels in Paraguayan territory. Despite these positive amendments to the law, Chaparro remains pessimistic. Like other members in his and other indigenous communities across Paraguay, he worries that the spring at the heart of his community will

run out of water at some point soon. He closes with a damning reflection: 'Tekoha Guasu has been our home since ancestral times. Within a few years, it may no longer be the place where we make our life,' and he adds: 'Without water, we do not know what will become of us.' ■

Benigno Rojas touches a carob leaf, one of the most important trees in the Chaco. The Enxet community obtain gluten-free flour from the fruit of this tree. *Santi Carneri*





# INFRASTRUCTURE



**While it is tempting to think that the water crisis is caused by intensified changes in the climate, the disasters discussed in previous sections go hand in hand with the impact that major infrastructure projects have had on the environment and society at large. This section focuses on the consequences that major water infrastructure projects such as hydropower, canalization and tunnelling for large-scale irrigation are having on local ecosystems on the one hand, and on marginalized communities on the other.**

Injustices arising from inadequate, unplanned or environmentally destructive dams and irrigation systems, often constructed under the banner of national development, all conspire towards violations of the rights of minorities and indigenous peoples worldwide, for instance through the imposition of unsustainable modern engineering techniques on ancestral cultural practices for water conservancy and management. The overall pattern we find in these case studies is a direct correlation between non-consensual water infrastructure, and a rise in human rights violations and land disputes across many parts of the globe.

More specifically, we focus on the legacy of Soviet water infrastructure in **Kyrgyzstan**, which is fuelling border disputes and the violation of the rights of the Uzbek minority in that country. This case study exposes the situation of the Kempir-Abad 22, a group of environmental activists unlawfully detained after campaigning against the Kyrgyzstan government's decision to hand over a major water reservoir to neighbouring Uzbekistan.

In **Nepal**, we find that a national campaign for electrification and the building of major hydroelectric projects is having a major impact on the lives and livelihoods of indigenous peoples, among them the Magar of Tanahu District. Magar people are currently fighting against forced displacement and unfair compensation following the construction of the Tanahu Hydropower Project, funded by the Asian Development Bank and European Development Bank.

In **Turkey**, the building of the Southeast Anatolia Project, a series of hydroelectric infrastructure projects on the Turkey-Syria border, is examined in relation to discrimination and violence committed against Kurdish populations and their cultural heritage. The flooding of the Kurdish ancestral city of Hasankeyf as a result of the filling of the Ilisu Dam reservoir is discussed here not only as a deliberate attempt to obliterate Kurdish culture, but also as an attempt to use large artificial water bodies as a form of territorial defence and border control.

# Kyrgyzstan: The Kempir-Abad reservoir – political uncertainty or an opportunity for cooperation?



A Kyzyl-Oktyabr resident herds sheep in a pasture next to the Kempir-Abad reservoir.  
*Danil Usmanov*



Soviet water and energy infrastructure legacies have been painfully problematic for the countries of Central Asia for years. Relations between the countries of the region recently show a gradual shift away from that historical legacy, particularly in terms of a desire to renovate old infrastructure, overcome border conflict, enhance multilateral cooperation and trade, while seeking to mitigate the damages caused by climate change. However, bilateral border agreements are adding new complexities to old problems.

Central Asia is a region where the issue of disputed borders still lingers on three decades after the collapse of the Soviet Union, and these border treaties have become a point of contention and violent inter-ethnic conflict.

On 11 December 1965, the Councils of Ministers of the Uzbek and Kyrgyz Soviet Union Republics (SUR) adopted a resolution commissioning the construction of the Kampyr-Ravat (now Kempir-Abad) reservoir. This major hydroelectric project, located on the disputed border between the two former Soviet republics and in an area inhabited by a significant Uzbek ethnic minority, has a capacity of 1,750 million cubic metres of water. Geographer and cartographer Temirkul Eshengulov explains that the name of this water infrastructure project comes from a mineral found in the ground. Ironically, more than 5,000 hectares of fertile land in the Uzgen district of Osh province lie under the reservoir's waters.

The hydroelectric complex lies in the mountains of Khanabad at the outlet of the Kara-Darya River within the Fergana Valley. Waters of the Fergana canal flow from the Kempir-Abad reservoir and pour through the Aravan District to Uzbekistan. Meanwhile, water flows into the reservoir along the Zhazy River. The main purpose of the hydroproject is to regulate water flows in the interest of irrigated agriculture, with associated power generation. There are two hydropower plants at the reservoir, which are used by Uzbekistan. Following the construction of the reservoir, Uzbekistan received the main rights for the regulation of the Kara-Darya River and its three major canals. Kyrgyzstan was entitled to irrigate 58,000 hectares from the Kempir-Abad reservoir, including 8,000 hectares of new irrigation land.

Although at one time the Kempir-Abad reservoir was leased to Uzbekistan, Kyrgyzstan still uses 14 per cent of its

The Uzbek ethnic minority in Kyrgyzstan fear that the Kyrgyz government could be handing over the administration of Kempir-Abad as a deliberate effort to change the ethnic composition of the country or province, to destroy minority culture in western Kyrgyzstan or tip the political balance in favour of Kyrgyz majorities and elites.

waters. The remaining 86 per cent is used by Uzbekistan. In Uzbekistan, the dam is known as the Andijan reservoir; it is of strategic importance inasmuch as it provides water to a large part of the Fergana Valley population. Following years of border dispute, at the heart of which were unresolved claims from both countries for the use and jurisdiction of the Kempir-Abad/Andijan reservoir, officials

from both governments have finally decided to settle on an agreement.

In October 2022, members of the Jogorku Kenesh Committee on International Affairs in Kyrgyzstan approved a draft agreement for the delimitation and demarcation of the country's borders with Uzbekistan. Under the agreement, 4,485 hectares of land within the Kempir-Abad

The Kempir-Abad reservoir and the Andijan Dam. *Danil Usmanov*



reservoir would be transferred to Uzbekistan, and Kyrgyzstan would receive 19,699 hectares in exchange. Ethnic distribution remains a major problem, as the shifting of the border would lead to the creation of new minority groups, mainly ethnic Uzbeks on the Kyrgyzstan side of the border.

The agreement was signed off by the respective foreign ministers in early November 2022 and passed through the two respective parliaments in the following weeks, after which it was ratified by the two presidents. The agreement is deemed to lack transparency, particularly in Kyrgyzstan where political decision-making has been called into question. Fears of water and land handovers to Uzbekistan have become cause for serious political dissidence, not least among minority activists.

On 15 October 2022, *kurultai* or public gatherings were organized in the Uzgen district near the Kempir-Abad reservoir, bringing together thousands of people, including current and former MPs, politicians, local residents and minority activists. Many of those who travelled from the Kyrgyz capital Bishkek were stopped by traffic police, who sought to prevent access to the reserve, citing limited travel in the winter period and 'flat tyres'. Despite police blockades, thousands of people managed to get through to join public consultations on the future of Kempir-Abad.

A few days later, the Committee for the Protection of Kempir-Abad Water Reservoir conducted its first gathering, bringing together activists, as well as current and former politicians. During the meeting, members of the committee

discussed further action, including the need to raise public awareness of political decision-making in Kyrgyzstan. Discussions were followed by peaceful marches calling for national unity. This coincided with peaceful marches throughout Uzgen district demanding that water jurisdiction should not be handed over to Uzbekistan.

Fast forward to 23 October 2022. The public in Kyrgyzstan now refer to this day as 'Black Sunday'. On this day, 16 activists were detained following accusations of public disorder. Pending a final ruling, these activists could be sentenced to anywhere between 7 and 10 years' imprisonment. Among those currently detained are Rita Karasartova (human rights activist), Asiya Sasykbaeva (former MP), Perizat Suranova (journalist), Klara Sooronkulova (former candidate for Presidency), Gulnara Jurabaeva (former Central Electoral Committee member), Ravshan Jeenbekov (former MP) and Kanat Isaev (former MP), among others. Prior to detention, the police and intelligence services raided their homes looking for compromising materials. According to a report published by the Office of the High Commissioner for Human Rights (OHCHR), raids were carried out in violation of basic human rights. Several politicians and political parties accused the Kyrgyz government and called for national dialogue. Notwithstanding the public appeal, the overall number of people detained as part of the Kempir-Abad conflict has increased to 22 people. These detainees are now commonly referred to in the press as the 'Kempir-Abad 22' and a campaign for their

release has raised major international concerns over human and minority rights violations in Kyrgyzstan.

It is important to emphasize that lack of openness and transparency in decision-making is cause for much suspicion among the Uzbek ethnic minority in Kyrgyzstan, whose fear is that the Kyrgyz government could be handing over the administration of Kempir-Abad as a deliberate effort to change the ethnic composition of the country or province, to destroy minority culture in western Kyrgyzstan or tip the political balance in favour of Kyrgyz majorities and elites.

Kyrgyz President Sadyr Japarov has met with activists and residents of the minority-dominant districts whose waters will be transferred to Uzbekistan as part of the border agreement with that country. The visit has further polarized the public, whose questions concerning the transfer of water jurisdiction remain. Among the meeting participants was Karasartova, who released a 30-minute video in the Kyrgyz language explaining in detail the outcome of the political process. Karasartova also urges the public not to trust the government. She finishes her video with an appeal to the public to protect the reservoir as it has strategic significance for the country and the minority local residents whose survival depends on this water. According to political analyst Mars Sariiev, the conflict has become highly politicized, to the point where it may destabilize the broader region, and disrupt the China–Kyrgyzstan–Uzbekistan railway, currently under construction, among other things.

## Clashes in Fergana Valley

Since the Central Asian states gained independence in 1991, most irrigation systems in the region have deteriorated and water consumption has reached levels that are increasingly difficult to maintain. Climate change causes the rapid melting of glaciers, a major source of fresh water, which has also taken its toll on river systems, lakes, and their dependent populations. According to the most pessimistic predictions, by 2070 river flows in the region could be reduced by 40 per cent.

Conflicts between the countries of the region periodically erupt over the use of water from the two main rivers in Central Asia – the Syr Darya, the Amu Darya and their tributaries. As the competition for resources intensifies, underlying ethnic tensions, particular between the Kyrgyz majority and the Uzbek ethnic minority are exacerbated, raising concerns over further hate crimes and intensified discrimination in cities like Osh, where the Uzbek ethnic minority makes up nearly half of the population.

As minorities continue to face discrimination on economic, security and other matters, and as Uzbeks are often targets of harassment, arrest and mistreatment by law enforcement agencies based on dubious terrorism or extremism charges, so water stress and border agreements without community support all conspire to aggravate an already critical and volatile situation. Ethnic divisions underpinning the uneven distribution and scarcity of fresh water in Central Asia is, as the media have repeatedly pointed out, a major threat to regional security.



Attempts at land redistribution have in the past led to violent conflicts, the largest of which was the Osh massacre in 1990. According to official figures, more than 300 people died, although unofficial estimates are far higher. Underlying tensions were never resolved, hence the violence that occurred again in Osh in 2010. Water conflict has degenerated into interstate violence in many border villages across Kyrgyzstan and Tajikistan in recent years. During the May 2021 clashes, 41 people died and 224 were injured on both sides of the conflict. More than 20,000 local residents were evacuated, and houses, schools, shops and restaurants were burned down. The Golovnoy water distribution point, around which the conflict first erupted, is on the Isfara River (called Aksai in Kyrgyzstan). Geographically, it is at the south-western edge of the Fergana

Valley and the spurs of the Turkestan Ridge, from whose northern slopes the river flows. After Tajikistan, the Isfara flows through Uzbekistan, where it formerly flowed into the Syr Darya. Today, the river's waters are diverted for irrigation and do not reach its mouth.

As the Kempir-Abad dispute demonstrates, current conflicts over water in the border areas of Kyrgyzstan and Tajikistan are not only underpinned by environmental problems concerning water shortage, but also ethnic tensions caused by unresolved minority and majority border delimitations. In order to achieve any kind of national integration, meaningful and equitable participation by all affected communities is critical, as the 'Kempir-Abad 22' stress. And without national integration, the future of the region remains both politically and environmentally uncertain.

Kasiet Mamyrbay, daughter of detained human rights activist Rita Karasartova, speaking during the #Reaction march, a peaceful protest supporting the prisoners in the Kempir-Abad case. Bishkek, Kyrgyzstan.  
*Daniil Usmanov*

# **Nepal: The cost of hydropower – dispossessing indigenous Magar communities of land and water**

Prabindra Shakya and Alessandro Ramazzotti

Now in his late sixties, Til Bahadur Thapa is a local villager from the indigenous Magar community of Tanahu district in western Nepal. Gazing across a patch of wild vegetables on the banks of the Seti River in Badarkuna, Til Bahadur recalls when the fields would grow three harvests of paddy and wheat per year, plus enough lentils and vegetables to feed his large family, all of whom live in the local village situated a few hundred yards further uphill. The land before him now lies barren. The fields have been drying up for three years now. In 2020, a mining operation extracted sand and stone from the river, subsequently damaging the irrigation canals in Til Bahadur's fields. Later that year, the same irrigation system was completely destroyed by a landslide.



Til Bahadur and other Magar villagers have been opposing riverbed mining in Badarkuna, which is contracted and supported by the local government, on account of the irreparable destruction to ancestral lands and livelihoods. Like other members of this primarily farming community in western Nepal, Til Bahadur has given up on restoring the irrigation canals. He has been notified that, pending imminent inundation, the lands of the Magar are up for acquisition by the Tanahu Hydropower Project – a high concrete gravity dam scheduled for completion in 2026.

The 140-megawatt storage-type project, which will cost US\$505 million, is dubbed ‘the national pride of the Government of Nepal’. Besides generating electricity by erecting a 140-metre-high dam that will create a reservoir 25 kilometres long, covering an area of 7.26 square kilometres, the project will also feature a 220 kV double circuit transmission line 37 kilometres long. The Tanahu Hydropower

Project is one of many such projects constructed or being planned in Nepal as part of a government-led effort to meet increasing hydropower development objectives. Most active hydropower plants in Nepal are run-of-river type, and therefore generate less electricity – if any – during the dry season, which is why the country still has to import electricity from India.

As the government, international donors and the private sector push hydropower development in a supposed plan for Nepalese prosperity, the situation of indigenous peoples affected by hydropower projects, including the associated infrastructure, is often forgotten. Such development schemes continue to have direct impacts on local communities in and around the project sites. While mostly undertaken with little to no information-sharing and consultation with the affected communities, the people on the ground face disproportionate harms compared to the benefits of these

Magars discuss the titles of their lands that will be inundated by the Tanahu Hydropower Project.

*Tom Weerachat/  
International  
Accountability  
Project*

‘In the name of development, we are losing our lands, and our families and forthcoming generations are being displaced for little to no compensation.’

projects. National legal protections for the rights of those communities are minimal, despite Nepal’s international human rights obligations.

### **Leading the community’s struggle for rights**

Many landowners in Badarkuna have accepted compensation at the arbitrary rates determined by the Nepal government. But not everyone in the village is prepared to accept the current scheme proposed by the authorities, even though additional payments have been promised for disruption of cultivation, in an effort to quell widespread opposition to the Tanahu Hydropower Project by affected families. Til Bahadur belongs to one of 30 other indigenous Magar families whose lands will be inundated but who have refused to accept compensation, arguing the compensation is ‘inadequate and unfair’.

Magars are one of the officially recognized indigenous nationalities of Nepal. Their ancestral domain is in the hills of western Nepal. Magars are the largest indigenous people in the country in terms of numbers, with around 1.9 million self-identified Magars in Nepal, which accounts for more than 7 percent of the national population. Magars are a Sino-Tibetan

ethnic group, with their own language, spoken in three dialects (Magar Dhut, Magar Kham and Magar Kaike). While there are currently both Hindu and Buddhist followers among Magars, they also perform animist rituals based on ancestral practices. Magars are believed to descend from powerful and influential groups that once ruled over the central regions of what is now Nepal. Despite their ancestral heritage, Magars have faced historical marginalization and exclusion in the process of building a modern nation-state dominated by Hindu caste groups.

In addition to the threat of inundation, sand and rocks from the river are increasingly being extracted. This is affecting nearby grazing areas as well as cremation and ritual sites. These things would never have happened, according to Til Bahadur, if the dam had not been approved in the first place or, at the very least, if consent from local indigenous communities had been procured in an open and transparent way.

‘When the Tanahu Hydropower Project representatives first came to see our lands, they simply said that we would be compensated for our lands in cash,’ says Til Bahadur, who has led the Magar families in their struggle against the project since 2016. He goes on:



*At the time, we thought that we would be compensated adequately so we can buy lands similar to our own, which will be inundated. We thought that we would be provided with grazing fields and forests like we now have in the area. However, it did not go that way – quite the opposite, actually. In the name of development, we are losing our lands, and our families and forthcoming generations are being displaced for little to no compensation. That is why we are not satisfied with the project.*

Until recently, those Magar farmlands that are expected to be inundated by the Tanahu Hydropower Project were under collective ownership. While Til Bahadur and others were able to register much of their lands under individual titles in line with Nepal's laws,

a significant proportion of their lands that were jointly owned or used were still untitled due to legal complications and bureaucratic hassles. They tried to obtain land titles to remain in these ancestral lands, but to no avail. Now, to make matters worse, the affected Magar communities were informed that they would not receive compensation for the value of the untitled lands lost to inundation, but that government compensation would only cover the loss of produce for certain years, provided official evidence of ownership is presented to the authorities. Further, members of the community were not even asked about compensation for, or rehabilitation of their grazing lands, forests and other communal properties, such as cremation and ritual sites, which are also set to be inundated.

Magars walk through their farmlands that will be inundated by the Tanahu Hydropower Project.  
*Tom Weerachat/International Accountability Project*



## From national to international advocacy

Over the years, Til Bahadur and other Magar families involved in this dispute have repeatedly petitioned Tanahu Hydropower Project representatives and the concerned authorities. Their demands have included land-for-land compensation, as well as respect for their right to free, prior and informed consent in the decision-making process in line with international legal standards on the rights of indigenous peoples. When the authorities did not effectively address these demands, Magar representatives filed a complaint against the Asian Development Bank (ADB) and the European Investment Bank (EIB) – the two co-financiers of the project along with the Japan International Cooperation Agency (JICA). Following this complaint, a dispute resolution process facilitated by the complaint mechanisms of the banks has been ongoing since late 2020.

Independent studies undertaken as part of the dispute resolution process have supported the grievances of the affected Magar families regarding inadequate land compensation and socio-economic impacts, including loss of cultural rights due to the environmental destruction along the banks of the River Seti. Up to

the time of writing this case study in March 2023, there has been little progress on the Magars' core demand for land-for-land compensation.

In addition to Magar people, other indigenous and minority communities living on the Seti River catchment, including Newar and Dalit families, have also submitted complaints to the ADB and the EIB, citing lack of information-sharing and consultation. Severe landslides in the area in recent years have raised concerns over the impact the reservoir will have on land stability and the environment as a whole. All complainants have requested the ADB, the EIB and the JICA to suspend the financing of the project until their grievances are addressed, to which the financiers have not yet responded.

As Yaam Kumari Rana, another project-affected community member maintains: '[The] project should only be carried out after resolving all the issues at stake to ensure the survival of us, indigenous communities.... Until then, the construction works should be halted.'

Despite pressures from indigenous communities, the hydropower sector in Nepal remains largely insulated from criticism. In order to ensure justice, the debate on hydropower in Nepal must address critical questions related to the marginalization of indigenous and other locally affected populations.

# Turkey: Water is used as a weapon against Kurdish people in south-eastern Anatolia

Mahmut Sansarkan

Over the past decades the government of Turkey has sought to implement a plan to modernize south-eastern Anatolia. The plan is called the Southeastern Anatolia Project (*Güneydoğu Anadolu Projesi*, GAP). The main idea is to utilize the waters of the Tigris and Euphrates Rivers for the development of hydropower.

The government conducted several studies to ascertain how rivers in Turkey could be utilized to produce energy, especially in the context of existing and potentially growing security issues related to energy shortages. The main objectives of the GAP were to ensure improvement of people's living standards and income levels; to eliminate regional economic inequalities; and to enhance productivity in the rural sector. In short, the government of Turkey argued that the construction of dams on the Euphrates and Tigris Rivers represented a large-scale government effort to achieve socio-economic development in south-eastern Anatolia, even though the project caused tensions with Iraq and Syria. Despite international pressure, the government insisted on the construction of 22 hydroelectric power plants.

The Ilisu Dam, the second-largest dam in Turkey, is one of the infrastructure projects built on the Tigris River, close to the border with Iraq and Syria. While all dams in the region aimed to expand irrigable areas and produce hydropower, the Ilisu Dam had a totally different justification, motivation and rationale. Activists have reported that the dam threatens valuable biodiversity, and endangers animal and plant species as well as human lives, for instance through the displacement of local Kurdish communities. More than 78,000 people from the Hasankeyf district of Batman province are being affected by the inundation caused by the water reservoir. In addition, a portion of the 12,000-year-old city of Hasankeyf will be flooded. According to many critics of the project, the government of

Turkey has constructed the Ilisu Dam to defeat the Kurdish insurgency, and to gain influence over Iraq and Syria through its weaponization of water.

The Kurdish-Turkish conflict is an armed conflict between the Republic of Turkey and the PKK (Kurdish Workers' Party), which has demanded an independent Kurdistan for decades, calling for autonomy and greater political and cultural rights for Kurds in Turkey. Since the 1990s, the government of Turkey has used the GAP as a weapon in the fight against Kurdish insurgents. The government's discourse revolves around the idea that the dam will provide economic growth to people in south-east Turkey, and that economic development will deter local people from joining the Kurdish freedom movement. The government also insisted on the construction of dams to prevent PKK militias from crossing from Iraq to Turkey or moving freely from one region to another. The official narrative of Turkish authorities has been that the large bodies of water could prevent PKK militias from crossing the border, which would thus deter displaced Kurdish people from joining the Kurdish resistance within Turkish territory. Construction of the Ilisu Dam has also given opportunities to the Turkish government to assimilate Kurds within their ongoing Turkification campaign.

The destruction of the 12,000-year-old city of Hasankeyf, an important Kurdish heritage site, would impact the social ties of Kurdish people, cutting them off from their history, memory and sense of cultural belonging. The overall goal of the authorities is to undermine Kurdish cultural rights in order to pursue the

## The dam threatens valuable biodiversity, and endangers animal and plant species as well as human lives, for instance through the displacement of local Kurdish communities.

homogenization of Kurds, and their assimilation within the long-standing campaign of Turkification. In this way, water has played a significant role in shaping domestic politics, resettling minority communities (mainly Kurds) and subjecting minorities to economic, social and political instability.

Ridvan Ayhan is a founding member of the Initiative to Keep Hasankeyf Alive, founded in 2006. I asked him what water politics mean to Kurdish people in the region. Ayhan spent all his childhood in the historical site of Hasankeyf. Later, he moved with his family to the city centre for economic reasons. He says that he never cut ties with Hasankeyf and remains deeply connected to the ancestral city, visiting it three or four days per week, even though he is living in Batman. He would spend his time in caves and historical sites. Ayhan has struggled for almost 25 years to keep Hasankeyf alive.

Many local and some international organizations have supported Ayhan's Initiative. Ayhan and his team have conducted several awareness-raising campaigns in Turkey and abroad. The Initiative has campaigned to stop existing hydropower projects and for energy-generating alternatives to be

identified that can improve the socio-economic situation of local people while protecting their cultural heritage and the environment. Ayhan was arrested in 2012 and imprisoned for four and a half years for his involvement in the Hasankeyf campaign.

According to Ayhan, the government is targeting Kurdish identity through the construction of the dam. It also intends to exert pressure on Iraq through transboundary water management. Ayhan thinks the Turkish authorities will use water as leverage if the Iraqi government prevents the Turkish military from conducting operations against Kurdish forces in

Portrait of  
Ridvan Ayhan.  
*Eylül Deniz*  
*Yaşar*





Kurdish youths visit the abandoned houses of the small ancient town of Hasankeyf, Batman Province, Turkey. *Bulent Kilic/AFP via Getty Images*

Iraq. In short, the dam has allowed the Turkish government to exert control over Iraq while displacing organized Kurds to other parts of the country. Approximately 80,000–100,000 Kurds have already been displaced and forced to move to suburbs in nearby cities as a result of the Ilisu Dam. Displaced Kurds do not generally have immediate access to livelihood opportunities. Because the displaced Kurdish populations relied on agriculture and livestock, displacement has meant that they have no means to recover from the economic impact or find alternative means of survival. Displacement has caused further cultural and social issues for the Kurds. Kurds who were forced to migrate cannot observe their

cultural practices. Some displaced Kurds moved to western parts of Turkey, where they could not easily continue practising their language due to local pressure, stigmatization, marginalization and oppression from majority sectors of Turkish society. To conclude, it seems that water is a critical resource that will continue to shape the geopolitics of several countries in the region, affecting minority communities in direct and serious ways. In this part of Turkey, Kurdish minority communities are victimized by water-related geopolitics. More advocacy is urgently needed to bring attention to the issue. ■

The government is targeting Kurdish identity through the construction of the dam.



# CONFLICT





**Closely related to the issues of inequitable development and controversial hydroelectric projects is the problem of conflict. As we have seen, many programmes for national economic development that emphasize the need for hydropower development and extractive water practices have major impacts on the lives, livelihoods and cultures of local minority and indigenous communities affected by displacement, flooding of ancestral sites and loss of community cohesion.**

Factors already discussed, namely drought and floods, coupled with lack of access to safe drinking water and discriminatory forms of hydropower development all converge and intersect with underlying ethnic, political and religious tensions, leading to many forms of conflict. Water stress in countries across the world, coupled with increased competition for resources among already vulnerable groups, is leading to the exacerbation of these conflicts, including inter-ethnic conflict, inter-state warfare, indiscriminate attacks by armed extremist groups, gender-based violence, and mass killings of minority and indigenous activists, including those calling for water justice.

The first case study included in this section covers the interlinkages between infrastructure and conflict in **Ethiopia's** border region, particularly the ramifications of the Grand Ethiopian Renaissance Dam on the recent Tigray conflict.

We subsequently turn to the legacy of war and repression in **Iraq**, and their impact on Marsh Arabs. The legacy of the Ba'ath government is explored in relation to the deliberate drainage of the marsh region of southern Iraq, and the ongoing difficulties faced by the Marsh Arab minority in the aftermath of this repression compounded by climate change.

The ongoing conflict over water resources between farmers and Fulani pastoralists in **Niger** is explored in the following case study, where the escalation of violence between these two groups is analysed specifically in terms of the violations to the ancestral rights of indigenous pastoralists to follow their traditional water routes to grazing areas.

We finish with a case study that deals with recent state-sponsored violence committed by the **Philippine** authorities against indigenous Dumagat people and water activists. Echoing previous case studies, the narrative of national development and the growth of hydropower is critically probed as a controversial state-sponsored programme that favours select economic and political interests in the Philippines, at the expense of the lives and livelihoods of indigenous communities.

# **Ethiopia: The GERD project, the Gumuz community and the escalation of conflict in Metekel**

Yosra Elgendi

The Grand Ethiopian Renaissance Dam (GERD) is one of the largest hydropower mega-projects ever conducted in Africa. The project, which will have a total capacity of 15.3 million cubic metres of water, is expected to reduce the risks of flooding of the Blue Nile for downstream countries. Among the expected benefits is electricity generation by hydroelectric power stations installed at the foot of the dam, through which Ethiopia is aiming to generate 15,700 GWh per year to expand its energy-dependent industries and address urban demands.



A Gumuz woman sifting a bucket of Ethiopian Mustard to separate the straw from the seeds. Oda Godere District, Benishangul Gumuz Region, Ethiopia. *Michael Metaferia*

The project, hailed as a national regeneration or ‘renaissance’, was funded by bonds sold to Ethiopian citizens. Thus, the project has led to a national mobilization campaign steered by the Ethiopian government and galvanized by a political ideal of unity in the midst of deep divisions running along ethnic lines.

Little has been said in local and international media circles about the lack of transparency behind this project and the way it has impacted indigenous people. This case study will shed light on various issues that are inconsistent with the renaissance narrative and state ideology that this dam symbolizes, in particular the lack of participation by local Gumuz communities, their lack of prior consent, and their forced displacement – the latter having had a direct impact on the escalation of armed conflict in the region.

### Gumuz – a marginalized people

The Gumuz community has a long history of marginalization in Ethiopia. Some accounts have labelled them ‘the least defensible and resilient population group’ of the Kusa (as the Beles River, a tributary of the Blue Nile, is known in the Gumuz language) basin. Gumuz are made up of 10 clans, who speak a distinctive Nilo-Saharan language. In 2008, there were 179,348 Gumuz in Ethiopia according to the official census, of whom 20,000 were situated along the Kusa River. Gumuz people have traditionally practised hoe cultivation, fishing, livestock herding and gold panning for a living. Raided for slavery since the fifth century, the collective memory of their enslavement and domination lives on in the modern period, particularly as unofficial forms of slavery continue to this day. Relocation programmes in the



The Grand Ethiopian Renaissance Dam on the Blue Nile in Bameza, Ethiopia. *Yirga Mengistu/Adwa Pictures Plc/dpa/Alamy Live News*

Gumuz area of Metekel steered by the Ethiopian government in the 1950s, and subsequently in the 1980s, have led to claims by the community that the area is being annexed by other ethnic groups, especially Amhara people, in an effort to control land and natural resources. Conflict between Gumuz people and neighbouring communities, including Amhara people living north of the Blue Nile, has intensified with the shift in power among these groups. Inter-ethnic and political conflict is directly exacerbated by the building of the GERD, not least given the unrest and social pressures caused by the resettlement process.

The construction of the GERD has added to the historical fear that many Gumuz have of annexation. More than 20,000 Gumuz farmers have been displaced as a result of the construction of the dam, as houses are expected to be submerged by water after completion. While Ethiopian workers from different regions (and

about 350 foreign workers) have been brought in to build the dam, the relocation process has been marred by non-participatory and elite-centred decision-making. The resettlement plan, which started back in 2013, was coordinated by the Federal GERD Project Office along with the Ethiopian Electric Power investment authority. The project requires the resettlement of all people living below 645 metres, amounting to 5,391 households or 20,000 inhabitants, who are currently being rehoused in 17 new villages or resettlement centres.

Access to basic services has been negatively impacted. The right to education and to health have also been seriously affected, as the newly built clinics and schools in the resettlement centres lack trained staff, teaching materials and other resources. The right to adequate housing has also been affected, since the new buildings lack electricity as well as running water. While power lines run along

Rather than unifying and mobilizing the country, the dam has become a linchpin in the dynamics of conflict caused by the various groups vying for power in the region.

the main road, sometimes close to the resettlement areas, especially Guba, resettlement centres in many *woredas* (local districts) are not connected to the electricity grid.

### **The GERD's impact on the Tigray conflict**

As part of the recent conflict in Tigray, the Ethiopian government has been relying on ethnic militias in coalition with government forces, to fight against the Tigray People's Liberation Front (TPLF). When the Benishangul-Gumuz region requested the assistance of federal troops in September 2020 following attacks by militiamen, the intervention of state forces compounded ethnic tensions and violence. Old fears that Gumuz were being displaced by Amhara were reignited, which led to the deepening of inter-ethnic conflict in the region. The federal authorities fuelled the conflict further in November 2020 after federal police produced a documentary, broadcast on state-owned channels, claiming that a Tigrayan businessman in Metekel was paid by the TPLF to organize Gumuz militias and attack Amharas in the region. This led to more warfare rather than any strengthening of social cohesion.

In the context of an increasingly complex and layered series of political, military, regional and international conflicts, the dam has become a target for many groups. The Benishangul-Gumuz People's Liberation Movement led an attack near the GERD in 2017; 10 of its members were subsequently sentenced to lengthy prison terms following the deaths of nine people in the incident. In 2021, Tigrayan fighters reportedly tried to attack the dam but were thwarted by federal forces, who killed 50 and wounded 70 others. Amharan militias, on the other hand, who have mobilized troops in coalition with federal forces, are also reportedly seeking to gain a stronger foothold in Metekel.

### **Conclusion**

Rather than unifying and mobilizing the country, the dam has become a linchpin in the dynamics of conflict caused by the various groups vying for power in the region. By allowing a major hydropower project to go ahead in a region affected by the marginalization of minority and indigenous communities, insecurity, environmental degradation and inter-ethnic violence, the historical tendency to oppress Gumuz farmers



Gumuz people returning home from market day, carrying their supplies over their shoulders. Oda Godere District, Benishangul Gumuz Region, Ethiopia.  
*Michael Metaferia*

and dispossess local communities has escalated to the point of serious human rights violations, including denial of water access, lack of services, violence and mass killings. Furthermore, as the brutal war in Tigray has been conflated with ethnic conflicts already raging in the region, so various ethnic groups have turned their attention to the GERD – a symbol of national progress and unity through hydropower development – as a potential war target.

It is vital that the structural weaknesses that contribute to the ethnic fragmentation and collapse of social cohesion in the region should be addressed by the Ethiopian state. Importantly, the state should ensure that it upholds the rights of the indigenous peoples and minority groups whose ancestral homes will be flooded by the mega-dam. State development efforts must go hand

in hand with a stronger participatory element from the different indigenous peoples in the country, particularly those who will be most affected by these projects. Immediate efforts are needed to assess and address the full range of rights that have been affected as a result of the dam's construction. A more participatory approach must also take into consideration the needs of the resettled communities in the new villages and resettlement centres. The Ethiopian state must be able to guarantee security, livelihoods and cultural rights. A truly meaningful participatory discussion on the impacts of the dam on affected communities can only be envisioned in the context of a full-fledged national dialogue, where the needs and concerns of minorities and indigenous peoples are put on the table and agreed upon so as to find a way forward.

# Iraq: Marsh Arabs and ecological resilience – the legacy of conflict

Achref Chibani

Fatima, also known as Umm Ahmed, is a 40-year-old woman who has lived her entire life in the marshes of Maysan Governorate in southern Iraq. Fatima usually helps her husband harvest reeds, which are used in the making of traditional mats required for the roofs and floors of marsh houses. However, recent droughts have dried up the rivers, so Fatima and her husband can no longer collect sufficient reeds.



A Marsh Arab woman holds a banner reading, 'Water is the secret of life. I'm thirsty', in the Chabaish Marshes, Nasiriyah, Iraq, 30 July 2022. Asad Niazi

Spanning some 20,000 square kilometres when seasonally flooded, the marshes of southern Iraq are a complex tapestry of waterways, rivers, marshes, reedbeds and islands formed where the Tigris and Euphrates meet and empty into the Gulf. Made up of three principal areas, the al-Hammar Marshes, the Central Marshes and the al-Huwaizah Marshes, this is the largest wetland ecosystem in the Middle East. Over the centuries, Marsh Arabs have developed a unique way of life that is in tune with the marshland ecosystem and its seasonal cycles. In contrast to rural livelihoods in other parts of Iraq, fishing, buffalo herding, rice cultivation and reed harvesting are the mainstays of marsh communities.

Fatima notes that 'things became worse when we lost five of the eight buffaloes we owned due to the drought. My husband is struggling to buy fodder, especially since our son, Ahmed, does not work regularly.' Fatima concludes: 'We do not want to leave the marshes because they are our ancestral home,

but we have been left on our own to face the forces (*sulta*) of nature.'

Like Fatima, other Marsh Arabs of southern Iraq have experienced multiple and interlinked forms of ecological destruction, which have all but wiped out their way of life. What makes the situation of Marsh Arabs even more challenging is the way in which their unique relationship to the environment has been the target of state-sponsored violent conflict. It has been through the deliberate degradation of marsh ecology that Marsh Arabs have been controlled, oppressed and eliminated.

In the second half of the twentieth century, Marsh Arabs were subjected to sustained state-sponsored violent conflict. In the 1980s, the area was a focal point for some of the fiercest fighting of the Iran-Iraq war. Like the inhabitants of the south of Iraq more generally, most Marsh Arabs adhere to Shi'a Islam and were thus the object of distrust and oppression by the Ba'ath regime of Saddam Hussein.



‘We do not want to leave the marshes because they are our ancestral home, but we have been left on our own to face the forces (sulta) of nature.’

In 1991, following Iraq's defeat in the first Gulf War, Marsh Arabs joined an attempted uprising, which was violently suppressed. In subsequent years, some 40,000 Marsh Arabs fled to Iran while many others were internally displaced. It is estimated that the marshes' population declined from almost half a million in the 1950s to about 20,000 in the 1990s.

As local activist Mustapha Hashem points out, those who were internally displaced faced new hardships in Iraq's cities. He adds: ‘the Iraqi government considers us second-class citizens. After forced migration to the city, we faced problems and discrimination from residents who consider us an inferior race and call us *Ma'dan* or *Shrouk* [‘those from the east’].’

A 2003 Human Rights Watch report concluded that the persecution of Marsh Arabs by the Ba'ath regime constituted a crime against humanity. ‘Marsh Arabs have been singled out for even more direct assault,’ the report claims. ‘Mass arrests, enforced disappearances, torture and execution of political opponents have been accompanied by ecologically catastrophic drainage of the marshlands and the large-scale and systematic forcible transfer of part of the local population.’

By systematically degrading the ecosystem with canals and dams constructed specifically to drain the

water systems, and by setting reedbeds on fire or poisoning lagoons, the Ba'ath regime sought to target local minority communities and thus to eradicate a population that has lived in these ancestral lands for many centuries.

### Climate change and the marshes

Following the 2003 US-led invasion of Iraq, attempts to reflood and restore the marshes have been carried out, leading to the regeneration of some 30–40 per cent of the original marshland area.

The marshes, however, now face a second man-made crisis brought on by the dual pressures of climate change and dam construction. The UN Environment Programme ranks Iraq as the fifth most vulnerable country in the world to decreasing water and food availability, and extreme temperatures. Lower rainfall and higher temperatures are causing increased salinity levels in freshwater sources, which affects humans, animals and plant life on the marshes. These environmental pressures have been further exacerbated by upstream dam construction in both Iran and Turkey. This push for hydropower development included the building of a 56-kilometre weir along the Iran-Iraq border in 2009, as well as the construction of dams on the Tigris and Euphrates as part of Turkey's South-eastern Anatolia Project.



A Marsh Arab man on his boat, in the Chabaish Marshes, Nasiriyah, Iraq. *Asad Niazi*

The situation in southern Iraq is yet another example of how climate change begets new forms of violent conflict affecting minority groups. Tensions between marsh communities and local farmers have risen in recent years as buffalo herders, faced with dried-up riverbeds, have been forced to move their buffaloes into local fields. It is likely that, as climate change places ever greater pressures on Marsh Arab livelihoods, violent conflict may increase.

Meanwhile, Fatima continues to ponder what the future holds for her community in the face of drought and discrimination. Fatima remarks:

*This land gave me a source of income during times of prosperity. It would be ungrateful of me to abandon it because of this crisis. I hope that water in the marshes will return to its previous level so that smiles will return to the people's faces.*

Fatima's words reflect the resilience of the Marsh Arab communities in the face of climate change, and their desire to remain on the land (and waters) of southern Iraq. Fatima's expression of hope and commitment to her homeland is, furthermore, a testament to the deep-rooted sense of cultural belonging of those Marsh Arabs who are refusing to become climate migrants.

The effects of climate change are nevertheless forcing Marsh Arabs to abandon their livelihoods and look to Iraq's cities for work and a new life. In a country such as Iraq, where the security situation is volatile and the state is weak, climate migrants can have a potentially destabilizing impact on the country's fragile peace. It is thus paramount that we listen to Iraqis such as Fatima and find means to empower Marsh Arabs by giving them the tools to stay in the marshes and adapt to changing ecological and climate realities.

# Niger: Ethnic conflict along the Komadugu River and the shores of Lake Chad

Kamilu Hassan Hamza and Ardo Haru Jauro



Fulani men from northern Nigeria stand in the Awaradi refugee camp in eastern Niger. Awaradi Refugee Settlement, Diffa, Niger. *Giles Clarke/Getty Images*

The Komadugu or Yobe River flows across the borderlands of Nigeria and Niger Republic, along an extensive plateau that covers most of Kano state and Hadejia Jama'are, until finally flowing into the fast-receding Lake Chad. The Komadugu River has been an important historic waterway and resource both for farming and pastoralist communities living in this semi-arid part of West Africa.

For hundreds of years, the Fulani people have lived by the side of the Komadugu River; indeed, for many members of this cross-border community, their livelihoods and cattle farming are inextricably linked to river access and the availability of nomadic routes. The Komadugu River provides a key route for the movement of cattle, as well as an important sense of cultural connection, continuity and belonging for many local groups.

On a sunbaked and mud-cracked bankside on the outskirts of Diffa, in the south-eastern part of Niger Republic, I meet a local Ardo, which is the title given to the chief of a Fulani band of cattle herders. His name is Haru Jauro. Fulani are considered an ethnic minority both in Nigeria and the Niger Republic, where their numbers have dropped considerably due to climate change and drought. Environmental pressures have pushed pastoralist groups further south, across the border into Nigeria. Difficulties in accessing water for pastoralist communities in Niger is further exacerbated by discriminatory government policies that

have prioritized the building of dams on various rivers across the region. One impact of water use for hydropower has been drastically reduced water levels in Lake Chad and its tributaries, including the Komadugu River.

Ardo Haru Jauro explains:

*We are nomadic. We live with our cattle. After grazing we need to take our cattle to the water to drink. You could say this river is our life, so anything that deprives us from free use of water is a form of violence on our way of life. Did you know that migration of Fulani to the south means insecurity in Nigeria? But do you know what the cause of migration is? It is the scarcity of water. The cause of all the violence and other insecurity problems in Nigeria is water scarcity.*

Ardo Haru Jauro's story is typical of many Fulani herders, whose way of life has been severely threatened due to the lack of water. Many members of this Ardo's Fulani community in Niger have become displaced. Others have resorted to organized violence,

including armed conflict techniques reminiscent of those adopted by Boko Haram and other extremist groups still active in the Lake Chad Basin.

‘At the beginning,’ Ardo Haru Jauro reminisces:

*this river was for us. Only the Fulani were using this water. We called our route burtali, and we used this route to move around between grazing areas to provide drink for our cattle. The Fulani way of life depends on being able to move around freely between the two countries, Nigeria and Niger Republic. At the time there were no names like that, or boundaries. All we cared about were our routes, which we inherited from our forefathers.*

Cultural rights for the Fulani do not involve claims over ancestral lands, yet routes and the ecological understanding of land as an ever-changing flux are nonetheless vital to their worldview and heritage. This perspective seriously questions many existing state models of customary land recognition, titling and land rights. The right to routes which are not necessarily fixed or which can shift due to environmental conditions, makes the Fulani claim to their ancestral *burtali* hard to recognize within existing legislation on both sides of the border.

Ardo Haru Jauro further explains that, as some farmers have started enlarging their farms and have destroyed forests, so the encroachment on Fulani routes has continued to worsen, further exacerbating this conflict. Farmers have introduced irrigation systems which have restructured many riverbanks, especially around

Diffa province in Niger. ‘Farmers took our grazing area around the river, converted it into farms and blocked our access to water,’ the Ardo explains.

‘The rules regarding the time when the herders stop grazing is based on our rain seasons’, the Ardo maintains:

*The problem is that the timing for grazing in enclosed lands is now unclear because the rains are becoming more and more unpredictable, which is changing the time of harvesting and the time when grazing is allowed. Sometimes rains end earlier than expected. In this case there is no problem. Farmers finish their harvesting before herders move through. But in a period where the rain season is prolonged, sometimes herders move in, and clashes occur.*

The Ardo adds:

*Another issue has to do with the planting of guna crops, which is a crop planted after harvesting the millet, and which farmers hope to harvest before herders move in. Sometimes, due to climate change, it takes longer for the guna to ripen than usual time, and because the plant does not grow tall it is hard to see from afar when you are passing through.*

Fulani herders are eager to move into enclosed lands due to inadequate provision of reserved grazing areas for them. Ardo Haru Jauro laments that the Fulani community has been vilified, and not only in Niger and Nigeria. The escalation of violence between herders and farmers is not, the Ardo insists, a problem caused by Fulani. Mass killings and protracted cycles of

‘You could say this river is our life, so anything that deprives us from free use of water is a form of violence on our way of life.’

revenge have become commonplace in the region, yet the true position of Fulani herders remains obscured by public perceptions marred by negative stereotypes, discrimination and hate.

‘We are a minority,’ the Ardo explains:

*so our rights are not considered. People know about us only when we carry out a revenge attack, or when our cattle eat the grasses that they weren't supposed to. We cannot stop our cattle from trespassing sometimes, because the farms have encroached on our ancestral routes.*

The Ardo continues:

*We have been denied access to water around the river, which is why we have had to respond in desperate ways. We are making three important demands. The first one is water. We are being forced to change the way we move around as the waters of the Lake Chad disappear, especially here on the Niger side. The competition for water for both farmers and herders sometimes causes violence and it is obvious that the majority will always get the upper hand.*

The Ardo goes on:

*Another demand we would like to make has to do with the man-made dams. We have heard that many dams have been built from the source of the river in Nigeria, which has turned the Komadugu here in Niger into a seasonal river. For instance, the Tiga Dam in Kano and Kafin Agur in Bauchi, those dams built especially in Kano state, they are taking the water from the river to supply cities in Nigeria. But what about us?*

*The third demand has to do with the way in which the riverbank has been transformed. Irrigation systems were built here without considering our ancestral right to accessing the water for our cattle. Actually, this harms us. We can say that the violence starts when we are left without water. How are we meant to survive if the irrigation systems leave us without water for our cattle and our families? What would you do if someone took all your water? Would you not stand up and defend yourself?*

The words of Ardo Haru Jauro express a sentiment that is widely felt among

Fulani communities. Although Fulani communities have been portrayed as the cause of widespread violence across the Sahel, inter-ethnic conflict is the result of extreme conditions and the desperate competition for survival in a part of the world fast becoming uninhabitable due to climate change. Legislation and government policy are inadequate when it comes to addressing the farmer/herder conflict. Neither farmers nor herders in this region abide by central government rules, but instead follow traditional and religious leaders. The only way to begin a process of peace-brokering between herders and farmers is to involve the communities themselves,

including their religious leaders, heads of clans and other chiefs.

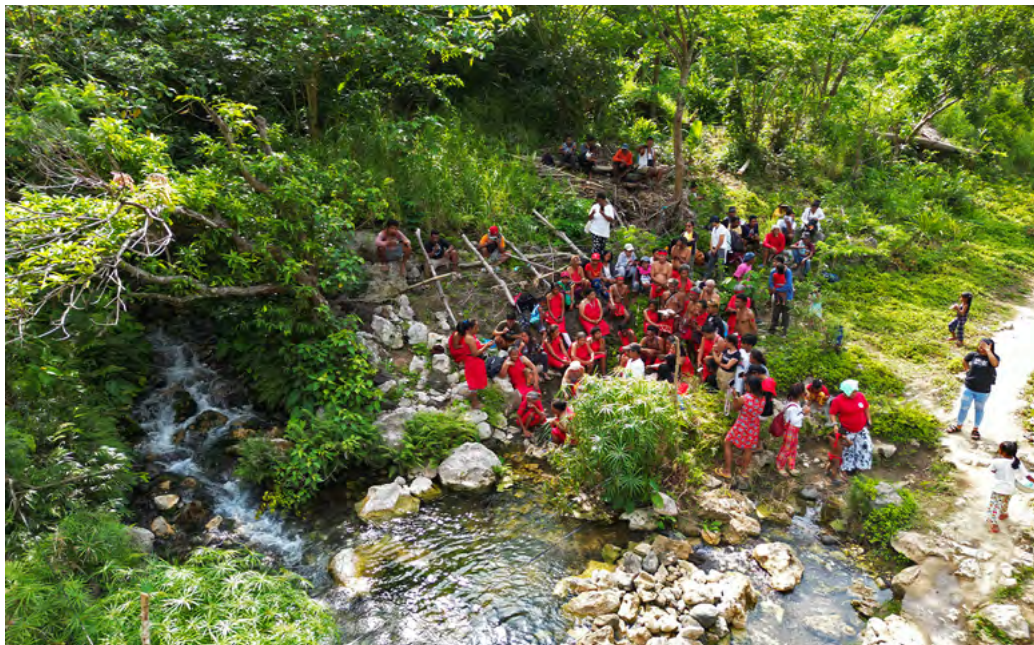
The Niger and Nigeria governments would have to reimagine water governance and policy by developing completely new frameworks based on the authority of local religious leaders, heads of towns, chief herders (Ardo) and civil society organizations, to begin a process of mediation and de-escalation of inter-ethnic violence. As to the question of climate change, and the devastating drought and desertification affecting Lake Chad, the solutions are even harder to imagine for communities surviving along the Komadugu River.

# **Philippines: Caught in the current – how nationalist development narratives threaten the future of Dumagat people**

Grace Simbulan and Kakay Tolentino

The indigenous peoples of the Philippines experience systemic discrimination and human rights abuses perpetrated by local and national governments and multinational corporations. These abuses have become more visible due to government-led development programmes, especially mega-dam construction, which have further pushed indigenous peoples into the margins of society by excluding them from every stage of the policy and project-making processes.





Members of the Dumagat-Remontados indigenous community gather each April at a spring along the Tinipak River for their annual ritual. *Keith Anthony S. Fabro for Mongabay.*

The government has used the nationalist discourse of ‘development’ to legitimize projects encroaching on indigenous lands. On top of this, indigenous activists who have openly opposed and resisted hydropower projects have been threatened, punished and killed by the Philippine government and their allies.

Over the last 40 years, fear of displacement has constantly threatened the existence and identity of the Dumagat, a semi-nomadic indigenous people whose lives are intertwined with the Sierra Madre mountain range and the Agos River encompassing the provinces of Rizal and Quezon in the island of Luzon. Previous administrations have made numerous attempts to relocate Dumagat to build reservoirs or hydropower dams, citing the alarming population rise in Metro Manila and the need for more water

for agriculture as primary reasons. According to a Dumagat resident of Barangay Manggahan, Tanay, ‘The contractors told us that Manila’s water needs were far more important than our needs here in the mountains. Don’t we have the same rights?’

On 7 March 2021, the Philippine national police and the Philippine army conducted a series of operations in Southern Tagalog, which led to the assassination of nine civilians. Four of the nine victims were Dumagat activists and environmentalists accused of supporting the New People’s Army (NPA), the armed wing of the Communist Party of the Philippines. These operations, later called ‘Bloody Sunday’, were part of a series of killings, harassment and police brutality perpetrated by the government of former president Rodrigo Duterte.

‘The contractors told us that Manila’s water needs were far more important than our needs here in the mountains. Don’t we have the same rights?’

‘Bloody Sunday’ is just one of the numerous incidents of violence against indigenous activists who have fought for their right to their ancestral lands in the Philippines. Kakay Tolentino, the National Coordinator of the Bai Indigenous Women Network in the Philippines and Steering Committee member for the Network of Indigenous Women of Asia, says that since Ferdinand Marcos Senior first came to power in the mid-1960s, threats of displacement and harassment have clouded the lives of indigenous women, as the construction of mega-dams, time and time again, has driven Dumagat into situations of increasing precarity. One of the most iconic examples of indigenous resistance in Philippines, the legacy of which is palpable in present-day environmental activism in the region, is the case of Macli-ing Dulag, a *pangat* (leader) of the Butbut tribe of Kalinga province in the Philippines. Macli-ing Dulag is known internationally as one of the leaders of the opposition to the Chico River Dam Project, which led to his assassination by armed forces under the command of Ferdinand Marcos Senior. The image and words of Macli-ing Dulag, as well as his legacy as an icon of indigenous activism in Philippines and beyond, has been

mobilized repeatedly and effectively by present-day Dumagat activists resisting hydropower-related displacement.

For several decades now, Macli-ing Dulag’s legacy and memory have motivated the Dumagat resistance campaign against the Laiban Dam project. This project would have inundated 28,000 hectares of indigenous land, covering seven to eight villages in the provinces of Rizal and Quezon, with Japan International Cooperation Agency (JICA) spearheading the project. The collective resistance and fightback by Dumagat activists were portrayed in international media and human rights documentaries, including my own film *Dam Nation* (2019). The media campaign effort has had an important effect on public opinion and is partly why the Laiban Dam Project was eventually shelved.

According to Tolentino, Dumagat have depended on the interconnected cycles and relationalities between the water systems and the Sierra Madre mountain range. The Sierra Madre mountain range, located at the mouth of the Pacific Ocean, is the largest protected area in the Philippines and sustains numerous endangered species of flora and fauna. The high elevation



The Tinipak River, in danger of being submerged by the Kaliwa Dam. Credit: Keith Anthony S. Fabro for Mongabay. Credit: Keith Anthony S. Fabro for Mongabay.

also weakens the strong winds and torrential rains brought by typhoons that enter the country, thus serving as the region's first line of defence.

Military forces have often been mobilized in indigenous lands where development projects are implemented to threaten and harass protesters, who are considered obstacles to progress and economic growth. The Dumagat ancestral domain is no exception. Tolentino stresses that, following construction of the hydroelectric dam, waterways which serve as the community's main transportation route would be destroyed. This would have significant consequences for the Dumagat's freedom of movement, overall well-being and access to emergency medical care. In addition, it will result in the inundation of their cultural spaces, including sacred

burial grounds. Tolentino adds that good health is defined not merely as the absence of diseases, but it also depends on the well-being of ancestral lands and waters. Dumagat people view their lands as extensions of themselves and oppose ownership, control and exploitation.

Although the Philippines was one of the first countries in the Asia-Pacific region to pass a law protecting indigenous peoples' rights and subsequently adopted the UN Declaration on the Rights of Indigenous Peoples, this has yet to translate into meaningful indigenous autonomy. The Philippine government's use of a nationalist development discourse implies forceful pressure on Dumagat communities to acculturate and assimilate with the rest of the country, thereby putting their cultural identity and future at risk.

However, as Tolentino argues, despite the government's persistent neglect and violation of indigenous land and water rights, their determination to oppose the dam construction only grew stronger. This was evident in the recent nine-day peace march from 15 to 24 February 2023, where 300 Dumagat residents from Quezon and three other communities from Rizal marched from General Nakar, Quezon, to the presidential palace in Malacañang to denounce the commencement of dam operations and the government's blatant disregard of any proper free, prior and informed consent process.

Dumagat express their resistance in various ways, including street mobilizations and the use of media to rally support for their cause, enabling them to control the narrative surrounding their struggle. In the same vein, this case study acknowledges that the current anti-indigenous climate is not location-specific and that solidarity in support of indigenous struggles must happen for all, in all homelands and places. Tolentino concludes: 'If we don't do anything, then we will have dug our own graves. For as long as we are alive, we will continue to fight for our future and future generations.' ■

Sierra Madre forests at risk of massive flooding by the Kaliwa Dam. *Keith Anthony S. Fabro for Mongabay.*





# USAGE



**In this section we focus primarily on the use of water by industrial agriculture and the impact this is having on minorities, indigenous peoples and marginalized farming communities around the world. The demands on resources placed by industrial agriculture, through monocultures and the mass production of food, coupled with diminishing water resources in many agrarian communities are creating the conditions for major humanitarian and human rights crises.**

The first case study in this section focuses on marginalized *campesino* communities in Petorca, **Chile**, where for decades the growth of avocado monocultures has profited on the back of highly contentious constitutional water laws inherited from the Pinochet dictatorship years. Commercialization of water in Chile has led to massive discrimination against local farming communities. These abuses have in turn led to significant social movements (including Modatima) which seek to find justice in the face of increasing human and nature rights violations incurred by avocado plantation groups.

The concerns of the Uyghur ethnic minority in **China** are voiced in the following case study. The Uyghur Region accounts for 20 per cent of the world's cotton production. Water policy and governance in this contested region of China expose the underlying rights violations which are being committed against this persecuted minority. In particular, Uyghurs' ancient cultural heritage, in the form of a vast network of hand-dug *karez* water channels is being threatened by industrial agriculture, climate change and discriminatory policies put forward by the Chinese authorities.

We finish this section with an analysis of the situation of the Baluch minority in **Iran**. The use of water for industrial agriculture, as in the Chile case study, exposes national discrimination of local Baluch farmers, and the destruction of ancestral cultural forms of water conservancy and agriculture in the Sistan and Baluchistan region due to large-scale extractive farming. Ongoing campaigns to expose violations of the rights of Baluch women in particular are raised in this case study, while also touching on the intensification of protests in Iran that highlight water-related discrimination and minority-targeted oppression.

# Chile: At the ends of the world, upside down

Román Albornoz



*A campesino farmer picks up a goat that strays from his herd. Petorca, Chile. Cristian Soto Quiroz/ Crsotoq Audiovisual Agency*



Chile is known as the ‘Country at the Ends of the World’ because it is the southernmost country on the planet. Chile is also a land of topsy-turvy inconsistencies. In a country dubbed the most water-stressed in the Americas according to the World Resource Institute, successive governments have resorted to the use of armoured water cannon trucks known locally as *guanacos* to deal with recent water riots. Water cannons hold up to 14,000 litres of water.

Instead of supplying populations in need, the Chilean authorities have used water to commit crowd-dispersing violence, thus acting against international recommendations on the use of such weapons.

Nowhere is Chile’s topsy-turvy reality more palpable than in Petorca, located in the Valparaíso Region, two and a half hours drive north of the capital Santiago. Petorca is the first arable valley south of the Norte Chico, a semi-desert region south of the Atacama Desert. This is the epicentre of the Petorca water crisis, which has unfolded over the last decade under oblivious governments of both the right and the left, following a devastating 20-year drought.

Petorca is a unique hydrological system, home to prehistoric forests of giant palm trees (*Jubaea Chilensis*) growing in fertile and sheltered valleys, now extremely vulnerable to desertification. Lying at the rim of the driest desert on Earth, Petorca has been utilized by avocado boom *empresarios* as the

epicentre of a lucrative plantation business sustained by grotesque levels of water use, and water theft.

### Using water to make green gold

We stop at the local shop in Petorca’s main square, where we are confronted with yet another example of Chile’s surreal upside-down sense of normalcy. The shop boasts entire shelves full of plastic water toys ‘Made in China’ – the irony is pointed out to me by my 10-year-old son. Even he knows this makes no sense. Like Chile’s laws – constitutional flaws inherited from the dictatorship era – these garish water toys are emblems of a normalized injustice. In this country, the buying and selling of rivers and patches of ocean is constitutional. Water in Chile is not a public good. Article 19 of the 1980 Constitution establishes ownership over the rights of water use, and further indicates that the rights of individuals over water, recognized or constituted in accordance with the law, will grant private actors ownership over water resources. The social uprising of 2019,

and the 2022 Constitutional Plebiscite, which ended with a calamitous defeat for the government and the campaign for the Approval of a new Constitution, both had as a top priority the need to change the country's laws with regards to water use.

Chile is the only country in the world where water is a private good, and where any kind of water (groundwater, surface water, freshwater, even saltwater) can be granted rights of private ownership under the law, in other words, where aquifers, rivers and even seas can be bought and sold, much like a plastic toy. This legacy of Augusto Pinochet's dictatorship and the neoliberal experiment he orchestrated is what has sustained a national economy dependent on two industries with the highest required levels of water consumption – mining (mainly copper and now lithium) and agribusiness (wineries and now the 'green gold': avocado).

Don Justo is a subsistence farmer or *campesino* living in Los Comunes. Ironically named, since Los Comunes ('The Commons') is an impoverished hamlet clinging onto the dried-up banks of Petorca River, a few miles upstream from Petorca town in an area entirely carved up by avocado plantation owners. The *palteros*, as these large farming groups are known locally, have purchased most water concessions and licences for the building of their much-needed wells and water accumulation works.

I am travelling with my son and my uncle, who lives close to the mouth of the river, where the Petorca and La Ligua meet. As we drive

eastward, it becomes apparent that there are no flowing rivers left in this land. The avocado plantations have dried up the watersheds all along the Petorca Province – in the same way that industrial copper mining has dried up the rivers and seasonal salt lakes further up north.

Don Justo explains to us that he has only enough water for seven days left in his tank, and that he has no money left to pay the next *aljibe* – the local water truck that transports commercial water to thirsty farmsteads up and down the dried-up valley. And here is yet another of those distinctly Chilean absurdities: further upstream, avocado plantation owners have built medium-sized water accumulation works to monopolize much-prized water to feed their avocado trees, even though local schools and hospitals have had to shut down due to shortages.

Don Justo explains that when water ran out in previous years, he sought help from the local fire station, but that this will not be possible this year as the *bomberos* (firefighters) have had to give the last of their water to the local school. If a fire breaks out in the autumn, there will be no water to put it out. Mega-fires did break out in February 2023 further south, destroying an area estimated to be roughly three million hectares in size, and which was covered mainly by eucalyptus plantations. Eucalyptus is a highly flammable non-native species that was intensely planted and timbered after a 1974 decree, at the outset of the military dictatorship. The Pinochet regime incentivized monocrop and intensive agriculture, without much consideration for the environmental, or indeed the social consequences

of uneven economic growth. Injustice affecting local campesinos in the Valparaíso region is an entrenched and endemic problem. Don Justo's story is a case in point. In 2021, Don Justo's beehives died after being affected by an unknown disease. After calling the Servicio Agrícola Ganadero (SAG), a government body that regulates crops, seeds and animal husbandry, Don Justo was told that his bees had contracted a disease, and that there were no subsidies or compensation available to him, even though SAG readily offers lucrative bonuses and subsidies to large-scale avocado farms all around his crumbling farmstead. Don Justo told the authorities that his bees had died as a result of toxic pesticides used in the nearby avocado plantation, owned by Chilean department store giant Falabella. Government officials took samples of Don Justo's dead bees. After a two-month wait, Don Justo phoned in to find out what the outcome of the tests were, only to be told that his samples had been lost.

Don Justo has already had to cope with the collapse of his honey-making business. For the last five years, Don Justo keeps hives only to sell queen bees. The absence of flowers in the dry valleys has destroyed local pollination, making the production of honey impossible for small-scale producers. The death of Don Justo's colonies due to pesticide poisoning amounts to the complete destruction of his already precarious livelihood. He tells us that families all around the valley are thinking of leaving. He speaks of going to live up in the high mountains.

Campesinos like Don Justo have not only seen their river and springs dry

up; what is more, Don Justo was fined for digging a well on his own land. According to the local authorities, he does not own a valid licence – nor does the neighbouring plantation owner for that matter. The trouble is, he cannot afford the licence fee. Furthermore, Don Justo has been threatened with further sanctions for setting up a makeshift pipe in the high *vertientes* (water springs) in an attempt to access water from the mountain top for his desperate family and animals. Los Comunes boasts a communal water trough which local campesinos all pay for collectively in an effort to share the last available water. In November 2022, for the first time, it dried up. Meanwhile, the water accumulation works paid for by the avocado businessmen are overflowing with turquoise waters up in El Chalaco, five miles upstream.

Bribery, corruption and local mafia are the legacy of the avocado boom in Chile's upside-down fantasy of economic development. Only a handful of people own Petorca Valley and its waters. These privileged overlords, among them Falabella, are allowed to dig unlicensed wells up to 60 feet deep, according to Don Justo, thus monopolizing water use in Los Comunes. Water use is determined by those who have money – that is, by large Petorca landowners like Edmundo Pérez Yoma, former defence and interior minister, and owner of avocado business group Agrícola Cóndor, former agriculture minister Antonio Walker Prieto, and the Cerda family, owners of Cabilfrut, the largest producer of avocados in Petorca. In short, only a bunch of wealthy families own the entire catchment. A land once graced by green abundance, as the ancient

*No es sequia es saqueo.*

‘This is not drought, it is plunder.’

petroglyphs found up and down the valley testify, has been transformed into a green desert that benefits only a few upper-class families from Santiago.

It is worth remembering that avocado is a water-guzzling crop: one kilo of the so-called ‘testicle fruit’ (from the Nahuatl language) equates with roughly 1,000 litres of water. Don Justo’s entire family consumption is circa 500 litres per month. One kilo of avocado available in European and US supermarkets is equivalent to two whole months’ worth of water for a family of local Chilean campesinos.

They fall off the radar. Campesinos do not receive much attention from international human rights organizations. Although elsewhere in the Americas ‘campesino’ is an established identity that cuts across other forms of minority identification, such as ‘black’, ‘Afro-descendant’, ‘Afro-rurales’ and so on, Petorca’s campesinos are not strictly speaking an ethnic, religious or linguistic minority, nor are they indigenous in this part of Chile. Nevertheless, they remain ignored and under-represented. Campesinos are an economic and class-based marginalized group, historically oppressed and subject to gross levels of human rights violations.

The Petorca crisis is a case of human rights violations grounded in deep-seated marginalization. The campesino is in direct competition, at the level of water use, with majority-led industrial avocado farming. Don Justo is up against a structurally flawed system where business, police,

local authorities and government bodies like SAG operate a legally sanctioned collusion driven by short-term profit for a select few.

The injustice does not end with discrimination against campesinos. Water activists have raised national and international alarm to highlight human rights abuses committed in Petorca, yet police brutality and threats have been the prime response. Water activist Rodrigo Mundaca, currently Governor of Valparaíso, has received numerous death threats due to his work supporting water justice in Petorca. Similarly, there is the case of Modatima, a social movement campaigning for water access in many parts of Central Chile, often led by local women’s groups, which has generated serious levels of hate and repressive violence.

While consumption of ‘green gold’ continues to soar, driving avocado production into a frenzy, and while markets allow for the unregulated production of this crop at the expense of environmental and social justice, the avocado war in Chile will continue to drive marginalized communities to the edge. Incidentally, the so-called avocado war in Chile is a replica of familiar conflicts occurring in Mexico, the world’s leading avocado-producing country.

### ‘This is plunder’

I have not contacted Don Justo in recent weeks. The last time I phoned him, he told me he is afraid of reprisals, and that he would prefer not to be named in our report. He would rather

remain silent, which is why he has been anonymized (Don Justo is not his real name). In this line of work, it is apparent that a human rights violation has reached its ultimate goal when the victim opts for silence. Silenced campesino men and women will suffer the indignity of rampant water theft while sliced avocados continue to be served in trendy cafés and restaurants around London and New York. Consumption up north will continue to drive the exorbitant water footprint of this green gold, as avocado wars continue to pose existential threats to campesino communities in Petorca and elsewhere in the world.

I finish with a personal memory: When I was a child, I used to swim where the Petorca and Ligua Rivers meet, before their graceful waters rolled into the Pacific Ocean. The place, which is blessed with extraordinary beauty, is known as Las Salinas. From the

sandy and open beach, I would look out across an opening in the coastal range towards the towering pyramid-shaped Aconcagua Mountain – the highest peak in the Americas and the highest mountain outside Asia. I was told back then that the snows in the high mountains were ‘eternal’ (*nieves eternas*). In my own lifetime, I have seen the eternal snow vanish. The rivers have run dry. The lakes have gone. The riverbed is littered with dead animals, and it is fouled by the stench of pesticides. That is the vision of my home country I have bequeathed to my son.

It is not climate change that is to blame; it is greed.

Or as the local campaign for water justice shouts out: ‘*No es sequia es saqueo.*’ ‘This is not drought, it is plunder.’

A cistern truck (*aljibe*) supplies water to a house in a Petorca neighborhood. Cristian Soto Quiroz/Crsotoq Audiovisual Agency



# China: Water usage in the Uyghur Autonomous Region

Zumretay Arkin

The Uyghur homeland lies in the very heart of Asia. It is known as East Turkistan to Uyghurs and designated the Xinjiang Uyghur Autonomous Region (XUAR) by China. Situated along the fabled ancient Silk Road, it has been a prominent centre of commerce for more than 2,000 years. The region gave birth to many great civilizations and at various points in history has been a cradle of scholarship, culture and power. It is inhabited by a majority of Uyghur and other Turkic people.

A Uyghur woman collects water from the opening of a *karez* in Turpan, Xinjiang, China. *Adam Dean/The New York Times*



The Uyghur Region is the westernmost province of China, with Mongolia to the east, Russia to the north, Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, Pakistan and India to the west, and Tibet to the south. It has a rich history and diverse geography, including grand deserts, magnificent mountains, beautiful rivers, grasslands and forests. In recent years, the region has been the focus of the international community over the discriminatory and repressive policies implemented by the Chinese government.

Starting in 2013, when Xi Jinping came to power, the Chinese government took a new approach to ethnic groups based on assimilation around a common Han Chinese-centric identity. The launch of the 'Strike Hard Campaign against Violent Terrorism' campaign in May 2014 marked the first escalation of discriminatory policies, particularly mass arbitrary detentions targeting Uyghurs and other Turkic Muslims in the region in the name of 'countering terrorism'. The purpose of the campaign was to combat the 'Three Evil Forces' of ethnic separatism, violent terrorism and religious extremism.

In August 2016, the appointment of Chen Quanguo as Party Secretary to XUAR marked a second escalation and a turning point in the implementation of policies targeting Uyghurs and Turkic Muslims. Quanguo had previously been appointed in Tibet, where he had led the development of a system of control using new technologies. He and other officials put in place policies that eventually led to a province-wide surveillance system that disproportionately targets

Uyghurs and other Turkic Muslims, centralized through the 'Integrated Joint Operations Platform' (IJOP). These digital surveillance methods were supplemented by biometric data, including DNA and blood types collected during the 'Physicals for All' campaign launched in September 2016 to ensure a broad database for the implementation of new laws, regulations and social control policies.

Other abuses include the mass arbitrary detention of at least three million Uyghurs and other Turkic people in internment camps (also called re-education camps), since 2017. Those held in the camps are detained indefinitely without charge, forced to undergo indoctrination classes, subjected to severe physical and mental abuse, provided with very little food throughout the day, and housed in small rooms with many other inmates. Detentions are extra-legal, with no legal representation allowed throughout the process of arrest and incarceration.

## Importance of water

Water has always been considered fundamental in Uyghur culture and traditions. Since their homeland is a landlocked region, access to water is limited. The land is surrounded fully by mountains. The Tenghritagh mountain range runs through the centre and divides the region in two: the Junggar in the north and the Tarim in the south. In the southern regions, the climate is arid, and in the northern regions, the climate is continental arid and semi-arid. The annual precipitation is very low. Historically, water scarcity has been a real problem in the region.



An aerial photo of *karez* wells in the desert. Hami, Xinjiang Province, China.  
*Cynthia Lee/Alamy Stock Photo*

Recent challenges resulting from climate change, including the melting of glaciers and the proliferation of development projects in water-intensive industries, are endangering the region's access to water.

Since the 1950s, the Xinjiang Production and Construction Corps (XPCC) or *Bingtuan*, a paramilitary group, has also negatively impacted the Tarin Basin as a result of its agricultural production. In the 1990s, the region quickly became one of the world's most important textile producers and exporters, especially in the water-intensive cotton industry. The XPCC operates autonomously in the region and monopolizes the cotton and textile sectors. Various reports indicate that this paramilitary organization uses prison and forced labour, particularly in cotton harvesting and production. In 2018, it produced 2.0465 million tons of cotton in the Uyghur Region, accounting for 33.5

per cent of China's cotton production. The group exported about RMB 47.3 billion worth of apparel, textile, footwear and hat products. The region accounts for over 20 per cent of the world's production of cotton.

The *karez* system is a network of underground channels that transports water in the Turpan Basin from the Tenggrihagh mountain range. This ancient irrigation system of hand-dug channels was built around 2,000 years ago by pastoralists in the region for the irrigation of crops, to prevent evaporation in arid areas and serve as a drainage system. The size of the network was vast, with over 5,000 kilometres of water channels.

In the last 20 years, the number of karezes in the region has decreased rapidly, mainly because of industrial development, oil exploration and industrial-scale farming. Water channels have fallen into disuse because



of the retreating glaciers resulting from climate change. According to government figures, the number of karezes decreased from nearly 1,800 in the 1950s to just over 200 today. This decline coincided with the XPCC's increased presence in the region.

Recent research has indicated that the World Bank has loaned money to the local government to restore the karez system. However, a Chinese company known as Camel Group Co., Ltd. – one of the China's largest battery manufacturers – built a lead battery disposal facility on top of the karez system in Turpan with support from the International Finance Corporation (IFC), the lending arm of the World Bank. Reports indicate that the karez system where the company operates is still active and is used by farmers in the area for crop irrigation. Camel Group submitted an environmental impact report but no social impact assessments. IFC therefore does not have documentation as to whether Uyghur families on these karez channels have been consulted or affected by Camel Group's operations.

The karez system has been on UNESCO's Tentative List of World Heritage since 2008. It is an important symbol of Uyghur civilization and a vital part of Uyghurs' cultural traditions. Both the central and local governments have recognized the historical and ecological significance of this system. The karez system has also fostered a strong sense of cohesion in communities. The elimination or damage of this ancestral heritage is a direct threat to Uyghur cultural traditions and ancestral ties to the land.

Locals have also indicated that their traditional farms are expropriated or destroyed through pollution. It is safe to say that the development

projects or poverty alleviation programmes implemented by the Chinese government have rarely benefited the local communities and the ancestral owners of these lands. The Chinese government's forced migration policies have also led to the occupation of Uyghur ancestral lands and rich resources. Especially in rural areas, Uyghur communities have not been consulted or included in the decision-making processes, although these have often had major impacts on their livelihoods.

The water scarcity in the Uyghur Region is a prime example of the Chinese government's systematic exclusion of the Uyghur and other Turkic people. The development projects intended to be beneficial to the advancement of the region have not been to their advantage; they have simply been imposed on local communities. Meanwhile, water and other economic resources have decreased in their ancestral lands. With overpopulation in the southern parts, and the decrease in water and other resources, the local authorities have imposed stringent birth control policies to ensure that the population is within the limits of the region's carrying capacity. Birth control policies include forced sterilization, forced abortion and other preventive measures. Violations of these policies are punishable with internment, as confirmed in the Karakash List, a leaked document from February 2020. In December 2021, the independent Uyghur Tribunal concluded that these crimes perpetrated by the Chinese government were acts of genocide and crimes against humanity.

To bring an end to these crimes, it is necessary for the international community to take immediate action and not let the Uyghur issue fall off the global agenda.

# Iran: Baluch people running out of water due to unfair water management

Sistan and Baluchistan is a predominantly Sunni and Baluch province in Iran. Once a lush and green land that benefited from fertile soil, Sistan and Baluchistan is home to ancient civilizations that date back more than 5,000 years. One of the world's most climate-vulnerable regions, Sistan is also enduring an ever-worsening 22-year drought. However, it is not the environmental crisis that is most concerning for local populations but the political crisis, and the ways in which climate change and the water shortage intersect with the discriminatory practices of the local government.

Sistan has lost 25 per cent of its population due to forced migration in recent years – evidence of a prolonged social and political crisis, and largely a result of water mismanagement and drought.

The region is now home to some of the poorest and most marginalized people in Iran. Negative stereotyping of Baluch people in Iran has often been underpinned by food insecurity, which is directly aggravated by the ongoing water emergency. And while Baluch and Sunni minorities in Iran feel excluded by the government, water politics in this region has become a major factor, along with religious identity, in Iran's ongoing discrimination and record of human rights abuse.

After travelling for about 1,050 kilometres from the Baba mountains in Afghanistan, the Helmand River flows into the seasonal lake and wetlands of Hamun Oasis in the

largely desert region of Sistan. Given the arid conditions, water availability in the plains of Sistan is highly dependent on the Helmand River, the only perennial tributary of Hamun Lake. Water rights and the construction of the Kamal Khan Dam, however, have been at the centre of a growing political dispute over water governance between Afghanistan and Iran. The Iranian government claims that significant environmental damage will result from the construction of dams on the Helmand River, and that proposed hydroelectric development will affect the water-stressed regions of Iran along the Afghanistan border. Conversely, the Afghan government argues that dam construction is necessary to ensure water security under the 1973 water treaty with Iran. Serious issues have arisen in Iran over the granting of water rights relating to the Helmand River in Afghanistan, despite an international agreement made between the two countries.



A Baluch woman at a water source in Sistan-Baluchistan.

# Water politics in this region has become a major factor, along with religious identity, in Iran's ongoing discrimination and record of human rights abuse.

Furthermore, water levels have steadily decreased, particularly in Hamun Lake. Once Iran's largest freshwater lake, Hamun Lake covered an area of around 4,000 square kilometres. In 2001, the entire lake dried up. The water shortage is also exacerbated by the political nature of water use and management in the region. Blaming Afghanistan's Taliban regime might help the Iranian government domestically, but it does nothing to remedy the chronic misuse of the Helmand River's waters.

As a result of ongoing water shortages in the region, the Iranian government has invested public funds in the development of water infrastructure for use in irrigation. These funds are aimed at supporting agricultural production, such as wheat and watermelon farming. Farming subsidies for communities in Sistan are also intended to prevent internal displacement and a possible backlash in the form of anti-government protests. In spite of government support, the absence of economic diversification in the region has meant that communities in Sistan are becoming extremely dependent on scarce water resources from the Helmand River.

The province uses 94 per cent of its water for agriculture, yet 35–40 per cent of it is wasted. Farming communities lack economic alternatives, which makes them highly susceptible to fluctuations

in water availability, whether due to natural factors like climate change or increased demands from water-intensive industries. According to unofficial statistics, there are more than 50 factories operating in this province, mostly steel and cement companies. These industries are considered the most water-intensive industries in Iran.

Aquifers have also completely dried up due to negligence and poor water management by the local authorities. There are approximately 19,450 deep and shallow wells in Sistan. Groundwater is extracted at the rate of two billion cubic metres per year, of which 1.6 billion cubic metres are extracted from illegal wells. As a result of this uncontrolled use of groundwater, the water and soil have become salinated, which puts both food and water security at further risk. Unfinished water management projects can be found all over the region, many of them lacking adequate sustainable and community-led future planning. The construction of concrete dams in this province also lacks a clear environmental rationale.

Indigenous people in the region have perfected water management practices through thousands of years of lived experience. A region that once boasted 1,200 *qanats* or traditional water springs, located mostly along riverbeds and dependent on subsurface water, is now running dry,

as wells are vanishing at an alarming rate. Artificial or natural pits known as *hotag* or *hotak* were once used for drinking and agricultural purposes throughout the year, but not any longer.

Despite the extensive traditional ecological knowledge found in the region, the Iranian government and its subsidiary companies are rampantly building concrete dams that fail to address the changing climate and disrespect traditional forms of water governance. The province has seven reservoir dams and 23 feeding dams, all of which remain half-empty the whole year round. What is more, some of these dams are used for military purposes by the Islamic Revolutionary Guard Corps.

Ongoing water problems forced the local authorities to build four man-made reservoirs and interlinked canals as part of the Chah-Nimeh complex, filled in the 1990s and 2000s. Located on the Iran-Afghanistan border, the Chah-Nimeh reservoirs were the latest water

infrastructure project to be carried out on the Helmand River and were aimed at addressing water needs, especially irrigation and urban use. Three of the reservoirs are located in natural depressions, while the fourth is formed by a dike on the north side of the river. Unfortunately, the water levels are greatly reduced due to the extremely high rate of evaporation. Approximately 250 to 300 million cubic metres of water per year evaporates from these reservoirs. Combined agricultural and human water consumption needs are several times higher than this amount.

### The situation of Baluch women

In October 2019, a parliamentary representative took a bottle of heavily contaminated water to a meeting with the minister of energy, and then requested that the president and members of the cabinet drink from this bottle. Moeineddin Saeedi, a member of the Iranian parliament representing Chabahar, argued that the action was



A boat sits on arid land in Sistan-Baluchistan.

necessary to highlight the current situation of Baluch women, who are driven to extreme measures to get access to clean water. A few weeks earlier, a local Baluch woman committed suicide after having been forced to have sexual intercourse with a local man to secure water for her children.

Saeedi pleaded:

*A woman from Baluchistan who is more honourable than the minister and the president was forced to sleep with a man and then committed suicide in order to provide water for her children... One can feel her pain. What does he, the president, have to say?*

Within a short period of time, government officials accused Saeedi of lies and denied the existence of pollution and water shortages in Sistan and Baluchistan. As a result, there was no further reporting on this issue by Iranian news agencies.

Massive protests have broken out in Sistan and Baluchistan as part of a wider protest movement known as the 'Uprising of the Thirsty', sparked by Arab minorities in the state of Khuzestan, who rose up against water

poverty caused by the oil industry, and which led to a movement of solidarity for Arabs across the whole country and a nationwide call for water justice. The Uprising of the Thirsty is a series of water-related social mobilizations that has been convulsing Iran for the last two years, and which mainly seeks to redress the systemic failure of the authorities to tackle water injustices, particularly in the face of worsening climate change and drought.

Protesters have made it one of their main demands to request safe drinking water from the local authorities, yet incidents like Saeedi's intervention in parliament clearly illustrate that while elites in Tehran refuse to drink the same water Baluch people drink on a daily basis, and further deny the existence of water pollution in Baluchistan, the violation of minority rights to water is becoming more extreme across Iran. Despite the regime's attempts to silence the voices that seek immediate water justice on the ground, the reality for many minority groups across Iran is stark, especially in the case of women who, as Saeedi's example vividly showed, are being driven to extreme measures to ensure local children have, for once, some access to drinkable water. ■



A Baluch man in Sistan-Baluchistan.

# GOVERNANCE





**Achieving recognition for minority and indigenous peoples' rights over water is a vital step towards water justice. Governance systems that are community-led with autonomy over the protection and guardianship of water systems are crucial when addressing the many challenges and emergencies discussed in previous case studies. In this section, we highlight three cases where indigenous governance has either been undermined by majority governments, or where indigenous communities have shown precedents for a positive water future.**

In the opening case study of this section, we explore water governance and fishing rights in relation to the indigenous Sámi people in **Finland**. This study warns that Sámi livelihoods continue to be jeopardized by limitations in existing legislation, with similar situations faced by Sámi in Russia, Norway and Sweden. Despite significant recent courtroom victories, Sámi face an existential threat given declining salmon populations and fishing bans, both of which are having a major impact on traditional Sámi fishing culture.

The situation of indigenous Lodha people in the Sunderbans region of **India** is explored in the following case study, particularly in terms of embankment governance and the failures of existing legislation to account for the ever-shifting boundaries between water and land in a fragile delta region facing intensified cyclones due to climate change. Unfairness during post-cyclone emergency relief is exposed from the perspective of Lodha communities affected by discriminatory government policies.

Finally, the effort of the indigenous Zapoteca people of **Mexico** to gain water sovereignty is explored in the final case study of this section. This case study provides an encouraging and scalable example of how local indigenous communities can claim sovereign rights over water and develop place- and culture-specific forms of water governance and policies, while still managing to work in collaboration with local and state authorities.

# Finland: Fishing restrictions may lead to the disappearance of an ancestral way of life

Oula-Antti Labba

Deatnu, also known as Teno in Finnish and Tana in Norwegian, is one of the world's most important spawning rivers for Atlantic salmon. About 30 different Atlantic salmon populations live in the Deatnu watercourse. Salmon fishing is also the foundation of the river Sámi culture and identity, particularly for the Sámi inhabitants of Deatnu valley. Salmon is one of the main reasons why the indigenous Sámi people inhabited the area in the first place, and it is one of the key sources of food in this richly biodiverse Arctic region.



The Sámi way of living, however, is under serious threat. Numerous fishing restrictions imposed during the past few years have targeted Deatnu and its waters. Deatnu salmon stocks have been protected and fishing has been regulated under fishing agreements established between Finland and Norway since 1873. The current Teno fishing agreement between Finland and Norway has been in force since 2017.

There has been a total ban of salmon fishing in the Deatnu River since 2021. According to the Finnish Ministry of Agriculture and Forestry, the status of Atlantic salmon stocks in Deatnu did not improve during the summer of 2022. There are no positive signs that the numbers of fish migrating upstream will increase in the near future. The Finnish parliament passed an act in March 2023 on the temporary prohibition of salmon fishing in the Teno water body. The act was adopted in May 2023. Other restrictions have been introduced into the Fishing Act in Finland, which concerns fishing in the headwaters of three northern municipalities.

Many Sámi people believe that the governments of Finland and Norway are deliberately compromising the livelihoods of indigenous Sámi fishing communities. They consider the desire to make salmon fishing in Deatnu illegal as a blatantly discriminatory policy that undermines the knowledge of Sámi indigenous people. After all, river Sámi communities have managed to live with healthy salmon populations for centuries.

The Sámi parliament (*Sámediggi*), which was inaugurated in early 1996 and is the self-governing body of the Sámi people, is tasked with planning and implementing the cultural self-governance of the Sámi as an indigenous people. According to members of the Sámi parliament of Finland, the prohibition on Deatnu salmon fishing and its effects on Sámi culture, language and community, and also the well-being of the Sámi people, their health, livelihoods and food economy, have not been sufficiently assessed.

Sámi community members approach Čearretsuolu island in boats typical to the Deatnu River. Čearretsuolu, an island in the Deatnu River in Utsjoki, Finland. Pekka Sammallahti

Youth should have the possibility to learn traditional salmon fishing. There is a risk that they will be excluded from our traditions. It is an unfortunate issue that seems to happen all over the world, that indigenous peoples are not allowed to pass on their own traditional livelihoods.

Because salmon fishing in Deatnu is a basic cultural activity for riverine Sámi people, preventing the ban on salmon fishing at the constitutional level is seen as a necessary act of self-preservation. A fishing ban would amount to the violation of a fundamental cultural right for Sámi people, which the Sámi parliament considers unacceptable. Denying Sámi the right to fish salmon in traditional ways, however, threatens the continuity of cultural practices and disrupts inter-generational transfers of traditional knowledge. What is more, banning salmon fishing in Deatnu would have a major impact on the local diet, and thereby on the health and well-being of local communities.

Niilo Aikio is a Sámi elder who was raised on the shores of Deatnu. Aikio lives, writes and catches grouse and salmon in Ohcejohka, his birthplace. 'By banning salmon fishing for three consecutive years,' Aikio argues, 'the survival of the river Sámi fishing culture is not secured.'

Aikio acknowledges that the ban will affect younger generations of local Sámi people especially:

*Youth should have the possibility to learn traditional salmon fishing. There is a risk that they will be excluded from our traditions. It is an unfortunate*

*issue that seems to happen all over the world, that indigenous peoples are not allowed to pass on their own traditional livelihoods.*

Aikio appears confused by the extent that salmon fishing has increased in an area near Deatnu, namely in the Ice Sea.

*The same salmon population is fished over nearby areas, so I don't see the logic in the restrictions. It is absurd that authorities blame us on the decrease of the salmon population. In addition, the number of Sámi traditional salmon fishers has decreased considerably.*

Traditional Sámi fishermen like Aikio understand salmon behaviour and thus know how to protect salmon populations. Aikio is likewise concerned about the negative effects of the salmon fishing ban on Sámi knowledge, for instance language and culture, not to mention livelihoods. He reminds me that salmon fishing is an important livelihood, and that losses should be compensated.

If other livelihoods are restricted in one way or another, then usually they get compensation, but I have not heard a single word about compensation for the losses of the salmon fisheries caused by the ban.



Sámi community members having a discussion in a big *lávvu*, a conical tent. The surrounding birches cast shadows on the *lávvu* wall. Čearretsuolu, Utsjoki, Finland. Pekka Sammallahti

Five Sámi fishermen were prosecuted for fishing in the headwaters of Deatnu without a licence in 2017. However, the District Court rejected the charges and considered that the Sámi had a constitutionally guaranteed right to fish in their home river. The trial went to the Supreme Court of Finland and the Supreme Court published its verdict in April 2022.

The Supreme Court deemed that the provision of a regulated fishing season was in conflict with the constitutional rights guaranteed to the local Sámi. The provision of the decree was constitutionally disapplied, and the charge of illegal fishing was dismissed. In a separate case, prosecutors demanded that four local Sámi fishermen be punished after fishing with a lure and a rod in the waters of the Veahcajohka without permission from the state-owned forestry company Metsähallitus.

The Supreme Court considered that the separate fishing permits required

for salmon and trout spawning areas under the Fishing Act in force in 2017 and the related permit practices caused such significant restrictions for the local Sámi people that the application of the provision would be in obvious conflict with the rights secured for them in the Constitution. The provision of the Fishing Act was also disapplied, and the charge of illegal fishing was dismissed.

International law recognizes that indigenous peoples have a right to land, water and natural resources, while recognizing the role indigenous communities play as custodians of rivers and forests. The traditional knowledge of Sámi people with regard to salmon fishing has been passed down over centuries and perhaps even millennia, yet current domestic legislation does not recognize this. Despite recent legal victories for Sámi people, the implementation of the law and its enforcement on the ground is still an ongoing issue in Finland.

# India: River embankment governance and the situation of Lodha people in the Sunderbans

Samiksha Bharati

'I have seen four storms before this one during which everything was destroyed ... even when we are sitting at home we can get blown away. But this is where I was born, and this is where I will die.' These are the words of Bhima Devi (a pseudonym) in the aftermath of Cyclone Amphan. Now in her fifties, Bhima Devi has been a resident of the Sunderbans all her life.

The Sunderbans is a delta region in the state of West Bengal in India. It is an important biosphere, given its unique biodiversity, sustained by rich mangrove forests and a number of major river systems, including the Padma and Brahmaputra rivers. The region is also on the frontline of climate change and the struggle against natural disasters, not least given the intensification of cyclones and the impact seasonal storms are having on water salination and pollution.

In May 2020, West Bengal experienced Cyclone Amphan, the worst storm of its kind since 1737. Amphan left a trail of destruction in the Sunderbans and breached the embankments around Chhotu Mollakhali and Kumirmari islands near Gosaba. International news and social media were quick to communicate to the world the level of destruction in the regional capital city of Kolkata but failed to record the situation of rural Bengali or Sunderbans mangrove communities, owing to the fact that most islands in the Sunderbans do not have electricity, let alone any internet connection. Lack of representation of Sunderbans tribal peoples in the communication about cyclone impacts and alleviation is part of a deeper issue involving the marginalization of indigenous communities in the Sunderbans region.

During the British colonial period, people from other parts of India, including Mundas, Oraons and Santhals were brought into the Sunderbans by local landowners (*zamindars*) to work on the clearing of the mangrove forests. It is the presence of the indigenous Lodhas

in the region, and their right to water governance, that is the prime focus of this brief case study.

Lodha people are one of the many tribal groups found in India. Mainly located in the state of West Bengal, an estimated 100 Lodha families live in the Sunderbans region, primarily along the riverbanks. Catching small fish and tortoises from the public canals and ponds is the main income-generating activity for Lodha communities. Reduction in the number of freshwater fish species and tortoises after saline water inundation following the breaching of embankments has led to a drastic reduction in total catches, which raises questions of food insecurity and instability. Furthermore, Lodhas are most vulnerable to the breaching of embankments caused by high tides and cyclones. Indeed, many hamlets

Women filling water bottles from a tap due to a serious shortage of potable water.  
*Daniel Murty*



‘I have seen four storms before this one during which everything was destroyed ... even when we are sitting at home we can get blown away. But this is where I was born, and this is where I will die.’

close to the river embankments have been completely destroyed during recent storms. Despite this, affected communities have not received suitable assistance during the post-disaster programmes led by government and international aid operators.

The governments of West Bengal and Bangladesh consider the people of the Sunderbans as ‘non-indigenous’, since the communities living there are mostly descended from migrants and refugees from adjacent regions. Denial of a right to self-identification as indigenous has forced local tribal communities to live according to the status of refugee or migrant, which has led to a violation of their basic rights, including land and water rights.

A major problem faced by the indigenous peoples of the Sunderbans is the Bengal Embankment Act, the main piece of legislation for the governance of the Sunderbans embankments. The current law infers a fixed distinction between land and water. In the Sunderbans delta, however, the boundaries between land and water are constantly changing. Shortcomings in the Bengal Embankment Act can be found in the correlation between the breach of embankments following high tides and cyclones, and the implementation of

legislation and governance which do not prioritize the socio-cultural lives of affected indigenous populations.

Furthermore, the embankments are public property, and their maintenance has collapsed in the absence of allocation of sufficient public funds from the state government. The authorities have consistently failed to prioritize coastal planning. Local government bodies only managed to produce a draft coastal zone map after continued protests and orders in 2017 by the National Green Tribunal, India’s dedicated environmental court. The West Bengal government’s policy of formulating a coastal zone management plan also lacked meaningful public participation, especially by indigenous community members.

The difficulties faced by the indigenous population, for instance by the Lodha community, are continuously exacerbated by bureaucratic hurdles faced by those seeking compensation or support under various central and state-sponsored schemes for disaster alleviation. In the post-Aila cyclone phase, the Ministry of Water Resources promised around 5,000 million rupees. ‘The fund was never utilized. The state government did construct concrete structures but only in a few stretches’,





People travelling on a Country Boat, the most important mode of riverine transportation in the Sunderbans. *Daniel Murty*

comments Professor Sugata Hazra, from the School of Oceanographic Studies at Jadavpur University. Professor Hazra's analysis suggests that the management of embankments is part of a continuous cycle of construction, cyclone destruction and reconstruction, which is corrupt at both the economic and political levels.

There is an urgent need for policy makers to focus on rural development initiatives. It is imperative that authorities engage directly with indigenous communities themselves in the distribution of aid and development funds, in order to take into account local-level needs. For instance, the Lodha community received solar cells as a development input from the government under the Rashtriya Sama Vikas Yojana scheme (RSVY or 'Backward Districts Initiative', launched in 2003–4), but they were not provided

with sufficient training in the use of such technology. In addition, the state could undertake initiatives to promote higher-yielding varieties of salt-tolerant crops which can withstand salty water without affecting normal growth. The Central Soil Salinity Research Institute in India has developed about 120 salt-tolerant rice varieties in the past decade. Such a move towards salt-tolerant crops (particularly rice and paddy) would reduce the need for fresh water and hence, reduce the dependence on embankments.

In sum, the situation in the Sunderbans shows that the Indian state should focus on improving basic economic conditions and livelihood opportunities for Lodha families, while incentivizing forms of land and water governance that allow for more sovereign and equitable decision-making led by indigenous communities themselves.

# **Mexico: Zapotec water rights and self-governance – a positive precedent for water justice**

Magdalena Rojo

Oaxaca is among the states with the largest indigenous populations in Mexico. According to government statistics published by the National Council for the Evaluation of Social Development Policy, Oaxaca is also among the states with the highest poverty indices in the country. In this mountainous and highly biodiverse region of southern Mexico, people have been making a living for generations through crafts and subsistence farming, including livestock rearing. Climate change has deeply affected food security and self-sufficiency across Oaxaca, not least in terms of increased pressures on highly threatened water sources.



This case study highlights recent developments in terms of advancing water governance at a grassroots indigenous level, as part of a broader effort to strengthen community resilience and water justice in the face of the intensifying climate crisis in southern Mexico.

In 2005, severe droughts hit the Central Valley region of Oaxaca, forcing scores of local farmers to abandon their fields. Environmental challenges in turn triggered significant migration of Zapotecs within Mexico as well as to the United States. And while many people were forced to leave their homelands, Zapotec farmers who stayed in their community defied the various environmental, social and political threats in an effort to develop local water governance.

The local Zapotec community in San Antonino Castillo Velasco is a case in point. San Antonino is a relatively small Oaxacan town known for its crafts, especially embroidery and basketry. Zapotec farmers began a protracted

court case against government bodies over water rights and concessions in 2009. Access to water has been a problem for San Antonino farmers since the 1960s due to severe restrictions aimed at benefiting agribusiness and housing divisions. Conflict over water governance flared in 2005 and 2006, sparked by allegations of government corruption.

Local farmers claimed that various members of their community had received letters from the National Water Commission (CONAGUA), a government water regulation body based in Mexico City, demanding payment of fines for excessive use of water. After approaching a local civil society organization (CSO) known as Centre for Indigenous Rights 'Flor y Canto', an investigation into the background and legal validity of these water fines was opened. In due course, the CSO found a number of irregularities. For instance, they found that CONAGUA wanted to charge farmers for water that was not available. Double pumps were

Alejandrino Pérez, representative of San Matías Chilazoa in the fight for water rights, shows a bull he made from the mud around one of the water pans in his village. San Matías Chilazoa, Oaxaca, Mexico. *Noel Rojo.*



Carmen Santiago Alonso, an environmental activist who supported 16 Zapotec communities in their fight for control over their water sources. *Noel Rojo*

introduced, which led to excessive electricity bills. While the communities were trying to gain control over their water, they were also aware that water was becoming increasingly scarce in the area. 'Water was at a depth of 30–40 metres in local wells and it was only enough for 15 minutes of irrigation,' explains María de los Angeles Santiago, one of the female leaders of the fight for water from San Antonino Castillo. As a solution, water-capturing projects, including absorption wells, water pans and dams, were proposed.

Flor y Canto also realized that CONAGUA was giving away individual concessions to municipalities and businesses, and that there were no collective concessions granted to the farmers themselves. Though the mission of CONAGUA was to regulate and manage the use of aquifers in the locality, Zapotec representatives claimed that this government body was not fulfilling

its role and instead was demanding payments for water the farmers had not used since there was not enough water available in the first place.

After these investigations, Zapotec communities facing similar problems came together under the banner of the Coordinator of People United for the Care and Defence of Water (COPUDA). COPUDA has led a 17-year struggle to gain control over the management of water sources for 16 communities across the Central Valley region of Oaxaca. The underlying demand of this movement was to guarantee a collective water concession to support local communities, as opposed to individual concessions, usually given away to municipalities or companies.

Between 2005 and 2007, COPUDA was able to cancel the fines issued to Zapotec farmers and subsequently started a legal process against CONAGUA. In 2009, the case was filed

## ‘We must raise our voices and take action to heal our planet, because our boys and girls have the right to enjoy it.’

at a federal court. After a judgment was pronounced in favour of the Zapotec communities, a Mexico City court mandated CONAGUA to carry out a meaningful consultation. Roundtables were set up between members of CONAGUA and COPUDA representatives, to discuss the conditions of a collective concession.

Self-governance by local Zapotec communities formed the basis of COPUDA's mission. In Oaxaca, almost 80 per cent of the territory is considered communal. What is more, municipalities across Oaxaca are governed by a traditional governance system, known as *Usos y Costumbres*. Family members typically attend general assemblies to decide on key community issues. Assembly members choose representatives to voice their concerns before state as well as civil service representatives including police, education, health and other public officers. Work conducted by these representatives and civil servants is usually carried out without remuneration.

Each community represented by COPUDA established their own local committee responsible for the protection of water sources. Representatives of these committees and other emerging leaders were subsequently trained by Flor y Canto to gain awareness of their rights as indigenous people and available legal procedures. Flor y Canto also accompanied COPUDA during the entire process of negotiation with government officials.

From its establishment in 1994 until her death from cancer in 2022, Flor y Canto was directed by Zapotec environmental activist Carmen Santiago Alonso. ‘We must raise our voices,’ she would often say, ‘and take action to heal our planet, because our boys and girls have the right to enjoy it.’ Advocating for environmental protection in Mexico, a country renowned for violence committed against activists, meant that threats were a daily part of Carmen's work. ‘That fear,’ she pointed out, ‘has given me the strength to carry on my way.’

As the legal process went on, Zapotec communities encountered numerous challenges. ‘It was a mistake for CONAGUA to lead the negotiations, since they were the government agency under investigation,’ says Beatriz Salinas, the current leader of Flor y Canto. ‘We also needed to change the mindset of the farmers. Their perspective was that they were helpless in the face of the government pressure,’ Salinas adds, as she explains why leadership training for indigenous leaders proved to be so instrumental in the process of water rights reclamation.

In October 2019, five agreements were signed between CONAGUA and COPUDA. One of these agreements concerned water management. According to the second agreement, CONAGUA was set to grant concessions to each indigenous community. The third agreement established the conditions for community care and administration of water.

The fourth agreement concerned indigenous community concession titles and a commitment to carrying out maintenance works. Finally, CONAGUA and COPUDA agreed to work together on the upgrading of irrigation systems. General assembly meetings were held in San Antonino to facilitate the planning.

Local committees in all the represented communities continue to take full responsibility for water management in partnership with CONAGUA, which in turn monitor compliance with the national water law. Both parties have agreed to conduct collaborative studies deemed necessary for the collective management of the community's existing and newly proposed aquifers. Furthermore, CONAGUA has been called to respect both the internal mechanisms for conflict resolution and the sanctions for the violation of norms in place within each community.

In November 2021, Mexican President Andrés Manuel López Obrador signed a decree establishing a regulated aquifer zone in the Central Valleys of Oaxaca. Indigenous community water titles were subsequently delivered to Zapotec communities in 2022.

Local indigenous communities are now pursuing water sovereignty by taking responsibility over water sources and implementing regulations that each community set for themselves. Implementation is a complicated process that involves cooperation with other local governing bodies, for instance municipal presidents or secretariats of communal resources in nearby communities. It is usually the local committees that receive allegations concerning misuse of water or violations of existing regulations, which are then passed on to the relevant authority in charge of investigation and issuing fines and sanctions.

Questions remain in terms of how COPUDA will organize itself in future, since each Zapotec community may have a different idea about how to continue working together. According to Beatriz Salinas, various other communities across Mexico have already shown an interest in replicating the negotiation process and water-governance model implemented by COPUDA. In Oaxaca, Flor y Canto is in discussion with other communities currently seeking support in their struggle to govern their water resources. At the time of writing, no new legal processes have commenced. However, it is likely that COPUDA will be an example to follow for other indigenous communities seeking water justice throughout southern Mexico and beyond. ■

A water pan in San Matías Chilazoa - one of the community projects capturing water. San Matías Chilazoa, Oaxaca, Mexico. Noel Rojo.





# CULTURE





**A key lesson of this volume is that water is more than simply just a resource. For many minorities and indigenous peoples, water is an intrinsic part of community life, spiritual beliefs and cultural identities. Cultural expression plays a vital role in affirming the rights of minorities and indigenous peoples to water.**

Culture can include a range of water-related practices, including rituals related to religious and spiritual beliefs; artistic expression through storytelling, music, dance, theatre and the visual arts; as well as sports, leisure and the many other activities that are deeply tied to the state of our waters.

In this final section of our report, we explore how cultural and water rights intersect with the lives of minorities and indigenous peoples, focusing first on a precedent-setting declaration of the rights of nature for the Atrato River and biocultural rights for Afro-descendent communities in **Colombia**. We also gain insights from a first-person account of the central role that the Atrato River plays in Afro-Colombian culture and how ancestral practices come alive.

We then turn our attention to religious practices in the **United Kingdom**, and the ways in which the current sewage crisis affects the Sikh and Hindu religious minorities seeking to practise customary riverside rituals. Particular attention is paid to the challenges faced by disabled members of these communities living along the River Roding in East London.

Our final case study highlights the spiritual energy and significance of water for the indigenous peoples of **Vanuatu**. Water is the embodiment of collective memory and a medium for the transmission of cultural values, as in the example of indigenous women engaging with water to play music. This water music connects the indigenous peoples of Vanuatu to their cultural heritage as well as the environment surrounding them.

# Colombia: The Atrato River, a landmark for biocultural rights among Afro-descendants

Gloria Amparo Rodríguez

*El Atrato is a mirror that bewitches: to approach it is to have an encounter with oneself and with the world, with the simplest and the deepest.*

Viviana Gonzales,  
lawyer who led legal action for the rights of the Atrato River



Sunset on the Atrato river in the village of El Carmen del Darién, Chocó, Colombia. *Livia Saavedra*

The Atrato River is located in north-western Colombia, 750 kilometres in length and mostly navigable, and is in an area characterized by an exuberant fauna and flora. The existence of many endemic species stands out, and the resident population boasts a cultural heritage of importance for all humanity. The conditions in this region make the river a primary resource for trade and transport of food products, guaranteeing the food security of communities that live here.

This is a complex territory where indigenous, Afro-descendant and mestizo communities reside, and where lives are intertwined in efforts to overcome the difficulties caused by the indifference of the Colombian

government. These communities have a historical legacy whereby their knowledge has allowed them to live in harmony with nature and establish ways of relating to the river that differ from those of the majority population in Colombia.

Faced with the challenges of environmental degradation, civil war and drug violence, a lawsuit was brought by representatives of the Atrato. The case represented the result of a collective process involving local inhabitants with the support of civil society. As a result, in 2016 the Colombian Constitutional Court ordered the protection of this region, given its natural and cultural diversity. In addition, the court urged



Maria, whose livelihood comes from fishing in the Atrato, is helped by one of her daughters. Fish are becoming increasingly scarce due to the pollution of the river caused by global warming and illegal gold mining. *Livia Saavedra*

the state to adopt decisions to curb pollution and illegal mining of alluvial gold, which is practised in this territory (Judgment T-622 of 2016).

The claims of the communities follow on from an invisibility, namely the absence of the state for many decades and systematic violations of their rights, in addition to their having been victims of the armed conflict that has affected Colombia. The humanitarian and environmental crisis has led the Afro-descendant inhabitants of the Chocó region, and the Atrato River communities in particular, to consider this deterioration as a reflection of the discrimination they face, a scourge that has caused displacement, among other consequences.

The Atrato River region is a space where communities in the past and present have committed themselves to the protection of life in all its forms and, with daily work, have contributed through forest and river guardianship to the planetary fight against climate change. In addition, the Afro-descendant collectives that make up the Atrato River Guardians are keepers of traditional knowledge (*saberes ancestrales*) that generate valuable scientific knowledge. As Audrey Mena, an Afro-descendant Chocóana explains, the Guardians of the Atrato themselves propose that ancestral science is the result of cultural processes that testify to and identify with a continuous dialogue with the territory.

# ‘Majestic Atrato River You who have endured so much Give your children courage to keep on fighting.’

A vital relationship between river and people is held together by a profound Afro-descendant cultural legacy, which has made possible the region’s great cultural and ecological value for all humanity. This has been recognized by the Colombian Constitutional Court when it safeguarded the river’s rights – the first example of a declaration of the rights of nature in Colombian history. That the campaign for this landmark legal ruling was spearheaded by Afro-descendant communities in the deprived region of Chocó, in western Colombia, is further testament to the strength, resilience and vision of marginalized communities in this country seeking to draw on their ancestral cultures and beliefs to ensure the protection and restoration of Atrato’s waters.

It is a profound and innovative decision, celebrated in popular song:

*Majestic Atrato River  
You who have endured so much  
Give your children courage  
to keep on fighting.*

(Tanguí Chirimía music group)

Given the historical process of marginalization and oppression experienced by the Black riparian communities of Atrato, and bearing in mind the historic lawsuit filed by the Atrato representatives, it is indeed

a landmark that the Constitutional Court should have declared the existence of serious violations of the fundamental rights to life, health, water, food security, a healthy environment, culture and territory among the ethnic communities that inhabit the Atrato River basin and its tributaries. These violations result from the conduct of different state bodies that have for years, decades or even longer, provided no adequate, articulated, coordinated or effective institutional response in the face of the multiple historical, socio-cultural, environmental and humanitarian problems that affect the region and that, in recent years, have been aggravated by intensive illegal mining activities operating in this area.

As such, the declaration of the rights of the Atrato River is underpinned by the aim of safeguarding the biocultural rights of Afro-descendant communities. These include the rights of ethnic minorities to administer and exercise guardianship autonomously over their territories, considering their own laws, customs, natural resources and cultural practices, closely informed by the habitat, colonial history and memory. The traditions and the way of life of Afro-descendant communities in Atrato reflect the special relationship many Afro-Colombian communities have with the environment and biodiversity. As noted, these rights result from

## ‘If you hear the voice of the river You will feel the depth of his word.’

the recognition of the deep and intrinsic connection that exists between nature, its resources and the cultures of those who inhabit the Atrato River area, which are interdependent and cannot be understood in isolation.

It must be emphasized in this case that the protection of the Atrato River's waters and its guardians must be a joint effort that engages with all the actors involved. Given the great value of the Atrato River ecosystem, the court declared that the Atrato River is a subject of rights, in particular the rights of protection, conservation, maintenance and restoration by the state and the ethnic communities that inhabit its region. A commission of Guardians of the Atrato River and a panel of experts have been established to monitor compliance with the Constitutional Court's orders. The panel of experts will also supervise, accompany and advise the work of the members of the commission.

As can be seen, this is a novel decision that transcends the analysis of ecosystem problems towards an integrated vision of environmental, social and cultural values. We hope that its fulfilment will mean that the dignity of the communities will be respected and enhanced, while our natural and cultural heritage is protected. This case stands out for its approach to biocultural rights and

for the respect it shows for the role played by Afro-descendant people in the protection of ecosystems.

However, the orders issued in this ruling, which urge key institutions to take concrete action to address the damage in the area, such as ecosystem restoration and eradication of illegal mining, have not been implemented as there has not yet been an allocation of sufficient economic resources. In addition, lack of institutional coordination has prevented the effective implementation of the ruling or monitoring of its compliance.

A process of high-level dialogue has been agreed, leading to the creation of comprehensive action plans. However, it has not yet been possible to control the mining activities that are harming the river. The fact that the environment continues to deteriorate and the communities' health problems increase, demonstrates a lack of political will to tackle this crisis. In the face of this reality, the river communities cry out for urgent action:

*If you hear the voice of the river  
You will feel the depth of his word.*

Milton Velásquez Mena,  
Council Leader of Atrato

# The Atrato River: An Afro-Colombian cultural heritage of resistance

Angélica Ricaurte Villalobos

*If our territory is polluted it's a threat to us and the connection we have with the environment. Everything in areas that are contaminated dies. When that happens part of our life dies.*



Boys jump into the Atrato River, in the village of Campo Alegre, Vigía del Fuerte, Antioquia, Colombia. David Ochoa

For Afro-Colombian communities, territory is everything. It is the history we have lived; it is the culture of our people; it is the inexhaustible resistance of our '*mayores*' and '*mayoras*'; it is the memory of the fear and terror of the war; but it is also the love for the river, the marshes, the forests and, in general, all the natural resources, since in these natural ecosystems is where we develop our lives and where we want the lives of our children to develop.

That is why the Atrato River holds such profound significance for Afro-Colombian communities. The river is not only the place where we make our homes and grow our crops, it is also the place where our strength and courage make sense. It is 'a place of coexistence, domestic work, and recreation, and it is the communication channel that maintains the ties of extended kinship and strengthens exchanges between communities'. In the river our ancestral practices, traditions and customs are still alive.

In the municipality of Carmen del Darien in Chocó, adults take children from early childhood onwards to interact with the river. They learn to

swim and walk along the riverbank. Thus, the connection between land and water is always present – an amphibious understanding of life, culture and nurture. Children play along the river with the fallen leaves of the trees, they see their mothers washing clothes with the river's water, and, ultimately, they learn that the river is their home and their refuge. For them the Atrato River is joy and fun, and they have a relationship of trust with it that is built at an early age. They are afraid of many things but never of water, which represents love and the space where they develop their ancestral culture.

As the Constitutional Court of Colombia recognized in its landmark 2016 decision, declaring the Atrato River as an autonomous entity subject of rights started from a basic premise: 'the Earth does not belong to human beings but, on the contrary, human beings and all other species belong to the Earth.... The Atrato River constitutes an important factor of cultural identity in the Chocó Province.' Therefore, caring for the river is also caring for our cultural heritage and the identity that defines us as Afro-Colombians.



# United Kingdom: Sewage, the Sikh minority and lack of access for persons with disabilities

Nicolás Salazar Sutil and Jaswant Singh

At the River Roding Trust, an environmental charity based in East London, members refer to their local river as the ‘most multi-ethnic river in the UK’. The River Roding, which flows southbound along Ilford, West Ham and Barking, is home to a diverse range of ethnic minorities including Roma and West Indian communities, as well numerous ethnic and religious minorities including African Christian congregations, Hindus, Orthodox Jews and Sikhs.



The River Roding through Barking, London, United Kingdom. *Simon/Flickr*

This case study explores the perspectives of members of the Sikh community with regards to the sewage crisis in the United Kingdom, and the voices of Sikh faith leaders with regards to environmental and accessibility issues faced by Sikh people living by the River Roding in East London.

Gurdwara Singh Sabha is a Sikh community centre and place of worship located in the heart of Barking, a town in East London. This gurdwara serves as a cultural and religious hub for thousands of members of the Sikh community across East London and beyond. It offers daily community services including Punjabi language lessons, library services, yoga for men and women, Gatka martial art, other gym and fitness classes, Kirtan music sessions and free meals. The

impressive and immaculate white building is located only a few hundred yards from the River Roding, a major tributary flowing into the Thames at Creekmouth. The River Roding is badly polluted, especially by sewage that is discharged directly into it by Thames Water, the local water utility company.

Gurdwara Trustee Jaswant Singh explains that the Sikh community's response to sewage and plastic pollution in the local river merits the attention of authorities. Singh maintains that the state of the River Roding does not pose any immediate threat to members of the community, and that their gurdwara does not make use of the local river for any specific community activities in the same way that, for instance, Hindu communities in the area do. The

Unless the intersectional aspects of the sewage crisis in the United Kingdom are foregrounded, the environmental issues related to water pollution across the country will conceal deep-set discrimination both against religious minorities and community members with disabilities who are being affected by the destruction of river systems in very specific and serious ways.

River Roding Trust has facilitated numerous multi-faith activities along the Roding, focusing on Hindu community members in particular (see insert).

For Singh, the issue of environmental pollution is nonetheless a concern, particularly given the extent to which this part of London has seen large-scale road construction projects in recent decades including major roads such as the A13 and A406, which have considerably raised the level of air pollution, sound pollution and road run-off. Untreated, road run-off makes its way to the River Roding, bringing oil, diesel, petrol, heavy metals and particles from tire wear.

Although the Sikh faith does not venerate rivers in the way the Hindu faith does, rivers play a key role in funeral rituals for Sikh people. Access to deep flowing and clean water is central to Sikh rituals of ash dispersal after cremation. Because this part of London has experienced such rapid industrial growth, the river has been severely cut off from local communities due to canalization and deep cuttings and drops, major road building works

and enclosures for large industrial sites, thus causing a significant physical and mental disconnect between local people and their river, to which we must add the high level of sewage and plastic pollution — part of a major UK-wide crisis affecting rivers, lakes and beaches.

For Singh, this is an issue that seriously affects the residents of Barking, and particularly members of religious minorities seeking a fulfilment of their religious obligations. Most ash dispersal rituals led by members of Gurdwara Singh Sabha are conducted in the Thames at Charing Cross, not on the Roding. The main issue, Singh explains, is lack of access to the River Roding. This issue of disconnection raises numerous issues regarding accessibility, including discrimination towards disabled members of Sikh minority and other local communities.

‘Our premises serve disabled members of our community’, Singh explains. ‘We have wheelchair access, lifts and toilets for disabled people. You cannot expect to run community events by the canal [River Roding] given the state of

that place', Singh adds, 'because to reach the canal you need to go down some steep stairs, it is dangerous, and it is not suitable for disabled and elderly members of our community.'

Singh's concerns over lack of accessibility affecting disabled members of the Sikh community's right to connect with their local river—and nature more broadly - is echoed by disability rights campaigners throughout the United Kingdom, and across other minority and majority groups.

Similar voices of concern have been raised elsewhere over the state of the country's polluted waters, also with regards to lack of access and discrimination against persons with disabilities. In addition to an increase in the reported cases of people becoming seriously ill after swimming in sewage-filled rivers, swimmers across the United Kingdom have reported the need for the government and water companies to respond to the needs of persons with disabilities, for instance those who live with chronic pain, fibromyalgia and other related conditions that benefit from open cold-water swimming as a form of pain relief. Sarah Shreeve, founder of the campaigning organization Stop the Sewage Southsea, has emphasized how the sewage crisis has affected swimmers who make use of open cold-water swimming to alleviate chronic pain and invisible disability. Likewise, in February 2022, Christina Efthimiou began a High Court fight over ticket prices at one of the few women's bathing ponds in London, claiming that the costs to use Kenwood Ladies' Bathing Pond on Hampstead Heath 'give rise to unlawful disability discrimination', adding economic cost to mounting environmental concerns.

For members of the Sikh community in East London meanwhile, the impurity of the water in the River Roding is a significant concern from a religious perspective, as well as from the point of view of accessibility and discrimination against persons with disabilities. 'Our lineage', Singh explains, 'relies on purity. We treat every person as equal. It doesn't matter if you are Hindu, Christian, Muslim, abled or disabled, woman or man, we treat everybody as equal. Everybody is given the support and guidance they need to find spiritual and physical purity. That is why we believe in cremation. We don't bury the body in the ground. We scatter our ashes in the river because the river carries the ashes away. That's our practice.'

If the river is not deep, if the river lacks appropriate access points, and perhaps most significantly, if the river is impure and is cause for serious concerns over human health, then local religious minorities in Roding — Sikhs and Hindus alike — are finding themselves cut off from their places of worship and riverside connection. This has significant impacts on their cultural practice, their sense of belonging and their ability to observe their faiths, for instance in the form of funeral and cremation ceremonies. Unless the intersectional aspects of the sewage crisis in the United Kingdom are foregrounded, the environmental issues related to water pollution across the country will conceal deep-set discrimination both against religious minorities and community members with disabilities who are being affected by the untreated sewage spills polluting the UK's rivers.

# The United Kingdom's broken cultural relationship with its rivers: A conversation with Paul Powlesland

Paul Powlesland is a barrister, founder and director of River Roding Trust in East London

**Nicolás Salazar Sutil:** What is the root cause of the UK sewage crisis in your opinion?

**Paul Powlesland:** Fundamentally, the ideology that the river is not alive; that it is something to be merely extracted from or dumped into.

**NSS:** How have minorities living along the River Roding been affected by the sewage crisis?

**PP:** Discrimination sometimes manifests itself in the idea that minorities don't deserve nature and nature's culture. Lack of access to nature is very noticeable in our river, for instance due to infrastructure. The River Roding area is disconnected. You simply can't get across. A major motorway was built along the river in the 1980s, which was one of the last motorways to cut through London. The government at the time thought they could simply expropriate the river from the local community. This

of course affects cultural practices. People cannot bathe, fish, play. River destruction is a major cultural loss.

**NSS:** Could you tell us what communities and groups of people live along the Roding Catchment?"

**PP:** I've been calling the Roding 'the most religiously diverse river in the country'. In the lower catchment, there are large populations of almost every major religion. A lot of people who live along the stretch between Ilford and Barking, and all the way down to Creekmouth, where the Roding meets the Thames, are religious minorities. There are a lot of Hindus and Muslims, Orthodox Christians, West African Christians, Jewish people. In Barking, there is a Sikh temple right next to the river embankment. And yet, many local people don't even know about the river. This summer we will organize a multi-faith ceremony of river veneration. As many local religious groups as possible will be



Photographs of minority religious artefacts found by members and supporters of the River Roding Trust in the process of cleaning up the banks of the River Roding, taken on its banks, are exhibited at the moorings in Barking in April 2021. *Andrew John Brown*

invited to conduct prayers. We've had an exhibition called *River Roding: Sacred River*, based on the objects of veneration we have found when doing litter clean-ups.

**NSS:** Why do you think there is a cultural disconnect with the river?

**PP:** Many people live only a few hundred metres from the River Roding, but they've never been there. Why would you? Even when you get there, the river is full of rubbish and sewage. And that's a terrible injustice, isn't it, to be cut off from your birthright.

**NSS:** How do you imagine the future of the River Roding?

**PP:** As a beautiful place where people can swim, picnic, pray. A river full of biodiversity and no pollution. In the short term, I can give you a list that would help overcome the United

Kingdom's sewage crisis. There should be a deposit return scheme and a general regulation by statute to help reduce unnecessary packaging. There should be pollutant tax principles in place. To avoid bad urban planning, an automatic 'No planning within 50 metres of the river' rule should be introduced. There should be laws to avoid intensive farming near rivers to reduce agricultural run-off. Until water companies update their sewage system, there should be no sewage bills or else, only in exceptional circumstances. Utility companies should not be allowed to earn dividends, and custodial fines should be introduced for water company executives. No road run-off should be allowed to reach a river untreated. Tree planting programmes all along the river should be instituted. And culture. We need a culture where people respect and spend quality time with our rivers.

# Vanuatu: Water, music and cultural rights

Sandy Sur

Water, in the language of the indigenous peoples of Vanuatu, is *Nebei*. She is the head and the feet of a body sustaining the movement of human lives. Water is understood in my culture as a force that balances the environment. Nebei resides at the bottom of the earth, and she is also found above the earth, providing the necessary harmony for us who live on land.

In my home country of Vanuatu, we the indigenous peoples of this island nation are facing the global climate crisis through a number of water-related issues. Our country faced two major cyclones during February and March 2023, only a few weeks after our government's historic request to the International Court of Justice to develop a new international legal framework on climate change. Vanuatu has also called for an advisory opinion at the United Nations on states' legal obligations after causing climate harm. The call was backed by over 100 UN member states and the resolution has been billed by the United Nations Environment Programme (UNEP) as a turning point in climate justice. Yet Vanuatu is not only showing the way

in terms of legal or political action to combat the climate crisis, we also hold traditional cultural knowledge that is essential to our ability to respond to the changes affecting our world.

And is it not clear that our world is in peril? The threat we face in Vanuatu is not only climate change, which affects us in the form of more frequent and intensifying cyclones as well as sea-level rise. What threatens our way of life also comes from within the island. Dangers arise from the encroachment of major industries, especially property development. Our land is carefully provided for by numerous water sources that give life to our environment and which feed into human life. This relationship, which is essential to



Women of Limerous village playing the water music. Gaua Island, Vanuatu. 2016. *David Kirkland*.

our mode of life, is being threatened by those who seek to make profit out of the selling of land for tourism and luxury housing development.

Despite not having a water supply in my local village, all our cultural activities focus on water. Culture bears a message that for us cannot be forgotten. Vanuatu is experiencing the return of clean waters following the Covid-19 pandemic, which temporarily prevented people from cutting down trees along the riverbanks and coastal areas. The pandemic made a big difference in terms of making people rethink their connection to water and the environment.

The pandemic has given our people a moment of reflection and reconnection.

Now more than ever, we are convinced that the fight against extractive industries is something we must engage in with our culture, our memory.

That is why the indigenous peoples of Vanuatu must work to retain their collective memory of water. This is also why we seek to document and preserve our cultural connection with our Mother Earth and Nebei. We are working hard so that our people do not forget. We must listen carefully to water, to the sounds she makes and the messages she conveys to us. Water makes many different sounds that reflect the sounds of a living universe.

If we watch the sea carefully at low tide, we can see reefs and rocks that tell us whether it is harvesting time. Natural



events are signs that tell us what we should be doing or working on. We watch and listen carefully to nature, for example to the whales and the dolphins, to the sounds they make as these animals move through the water. A dolphin jumps and flaps its fins on the surface. When we go underwater, we make those sounds too. This is where our culture comes from: water and the beings that live there.

Women's water music is perhaps the finest example of how nature flows into the cultural life of Vanuatu's indigenous peoples. I hope that one day water music will teach overseas people about Vanuatu and inform them about changes in the lives of people and the environment in our island nation.

The unique sounds of women's water music can be heard on the remote islands of Merelava and Gaua as it is passed down from grandma to mother to daughter. Water music is also taught in local schools to girls from the age of six. Nowadays, water music is mostly performed on the island of Espiritu Santo, where women and men from Merelava and Gaua have resettled, thus continuing this unique tradition.

The village of Leweton on the island of Espiritu Santo is where the community usually rallies together to share its rich cultural and environmental knowledge. Through women's water music, the people of Leweton continue to celebrate and strengthen their deep relationship with nature and culture.

Pastor George Timothy from Wiana Village on Emau Island has childhood memories of a vastly different coastline here before the area experienced severe coastal erosion. Wiana Village, Emau Island, Vanuatu. 27 October 2022. *Niki Kuaatonga/Greenpeace*



Our land is carefully provided for by numerous water sources that give life to our environment and which feed into human life. This relationship, which is essential to our mode of life, is being threatened by those who seek to make profit out of the selling of land for tourism and luxury housing development.

The women usually dress in the traditional clothing of Merelava and Gaua. This includes armbands and headwear made of flowers and leaves. The women place themselves in a half moon formation. Their bodies lean forward over the water waiting for the signal. The leader's head dips in a nod. Hands are united in action. The water is beaten into a rhythmic swirl. The palms of their hands slap each passing wave. Their hands move closer to their bodies and then away again.

Water music connects us with every aspect of the surrounding environment. The sound of water drumming travels far, transforming the participants, making us all interconnected beings in a mesh that allows people to understand land, water, nature and culture as part of the same continuum.

The water music of Vanuatu is a once in a lifetime ritual performance that expresses not only our deep connection to water, but also our sense of care for the environment and the need to respond to the threats of changing climate.

Water music plays a major part in educating our children and maintaining a sense of cultural continuity. We draw upon live performances to introduce the value of water to all members of our nation. Women represent our Mother Earth; their movement represents the life cycle. We believe that this is the way of our ancestors.

Our forefathers and foremothers left with us a knowledge imparted through storytelling, food preparation, dance and musical activities that we still rely upon to this day.

This is why our cultural right to water is vital and urgent to us. Nature and culture are always an intrinsic part of who we are. Water reflects everything we see around us.

Without water, life does not exist. Water music is my identity, my culture. ■



Women of Limerous village playing the water music. Gaua Island, Vanuatu. *David Kirkland.*

Water reflects everything  
we see around us.  
Without water, life does not exist.

# Afterword



Rajendra Singh

If we really bothered to understand the character of water, not just seek to control water for human purposes, we would be able to support thriving communities that live *with* water, rather than *against* it.

We are telling ourselves that with this or that technology, with this engineering model or that, we will find solutions to water problems. Water is not a problem. Nor is water something that can be understood through modern engineering and technology. Water is life. Water is its own technology.

You can genetically modify food, but you cannot genetically modify water. Chemically speaking, water is unmodifiable.

The character of modern engineering and technology systems is based on command and control. Modern engineering and technology dream of piping, channelling and damming the water. We do not antagonize those visions of development, but we say: You will never control water. We say: Your technology and engineering are not for water, or for communities living with water. Modern technology and engineering have been developed only for selfish purposes, for greed, and from a place of arrogance that has nothing to do with water.

Nature and people are one. Modern technologies and engineering systems divide waters and divide peoples. Thus, you end up with majorities here, minorities there, scarcity here, excess there, too much water here and too little over there. To move forward we need to achieve integration between water and all humankind.

We call on everyone to integrate water for the benefit of all communities, especially those who are suffering water injustice – indigenous, tribal, women's groups, minorities. As this report shows, water is a matter of integration.

If you do not integrate, so you create a problem. And this problem is in most cases only exacerbated by modern science, engineering and technology. Do not think about technological solutions when it comes to water. Think of a better future. Think of the voice of water – the voice of the planet.

This is not a very easy task. Yet we have before us the knowledge and strength to move positively into the future. What I know, what I have achieved, was taught to me not by modern science, but by an illiterate and blind peasant from rural Rajasthan. An old farmer taught me how to rejuvenate rivers, and that is what I have devoted my entire life to. During my lifetime, I have restored 12 rivers, and with many communities up and down Rajasthan, we have created almost 9,000 *johads* – traditional water conservation earthworks – which have not only rejuvenated water systems in the driest region in India. Our efforts have also brought back rainfall – we have restored the climate itself. We did not use modern science and technology imposed from elsewhere, we learned from indigenous, tribal and peasant knowledge keepers.

Together, we call for a future where water systems are rejuvenated, and where community is once again understood not as a division between us and them, minority and majority, but as a planetary fellowship made up of all living beings, all connected to water. Community is thus understood as a fellowship that includes humans, plants, animals, fungi.

Together, we call for a future that respects and rejuvenates water systems.

In March 2023, a delegation of the People's World Commission on Drought and Flood, which I chair, attended the UN Water Conference. Together, we drafted a pledge to rejuvenate the water cycle, based on some of the principles that have guided my work.

I encourage you to read this pledge, which has been drafted with kind support from Minority Rights Group's commissioning editor Nicolas Salazar Sutil, along with numerous other committee members who have helped to make this pledge a clear and transparent call for the future of water.

This report is a stark reminder that if we do not act now, and if our pledge to rejuvenate the water cycle is not fulfilled, the many injustices committed against minority and indigenous peoples will continue, and water may vanish from the very heart of our communities.

I kindly request that you read our pledge, that you sign our petition and that you help us fulfil a fair water future.

Join us in our effort to rejuvenate the planet's water cycle.

## World pledge to rejuvenate the water cycle

I am water. I stand before you as water. Together, we advocate a healthy water cycle.

Our support is for the kinship of people and water. Through water, we connect:

**PERSON:** Every one of us carries water in our bodies;

**PROCESS:** Every community comes together and can flourish with and around water;

**PLANET:** Water gives life and balance to this Earth: one Planet – one Water.

It is within our lifetime that the water cycle has been broken. Our solution is rejuvenation.

Rejuvenation is a paradigm shift in thought and practice that goes beyond the dominant human centric worldview. We encourage 10 key shifts:

1. From narrow to all-encompassing concepts, terms and frameworks that cover all stages of the water cycle.
2. From data and information to Wisdom, weaving minority and indigenous traditional knowledge systems with modern science, art and technology.
3. From formal education systems to living knowledge that energizes youth.
4. From wasteful abuse to judicious circulation and guardianship of waters.
5. From commercialization to communitization, where community is understood as the fellowship of all living beings.
6. From a general attitude of indifference and apathy to organized action and work for water.
7. From insensitivity to a sensitive awareness of every water body as a unique and biodiverse ecosystem.
8. From short-term goals and timeframes to life-long commitments to present and future generations.
9. From narrow economic value to broad and fair ecological values.
10. From ownership and control to free-flowing water, acknowledging the equitable rights of all living beings.

We hold the collective conviction that fulfilment of this pledge can lead to climate change adaptation, restoration and resilience. These changes will condense in one shift from outer to inner understanding, paving the way for a spiritual life that strives for happiness, well-being and peace.

We invite everyone to join us in fulfilling [this pledge](#).

## BIOGRAPHIES

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**Charlie Dannreuther**, at the University of Leeds, writes on embodiment and the political economy of water. Recently, this has taken the form of exploring research methods for capturing perceptions of swimming, examining the emergence of capitalism in whaling and studying the investment in water infrastructure as a colonial project of the British state.

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**Anne Poelina**, Nyikina Warrwa First Australian from the Kimberley region of Western Australia. Professor Poelina is an active community leader, human and earth rights advocate, film maker and respected academic researcher, with a second Doctor of Philosophy (First Law) from University of Notre Dame, Broome, Western Australia.

**Paul Powlesland** is an activist-barrister and Chair of the River Roding Trust in East London.

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The past year saw some of the worst cyclones recorded in the Pacific, some of the costliest and worst ever recorded floods in Australia, Pakistan and across the African continent, coupled with major droughts affecting parts of Central, East and Southern Africa, the Americas, Central Asia, Europe and the Middle East, prompting many experts to declare that the planet's water cycle has been severely disrupted due to human activity. For members of minorities, indigenous peoples and other marginalized groups, the water crisis is often an existential threat affecting numerous rights such as to life, health, self-governance, sanitation and culture.

Water justice cannot be attained unless the communities that protect water systems from the threats of extractivism, overuse and pollution are prioritized in the international arena. Community-led solutions, drawing on traditional knowledge systems, are the key to solving the water crisis.

This year's *Minority and Indigenous Trends* report brings together three thematic chapters and over thirty case studies written by members of communities on the frontline of the water crisis, as well as leading water activists, researchers and policymakers. These first-hand accounts cover a range of issues, from conflict in water-stressed parts of the world to cultural forms of water conservancy and peaceful governance.

The ways in which water issues affect the lives of minority and indigenous women, children and people with disabilities, to mention a few intersectional aspects of the water crisis, are highlighted in this volume. Resolving the difficulties they face is an inextricable aspect of planetary water justice.



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