

Statement at the conclusion of country visit to Chile

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Introduction

Today I conclude my ten-day mission to Chile, a geographically diverse and beautiful country facing daunting and inter-connected environmental crises that have violated human rights for many years, including the fundamental right to live in a clean, healthy and sustainable environment. These crises include: sacrifice zones where marginalized and vulnerable communities suffer extreme exposure to toxic substances and environmental degradation; water scarcity, as many rural residents lack regular and secure access to safe and sufficient water; and deadly air pollution. Chile is also suffering major impacts due to the global climate crisis, including droughts, desertification, devastating wildfires, deadly heat waves, sea level rise, coastal erosion and the increasing intensity of extreme weather events.

Despite these daunting challenges, I was encouraged by the warmth, generosity, and passion for human rights and environmental protection of the Chilean people whom I met. I would like to express my gratitude to the Government of Chile for the invitation and excellent cooperation both before and during the visit. The current government ratified the Escazú Agreement, has already taken some important steps to address the environmental crises, and additional actions are in progress, but the scale and pace of implementation are still too slow, not adequately resourced and not sufficiently compliant with Chile's human rights obligations

Chile is a member of the OECD, a high-income country according to the World Bank, and ranks in the “very high” category on the UN's Human Development Index. On the other hand, Chile is still considered a developing country, and is plagued by staggering levels of inequality. A striking example is that 49.6 percent of wealth is concentrated in the richest 1 percent of the population, while 80.4 percent of wealth is held by the richest 10 percent.¹ The COVID-19 pandemic exacerbated inequality, affecting women, Indigenous people, people of African descent, migrants, refugees, children, youth, persons with disabilities, LGBTQ+ persons, people living in rural areas and people living in poverty. Particularly vulnerable are persons who belong to two or more of these categories (intersectionality).

I spent time in Santiago and traveled to numerous places including Concón, Quintero and Puchuncaví in the central region and Calama and San Pedro de Atacama in the northern region. I visited SQM's lithium extraction site in the Salar de Atacama. I also visited Puerto Montt in the southern region where I saw some of the industrial salmon farming sites in Reloncaví Sound. I met with the Minister of Health, the Minister of Justice and Human Rights, the Minister of Mining, Minister of Environment, the Superintendent of Environment, the Director of the Environmental Evaluation Service, the Undersecretary of the Environment, the Undersecretary of Foreign Affairs, the Undersecretary of Economy and Small Business, the Undersecretary of Finance and officials with these ministries. I also met with the President of the Supreme Court, members of the Constitutional Court, members of the Second Environmental Court, members of the office of the National Prosecutor, the National Human Rights Institute, local officials including the Mayors of Quintero, Puchuncaví and Concón, Indigenous peoples, civil society, representatives from UN agencies, local community activists, trade unionists, academics, children, youth and the private sector.

Unfortunately, my conversations with more than 100 concerned individuals from all regions of Chile and all walks of life revealed glaring long-term violations of their right to live in a clean, healthy and sustainable

environment. In many cases, these violations have endured for decades, leaving people disempowered, disheartened, and without hope.

I smelled the toxic fumes of industry in Ventanas and felt them in my throat. I listened to the testimony of mothers, tears rolling down their cheeks, who are afraid to send their children to school. In Quintero, young girls presented me with drawings that said “Tengo miedo de morir intoxicada” and “estamos respirando veneno y a nadie le importa”. I saw maps of dramatically elevated arsenic levels in the Quintero-Puchuncaví region, which scientists described as posing “unacceptable” cancer risks to children.² I learned that dust from the tailings of mines in the northern region poses a risk to the health of people, especially children, living downwind of these environmental risks.³ In the words of scientists, “measures to mitigate the potential adverse effects on children’s health in Alto El Loa should be undertaken urgently”.⁴

It is unacceptable that schools close because of pollution, yet the polluting industries continue operations and are not held accountable. It is unacceptable that mining companies and large agribusinesses use massive volumes of water in regions where many rural residents lack access to safe and sufficient water. It is unacceptable that decades after the Indigenous Law was passed, so little progress has been made in returning lands and waters to their Indigenous owners, while extractivist activities accelerate in their territories.

As the UN Special Rapporteur on human rights and the environment, my role is to promote the implementation of obligations relating to the right to a clean, healthy and sustainable environment. This fundamental human right, supported by Chile in recent UN resolutions, includes clean air, safe and sufficient water, healthy and sustainably produced food, non-toxic environments, healthy biodiversity and ecosystems and a safe climate. It also includes rights of access to environmental information, public participation in environmental decision-making, and access to justice with adequate remedies. My visit focused on the challenges Chile must confront to successfully respect, protect and fulfil this right, the steps taken so far, and the future actions being planned.

Sacrifice zones

“Those who have some money go to live in other places. But what choice do I have?”
Fisherman from Quintero

As I reported to the UN last year, “sacrifice zone” is a phrase used to describe places where residents suffer devastating physical and mental health consequences and human rights violations as a result of living in pollution hotspots and environmentally degraded areas.⁵ In sacrifice zones around the world, profits and private interests are prioritized over people, health and the environment. Sacrifice zones are the diametric opposite of sustainable development, harming the interests of present and future generations. The people who inhabit sacrifice zones are exploited, traumatized and stigmatized. They are treated as disposable, their voices ignored, their presence excluded from decision-making and their dignity and rights trampled upon.⁶

In Chile, the most well-known sacrifice zones are in five communities where 20 coal-fired power plants continue to operate—Tocopilla (4 power plants), Mejillones (7), Huasco (5), Quintero/Puchuncaví (3) y Coronel (1). Other communities identified as sacrifice zones through inputs to the Special Rapporteur include Arica, Concón, Chanaral,⁷ Tiltil,⁸ the area of intensive mining near Calama, and Hualpén-Talcahuano Bay.⁹

Quintero-Puchuncaví, the most notorious sacrifice zone in Chile, is home to the Ventanas industrial complex, comprising more than 15 industrial facilities (oil refineries, petrochemical facilities, coal-fired power plants, gas terminals and a copper smelter). Despite this concentration of industry, these communities are among the poorest in the Valparaíso region. People in Quintero-Puchuncaví suffer from multiple environment-related health problems including respiratory illnesses, cardiovascular disease, elevated levels

of infant mortality, unacceptable levels of cancer risk for children, and shortened life expectancy.¹⁰ The psychological consequences of living in a sacrifice zone can also be devastating.

Despite environmental regulations and other measures introduced over the past decades, these communities continue to be exposed to staggering volumes of current and historic contamination.¹¹ Beginning in 2011, repeated air pollution incidents in Quintero-Puchuncaví have made hundreds of schoolchildren ill. Mass poisonings continue to occur, most recently in March 2023, when four contamination episodes affected hundreds of students and adults.¹²

The soils in this region also contain levels of toxic substances, including lead and copper, that exceed international standards. New scientific research establishes a clear link between arsenic concentrations in the soil and the risk of cancer in the Quintero-Puchuncaví region, leading the authors to “strongly recommend the implementation of an environmental remediation program focused on reducing as much as possible the human exposure to soils with high levels of heavy metals.”¹³

The artisanal fishing industry in Quintero-Puchuncaví, formerly a key source of food and livelihoods, has been decimated by pollution (oil spills, coal spills, chemical leaks). For example, high levels of arsenic have been reported eight important marine species, including a species of crab (jaiba peluda) that had arsenic levels nearly 30 times higher than safe for human consumption.¹⁴

In 2019, the Supreme Court of Chile concluded that the egregious pollution in Quintero-Puchuncaví violated the right to a pollution-free environment and ordered the Government to take fifteen specific steps to address the problem.¹⁵ The Supreme Court held that economic development, even when it legitimately aimed to improve the quality of life of people, could not be implemented by ignoring or abandoning the conservation and protection of the environment, and could not compromise the interests of future generations.¹⁶ Today, there is a Quintero-Puchuncaví Environmental and Social Recovery Program in place.

Unfortunately, there have been extensive delays and problems in the implementation of the Supreme Court’s decision, resulting in limited progress towards the overall goal of solving the contamination problem and improving the quality of life of the communities.¹⁷ The Comptroller’s Office identified serious omissions and gaps in the monitoring of pollutants in Quintero, Puchuncaví and Concón.¹⁸ According to the Comptroller’s Office, “there is still no consolidated analysis of the pollutants present in water, air and soil in the area, nor a methodology to measure how they have affected people’s health ... there was no follow-up to the La Greda school children who suffered intoxication in 2011 and ... no standards have been created to measure soil quality, nor to set limits on the emission of volatile organic compounds.”¹⁹ As a result, there are still large gaps in understanding the mass poisoning events that continue to occur. The lack of blood lead level monitoring in children is a serious concern, given high levels of lead in soil and dust. In fact, there are many toxic chemicals which Chile neither monitors, nor subjects to environmental standards. However, on the penultimate day of my visit, a strong new standard was created for benzene, a volatile organic compound that is a known carcinogen.

Although decontamination plans are contributing to some reductions in air pollution, and in some cases meeting Chilean standards, air quality in Quintero-Puchuncaví and other sacrifice zones is still substantially worse than recommended by the World Health Organization.²⁰

It is encouraging that the state-owned Ventanas copper smelter will be closing this month, resulting in a significant reduction in pollution in Quintero-Puchuncaví. This facility has produced vast contamination over its 50+ year history, poisoning local residents who have borne disproportionate adverse impacts on their lives, health and livelihoods while the lion’s share of the economic benefits have gone elsewhere. There are still many other major sources of industrial pollution in Quintero-Puchuncaví that need to be addressed, as well as the historical contamination of soils and water bodies. It is unacceptable for Chile to

exacerbate ongoing human rights violations in Quintero-Puchuncaví by approving additional sources of pollution and toxic substances, such as the Anglo-American desalination plant under construction in Quintero to supply water for mining. No new industrial plants should be built in Quintero-Puchuncaví—or any other sacrifice zone or saturated area—until existing levels of pollution have been reduced to meet World Health Organization standards.

With respect to all sacrifice zones, Chile should apply a human rights-based approach to laws, regulations, policies and actions governing the production, import, sale, use, release and disposal of substances that may harm human health or the environment, in order to eliminate negative impacts on human rights (see Annex 1). A rights-based approach should also govern clean-up, remediation, restoration and compensation. The rights-based approach clarifies the obligations of governments and responsibilities of businesses, prioritizes the most disadvantaged and catalyses ambitious action.

Chile must strengthen legislation, regulations, standards and policies to prevent exposure to toxic substances, and accelerate the implementation of action plans for preventing pollution, eliminating toxic substances and rehabilitating contaminated sites. For example, Chile should incorporate, as legally binding national standards, WHO guidelines on ambient air quality (updated in 2021), indoor air quality, drinking water quality, soil quality and toxic chemicals.²¹ Chile should enact legislation requiring businesses that generate pollution or use toxic substances to conduct human rights due diligence.²²

Large businesses contributing to the burden of pollution and toxic exposure in sacrifice zones are not meeting their human rights responsibilities.²³ Businesses operating in sacrifice zones should install pollution-abatement equipment that meets best available technology standards, switch to clean fuels, change processes, reduce production and, if necessary, relocate. Businesses are also responsible for cleaning up and rehabilitating communities, lands, waters and ecosystems polluted or contaminated by their operations, and contributing to compensation.

Chile can no longer permit the creation of sacrifice zones, nor allow existing sacrifice zones to persist. Immediate action must be taken to eliminate residents' exposure to environmental hazards. Putting economic considerations ahead of human rights is a form of fundamentally flawed decision-making, as the Inter-American Commission on Human Rights recently clarified.²⁴

Air pollution

Clean air is one of the basic elements of the right to live in a clean, healthy and sustainable environment.²⁵ Air pollution, especially fine particulate matter (PM_{2.5}) causes respiratory illness, cardiovascular disease, stroke, and lung cancer, as well as other adverse health effects.²⁶

Poor air quality occurs throughout much of Chile but the main causes vary amongst the three regions. In the north, coal-fired power plants and mining operations produce fine particulate, sulfur dioxide and heavy metals, in Santiago transport and industry are the main contributors, and in the south wood burned for heating and cooking is the main problem, compounded in recent years by major forest fires.²⁷ According to the State of Global Air Quality, there were 6,240 premature deaths in Chile caused by air pollution in 2019 (primarily caused by fine particulate matter).²⁸ Studies confirm that children and older persons are particularly vulnerable to poor air quality in Chile.²⁹

Chile's unique topography, with many cities nestled in valleys between the Andes and the Cordillera de la Costa, traps air pollution and increases health risks. Santiago is the most polluted national capital in Latin America.³⁰ While air quality is bad in Santiago, it is even worse in Temuco, Valdivia and Coyhaique. The 2022 World Air Quality Report identifies 8 Chilean cities among the 15 worst in the Latin American and Caribbean region.

On the other hand, for some areas and for some pollutants, air quality in Chile has improved. For example, average annual concentrations of PM_{2.5} have declined from 29.6 micrograms per cubic meter in 1990 to 24.2 micrograms per cubic meter in 2020.³¹ However, the World Health Organization recently reduced its annual guideline for PM_{2.5} from 10 micrograms per cubic meter to 5 micrograms per cubic meter, meaning average levels for this pollutant in Chile are nearly five times higher than the recommended limit.

The government has developed air pollution prevention plans for regions exceeding 80 percent of national limits (designated as latent zones) and atmospheric decontamination plans for regions that already exceed national limits (designated as saturated zones). Urban plans promote public transit, bicycles, electric vehicles, emissions regulations, restrictions on vehicle use, and the creation of green areas. In 2018, Santiago was the first city in Latin America to require Euro VI emissions standards for public transportation, opening the door to a recent purchase of more than 100 electric buses. Rural plans include subsidies to replace wood burning stoves and heaters. In the South, supporting residents to improve the quality and energy efficiency of their homes and switch from heating with wood and similar fuels are vital actions for fulfilling the right to breathe clean air.³²

Electrification of energy end-uses is the optimal pathway to cleaner air in Chile, and will also contribute to addressing the climate crisis as fossil fuels are replaced by renewables in the electricity system. Improved construction standards for energy efficient buildings, and support for improving the energy efficiency of existing buildings are particularly important in the south, where low-income households should be prioritized. Home heating systems based on combustion (wood, pellets, etc.) should be replaced with electric heat pumps, again with subsidies prioritizing low-income households. Reducing emissions from road traffic is key. The transport system should also be electrified, beginning with a focus on public transit, bicycles and scooters. Strengthening the regulations on the sulphur content of gasoline and diesel fuel would be useful, as Chile's current standard is 50% weaker than Canadian, European and American standards.³³

It is encouraging that eight of Chile's 28 coal-fired power plants have already been closed down. Burning coal is an outdated and uneconomic means of generating electricity, causing high levels of local air pollution, producing mercury contamination, exacerbating the climate crisis and violating the right to live in a clean, healthy and sustainable environment. High-income States, such as Chile, should close all coal-fired power plants by 2030 at the latest, as proposed by the Government. Enel deserves credit for closing all three of its coal-fired power plants and replacing them with solar, wind and geothermal electricity.

Safe and sufficient water

"It seems that drinking water is a privilege, only for some. They don't know what it's like to go 12 hours without drinking water", youth from Petorca

It is surprising to learn that although most Chileans enjoy access to clean water and sanitation, tens of thousands of households in rural Chilean communities and informal settlements on the outskirts of large cities lack access to safe and sufficient drinking water that meets international human rights standards.³⁴ These standards include availability (sufficient quantity and reliable, consistent supply), quality, affordability, accessibility (including in schools), and acceptability (e.g. taste, colour and odour).³⁵ For example, in Petorca, El Melón, Chiloé and elsewhere many people are forced to rely on water from tanker trucks.³⁶ In the region of Antofagasta, approximately 40 percent of the rural population does not have access to reliable, consistent, safe and sufficient drinking water.³⁷ One person from Petorca mentioned paying the exorbitant price of 8,000 pesos per 1,000 liters. In hundreds of schools across Chile, children lack access to consistent, safe and sufficient water. I heard devastating testimony from a teenaged girl about the impacts of living without water at home or school on her mental and physical health, including menstrual hygiene. Yet I saw vast plantations of avocados and citrus fruit in her region, obviously using massive quantities of water.

The problem is that water rights in Chile were privatized decades ago. The Water Code allowed the State to grant water rights in perpetuity, free of charge, and the 1980 Constitution protects these rights as form of property. This system has led to increasing control by industrial agriculture, forestry and mining companies at the expense of low-income people in rural communities, Indigenous people and small-scale farmers. A multi-year mega-drought and the escalating impacts of the global climate crisis have exacerbated water scarcity. By the end of 2021, more than half of Chile's population lived in areas confronted by severe water scarcity.³⁸

For example, the flow of the Loa River in northern Chile has dropped 75 percent in recent decades due to water-intensive mining activities and growing urban demand.³⁹ This dramatic decline affects Indigenous communities in the region, including their rights to water, food and livelihoods, as well as cultural rights. The decreased flow has also had significant negative effects on wetlands, flora and fauna in the region. Rivers and streams in Petorca have dried up, as has Aculeo Lake south of Santiago.⁴⁰

The government of Chile has a legal obligation to ensure that everyone has access to safe and sufficient water where they live, work, study and play. Human rights law is clear—the allocation of water must prioritize human rights first, the needs of ecosystems second (because healthy ecosystems are essential for the full enjoyment of multiple human rights), and industry needs come third. Recent changes to the Water Code and the Agua Potable Rural program are intended to prioritize human consumption, but there is still a substantial implementation gap.⁴¹

There are many options, ranging from requiring large-scale agribusinesses to use efficient irrigation technologies, requiring mining companies to repeatedly recycle water, and building desalination plants for communities, not companies. If no other option is available, the Government has the power, and a human rights obligation, to expropriate a portion of water rights from large-scale users in order to fulfill its human rights obligations. The Government must also prevent third parties, including businesses, from impairing enjoyment of the right to water.

To make matters worse, climate science indicates that levels of precipitation across Chile will continue to decline in the coming years, while the population is projected to grow, exacerbating existing levels of water scarcity. The Intergovernmental Panel on Climate Change (IPCC) warned that the situation of water in Chile faces “very high vulnerability mainly due to weak water governance focused on market aspects”.⁴² In particular, according to the IPCC, the relative lack of power of poor communities living in areas where mining uses high volumes of water renders these communities even more vulnerable.

The Climate Crisis

Chile is acutely vulnerable to the adverse impacts of climate change, including worsening droughts, desertification, devastating wildfires, deadly heat waves, sea level rise, coastal erosion and the increasing intensity of extreme weather events.⁴³ Reduced snowfall in Chile's Andes Mountains has resulted in unprecedented reductions in river flow, reservoir volumes and groundwater levels.⁴⁴ The glaciers of the southern Andes are melting faster than any other glaciers in the world.⁴⁵ Evidence indicates that mining in and around the glaciers of Chile causes not only substantial environmental damage, but accelerates the melting of these glaciers, which are critical for Chile's water supply.⁴⁶ For example, the recently approved Los Bronces mine could accelerate glacier melt in the region that provides drinking water for the Santiago and Valparaíso regions. The number of heatwaves is expected to increase five to ten times in the northern region.⁴⁷ In its latest report, the Intergovernmental Panel on Climate Change warned that continued drought conditions in Chile are highly likely to exceed anything seen in the last 1,000 years, and will push soil moisture to the lowest levels in a millennium.⁴⁸

The impacts of climate change on water scarcity have immense implications for the human rights to water, food, and a clean, healthy and sustainable environment. In adapting to climate change, it is imperative that Chile take preventive and precautionary measures to ensure safe and sufficient water for everyone, prioritizing the human rights of those people whose rights are currently not being fulfilled.

The good news is that Chile has an excellent Framework Law on Climate Change and outstanding renewable energy potential. The nearly cloudless Atacama Desert has the best solar electricity generating potential of any place on Earth, although additional transmission infrastructure is needed to be able to fulfill its potential. Chile's 110 MW Cerro Dominador facility is the first commercial concentrated solar power plant in Latin America and incorporates thermal energy storage (using molten salts), enabling it to produce electricity twenty-four hours a day.

Chile already produces a higher proportion of its total electricity from solar than any other nation in the world (18 per cent).⁴⁹ Chile more than doubled its renewable electricity capacity between 2012 and 2021, going from 7,056 megawatts (MW) to 14,890 MW.⁵⁰ Most impressively, solar skyrocketed from 2MW to 4,468 MW, second in Latin America after Brazil. Wind also grew exponentially from 202 MW to 3,137 MW. Geothermal grew from zero to 40MW, 4th in Latin America. The cost of energy generated by solar and wind has fallen 88 percent and 68 percent, respectively, since 2010.⁵¹

However, there is an essential prerequisite to the development of Chile's renewable energy potential, which is fulfilling its human rights obligations. This means providing the public with clear, accessible information, as well as opportunities to participate in decision-making processes. Additional effort must be made to include communities that may be in positions of vulnerability. If renewable energy projects are going to be built in the traditional territory of Indigenous peoples, their right to free, prior and informed consent must be respected from the very outset of planning processes. Communities where renewable energy projects are located should receive a fair share of the benefits produced. Following this human rights-based approach is a legal obligation for the State and increases the likelihood of positive outcomes.

Chile's enhanced Nationally Determined Contribution (NDC), published in 2020, represents a significant improvement over the original NDC (2015). Chile aims to peak carbon emissions in 2025 and pledged to limit total annual emissions to 95 MtCO_{2e} by 2030 (27.5 percent lower than the previous NDC). Other targets include: achieving 70% renewable electricity generation by 2030; slashing black carbon emissions¹ at least 25% by 2030; restoring 1 million hectares of natural ecosystems through a National Plan for Restoration of Landscapes 2021-2030; and 100% of all new vehicle sales to be electric by 2035. Chile's new NDC integrates the UN Sustainable Development Goals and requires that every climate action contribute to a just transition, emphasizing water security, gender equality and overcoming poverty.

Other priority climate actions include investments in energy efficiency (e.g. heat pumps for heating and cooling, better insulation for buildings); increased investment in public transport and active transport instead of roads; and increasing support for climate-smart, regenerative, local and organic agriculture. A rights-based approach to climate action will ensure that policies and programs focus on those who are most vulnerable or marginalized, such as people facing poverty who live in buildings that are not energy efficient.

Marginalized and vulnerable populations bear a disproportionate share of climate impacts but also offer tremendous potential for contributing to just and sustainable solutions. For example, marginalisation and discrimination have exacerbated the impacts of climate change on the culture and livelihoods of the Mapuche Indigenous people.⁵² However, according to the Intergovernmental Panel on Climate Change, "the traditional agriculture of Mapuche Indigenous Peoples includes a series of practices that result in a system that is more resilient to climate and non-climate stressors. Practices include water management,

¹ Black carbon is a short-lived but powerful climate pollutant that also harms human health.

native seed conservation and exchange with other producers (trafkintu), crop rotation, polyculture and tree–crop association.”⁵³

Empowering women not only respects their rights and reduces gender inequality, but produces environmental benefits. In Chile, women are more likely to modernise irrigation, and gender appears to be an important element in drought adaptation.⁵⁴ The adoption of agro-ecological practices has improved gender equality and adaptive capacity to climate change.⁵⁵

National Legal Context

In 1980 Chile recognized the human right to an environment free from contamination and made this right judicially enforceable (through the recourse of protection).⁵⁶ The current Constitution also provides that: “It is the duty of the State to ensure that this right is not jeopardized and to promote the preservation of nature.” Chile’s General Environmental Framework Law, (Law No 19.300 of 1994), reiterates the right to live in an environment free of contamination, and defines this right as “that in which the pollutants are in concentrations and periods lower to those capable of causing risk to people’s health, population’s quality of life, to the preservation of nature or to the conservation of environmental assets”.

The draft constitution that was rejected in a referendum in September 2022 included strong proposals related to nature and the environment. These were among the more popular elements with the Chilean public, so it is hoped that many will be incorporated in the new constitutional drafting process.⁵⁷ Chile has the opportunity to be the first nation in the world to have a constitution using the language agreed upon by the United Nations, namely the human right to a clean, healthy and sustainable environment.⁵⁸

The Supreme Court, the Constitutional Court, and the Environmental Courts have embraced a broad understanding of the right to live in an environment free from contamination.⁵⁹ However, the Government must do more to respect and implement the decisions and orders made by these courts. As mentioned earlier, the State has been slow in responding to the Supreme Court decision involving massive pollution and the poisoning of children in Quintero-Puchuncavi, as confirmed by both the Contraloria and the National Human Rights Institute. There are also troubling delays in access to justice, in part due to a lack of resources, a lack of free legal and technical services for individuals and communities whose right to a healthy environment is being threatened or violated, and in the case of the Environmental Courts, a complex judicial appointment process that has failed to ensure a full complement of judges.

In recent years, Chile has adopted important new laws and policies, including the Framework Law on Climate Change, the Urban Wetlands Law, and the Single Use Plastics Law. Laws to establish a much wider range of environmental crimes and create a Biodiversity and Protected Areas Service are before Congress. The Plan Buen Vivir focuses on Indigenous rights and land restitution.

Unfortunately, there are critical gaps and weaknesses in Chile’s environmental laws and standards. A key example involves air quality, where at least eight Chilean standards are many times weaker than the World Health Organization (WHO) recommendations. The Chilean annual standard for fine particulate matter (PM_{2.5}) is 20 ug/m³, which is 400 percent higher than the WHO guideline. The Chilean annual standard for nitrogen oxide is 100 ug/m³, which is ten times higher than the WHO guideline. The Chilean standard for sulfur dioxide (SO₂) is 150 ug/m³ compared to the WHO guideline of 40ug/m³ (24 hours). Another important example is the absence of standards for contaminants in soil, such as arsenic, lead and cadmium. There are gaps in air quality standards for arsenic, a well-known carcinogen, and volatile organic compounds (although the gap for benzene has been closed). Chile also allows the use of highly hazardous pesticides, which threaten both human and ecosystem health, that are prohibited in most OECD nations.

Another example involves the need for stronger water quality standards. Compared to the WHO standards, Chilean regulation includes fewer contaminants (especially pesticides). Among contaminants that do have

standards in Chile, the WHO guidelines are between up to 20 times more stringent.⁶⁰ Chile also lacks a law to protect its critically important glaciers, unlike Argentina.

As a general principle, Chile should move rapidly to strengthen the full range of environmental standards to be consistent with WHO recommendations and best practices in OECD nations.

In 2022, Chile ratified the Regional Agreement on Access to Information, Public Participation and Access to Justice in Environmental Matters in Latin American and the Caribbean. The Escazú Agreement imposes obligations on Chile to improve access to environmental information, strengthen public participation in environmental decision-making, facilitate access to justice and implement protection for environmental human rights defenders. This provides an incredible opportunity to advance these rights and strengthen the environmental assessment process. The implementation of Escazú commitments should be as open and participatory as possible. A recent report by FIMA identified key gaps between the requirements of Escazú and current Chilean laws and policies, noting:

- lack of specific regulations or policies to facilitate access for individuals and groups in positions of vulnerability;
- justifications for denying access to information in Chile are much broader than contemplated by Escazú; and
- no specific protection measures for environmental human rights defenders.⁶¹

Numerous people described harassment, threats, cybersurveillance, criminalization, lawsuits and violence directed towards environmental human rights defenders as well as Indigenous defenders of nature. The Government must forcefully state that these actions are completely unacceptable. A critically important Protocol on the protection of environmental human rights defenders is being developed by the Ministry of Justice and Human Rights.

The pace of implementation of Escazú obligations and other environmental initiatives, including actions to address sacrifice zones, air pollution and water scarcity should be accelerated through the provision of greater resources to the Ministry of the Environment. For the year 2023, the Ministry of the Environment received approximately 0.17 percent of the state budget (equivalent to 74.5 billion Chilean pesos). Although this budget grew by 11% in 2023 through the Sustainable Productive Development Program, it is far from sufficient and far below other high-income nations. Environmental taxes are also very low, although green tax reforms are being discussed.

Biodiversity

Several major industries in Chile threaten biodiversity, including industrial fishing, industrial salmon aquaculture, forestry and mining. Chile endorsed the Kunming-Montreal Global Biodiversity Framework in December 2022, committing to take a human rights-based approach to conserving and restoring biodiversity, as well as to protect at least 30 percent of all terrestrial, freshwater and marine ecosystems by 2030. Indigenous peoples have a key role to play in conserving biodiversity in Chile. Wetlands in all regions urgently require greater protection from industry and urban development.

At present 21 percent of Chile's land is in national parks and other protected areas, while 42 percent of Chile's marine territory is protected. However, the majority lack management plans, and resources for conservation actions are limited. A Bill to create Biodiversity and Protected Areas Service is currently before Congress, and would establish a National Protected Areas System integrating all of the existing protected areas in Chile, marine and terrestrial, that are currently managed by several different ministries.

Conclusion

We don't want more speeches; we need concrete improvements"

Individual from civil society organization

Seven years ago, the Organization for Economic Cooperation and Development wrote that “Chile has one of the most resource-intensive economies of OECD countries and is over-reliant on natural resources like copper, agriculture, forestry and fisheries for delivering economic growth. It suffers from persistently high air pollution in urban and industrial areas, water shortages and pollution, habitat loss and vulnerability to climate change. More than 95 percent of its waste continues to be landfilled ... the country’s natural resource-based economic model is starting to show its limits.”⁶²

Despite some progress, the overall environmental challenges are similar today. However, the government has an ambitious goal of achieving a just social and ecological transition, moving away from the traditional extractivist approach that exploits both people and nature. This is an honourable objective, and vitally necessary in a country facing daunting environmental challenges and systemic inequality. It will only succeed if human rights are placed at the heart of every law, policy and program intended to accelerate climate and environmental progress. This is a legal obligation, not an option.

Development initiatives, such as the recently announced National Lithium Strategy, must take place in a way that respects human rights by recognizing the rights of Indigenous peoples to free, prior and informed consent regarding projects in their territories, respecting the rights of local communities to participate in decision-making and share in the benefits, imposing the highest possible environmental standards, and maximizing public benefits.⁶³

My final report, to be presented to the UN Human Rights Council in 2024, will provide additional details and recommendations on these issues addressed in this preliminary report, as well as human rights considerations related to food, terrestrial and marine biodiversity, environmental impact assessments, waste management, and the role of business, including in the salmon aquaculture, forestry, fishing, agriculture and mining sectors. In the meantime, I urge the government of Chile to use a human rights-based approach to all climate and environmental action, ensuring the protection of vulnerable and marginalized individuals and communities.

I would like to conclude by reiterating my heartfelt appreciation to all of the Chilean people who took the time to share their views with me during my visit. It has been a great privilege to learn about this beautiful nation, the environmental and related human rights challenges Chile faces, and people’s fierce determination to overcome these challenges. I look forward to working with the Government and people of Chile to fulfill every person’s right to live in a clean, healthy and sustainable environment.

Annex 1: Recommendations from the 2022 report of the Special Rapporteur: The right to a clean, healthy and sustainable environment: non-toxic environments (A/HRC/49/53)

49. The framework principles on human rights and the environment² clarify three categories of State obligations: procedural obligations, substantive obligations, and special obligations towards those in vulnerable situations. In terms of procedural obligations regarding pollution and toxic substances, States must:

- (a) Establish monitoring programmes, assess major sources of exposure and provide the public with accurate, accessible information about risks to health;
- (b) Ensure meaningful, informed and equitable public participation in decision-making;
- (c) Use the best available scientific evidence to develop laws, regulations, standards and policies;³
- (d) Enable affordable and timely access to justice and effective remedies for all;
- (e) Assess the potential environmental, social, health, cultural and human rights impacts of all plans, policies, projects and proposals that could foreseeably result in exposure to pollution or toxic substances;
- (f) Integrate gender equality into all plans and actions and empower women to play leadership roles at all levels;
- (g) Provide strong protection for environmental human rights defenders, vigilantly protect defenders from intimidation, criminalization and violence, diligently investigate, prosecute and punish the perpetrators of these crimes, and address the root causes of social-environmental conflict.

...

89. To fulfil their obligations related to ensuring a non-toxic environment, States should:

- (a) Urgently detoxify sacrifice zones and eliminate environmental injustices:
 - (i) Take immediate action to address human rights violations occurring in sacrifice zones by dramatically reducing pollution to levels that meet international standards, closing polluting facilities, remediating contaminated sites, providing medical treatment and, where necessary, relocating affected communities (with informed consent and adequate compensation);
 - (ii) Prevent the creation of new sacrifice zones and prohibit new sources of pollution in areas where a disadvantaged population already endures a disproportionate burden of pollution, in part by amending environmental impact assessment legislation to require consideration of environmental justice issues;
 - (iii) Produce a national report on environmental injustices and, where relevant, sacrifice zones, ideally by the national human rights institution, and update it regularly;
 - (iv) Establish or strengthen laws and policies to establish liability (based on the polluter pays principle) for the clean-up and restoration of contaminated sites, including retroactive liability for all responsible parties;

² [A/HRC/37/59](#), annex.

³ See [A/HRC/48/61](#).

- (b) Strengthen national efforts:
 - (i) Incorporate an enforceable right to a safe, clean, healthy and sustainable environment in constitutions and legislation;
 - (ii) Reform environmental laws and policies to achieve a non-toxic environment, rather than merely reducing some types of pollution and restricting some toxic substances;
 - (iii) Apply the principles of prevention, precaution, non-discrimination and non-regression, the polluter pays principle and the best interests of the child;
 - (iv) Prohibit the production and use of substances that are highly toxic, bioaccumulative and persistent (including carcinogens, mutagens, endocrine disruptors, reproductive toxins, immune system toxins and neurotoxins) with limited exemptions where uses are essential for society; eliminate all uses of highly hazardous pesticides; ban all uses of per- and polyfluoroalkyl substances; and phase out the manufacture, sale and use of lead in paint, toys, cosmetics, costume jewellery, glassware, cooking equipment and other consumer items;
 - (v) Establish or strengthen national air, soil and water quality standards, giving effect to WHO guidelines;
 - (vi) Prohibit the export of toxic substances that are banned domestically;
 - (vii) Require businesses to warn regulators and the public about accidents, spills, pollutant releases and toxic chemicals in products;
 - (viii) Require businesses to post mandatory bonds or insurance of sufficient magnitude to cover future pollution and contamination liabilities;
 - (ix) Strengthen regulatory requirements and institutional capacities for solid, liquid and hazardous waste collection, treatment and management, financed by implementation of the polluter pays principle;
 - (x) Implement policies to reduce the risk of chemical accidents;
 - (xi) Take steps to prepare for natural disasters and climate impacts that could trigger chemical accidents;
- (c) Fulfil the right to information:
 - (i) Fill knowledge gaps through independent research, with an emphasis on understanding the health and environmental effects of chemical mixture;
 - (ii) Share knowledge about pollution and toxic chemicals through accessible platforms, recognizing that human rights, public health and environmental protection must take priority over business confidentiality;
 - (iii) Implement worker, community and citizen right-to-know laws and policies, to ensure that relevant and complete information concerning chemical hazards, risks and possible exposure is available and easily accessible;
- (d) Accelerate the transition to a circular economy:
 - (i) Require businesses to redesign products so that they can be safely repaired, repurposed, reused, recycled or composted;
 - (ii) Employ market-based regulations, including extended producer responsibility, to internalize the health and environmental costs of pollution and

toxic contamination, recognizing that if health or environmental risks are high, bans are more appropriate;

(iii) Redirect subsidies away from activities and products that produce pollution and release toxic substances, to support non-toxic and sustainable products;

(iv) Invest in innovation to identify safe substitutes, accelerate the elimination of the most hazardous chemicals, advance green and sustainable chemistry and spur sustainable remediation;

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