Statement at the conclusion of country visit to Botswana

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"Environmental sustainability is key, as social and economic sustainability are ultimately dependent upon a clean and healthy environment."

Botswana Transitional National Development Plan, April 2023-March 2025

Introduction

Today I conclude my visit to Botswana, a hot, dry, landlocked country featuring several global biodiversity hotspots but facing multiple environmental challenges that threaten the full enjoyment of human rights, including the rights to life, health, food, water, development, cultural rights, the rights of the child and the right to a clean, healthy and sustainable environment. Pressing challenges involve water scarcity, as many rural populations lack access to safe and sufficient water and adequate sanitation. Botswana is also suffering major impacts due to the global climate crisis, human-wildlife conflict, pollution, and inadequate waste management.

Despite these formidable challenges, I was encouraged by the warmth, generosity, and passion for human rights and environmental protection of the people whom I met. I would like to express my gratitude to the Government for the invitation and excellent cooperation both before and during the visit. I would also like to thank all the interlocutors with whom I met.

Botswana is a global leader in nature conservation and has taken some important steps to address the interconnected climate, environmental, and human right crises. On the Environmental Performance Index published by Yale University, Botswana enjoys the 2nd highest ranking among African States (after the Seychelles) and ranks 35th out of 180 nations. Botswana has managed its lucrative diamond wealth in a manner similar to Norway's renowned management of its petroleum industry, applying high environmental standards, ensuring that the public gains extensive economic benefits, and saving some of the revenue for the future (the Pula Fund).

At least 40 percent of Botswana's land is protected by national parks, wildlife management areas, and other protected areas. Botswana led the development of the Gaborone Declaration for Sustainability in Africa.ⁱⁱⁱ Botswana's Children's Act 2009 is an exemplary good practice in terms of translating the UN Convention on the Rights of the Child into domestic law and Botswana published a child-friendly version of the law.

Botswana has made impressive economic and social progress since achieving independence in 1966, growing from one of the world's poorest nations to become an upper middle-income country, and ranks in the "very high" category on the UN's Human Development Index. ^{iv} Unfortunately, Botswana is plagued by poverty, unemployment and levels of economic inequality that are among the highest in the world. ^v

The extreme economic inequality contributes to environmental inequality that jeopardizes the right to a clean, healthy and sustainable environment as well as other human rights including the rights to water, sanitation, food and health. Impoverished rural populations are far more likely than affluent urban populations to lack access to safe and sufficient drinking water, lack access to adequate sanitation, suffer from malnutrition, and endure the adverse health effects caused by dependence on cooking and heating fuels that produce household air pollution. Women and girls face the daily challenge of securing water for their families and are the most exposed to the toxic smoke produced by cooking with wood, charcoal or dung.

I spent time in the capital of Gaborone and traveled to numerous places including the Gabarone Dam and reservoir, Habu, Ghanzi, Kuke and Maun near the world-renowned Okavango Delta. I met with officials from the Ministry of Foreign Affairs, the Ministry of Environment and Tourism, the Ministry of Health, the Ministry of Lands and Water Affairs, the Ministry of Minerals and

Energy, the Ministry of Agriculture, the Attorney General's Chambers, and the Office of the Ombudsman. I also met with local officials, *Kgosis* (chiefs), Indigenous peoples, civil society, representatives from UN agencies, academics, and youth. In Habu and Kuke, I participated in *kgotlas*, a traditional community meeting, to discuss concerns related to human rights and the environment.

My role as the UN Special Rapporteur on human rights and the environment is to promote the implementation of obligations relating to the right to a clean, healthy and sustainable environment. This fundamental human right, supported by Botswana as a co-sponsor of the recent UN General Assembly resolution (A/RES/76/300), 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 Botswana must confront to successfully respect, protect and fulfil this right, the steps taken so far, and the future actions being planned.

National Legal Context

Botswana is a party to the African Charter on Human and Peoples' Rights, which recognizes the right to a satisfactory environment in Article 24. However, Botswana, unlike more than 45 other African States, does not recognize the right to a healthy environment in either its constitution or its legislation. I strongly encourage Botswana to remedy this gap, with the ongoing discussions about a new constitution and the drafting of a new framework environmental law providing timely opportunities. Botswana could 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.

Botswana is a party to most of the major international human rights instruments and recently committed to ratifying the International Covenant on Economic, Social and Cultural Rights (ICESCR), a very positive step forward. As part of the ongoing constitutional review, I encourage Botswana to integrate the rights provided in the ICESCR as well as the right to a clean, healthy, and sustainable environment. I also recommend that Botswana ratify the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa, which contains several important provisions on the right to a healthy and sustainable environment (Article 18) and the right to sustainable development (Article 19). Commendably, Botswana is a party to the key global environmental conventions, as well as important regional environmental instruments.

Botswana's environmental legislation has been criticized for being outdated and fragmented, a problem acknowledged in the 11th National Development Plan. Viii Key laws include the Environmental Assessment Act (2011), Wildlife Conservation and National Parks Act (1992), Atmospheric Pollution Prevention Act (1971), Forest Act (1976), and Waste Management Act (1998). I was encouraged to learn that Botswana recently enacted the Access and Benefit Sharing of Biological Resources Act and that a much-needed new framework environmental law and new laws governing toxic chemicals, food safety and quality, and integrated waste management are in the pipeline. Botswana is also developing a National Health and Environment Strategy, a national strategy on electronic waste (e-waste) and is improving the regulatory framework for renewable energy.

An encouraging development is the recent expansion of the mandate of the Ombudsperson to address human rights issues. ix The Government is encouraged to provide sufficient resources for the expanded mandate and to ensure that the institution complies with the Paris Principles for national human rights institutions.

While the legal framework to protect human rights and the environment is improving, a major concern is implementation of existing commitments. As one civil society representative said "we have beautiful laws but problems persist due to lack of implementation." This can be seen in the ongoing difficulties related to solid waste management, access to water and sanitation, and pollution.

National Policy Context

Botswana has a good record for democracy, stability, peace, transparency, accountability and the rule of law. The State ranks 35th out of 180 nations for having the least corruption, 2nd best in Africa behind the Seychelles,^x and 5th out of 54 on the Ibrahim Index of African Governance.^{xi}

A key demographic feature of Botswana is that forty percent of the population is under the age of 19.xii Children and youth belonging to ethnic minorities (e.g. Bosjesmans, Babirwa, Bakgalahari, Basubiya, Batswapong, Wayeyi, etc.), many of whom live in remote communities in the Kalahari Desert, are especially vulnerable because of poverty, marginalization and lack of access to essential services needed to enjoy their economic, social, cultural and environmental rights.

Vision 2036 outlines Botswana's long-term aspirations, including environmental and human rights ambitions. According to this official report, "Botswana will be among the top countries in the protection of human rights" and "Botswana will be energy secure, with diversified safe and clean energy sources, and a net energy exporter".xiii Other goals include safe, clean, sustainable communities, a low carbon footprint, respecting the carrying capacities of ecosystems, and sustainable use of natural resources.

Safe and Sufficient Water

A visit in 2015 by the UN Special Rapporteur on the rights to water and sanitation highlighted the challenges Botswana faces with respect to water supply, water quality, and adequate sanitation.xiv NDP 11 acknowledged that "Water has become an increasingly scarce resource in Botswana. The situation is exacerbated by the inefficient use and management of water, especially by institutional consumers, resulting in high water losses" (p. 135). Water scarcity may force some families and communities to rely on unsafe sources of water. Diarrheal diseases linked to contaminated water and food are a major contributor to under-five mortality in Botswana.

Since 2015, the government has made progress. The latest data indicate that 93 percent of Botswana population enjoy at least basic access to improved drinking water, although there is still a gap between urban populations at 98 percent and rural populations at 80 percent.^{xv} Progress in ensuring adequate sanitation is slower, with 81 percent of the population having at least basic access to sanitation.^{xvi} Five percent of Botswana population is forced to rely on open defecation (disposal of human faeces in fields, forests, bushes, and other open spaces), while another six percent share limited facilities with another household.^{xvii}

Many people living in rural areas in Botswana lack access to safe and sufficient drinking water that meets international human rights standards. These standards include availability (sufficient quantity and reliable, consistent supply), quality, affordability, accessibility (including in schools), and acceptability (e.g. taste, colour and odour). They also suffer from inadequate access to sanitation, jeopardizing their health and also polluting soil and groundwater. The current goal of eliminating open defecation by 2036 should be moved forward, and achieved by prioritizing the allocation of resources to resolving this challenge.

While visiting Habu, Kuke and Ghanzi, I heard compelling testimony about people's strong desire for access to safe and sufficient water as well as adequate sanitation. In Kuke, I watched a large line-up of individuals, mainly women and girls, waiting to fill containers from one of only two standpipes that provide water for a community of more than 1,000 people.

The government of Botswana 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. Despite progress, as detailed by the UN Special Rapporteur on the rights to water and sanitation in his follow-up report, there is still a substantial implementation gap.^{xx}

To make matters worse, climate science indicates that levels of precipitation across Botswana will continue to decline in the coming years, while the population is projected to grow, exacerbating water scarcity. A pipeline that carries out an inter-basin transfer of water from the north is being expanded to carry almost 200 million liters per day from the Okavango region to southern Botswana. It will be important to ensure that this does not contribute to ecological harm in the World Heritage Site or negative human rights impacts for the population closely connected to the delta

The impacts of climate change on water scarcity have immense implications for the human rights to health, water, food, a clean, healthy and sustainable environment and cultural rights. In adapting to climate change, it is imperative that Botswana 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. For example, the water in Ghanzi often suffers from high saline concentrations, meaning the Government should consider building one or more drinking water treatment plants.

The climate crisis, renewable energy, and the just transition

As a semi-arid nation, Botswana is highly vulnerable to the climate crisis that has been caused predominantly by wealthy countries in the global North. Botswana is already experiencing significantly higher temperatures and increasing water scarcity, with major consequences for health, human rights, food security and livelihoods.** The 2015-16 drought had significant economic impacts, including large losses of livestock. The Intergovernmental Panel on Climate Change (IPCC) warns in coming years Botswana faces: an increasing number of hot days, with heat stress affecting agriculture and human health; rainfall decline of 10-20 percent; increases in drought and fire frequency, severity and duration; negative impacts on agricultural yields; and increased range and population of disease-bearing mosquitos.** These changes will have negative impacts on the enjoyment of the rights to food, health, water, sanitation, and a healthy environment among others.**

Despite producing only 0.02 percent of global greenhouse gas emissions, Botswana is committed to doing its part to address the crisis. Botswana's Nationally Determined Contribution pledges to achieve a 15 percent reduction in emissions by 2030. The government has created a National Climate Change Strategy and Action Plan, National Adaptation Plan Framework, and submitted its Third National Communication to the UN Framework Convention on Climate Change.

The climate crisis is a human rights crisis. The wealthy Northern States responsible for causing the climate crisis have a moral and legal obligation to provide financial and technological assistance for mitigation, adaptation and loss and damages. I call upon these States to accelerate efforts to provide the required levels of assistance to climate vulnerable developing nations such as Botswana where the impacts of the climate crisis are already so severe. Climate finance directed to Botswana should come in the form of grants, not loans, since the climate crisis is not Botswana's fault and paying interest on loans undermines the ability of developing countries to invest in education, health care, infrastructure and climate action. For example, Botswana should receive grant funding from the Just Energy Transition Partnership created by the International Partners Group to finance the shift from coal to solar for electricity generation, following agreements reached by Senegal and South Africa. **xiv**

One extraordinary advantage that Botswana enjoys is that it is one of the best places on Earth to generate cheap, clean electricity from the sun, creating the opportunity to become a solar superpower in Southern Africa. Botswana's first major solar project, at Phakalane, has successfully generated millions of kilowatt hours of clean electricity and prevented millions of kilograms of carbon dioxide emissions. Between 2012 and 2022, Botswana went from 2 megawatts (MW) to 6 MW of installed solar electricity generating capacity, a very small increase. A planned 6MW solar photovoltaic facility at the University of Botswana would double the country's capacity, but solar currently provides less than 1 percent of Botswana's electricity. Extraordinary potential, Botswana's current installed solar capacity trails behind 42 other African States. Extraordinary potential, Botswana's current installed solar capacity trails behind 42 other African States.

However, there is an essential prerequisite to the development of Botswana's renewable energy potential, which is fulfilling its human rights obligations. This means providing the public with clear, accessible information, in a variety of languages, 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, in particular in the most remote locations. If renewable energy projects (solar, wind, biomass and biogas) are going to be built in the territory of Indigenous peoples and local communities, their right to free, prior and informed consent must be respected from the outset of planning processes. Large solar or other renewable energy projects should not be exempted from the environmental assessment process. 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.

Botswana is planning a new 300MW coal-fired power plant. There is a reference in NDP 11 to "clean coal", which is a form of greenwashing. The combustion of coal to generate electricity produces substantial emissions of greenhouse gases and other air pollutants. Capturing and sequestering these emissions to make coal somewhat cleaner is extremely expensive, as the IPCC has recognized. Given the clear economic, climate, and environmental advantages of renewable electricity, further investment in coal generating capacity is inconsistent with Botswana's environmental and human rights commitments.

Botswana goal is that 30 percent of electricity will be renewable by 2030 (including solar, wind and biomass). **xxxiiii* One gigawatt (1,000 MW) of new renewables are intended to be operational by 2030. This is achievable but will require acceleration of planning and implementation. There are good opportunities for wind powered electricity in the southern part of Kgalagadi district near Tsabong and the Southern district. **xix* Renewable energy offers economic, environmental and social benefits, including reduced air pollution, reduced greenhouse gas emissions, improvements to human health, and green jobs. Just prior to my visit, Botswana's Institute of Energy Technology celebrated its first graduating class of solar technicians with skills in the installation and maintenance of solar photovoltaic systems. **xxx* This type of training is essential to ensure green jobs are available for young people, and extra effort should be made to make such programs available to rural youths.

Distributed, small-scale renewable energy offers the best path forward for the roughly 30 percent^{xxxi} of Botswana population that do not have access to electricity, again a problem primarily affecting rural populations. Solar can be used to provide access to electricity for remote rural communities and households at a much lower cost than connecting them to the national electricity grid. However, I was surprised to learn that Kuke and other Indigenous communities in northwestern Botswana are not connected to the national electricity grid despite being situated very close to powerlines.

Botswana is striving to implement gender mainstreaming throughout all of its climate change and resilience programs. The National Climate Change Strategy is an excellent example in this regard, with gender positioned as a cross-cutting theme that receives extensive consideration. The Strategy observes that women in Botswana play an important role in farming (whereas men are more involved in livestock), and that women and girls are primarily responsible for collecting water. Addressing challenges to gender equality, which affect the realisation of human rights of women and girls, will require increasing access to assets and credit, ending discrimination by institutions, providing equitable access to information, full participation in decision-making, access to justice, and ensuring economic and leadership opportunities. Disaggregated data is vital for gender-transformative policy change but is often lacking in Botswana.

Botswana subsidizes gas, diesel and coal-fired electricity despite the fact that these fossil fuels are worsening the climate crisis. The 2023-2024 budget includes a 500 million pula subsidy for electricity, which is overwhelmingly generated by coal. These subsidies should be largely phased

out, with the exception of targeted programs supporting low-income households, freeing up resources for addressing rather than exacerbating the climate crisis.

To date Botswana has received an estimated \$81 million from the Green Climate Fund for three projects, as well as \$1.4 million for readiness activities. This is only a small fraction of what Botswana requires in order to address mitigation, adaptation and compensate for loss and damages. One promising project, co-financed by the Government, the Green Climate Find and Conservation International, involves extensive rangeland restoration in in the areas of Ngamiland, Kgalagadi and Bobirwa. Similar in Successfully implemented, the project will benefit an estimated 247,000 people (54 percent women) and create thousands of jobs in addition to sequestering carbon in healthy landscapes.

Healthy biodiversity and ecosystems

As noted earlier, Botswana is a recognized leader in biodiversity conservation, including transfrontier protected areas that recognize ecosystems transcend political boundaries. A leading example is the Kavango-Zambezi wetland system (KAZA) that is jointly managed by Botswana, Angola, Namibia, Zambia and Zimbabwe. This region enjoys populations of species such as elephants, cheetah, white rhinoceros, black rhinoceros, African wild dogs and lions. The Miombo woodlands and Okavango Delta are globally important for conservation.

In the past there have been serious human rights concerns about the eviction of Indigenous Peoples under the guise of conservation, most infamously including Basarwa communities removed from the Central Kalahari Game Reserve. It is essential that Botswana employ a rights-based approach to all aspects of conservation, as emphasized in the 2022 Kunming-Montreal Global Biodiversity Framework agreed to by all parties to the Convention on Biodiversity, including Botswana.

An important issue in Botswana is human-wildlife conflict, particularly with respect to elephants. There have been human deaths caused by trampling and crop raiding by elephants in northern Botswana. Elephants are moving closer to human communities in search of water during droughts, and have damaged water infrastructure. Predation on livestock is a problem for food security and livelihoods, and while visiting a camp near Habu I witnessed a goat recently killed by a lion. The Government has created a compensation scheme for crop and livestock losses, although I heard repeated concerns that payments are too small (below market value) and too slow to provide the support needed (with alleged delays of up to 2 years in some cases). An innovative civil society initiative led by Ecoexist Trust uses a shuttle bus to help people avoid areas of high risk from elephants. XXXXVII It has also been suggested that changing crop types could help small subsistence farmers enjoy increased food and income security as elephants prefer certain crops. XXXXVII

Botswana has been implementing Community Based Natural Resource Management since 1989 in an effort to ensure that local communities benefit economically from the sustainable use of biodiversity in their areas. This program has had mixed success, as it is not as strong as the community conservancy model used in Namibia. The Namibian approach decentralizes more authority to communities that meet certain criteria and enables those communities to enjoy a much larger share of the revenues generated from wildlife. In Habu, I witnessed several projects being implemented by Wildlife Entrust in close collaboration with the local community, including rangeland restoration, a community garden, boreholes for livestock, and the development of camps to capitalize on wildlife tourism.

A Canadian corporation has been granted a lease for oil and gas exploration in Namibia and northwestern Botswana, raising concerns about risks to the Okavango Delta World Heritage Site. A recently published scientific article concluded that "groundwater in ReconAfrica's lease area flows towards the Okavango Delta, so there is a risk of oil contamination of the World Heritage site from the proposed oil development." I agree with UNESCO that Botswana should implement rigorous environmental impact assessment procedures for activities outside the

Okavango Delta World Heritage Site that have the potential to negatively impact on its Outstanding Universal Value. xxxix

Desertification and Land Degradation

Although desertification and land degradation occur naturally in semi-arid and drought-prone environments, they are exacerbated by human actions including conversion of land for farming, overgrazing, expansion of settlements and infrastructure and resource extraction. While seventy-five percent of Botswana is desert, the Government estimates that 17 percent of land is degraded.

As a Party to the UN Convention to Combat Desertification Botswana developed a National Action Programme and established a target for land degradation neutrality. I was encouraged to learn that plans are underway for a southern Africa version of the incredible Great Green Wall initiative in the Sahel region, where billions of dollars are being invested in restoring degraded land, planting trees, improving food and water security, creating green jobs, and increasing access to electricity through off-grid solar photovoltaic systems. Botswana is involved with the Southern African Development Community in creating the initiative.

Healthy and sustainably produced food

Botswana imports the majority of its food.xlii Approximately 23 percent of the population experiences undernourishment, while half the population suffers moderate to severe food insecurity.xliii According to the 11th National Development Plan, "The country continues to face challenges of land degradation, due to overstocking, loss of productive arable and livestock grazing land, diminishing soil productivity and natural resource base (woodlands, forests and aquatic systems) that support poorer communities. In addition, total dependence on rain-fed agriculture and poor soil increased vulnerability of farming systems and predisposed rural households to food insecurity and poverty, by eroding their productive assets and weakening their coping strategies and resilience to climate change." Possible responses include increased investments in water-smart drip irrigation, the use of more drought resistant, high temperature tolerant, and short maturity crop varieties, and other types of climate smart agriculture. Botswana is a pioneer in the use of agri-voltaics where crops are grown in the shade provided by solar photovoltaic panels, and should expand upon the pilot project led by the Botswana University of Agriculture and Natural Resources.xliv

Data indicate that adults in Botswana are consuming the recommended amounts of red meat, dairy, nuts and fish but are eating below the recommended amounts for fruit, vegetables, whole grains and legumes.xlv In this regard I was delighted to visit the large community garden in Habu, which contributes to healthier diets for local people, and encourage the Government to support such projects across rural Botswana.

Highly hazardous pesticides are receiving critical scrutiny globally because of their high risk to human and ecosystem health, combined with the availability of much safer alternatives. In an excellent project conducted with the UN Food and Agriculture Organization, Botswana addressed the problem of highly hazardous pesticides by strengthening the Agrochemicals Act and associated regulations, banning a number of highly hazardous pesticides, and collecting more than 60 tonnes of dangerous pesticides that were shipped to the United Kingdom for safe disposal. xlvi

Despite this successful project, some serious concerns remain, as demonstrated by two recent studies of pesticide residues in fruits and vegetables purchased in Botswana. One study found that 50 percent of cabbages contained pesticide residues that exceeded international standards. The second study found that contamination on 13 percent of samples of various types of produce exceeded international standards. Some of the excessive pesticide residues were hazardous pesticides including chlorpyrifos, triazophos, methamidophos and methomyl. Researchers were also concerned by the presence of pesticides not registered for use in Botswana and the presence of imidacloprid, a neonicotinoid pesticide that is hazardous to both humans and bees.

Non-toxic environments

The 11th National Development Plan acknowledged "poor management of all household waste, commercial waste, industrial chemicals, chemical waste, and other hazardous waste" and concluded that these substances pose "a high risk threat to human health in urban areas of Botswana." This conclusion is confirmed by health expert who wrote that in addition to the absence of a systematic regulatory framework for toxic substances, there is a lack of reliable and accurate information on hazardous and toxic waste leading to inadequate public awareness. Botswana has a good Waste Management Strategy but lack of implementation has been its Achilles heel for 25 years. A new strategy based on circular economy principles is in development, which sounds promising on paper but again, implementation will be key to its success or failure.

Plastic pollution is a growing concern both in Botswana and globally. The Government established a levy on some plastic bags to discourage their use, but there is no effective recycling or waste management system in place, leading to dumping and burning of garbage. Also disturbing are recent studies revealing microplastics in the water, fish and sediments of the Okavango Delta. Ii

I was pleased to learn that new legislation governing toxic chemicals is under development, as well as a new national environmental health strategy/policy, and encourage the government to ensure the resources are provided to enable implementation and enforcement.

Children's right to a clean, healthy and sustainable environment

I draw the Government's attention to the recently published General Comment No. 26 of the UN Committee on the Rights of the Child, "Child Rights, the Environment and Climate Change", which confirms that every child has the right to a clean, healthy and sustainable environment and clarifies State obligations related to respecting, protecting and fulfilling this right.

Unfortunately, not only will the children of Botswana have to face the increasingly difficult challenges presented by the climate crisis, but they also face food insecurity, lack of access to water and sanitation, and exposure to pollution and toxic substances, undermining their ability to enjoy rights to food, water, health and a healthy environment. A large number of children in Botswana, with estimates ranging from 20 percent to 30 percent, suffer from stunting caused by inadequate nutrition. ^{lii}

Children are disproportionately vulnerable to toxic substances due to physical (e.g. small bodies and developing immune systems) and behavioural differences (e.g. crawling on the ground and putting items in mouth). Contaminated water, air and soil and poor waste management pose significant risks to children's environmental health in Botswana. Outbreaks of waterborne disease (e.g. caused by rotavirus) and pneumonia (often linked to exposure to air pollution) are major causes of mortality and morbidity for infants and children under the age of five. liii

Lead is a high priority because of the severe risk to the neurological development of children. A study published in 2010 tested blood lead levels in a sample of children from Botswana and revealed that 31% of children 6 years and younger had blood lead levels $\geq 10~\mu g/dL$, indicating dangerously high exposure. Health experts in Botswana have urged the government to conduct updated testing of young children, possibly when they are being vaccinated. In

Botswana phased out the use of leaded gasoline in 2006, addressing a major source of lead exposure. Unfortunately, soil near major roadways in Gaborone continues to be contaminated with lead.\(^{\mathbf{I}\sigma}\) Other prominent sources may include drinking water, lead paint, food products, traditional herbal remedies and some cottage industries, such as battery recycling. Botswana should establish and implement regulations to protect children's health and human rights from lead paint, lead in drinking water pipes and plumbing materials, and other sources of potential exposure. A holistic initiative to protect children's environmental health would be a great investment. In addition, children and youth should have an increased role in the development and implementation of climate and environmental policies and programmes.

Like young people in many nations, Botswana youth impatiently advocate for an accelerated response to the climate and environmental challenges faced by society. In the words of a young Botswana environmentalist, "Enough is enough. We have talked, debated, and researched about the environment for far too long, with too little action backing this up. It is time to focus on results and implementation."

Procedural elements of the right to a healthy environment

"We all dream of a society that does things better." Participant in a meeting with civil society.

Critical to the enjoyment of all human rights are the procedural rights articulated in the Rio Declaration on Sustainable Development, which are part of the right to a healthy environment and include access to environmental information, public participation in environmental decision-making and access to justice.

Many persons with whom I met expressed concerns about their inability to gain easy, timely and affordable access to important information, to participate meaningfully in environmental decision-making and to have their concerns addressed. Examples include information about the oil and gas development in northwestern Botswana and plans for an additional coal-fired power plant. On the other hand, Botswana deserves credit for producing a helpful People's Guide to the 2023/2024 Budget and a comprehensive State of the Environment and Outlook report in 2022. Although the traditional *kgotla* is a useful way to engage local communities, many people said that there is only "an appearance of consultation", including due to the limited information shared with the chief and community prior consultation.

Several people expressed concerns about shrinking civic space. I was surprised to hear from civil society organizations, human rights defenders and youth that they had been harassed and even threatened because of their work to protect human rights and the environment. Intimidation tactics are reprehensible and have no place in a free and democratic society like Botswana. The State should vigorously investigate and prosecute anyone that engages in unlawful intimidation activities.

Botswana's people and civil society organizations face daunting challenges in obtaining access to justice, in part due to the inadequate legal framework for the right to a healthy environment, high costs associated with litigation, and restrictive rules regarding standing to bring a case. Although Botswana is expanding legal aid programs, these do not yet extend to environmental matters. Courts have ruled that access to justice is reserved for people who are directly affected by harmful activities and will not be provided to people acting in the public interest. As a result, courts in Botswana have played a limited role in ensuring accountability in the context of climate, environment and human rights, unlike courts in other States in the region.

Conclusion

As a strong supporter of the UN Sustainable Development Goals, Botswana should strive to achieve a just social and ecological transition, avoiding the traditional economic model that exploits both people and nature for the benefit of a wealthy and powerful minority. This is essential for a country facing growing climate and environmental challenges as well as systemic inequality. Botswana 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.

As Botswana continues to development its enormous natural wealth—including diamonds, copper and sunshine—it is essential to do so 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 enjoy a fair share of the benefits, imposing the highest possible environmental standards, and maximizing public benefits. lix

My final report, to be presented to the UN Human Rights Council in 2024, will provide additional details and recommendations on the issues addressed in this preliminary report, as well as air quality and business and human rights. I would like to conclude by reiterating my gratitude to the people of Botswana who took the time to share their knowledge and insights with me during my visit. It has been a wonderful opportunity to learn about the environmental and related human rights challenges Botswana faces, and people's genuine desire to overcome these challenges. I look forward to working with the Government and people of Botswana to advance every person's right to live in a clean, healthy and sustainable environment.

Endnotes

vii UN General Assembly, The human right to a clean, healthy and sustainable environment, A/RES/76/300 (2022) and UN Human Rights Council, A/HRC/48/13 (2021).

viii Tinashe Madebwe, 2020, "The Quality of Botswana's Environmental Protection Framework", *Journal of African Law*, 64, 2 (2020), 215–228. Ministry of Finance "Republic of Botswana: National Development Plan 11 (April 2017 – March 2023)" (2016), p. 142.

ix Parliament enacted the Ombudsman (Amendment) Bill in July 2021.

- xi https://assets.iiag.online/2022/scorecards/2022-IIAG-scorecard-bw.pdf
- xii UNICEF, Climate Landscape Analysis for Children
- xiii Vision 2036 Presidential Task Team, 2016, Vison 2036: Achieving Prosperity for All, pp. 23, 25.
- xiv Special Rapporteur on the rights to water and sanitation, 2016, Country visit: Botswana, A/HRC/33/49/Add.1
- xv World Health Organization and UNICEF, Joint Monitoring Programme. https://washdata.org/xvi Ibid.
- xvii Ibid.
- xviii https://www.ohchr.org/sites/default/files/Documents/Issues/Water/10anniversary/EnglishQns.pdf
- xix Alexander KA, Godrej A. Greywater Disposal Practices in Northern Botswana--The Silent Spring? *Int J Environ Res Public Health*. 2015 Nov 13; 12(11):14529-40.
- xx Special Rapporteur on the rights to water and sanitation, 2019, Follow-up on the visit to Botswana, A/HRC/42/47/Add.5
- xxi Climate Risk Profile: Botswana (2021): The World Bank Group.
- xxii IPCC, Working Group II, Climate Change 2022: Impacts, Adaptation and Vulnerability, pages 9-56, 9-57, 9-87 and 9-115.
- xxiii CLIMsystems Ltd, 2020, Tipping Points in Botswana under Climate Change, report prepared for the Ministry of Environment, Natural Resource Conservation and Tourism
- xxiv https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3448
- xxv Kawajiri K, Genchi Y. The right place for the right job in the photovoltaic life cycle. *Environ Sci Technol*. 2012 Jul 3;46(13):7415-21.
- xxvi https://www.ub.bw/news/ub-construct-one-largest-commercial-solar-photovoltaic-plants-botswana xxvii lbid.
- xxviii Ministry of Finance, 2023, People's Guide to the 2023/2024 Budget.
- xxix Ministry of Minerals and Energy, 2023, Botswana Renewable Energy Scale Up Support.
- xxx https://allafrica.com/stories/202309270395.html
- xxxi https://ourworldindata.org/energy/country/botswana
- xxxii https://www.greenclimate.fund/countries/botswana
- xxxiii https://www.conservation.org/botswana/projects/botswana-gcf-project
- xxxiv https://www.cbd.int/countries/profile/?country=bw
- xxxv Ibid.
- xxxvi https://www.ecoexistproject.org
- xxxvii Matsika TA, Masunga GS, Makati A, McCulloch G, Stronza A, Songhurst AC, Adjetey JA, Obopile M. Crop diversity and susceptibility of crop fields to elephant raids in eastern Okavango Panhandle, northern Botswana. *Ecol Evol.* 2023 Mar 21; 13(3): e9910.
- xxxviii R. Sheldon, S. Esterhuyse, A. Lukas, S. Greenwood, Potential groundwater contamination from oil drilling in the Okavango, *Physics and Chemistry of the Earth, Parts A/B/C*, Volume 131, 2023, 103430, ISSN 1474-7065.

ⁱ Wolf, M. J., Emerson, J. W., Esty, D. C., de Sherbinin, A., Wendling, Z. A., *et al.* (2022). *2022 Environmental Performance Index*. New Haven, CT: Yale Center for Environmental Law & Policy. epi.yale.edu

ⁱⁱ Caitlin C. Corrigan, 2014, "Breaking the resource curse: Transparency in the natural resource sector and the extractive industries transparency initiative," *Resources Policy*, 40: 17-30. See also Iimi, A. "Escaping from the Resource Curse: Evidence from Botswana and the Rest of the World," *IMF Econ Rev* **54**, 663–699 (2007).

iii http://www.gaboronedeclaration.com/

iv Republic of Botswana, 2022, Botswana 2022: Voluntary National Review Report

v https://www.worldbank.org/en/country/botswana/overview

vi For the detailed provisions of other African constitutions and legislation please see Annex IV to the 2020 report of the Special Rapporteur on good practices related to the right to a healthy environment, A/HRC/43/53, available at https://www.ohchr.org/en/special-procedures/sr-environment/annual-thematic-reports

x https://www.transparency.org/en/cpi/2022/index/bwa

xxxix https://whc.unesco.org/en/list/1432/

- $^{\rm xl}$ Botswana National Action Programme To Combat Desertification.
- https://www.unccd.int/sites/default/files/naps/botswana-eng2006.pdf
- xli https://www.sadc.int/latest-news/sadc-great-green-wall-initiative-tipped-succeed-drawing-lessons-sahel-region
- xlii Moseley, W. (2016). Agriculture on the Brink: Climate Change, Labor and Smallholder Farming in Botswana. *Land*. 5(21).
- xliii Food and Agriculture Organization, Botswana: Selected Indicators, https://www.fao.org/faostat/en/#country/20
- xliv A. Maramwidze, 2023, "Botswana hits milestone with agrivoltaic project", 22 March 2023, https://itweb.africa/content/kYbe97XbVp1qAWpG
- xlv https://globalnutritionreport.org/resources/nutrition-profiles/africa/southern-africa/botswana/
- xlvi Food and Agriculture Organization, 2019, Enhancing Pesticide Life-cycle Management and Treatment of Pesticide Contaminated Sites in Botswana, https://www.fao.org/3/ca6056en/ca6056en.pdf
- xlvii Machekano, H. et.al. (2019) "Cabbage or 'pesticide' on the platter? chemical analysis reveals multiple and excessive residues in African vegetable markets", *International Journal of Food Contamination*, 6(2),1-13. y
- xlviii Thamani F. Gondo, Malaki Kamakama, Boingotlo Oatametse, Tawangwa Samu, Juda Bogopa & Boitshepo M. Keikotlhaile (2021) "Pesticide residues in fruits and vegetables from the southern part of Botswana", *Food Additives & Contaminants: Part B*, 14:4, 271-280.
- xlix 11th National Development Plan, pp. 134 and 145.
- ¹ Erick, Patience. "Botswana: country report on children's environmental health", *Rev Environ Health*. 2020 Mar 26;35(1):9-14. See also Mmereki D. "Current status of waste management in Botswana: A mini-review", *Waste Manag Res*. 2018 Jul; 36(7):555-576.
- li Ditlhakanyane BC, Ultra VU Jr, Mokgosi MS. "Microplastic load in the surface water and Tilapia sparrmanii (Smith, 1840) of the river systems of Okavango Delta, Botswana", *Environ Monit Assess*. 2022 Jul 8; 194(8):572. Kelleher L, Schneidewind U, Krause S, Haverson L, Allen S, Allen D, Kukkola A, Murray-Hudson M, Maselli V, Franchi F. "Microplastic accumulation in endorheic river basins The example of the Okavango Panhandle (Botswana)." *Sci Total Environ*. 2023 May 20; 874:162452.
- lii Ntshebe, O., Channon, A.A. & Hosegood, V. Household composition and child health in Botswana. *BMC Public Health* **19**, 1621 (2019). See also Food and Agriculture Organization, Botswana: Selected Indicators, https://www.fao.org/faostat/en/#country/20
- liii Erick, Patience. "Botswana: country report on children's environmental health." *Rev Environ Health*. 2020 Mar 26;35(1):9-14.
- liv Mbongwe, Bontle & Barnes, Brandon & Tshabang, Julia & Mpuchane, Sesai & Mathee, Angela. (2010). "Exposure to lead among children aged 1-6 years in the City of Gaborone, Botswana." *J Environ Health Res* 2010; 10(1):17–26.
- Iv Harriet Okatch, Chabaesele Makoti, Anuj Ghimirey, Hoi Lam, Jaala-Jasmyne Nkala, Peggy Raseipei & Najeda Regis (2023) "Identifying contextually relevant lead exposures and risk practices/behaviors in Botswana and assessing caregiver lead knowledge levels," *Cogent Public Health*, 10:1, 2211725.
 Ivi Ibid.
- lvii Solo, K., & Nsengaali, P. G. (2022). "Access to Justice in Botswana." Beijing Law Review, 13, 489-495
- lviii See for example: Mohamed Ali Baadi and others v Attorney General & 11 others, [2018] eKLR High Court, Petition NO 22 OF 2012, High Court of Kenya at Nairobi; Kenya Association of Manufacturers & 2 others v Cabinet Secretary Ministry of Environment and Natural Resources & 3 others, Land and Environment Court, Writ Petition No. 32 of 2017 [2017]; Groundwork Trust and Vukani Environmental Justice Alliance Movement in Action v The Minister of Environmental Affairs. (2022). Case No. 39724/2019 High Court of South Africa, Gauteng Division, Pretoria. 14 March 2022; South African Human Rights Commission v. Msunduzi Municipality et al., Case No. 8407/2020P, Order, 17 June 2021, High Court of South Africa.
- ^{lix} In this regard, Norway's management of its oil and gas industry offers a useful model, as Norway established high environmental standards and policies to maximize public benefits, for example a 75% tax on petroleum industry profits.