

Climate change, oil pollution, and birth defects in South Sudan: A growing crisis

As global leaders, organizations, and activists meet in Baku, Azerbaijan, for the 29th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change ([COP29](#)), the communities of Unity State in South Sudan know what climate change means. The people of this region find themselves trapped in a vicious cycle of environmental destruction, human suffering, and a growing public health disaster.

We have previously covered the devastating effects of the floods in the region.^[1] These floods happen every rainy season but tend to recede as the dry season approaches. However, since 2020, the flood waters have stayed permanent in some areas. The following season tends to add more water to an already soaked soil, causing devastating suffering to the population. According to the recent BBC documentary, “at the worst point in 2022, two-thirds of Unity State was submerged; it says about 40% is still under water.”^[2]

These floods aggravate an already bad situation in this oil-producing region. South Sudan is rich in oil resources, and oil extraction has been central to the country’s economy since it gained independence from Sudan in 2011. However, it inherited an oil industry mired in corruption and environmental neglect. As per the reports, long-term oil spills and pollution are causing devastating effects in the communities.^[2] The toxic chemicals from oil production and pollution have entered the drinking water of the communities and their cattle.

Some reports found “increased salinity and high concentrations of heavy metals in water nearer oil wells, as well as high concentrations of lead and barium in human hair samples.” These contaminations have been blamed for the increased number of children born with birth defects.^[2,3, 4] Since 2013, the accounts of babies born with deformities in the areas have been submitted to the government, which then commissioned an environmental audit of the oil industry’s effects in the region, but the final report was not released.^[5] Koch County Hospital alone reported 15 cases of babies born with deformities since 2019, and all have died.^[3] The Ministry of Health said they are working with the Ministry of Environment to investigate the reports.

The recent BBC documentary quoted Dr Nicole Deziel, an environmental health specialist at Yale University: “It is plausible that oil-related pollution could contribute to an increased risk of birth defects.” She added that “some compounds released during the production of oil can affect foetal development.”^[2]

The World Health Organization (WHO) defines birth defects as “structural or functional anomalies (for example, metabolic disorders) that occur during intrauterine life and can be identified prenatally, at birth, or sometimes may only be detected later in infancy, such as hearing defects. Broadly, congenital refers to the existence at or before birth.”^[5] According to the WHO, “while complex

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genetic and environmental interactions are proposed, most congenital disorders have unknown causes, including congenital heart defects, cleft lip or palate and club foot.”^[6]

The struggle with climate change, oil pollution, and birth defects is a real, complex, and tragic issue that requires immediate and coordinated action from both government and other organizations.

A concerted effort must be made to clean up oil pollution and hold companies responsible for environmental damage accountable. International oil companies operating in South Sudan should be required to adopt cleaner technologies and engage in full transparency regarding their environmental practices. South Sudan’s government must also work with global organizations to strengthen environmental regulations, ensure the safety of water and food supplies, and protect the health of the population.

We urge the South Sudan government to release the environmental audit report so that the recommendations can be implemented, with more oversight of the oil companies. A systematic study should be done to collect data and determine the exact relationship between oil pollution and the rise in birth defects.

Investment in healthcare infrastructure must be made in these affected regions. With a strong commitment to building local healthcare systems and improving access to care for vulnerable populations, South Sudan can begin to mitigate the long-term consequences of these crises.

Whatever the resolutions of the COP29 may be, the affected communities in Unity State, especially the expectant mothers and children, deserve a future free from the deadly consequences of climate change, environmental degradation, and pollution.

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