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**Promotion and protection of all human rights, civil,
political, economic, social and cultural rights,
including the right to development**

Written statement* submitted by Sign of Hope e.V. - Hoffnungszeichen, a non-governmental organization in special consultative status

The Secretary-General has received the following written statement which is circulated in accordance with Economic and Social Council resolution 1996/31.

[29 May 2020]

* Issued as received, in the language(s) of submission only.

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Series of oil pipeline ruptures in South Sudan – detection of oil spills and contaminated areas

Sign of Hope wishes to draw the attention of the United Nations Human Rights Council to the violations of basic human rights being perpetrated in South Sudan. These breaches are ensuing from oil spills – and from the inadequate efforts to clean them up.

Sign of Hope's investigations have resulted in the detection and documentation of the series of ruptures experienced by South Sudan's main and gravely dilapidated pipeline of oil export. The two most recent ruptures gave rise to massive oil spills. Some 6,000,000 litres of crude oil were leaked into the environment, contaminating 30,000 m² of soil in the process.

Such spills severely affect the communities in their vicinities. These spills and other oil-related sources of pollution contaminate the water drunk by the residents and their animals and used to irrigate their fields. The final result is a devastation of health and loss of livelihood. The responsibility for the contamination and for its consequences is shared by the government of South Sudan and by the oil industry.

Key findings

The first oil spill took place some 40 km north of Rubkona, South Sudan (GPS coordinates: N 9°36'49.83"; E 29°37'36.83") on or about August 24, 2019. The spill released some 2,000,000 litres (12,500 barrels) of crude oil on to more than 10,000 m² of land. Pipeline repair work was carried out in mid-October 2019.

Immediately after the repair had been completed, the second oil spill occurred – on or about October 28, 2019. Its location was some 33.5 km north of Rubkona (GPS coordinates: N 9°33'33.16"; E 29°38'42.85") – and thus in the vicinity of the first one. The new spill spewed some 4,000,000 litres (25,000 barrels) of crude oil over an expanse of 20,000 m². Pipeline repair work was observed in February 2020.¹

As the sequential ruptures detail, the pipeline is dilapidated. Its deterioration probably took place during the five years of civil war, during which time oil production and transportation were halted. As the ruptures indicate, the pipeline is apparently no longer capable of withstanding the pressures required to be maintained to transport oil through it. Further ruptures are thus likely to be expected at any time - on any of the possible weak points in the pipeline. It for this reason that Sign of Hope considers the pipeline to be an ongoing threat to the people and environment of South Sudan.

Responsibilities

The pipeline in question was put into operation in 1999. It is one of the two connecting South Sudan's oil fields – via Khartoum – with Port Sudan, Sudan, which is sole point of exporting for South Sudan's oil, which accounts for some 98% of the revenues of the government of South Sudan.

The segment of the pipeline in which the above ruptures occurred links South Sudan's Unity oilfields with the Heglig pumping station. As of October 2019, the pipeline – whose diameter is 20 inches – was transporting 54,000 barrels of crude oil a day. The consortium operating the pipeline – which is thus responsible for any environmental damage – is the Greater Pioneer Operating Company Ltd. (GPOC).

Requisite to ensure long-term functioning of a pipeline is the sustained flow of crude oil through it. It is to be assumed that the pipeline suffered structural damage during the periods during which it was shut down. Obviously the Government of South Sudan remains unwilling

¹ Agence France Presse: NGO urges shutdown of 'dilapidated' South Sudan oil pipeline. February 25, 2020; <https://www.news24.com/news24/africa/news/ngo-urges-shutdown-of-dilapidated-south-sudan-oil-pipeline-20200225>

to take corrective measures, as the then minister of petroleum and mining admitted: *“Of course we know that the production has been down for the last five years and the pipeline was empty and probably was filled with water (that) can expedite the process of corrosion within the pipeline”*,² stated Awow Daniel Chang. The then minister was commenting on the first pipeline rupture. He added: *“That is why we will all suspect that ruptures will happen from time to time...”*³

Consequences for humans and environment

Sign of Hope’s investigations have revealed that there are three main sources of oil-related pollution in South Sudan. Each of these contaminates the water and thus the entire environment:

- drilling fluids – the chemicals used to facilitate the drilling process,
- produced water – a mixture of water, sand, salts and chemicals ensuing as a by-product from the extraction of oil,
- leaks of oil stemming from drilling and processing operations; and spills issuing from pipeline ruptures.

All of the above three fluids contain toxic substances including heavy metals. The fluids’ improper disposal or leakage into the environment causes the substances’ seepage into the ground and entry into layers of ground water. The water affected is consumed by - at the least - the 600,000 people living in and around the country’s oil fields.⁴ The ensuing widespread contamination of the upper layer of groundwater has deprived these people of their right to clean water.

Methods of detection and calculation of extent of pollution

Remote sensing based upon satellite imagery

The first step in Sign of Hope’s identification of pipeline ruptures occurring in South Sudan comprises its ongoing monitoring and assessment of satellite imagery, as pioneered by the investigative researchers’ collective [bellingcat.com](https://www.bellingcat.com). These photographs of the Earth’s surface are taken and transmitted by ESA’s Sentinel 2 satellites. The satellites fly over South Sudan every five days. Their photographs enable the continuous visual monitoring of the pipeline, which runs some 180 meters to the east of the main road linking the Thar Jath oil field, the communities of Bentiu and Rubkona, the Unity oil fields, and the town of Heglig. The monitoring reveals black spots that emerge on and around the pipeline. These then spread irregularly. The working assumption is that these could be oil spills. Data from the satellite images enables the establishment of the expanse and GPS coordinates of each location.

To determine the extent of the possible spills’ contamination, Sign of Hope calculates their expanse. This calculation of total square meters is based on the spills’ dimensions – the measurement of the area encompassed by their circumference (outer rim), as displayed on the satellite images. To estimate the amount of oil spilled, Sign of Hope avails itself of the assumption that the layer of oil spilled has an average thickness of 20 cm (8 inches).

On-site-investigation

The second step in Sign of Hope’s identification and documentation of oil spills in South Sudan is the sending of the details of the possible oil spills to Sign of Hope’s network of environmental scouts. They then go to these places, in order to determine – on-site – whether

² Agence France Presse: S. Sudan warns of more oil spills after pipeline rupture. October 7, 2019; <https://www.france24.com/en/20191007-s-sudan-warns-of-more-oil-spills-after-pipeline-rupture>.

³ Ibid.

⁴ Deutsche Welle: Contaminated drinking water in South Sudan – no solution in sight. November 14, 2018; <https://www.dw.com/en/contaminated-drinking-water-in-south-sudan-no-solution-in-sight/a-46278678>.

or not the spots identified are actually oil spills. The documentation is based on photographs, with the pictures displaying GPS coordinates. Furthermore the scouts conduct viscosity tests of the liquids they encounter. Should the scouts' findings accord to the prior assumptions, Sign of Hope considers the oil spill to have been verified.

Recommendations

The United Nations Human Rights Council should urge the Government of South Sudan to immediately and unconditionally assure each human being in the country of having unimpeded access to clean water.

The Human Rights Council should call upon the Government of South Sudan to instruct GPOC – the oil consortium operating the pipeline – to shut down the dilapidated pipeline, to remove and to properly dispose of the oil spilled and of the ensuing wastes, and to publicly document the waste disposal process.

The Human Rights Council should call upon the Government of South Sudan to instruct GPOC to promptly conduct oil spill impact assessments. The Government should comprehensively inform the resident population about the effects of the spilling of oil on their environment – and especially on their water and land.

The Human Rights Council should urge the Government of South Sudan to ensure that the communities residing in the vicinity of oil spill sites are provided with sufficient clean drinking water.

The Human Rights Council should ask the Government of South Sudan to assess the health of the population affected by the consequences of oil exploration and production, and to ensure the provision of appropriate medical treatment for those who are already poisoned by contaminated drinking water.

The Human Rights Council should request of the Government of South Sudan the publishing of all Environmental Impact, Social Impact and Strategic Environmental Assessments; and the taking of measures to put an end to the pollution of water resources, and to bring about the remediation of the environment and the recompensing of those whose lives and livelihoods have been affected by oil-caused contamination – as stipulated in South Sudan's Petroleum Act of 2012.
