Mounana, Gabon Uranium mining site

During decades of uranium mining in the jungle of Gabon, the French nuclear company COMUF neglected environmental safety standards, exposed mine workers to high doses of radiation and dumped thousands of tons of radioactive waste into the delicate ecosystem of the Mitembe River. This radioactive legacy continues to harm the environment of the region and the health of its inhabitants.



History

Uranium deposits were first discovered in southeastern Gabon in 1956 by the French nuclear company COGEMA (now AREVA). Through its local branch CO-MUF, the company began mining uranium at Mounana (1960–99), Oklo (1970–85), Boyindzi (1980–91) and Mikouloungou (1997–99). The uranium initially produced the core material for the French nuclear weapons program, the "force de frappe," and later supplied AREVA's nuclear power plants. All mines were finally shut down due to a lack of economically recoverable reserves. By 1975, about two million tons of radioactive tailings had been released into the nearby Ngamaboungou Creek and the Mitembe river system.¹ Four million more tons of uranium tailings and waste rock had been deposited in open tailings pits. These tailings were left uncovered for many years, with children playing on the dusty surface and locals uninformed about the dangers of these nuclear waste dumps. Not until the 1990s did COMUF finally take basic safety precautions, such as building a dam across the Ngamaboungou Creek and covering the 50 hectares of tailings with 30–50 cm of soil. These measures, however, were found to be inadequate by radiation safety experts.¹

reference level of 0.37 Bq/I. Soluble uranium-238 was found in a concentration of 1.7 mg/l – more than 180 times higher than the international reference level of 0.009 mg/l.² The radioactive refuse that was dumped into the rivers partly settled in the sediments, forming a long-term reservoir for remobilization of toxins.

Outlook

Despite the new tailings dam at Ngamaboungou Creek, radioactively contaminated water still flows downstream, polluting the sensitive ecosystem of the Mitembe River and leading to increased radiation levels in drinking water and food supplies.^{1,3} In 2009, 200 houses had to be demolished, because they had been constructed from radioactive waste rock and exhibited radiation levels above safety standards.¹ Approximately 4,000 people still live in Mounana and are affected by the continued radioactive exposure, as their homes are only about half a kilometer away from the former mining sites. They, too, are Hibakusha, because their health was compromised for the promise of cheap uranium for nuclear weapons and power plants. Their fates are also part of the history of the nuclear chain.





Remains of a uranium processing facility in Mounana. Whether the decommissioning and renaturation of the site was properly undertaken is highly questionable.



Health and environmental effects

For decades, miners were not equipped with appropriate gear to protect them from radiation exposure. Health monitoring of former miners was also found to be inadequate: with the closure of the mines, COMUF also stopped occupational health checks and most workers could not afford to pay for medical assistance themselves.¹ As a result, there is no meaningful epidemiological research on the health of miners in Mounana. In other uranium mining centers, such as in Germany and Canada, workers consistently showed an increased incidence of lung cancer. Similar results can be expected in the miners of Mounana.

Soil samples in the area of the former Mounana uranium mine have revealed that nuclear waste was dumped in the forest and have found uranium-239, thorium-230 and radium-226 with levels of radioactivity exceeding natural background levels by a factor of 50.¹ In 2002, an internal COMUF study that was presented to the International Atomic Energy Agency (IAEA) showed a concentration of soluble radium-226 in the Mitemba river of 3.2 Bq/l - almost 10 times the international

References

1 "Contamination radiologique relevée en 2009 sur l'ancien site minier uranifère de COMUF-AREVA à Mounana (Gabon)." Commission de Recherche et d'Information Indépendantes sur la Radioactivité (CRIIRAD), Note N°09-118, December 7, 2009. www.criirad.org/actualites/dossier_09/gabon/CRIIRADGABON.pdf

Further reading

A good overview of the current situation in Mounana is offered by Res Gehriger's article "The legacy of Cogéma - Radiation waste in the village stream," which appeared in the Swiss Wochenzeitung WOZ on July 22, 2004. An English translation of the article can be found online at: www.wise-uranium.org/pdf/nm616ga.pdf

Dieudonne Bokoko, former second mayor of Mounana, in front of houses in the mining district. These houses were constructed with radioactive waste rock. Some of them had to be demolished as a result of increased radiation measurements. Photos: © Res Gehriger, 2004



An exhibiton by the International Physicians for the Prevention of Nuclear War, Physicians in Social Responsibility e.V. (IPPNW)

- 2 Loueyit et al. "Study of the post-closure provisions for managing solid tailings form the extraction and processing of uranium ores resulting fro the industrial activities of the COMUF company at Mounana, Gabon." IAEA-SM-362/49, 2002
- 3 Srebotnjak et al. "Potential use of radioactively contaminated materials in the construction of houses from open pit uranium mines in Gabon and Niger." Publications of the Director-General for External Policies, Policy Department of the European Parliament, 2010. http://ecologic.eu/3749