

Blood Bauxite

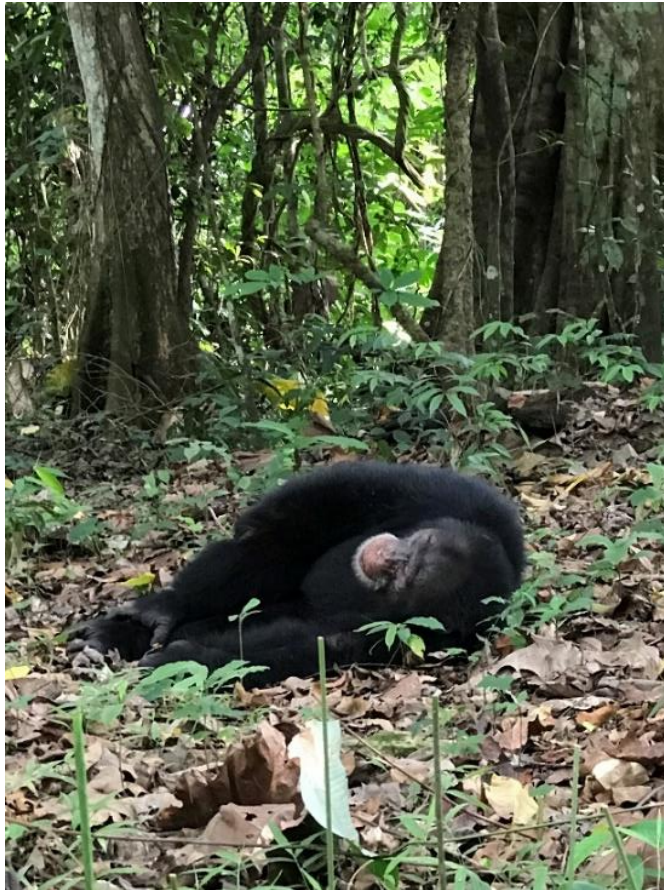
How our insatiable demand for aluminum is killing hundreds of chimpanzees in West Africa



A train carries bauxite from mines in Boké to the coast of Guinea, where it is then loaded onto boats and transported to other countries to be refined into aluminum. (Rebecca Kormos Boké, Guinea, 2018).

We are in the Boké region of Guinea to observe first-hand, the impact of bauxite mining on both the people and chimpanzees of the country. We have been waiting for one of the mining company's trains to arrive. We can hear it from a long way off. As it approaches, the train lets out a foreboding blow of its horn, before it clangs past with a seemingly endless long line of containers piled high with red dirt and rock. We watch in awe at the extraordinary length of the train hauling this red earth towards the coast. This is Guinea's earth. It is been taken from Guinea by foreign nations in unfathomable quantities and put onto boats to transport to other countries where it will be processed into aluminum. From there it is sold to be used for a plethora of

products from household aluminum foil, to golf clubs, disposable espresso cups, soda cans, computers, high-end cars and spaceships. It is estimated that in 2017 Guinea produced approximately 18 million tons of bauxite. That is the weight of almost 50 empire state buildings.



A chimpanzee rests on the forest floor in Bossou, Guinea. These are Western chimpanzee – the most threatened of all four subspecies of chimpanzee in Africa and listed as Critically Endangered by the IUCN Red list because their numbers have decreased 80% in the last 24 years. (Rebecca Kormos, Bossou, Guinea, 2018)

I first came to Guinea in 1995 to do an 18-month nationwide survey of chimpanzees¹. My mission was to find out how many chimpanzees lived in the country, where they were living, and what were the threats to their survival. I expected to find most chimpanzees in the south of the country where fragments of Guinea's tropical forest remain. But to my surprise, the largest number of chimpanzees were instead living in the drier mosaic of habitats in the middle of the country in a region called the Fouta Djallon. The reason? While chimpanzees were being hunted most elsewhere in Guinea (despite this being illegal), the Foulani people living in the Fouta Djallon region did not hunt chimpanzees due to both religious and cultural beliefs. Legends told by the people here related that chimpanzees were once human but were banished to the forest because they did something against the wishes of God.

There, they were transformed into chimpanzees. Because they used to be human, people are forbidden to ever hunt or eat them.

Elsewhere in West Africa, western chimpanzees *Pan troglodytes verus* are disappearing at terrifying rates. A recent study found that their numbers have declined by 80% in the last 24 years. The loss has indeed been so alarming that at the end of last year, scientists listed them in the IUCN Red List as *Critically Endangered* – the highest threat category that can be given to any living species in the wild. Already, chimpanzees have completely disappeared from several countries in West Africa. In other countries they live in populations of only several hundred or less. Only in Sierra Leone and Liberia are there still a few thousands left. But Guinea has an estimated 18,000

¹ Ham, R. (1998). Nationwide chimpanzee census and large mammal survey: Republic of Guinea. Unpublished report to the European Union, Conakry, Guinea.

chimpanzees, and 17,000 of these are living in and around the Fouta Djallon region². This area of Guinea is therefore one of the main strongholds for their survival³.



Bauxite mining in Boké, Guinea (Kalyanee Mam, Boké Guinea 2018)

Not only does Guinea have the largest population of chimpanzees in West Africa, but it also has the largest bauxite deposit in the World⁴. Companies mining here include the Compagnie des Bauxites de Guinée (CBG)⁵, Alcoa⁶, Global Alumina Corporation (GAC)⁷, Halco, and La Société Minière de Boké (SMB)⁸, as well as the Alumina company of Guinea, Alliance Mining Commodities (AMC), China Power Investment (CPI), with investors from Russia, the United Arab Emirates, United States, Canada, Australia, South Africa and China.

After the train passes, we visit several of the mining concessions in the area. Twenty years ago, this area of Guinea had an abundance of chimpanzees. Today, as we look across vast scars of bare earth larger than several football fields, the magnitude of the loss is catastrophic. Areas that have been mined look like a moonscape. Extraction of bauxite and iron-ore means open cast mining. An area must first be cleared of all living matter which means removal of all vegetation – including the trees that provide fruit for chimpanzees, and shelter in which they make their nests. Then the top soil is removed, followed by the next layer called the “overburden,” which is scraped away to expose the bauxite underneath. The bauxite is usually blasted apart with dynamite, drilled, and then ripped out with bulldozers. Roads, rail lines, dams for electricity, and

² WCF (2012). Etat de la faune et des menaces dans les aires protégées terrestres et principales zones de forte biodiversité de République de Guinée. Unpublished report, Wild Chimpanzee Foundation, Conakry, Guinea.

³ Kühl, H. S., Sop, T., Williamson, E. A., Mundry, R., Brugière, D., Campbell, G. et al. 2017. The Critically Endangered western chimpanzee declines by 80%. *American Journal of Primatology*, 79(9). DOI: 10.1002/ajp.22681.

⁴ <https://minerals.usgs.gov/minerals/pubs/commodity/bauxite/mcs-2018-bauxi.pdf>

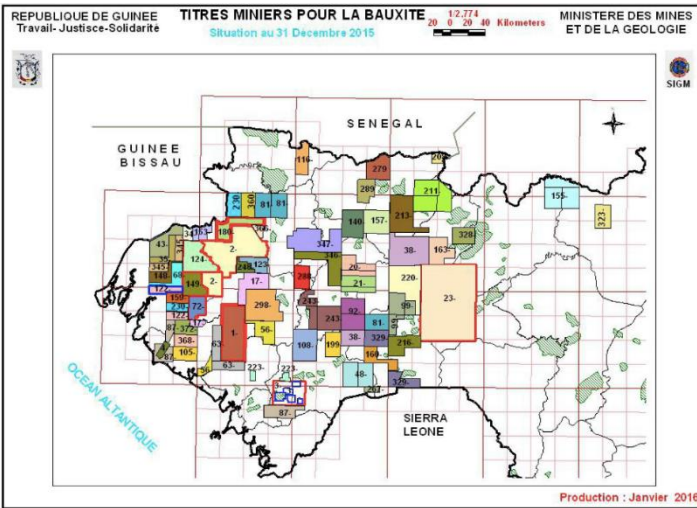
⁵ <http://www.cbg-guinee.com/>

⁶ <https://www.alcoa.com/guinea/fr/default.asp>

⁷ <http://www.gacguinee.com/en>

⁸ <http://smb-guinee.com/>

all the extra housing for those people who migrate to the area to work for the company, need to be built as well, further expanding the zone of impact.



Map of mining concessions in the bauxite region of Guinea
(<http://mines.gov.gn/en/media/maps/>)

Maps of the mining concessions⁹ in this area of Guinea looks like a patchwork quilt. If chimpanzees were to try to flee the mining, there would be few places to go. Social and Environmental Impact Assessments predict that GAC's mining will result in the death of over 100 chimpanzees. The CBG expansion project will also result in the death of about 31-83 chimpanzees¹⁰. The numbers for other companies are not publicly available but if their mining results in a similar number, the cumulative number of chimpanzee deaths as a result of this mining will be

in the thousands.

And it is not only the mining itself that is having the negative impacts. Mining bauxite requires a great deal of energy. To meet these demands, Guinea has plans to construct dams and powerlines across the Fouta Djallon. One of these dams – the Koukoutamba dam, is predicted to result in the deaths of up to 1,500 chimpanzees¹¹. Despite hopes that the electricity will be for the rural people of Guinea, only 3% of whom currently have electricity, reports document that in fact Guinea plans to sell three quarters of the electricity to other countries, and the remaining one quarter is primarily to support the mining¹².

I belong to a group of scientists who have been trying to engage with extractive industries and hydroelectric dam projects to mitigate the damage on great apes. As I look out across the vast pit of red earth, the word "mitigation," suddenly becomes less tangible for me. Seeing first hand, the vast areas that have been turned into bare earth, and hearing the constant noise of the digging, scraping, and hauling, I realize that the impact on chimpanzees would be disastrous no matter what mitigation was put into place.

Mining companies are not killing chimpanzees directly through poaching, but this kind of loss of habitat will have the same result. Most chimpanzee deaths will be subtler and may go unnoticed. Chimpanzees will move away from the noise and activity. They will flee the mining, the dynamite blasting, trucks and roads. They will move into adjacent territories of other chimpanzee communities. But that won't work. Chimpanzees are highly territorial. When two communities of chimpanzees are forced together, there is usually warfare. Adult males will kill other adult males and infant chimpanzees. As more and more chimpanzees are forced into

⁹ <http://mines.gov.gn/en/media/maps/>

¹⁰ https://www.wildchimps.org/fileadmin/content_files/pdfs/reports/2016_primate_study_-_CBG-WCF_final-1_noprint.pdf

¹¹

https://www.wildchimps.org/fileadmin/content_files/pdfs/reports/2017_WCF_Rapport_inventaire_de_faune_2014_2016_Moyen_Bafing_small.pdf

¹² <http://documents.worldbank.org/curated/en/172941521424821535/pdf/GUINEA-POWER-SECTOR1-PAD-02272018.pdf>

smaller and smaller areas, there will inevitably not be enough for them to eat, especially during times of food scarcity, and even more will die.

Two mining companies; GAC and CBG have worked with chimpanzee experts from the Wild Chimpanzee Foundation (WCF) to find out how many chimpanzees are living within their concessions and develop plans to attempt to mitigate the effects of their mining on the chimpanzees. GAC and CBG also went above and beyond other mining companies in Guinea by investing in an “offset,” to compensate for the “residual impacts,” of their mining, which essentially means the number of chimpanzees that will die due to their activities. Collectively they put forward 49 million dollars and worked with the International Finance Corporation (the IFC - the private lending branch of the World Bank Group), the Wild Chimpanzee Foundation and the Guinean Government to create the new protected area called the Moyon Bafing National Park, where an estimated 4,000 chimpanzees will be protected. Their funds will support the effective management of that park.

One of the driving forces for these companies investing in this new national park is that in order to receive their loans from the IFC, these companies are required to demonstrate “no net loss” of any Endangered species in their “project area.” This means that if there is a loss of chimpanzees in one area, the IFC can still loan the company money if the company can demonstrate that there won’t be a loss “regionally,” or “globally”¹³. This is essentially an “offset,” but instead of being a “carbon offset,” this is a “chimpanzee offset.”

Even though I don’t like the idea of a “chimpanzee offset,” as I don’t believe in swapping lives of chimpanzees one for another, I was excited about the creation of the new Moyon Bafing National Park. The park was created at the end of 2017 and it could have been recognized as a huge success story for Guinea, the President of Guinea, the IFC and the mining companies GAC and CBG. It could have set precedent for all mining companies in Guinea to compensate for any destruction of chimpanzee habitat by supporting protection of another area that is not yet protected. It could have been a global success story. However, at the same time as it was helping to create an offset, the World Bank Group was funding an Environmental and Social Impact Assessment for the Koukoutamba dam right in the middle of this park. This is the same dam that will provide energy to mining companies and that will kill up to 1,500 chimpanzees. It is a bizarre feedback loop of destruction.

We try to enter one of the mining concessions, but we are told that the mine is closed today as the employees are on strike¹⁴. According to the people we ask, a mining truck hit and killed someone on a motorcycle. This is apparently not the first time someone had been killed by a mining truck. So instead of filming the mining, we turn down a road near one of the concessions and interview the villagers about how they feel about the mining. We wonder if they might be in support of the mining if it has brought them jobs and money.

But instead, the villagers reveal to us that since the mining started, their river and only water source has dried up to a small pool, smaller than the size of a truck wheel. They show us the water, where a woman stands soaping up her young daughter, other women wash clothes, and livestock drink.

¹³ https://www.ifc.org/wps/wcm/connect/bff0a28049a790d6b835faa8c6a8312a/PS6_English_2012.pdf?MOD=AJPERES

¹⁴ <http://www.mining.com/web/strike-shuts-off-1-2-mln-t-bauxite-output-guinea-smb-mine/>



Since the mining started, the river that the people of Hafia village in Guinea used to depend upon for drinking water has dried up to a small pool of water that must serve 350 people. (Kalyanee Mam, Hafia village, Guinea 2018).

They tell us, *"We used to be in the gallery forest of the large rivers with the chimpanzees. Everything has disappeared, particularly the chimpanzees. We were together all the time but now, everything has disappeared. Everything ended up fleeing. And the fish we used to catch, there are none left. Everything has disappeared."*

They also tell us, *"The watercourses we used before here in our village all dried up since the mining is here. The rocks that retained the water before were dynamited, so the water cannot remain there. The large trees were uprooted, and the water cannot be retained any more. In addition, the mining debris flows towards the watercourses and other water points. Everything the mine discharges goes down to accumulate in the water points that end up drying up. Everywhere we used to draw water has dried up. There is no more water in these spots."*

They add, *"We are 350 people. The suffering has become unbearable."*

"Have you complained to the mining company?" we ask. They tell us that they did. That the company built them a well. They take us to see this well. They pump the handle and show us the oily film on the surface of the water, glimmering rainbow in the hot sun. On the wet soil below the pump, the water has a colorful sheen too. It looks like spilt gasoline. *"When we boil it, it turns black,"* they tell us. They also show us houses in their village that have crumbled as a result of the dynamite blasting, and the layer of dust on their cashew crops, that no longer yield.

After visiting the mining sites, we return to Boké town where we are spending the night. The sky is choked by bauxite dust and a thick layer of red powder seems to have settled on

everything. We pass a traffic sign warning about dust “poussier!” but it is unclear how one is to avoid it.

It is evening when we arrive in Boké, and a long line of people are queuing outside a public tap to fill their plastic bidons with drinkable water. We drive past dilapidated houses, broken down shacks selling dust-covered fruit and vegetables. As dusk approaches, it becomes apparent that there are very few lights here at night, and that this town, despite the billions of dollars the government of Guinea is making from selling its bauxite to foreign interests, is still in the dark.



Administrative building in Boké town with windows smashed in February 2018 by youths protesting the lack of electricity, and jobs despite all the mining. (Rebecca Kormos 2018)

Guinea is one of the poorest countries in the world¹⁵. Only 18% of the population have access to electricity, and this drops to only 3% in rural areas,¹⁶ far lower than the average for Sub-Saharan Africa. The sale of Guinea’s bauxite is touted by the President of Guinea to be a “game changer” for the country¹⁷, but instead to date it is furnishing the pockets of an elite few, while benefiting the people of Guinea very little. A recent report from Human Rights Watch exposes that people are being disposed of their land without compensation¹⁸.

People here have become fed-up with the lack of electricity, running water and jobs despite all the mining, and riots have occurred in Boké and in nearby towns as well during both 2017 and 2018¹⁹.²⁰ People complain that the dust and pollution are making them sick. Recently, these riots have turned deadly²¹.

In the morning we leave Boké and follow the bauxite to the coast at Kamsar. It is difficult to trace the path that bauxite takes from here. Because there are no active smelters in Guinea, the bauxite is taken to be processed in other parts of the world, where it is made into aluminum. GAC ships much of Guinea’s bauxite to Emirates Global Aluminium (EGA) operated aluminum smelters in Abu Dhabi and Dubai. EGA claims a net income of 3 billion dollars over the last four years²² and it sells its aluminum to a wide range of clients including Jaguar Landrover and Mercedes Benz. Alcoa and Rio Tinto have a partnership with Apple and Boeing. Rusal is looking

¹⁵ <https://www.worldatlas.com/articles/the-poorest-countries-in-the-world.html>

¹⁶ <http://documents.worldbank.org/curated/en/515871527263469191/pdf/Project-Information-Document-Integrated-Safeguards-Data-Sheet-Guinea-Mali-Interconnection-Project-P166042.pdf>

¹⁷ <https://www.telegraph.co.uk/finance/newsbysector/industry/mining/10858045/Rio-Tinto-signs-12bn-Guinea-iron-ore-deal.html>

¹⁸ <https://www.hrw.org/news/2018/10/04/guinea-bauxite-mining-boom-threatens-rights>

¹⁹ <https://www.reuters.com/article/us-guinea-mining/guinea-bauxite-mining-back-to-normal-after-week-of-riots-idUSKCN1C025D>

²⁰ <https://www.reuters.com/article/us-guinea-mining-idUSKBN17S0VE>

²¹ <https://www.businessinsider.com/r-deadly-riots-block-mining-operations-in-guinea-bauxite-town-2017-9>

²² <https://www.ega.ae/en>

for a new home for its aluminum as a result of Trump imposed tariffs on aluminum coming into the United States.²³ Half of the bauxite that China imports is from Guinea.²⁴

There is tragedy in the disparity between the end-users of aluminum, and the people at its source. Back in the US, I email several CEOs of companies that use Guinea's aluminum and it seems that very few are in fact aware that their aluminum has negatively impacted people's lives and resulted in the death of chimpanzees. Outside my house in California, as I wheel the recycling bin to the curve, I realize there is one more question that I would like to ask. Aluminum is recyclable, so will there be a point when we have enough aluminum in circulation so that we won't need to dig up Guinea's land any further? So, I dig deeper. I find that much of the aluminum made from Guinea's bauxite is not in circulation but rather is being stockpiled throughout the world in quantities so large, these stockpiles can be seen from space.

Aluminum, it turns out, is being stockpiled to drive up prices. In 2011 Coca Cola complained that Goldman Sachs owned a network of metal-storage facilities in the Detroit area where they were stockpiling aluminum so that Coke and other companies had to pay increased prices for their soda cans²⁵. In 2016, according to a report in the Wall Street Journal, Chinese metals conglomerate China Zhongwang was stockpiling more than \$2 billion worth of aluminum in the desert in Mexico where it was to be shipped to the U.S. to avoid tariffs on Chinese exports²⁶. Also in 2016, The New York Times reported that JP Morgan Chase was at one point holding more than half of the 2.8m tons of aluminum in the London Market Exchange system - enough aluminum to supply Coca Cola's demands for 40 years²⁷. Now, prompted by Trump's aluminum tariffs, there are even more stockpiles in such places as New Orleans²⁸ where Castleton Commodities International LLC is sitting on a stockpile of aluminum worth about 1.5 billion dollars²⁹. Trump's aluminum tariff against the Russian company Rusal has caused companies like Glencore Plc, previously the top buyer of Rusal's aluminum to look elsewhere for their supply and so an increasing number of entrepreneurs are taking advantage of this opportunity and stockpiling in anticipation of new buyers.

²³ <https://www.wsj.com/articles/wanted-new-home-for-a-lot-of-russian-aluminum-1524216601>

²⁴ <https://www.economist.com/business/2018/11/03/guineas-bauxite-boom-is-helping-china-but-failing-locals>

²⁵ <https://www.cnn.com/2014/06/03/how-aluminum-became-a-cash-cow-for-goldman.html>

²⁶ <https://www.wsj.com/articles/chinese-billionaire-linked-to-giant-aluminum-stockpile-in-mexican-desert-1473356054>

²⁷ <https://www.ft.com/content/4b8032b6-f118-11e5-aff5-19b4e253664a>

²⁸ <https://www.youtube.com/watch?v=c70uT29Bfq4>

²⁹ <https://www.bloomberg.com/news/articles/2018-10-18/harvard-s-not-so-secret-admissions-factor-donors-get-a-boost>



Conakry, Guinea (Rebecca Kormos, Conakry 2017)

So, it seems that thousands of chimpanzees will die in Guinea over the next few decades and that their deaths cannot be justified as a necessary byproduct of development. We cannot say that they are dying so that the poor in Guinea can have improved lives. Their increased deaths are in fact correlated with the worsening of poverty and human suffering. CBG produces 14 million tonnes of bauxite last year, The Compagnie des Bauxites de Kindia (CBK)³⁰ produced 2.5 million tonnes, and SMB produced 35 million tonnes in 2018³¹, 1 million metric tons of bauxite ore

has been harvested from the project to date,³² and these are only a few of the companies extracting bauxite from Guinea. Meanwhile in Guinea, only 3% of rural people continue to have electricity, only one quarter of the population is literate, and 43% of the population lives below the international poverty line of \$1.25 per day³³.

³⁰ <https://medium.com/@migoldteam/mining-in-guinea-7dc18abeb744>

³¹ <https://www.economist.com/business/2018/11/03/guineas-bauxite-boom-is-helping-china-but-failing-locals>

³² <https://aluminiuminsider.com/guinean-president-presides-over-official-opening-of-alufers-bel-air-mine/>

³³ https://www.unicef.org/infobycountry/guinea_statistics.html