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Guns, Money and Cell Phones

The following is reposted from the publication *The Industry Standard* and looks into one of the economic reasons behind the war in the Democratic Republic of Congo and the commercial interests of major computer and cell phone related companies in the exploitation of the DRC which comes at a massive cost to civilian life. The original article was at <http://www.thestandard.com/article/0,1902,26784,00.html>. It had expired from a while, so is preserved here, just in case.

Guns, Money and Cell Phones

By Kristi Essick

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The demand for cell phones and computer chips is helping fuel a bloody civil war in the Democratic Republic of Congo.

The offer turned up a few weeks ago on an Internet bulletin board called the Embassy Network. Among the postings about Dutch work visas and Italian pen pals lurked a surprisingly blunt proposal: "How much do you want to offer per kilogram? Please find me at least 100,000 U.S. dollars and I will deliver immediately."

The substance for sale wasn't cocaine or top-grade opium. It was an ore called Columbite-tantalite - coltan for short - one of the world's most sought-after materials. Refine coltan and you get a highly heat-resistant metal powder called tantalum. It sells for \$100 a pound, and it's becoming increasingly vital to modern life. For the high-tech industry, tantalum is magic dust, a key component in everything from mobile phones made by Nokia (NOK) and Ericsson and computer chips from Intel (INTC) to Sony (SNE) stereos and VCRs.

Selling coltan is not illegal. Most of the worldwide tantalum supply - valued at as much as \$6 billion a year - comes from legitimate mining operations in Australia, Canada and Brazil. But as demand for tantalum took off with the boom of high-tech products in recent years, a new, more sinister market began flourishing in the Democratic Republic of Congo. There, warring rebel groups - many funded and supplied by neighboring Rwanda and Uganda - are exploiting coltan mining to help finance a bloody civil war now in its third year. "There is a direct link between human rights abuses and the exploitation of resources in areas in the DRC occupied by Rwanda and Uganda," says Suliman Baldo, a senior researcher in the Africa

division at Human Rights Watch, a New York-based nongovernmental organization that tracks human-rights abuses worldwide.

The slaughter and misery in the Congo has not abated since the country's president, Laurent Kabila, was assassinated in January. (Kabila's son, Joseph, was quickly appointed the new head of state.) Human Rights Watch researchers, working with monitors in the Congo, estimate that at least 10,000 civilians have been killed and 200,000 people have been displaced in northeastern Congo since June 1999. Rebels have driven farmers off their coltan-rich land and attacked villages in a civil war raging, in part, over control of strategic mining areas. The Ugandan and Rwandan rebels "are just helping themselves," Baldo says. The mining by the rebels is also causing environmental destruction. In particular, endangered gorilla populations are being massacred or driven out of their natural habitat as the miners illegally plunder the ore-rich lands of the Congo's protected national parks.

The link between the bloodshed and coltan is causing alarm among high-tech manufacturers. Slowly they are beginning to grapple with the possibility that their products may contain the tainted fruits of civil war. A similar controversy, after all, wracked the diamond industry in the late 1990s, when global demand for the gems helped finance civil wars in Sierra Leone, Angola and Liberia. Since then, the international community has clamped down on the diamond trade, imposing tougher import and export regulations.

But with tantalum, such regulations may be difficult to enforce. The market for the metal is based on secretive and convoluted trade links subject to few international regulations, and the ore is not sold on regulated metals exchanges.

Rape of the land

The first wake-up call to the high-tech industry came in April when the United Nations issued a damning report on the "illegal exploitation of natural resources and other forms of wealth of the Democratic Republic of the Congo." After six months of field investigations, a panel of experts in the region assembled by the U.N. Security Council reported its findings.

Among the most alarming of the report's allegations was that Rwandan, Ugandan and Burundian rebels had looted and smuggled thousands of tons of coltan from the Congo into their countries to export to the global market, using the profits to finance their militias. Indeed, the official statistics provided by these countries' governments - which many human-rights observers believe hide large amounts of black-market trading - show that Uganda and Rwanda dramatically increased the export of coltan following their occupation of northeastern Congo. For example, Uganda reported 2.5 tons of coltan exports a year before the conflict broke out in 1997. In 1999, the volume exploded to nearly 70 tons.

The U.N. report documents the rebel groups' use of forced labor, illegal monopolies and civilian murder in their high-stakes game to extract this valuable resource. These accusations have not been taken lightly; several members of the U.N. panel that prepared the report have since received death threats. Uganda,

Rwanda and Burundi have issued protests to the United Nations over the report, claiming it to be inaccurate and unfounded.

The pillaging of the Congo's natural resources is exacting a devastating human and economic toll, says Leonard She Okitundu, the Congo's minister for foreign affairs and international cooperation. He told the United Nations Security Council in early May that "a consensus was clearly emerging in the council and in the international community on the links between the shameless looting of Congolese natural wealth and the massacres of the Congolese people." The fighting, he reported, has led to "assassinations of civilians, deportations, torture, rape and deliberate spreading of HIV/AIDS," as well as the displacement of millions of refugees.

The U.N. report does not directly blame computer manufacturers and mobile phone makers for the bloody trade, citing instead the companies trading minerals as "the engine of the conflict in the DRC." But the high-tech industry's demand for tantalum clearly has fueled an increase in coltan mining worldwide - including in the Congo region. After all, the trading companies sell coltan to processing companies, which in turn sell to tantalum capacitor manufacturers - whose clients are none other than high-tech companies such as Ericsson, Intel and Nokia.

These companies deny any knowledge that tantalum originating in the Congo is used in their products. That's not surprising, considering how murky the supply chain out of the Congo is and how complicated the global trade in tantalum gets. The reality is that there's little way to prove that the tantalum used in our cell phones and laptops is or is not from the Congo. Still, 8 percent of the tantalum ore imported into the United States in 1999 came from the Congo, and that doesn't count the ore U.S. companies imported from Rwanda and Uganda that may have originated in neighboring Congo. And there is much more of the precious dirt where that came from. At the moment, about 15 percent of the world's supply of tantalum comes from Africa. (Australia is the biggest producer, accounting for about 70 percent of the global supply of tantalum-bearing ore.) But the Congo is sitting on a potential gold mine. The mineral-rich nation is tied with Canada in having the world's fourth-largest coltan reserve, according to research firm Roskill Information Services.

Worth its Weight in Gold

Coltan - which is found in 3 billion-year-old soils, like those in the Rift Valley region of middle Africa, western Australia and central Asia - has become a critical raw material in high-tech manufacturing. The tantalum extracted from the ore is used mainly to make tantalum capacitors, tiny components that manage the flow of current in electronic devices. Many semiconductors also use a thin layer of tantalum as a protective barrier between other metal coatings. The metal, which is also found in other minerals and can be extracted as a byproduct of tin refining, is used in the airline, chemical, pharmaceutical and automotive industries as well.

The market for the material is huge. Last year, about 6.6 million pounds of tantalum was used around the world, 60 percent finding its way into the electronics industry, where it can be found in products like mobile phones, computers, game consoles and camcorders. (The United States is the largest consumer of tantalum in the world, accounting for 40 percent of global demand.)

In 2000, demand for tantalum capacitors exploded in tandem with the mobile phone and PC markets, causing a severe shortage. Tantalum ore prices shot up, with per-pound charges for refined powder climbing from less than \$50 to a peak of over \$400 at the end of last year. Today, with demand softening worldwide, prices have fallen to around \$100 a pound.

In response to the increased demand, coltan miners all over the world increased production. In the Congo region, both legitimate and rogue coltan merchants joined the rush. The boom brought in as much as \$20 million a month to rebel groups, as well as independent factions, who were trading coltan mined mostly from northeastern Congo, according to the U.N. report. That money helps fuel the war.

Passing the Buck

Tracing the coltan supply chain through the Congo is no simple task. Ore originating in the Congo often passes through at least 10 hands before it winds up in a cell phone or a VCR. One thing is certain: Rebels are involved in just about every step of the process until the coltan leaves the DRC.

According to the U.N. report, most coltan mining in the Congo is done by peasants because the war has forced the once legitimate Congolese mining companies out of business. These novice miners sift for coltan in riverbeds or dig it out of abandoned mines. The rebel groups also are believed to mine coltan directly, using laborers (sometimes prisoners) to extract the ore, then smuggle it out of the country.

Many coltan miners are children. Some estimates suggest that 30 percent of schoolchildren in the northeastern Congo have abandoned their studies to dig for coltan. While the promise of striking the mother lode may be tempting, most miners make a pittance. Fraud is rife, and collectors often cheat the miners out of their profits. "Mining coltan is in itself a terrible job," one miner told a researcher from the Pole Institute, a Goma, Congo-based nongovernmental organization, earlier this year. "But there is also the problem of armed bandits who steal our goods, as well as the danger of landslides and collapsing mines."

Nevertheless, the prospect of making a few dollars a day - big money in a poor country with an economy in shambles - remains irresistible to many people.

Once the ore is extracted, it is collected by local traders - many of whom are suspected of being rebels - who pay between \$5 and \$10 a pound for the unprocessed coltan. The local traders then sell the coltan to larger regional traders, often located in neighboring Rwanda and Uganda. This is the most difficult part of the chain to trace, because five or six intermediaries can be involved before it reaches the larger regional

traders, according to Judy Wickens, secretary general of the Tantalum-Niobium International Study Center, or TIC, based in Brussels, Belgium. Sometimes coltan convoys run by one rebel group are hijacked by enemy rebels, only to be resold to other traders.

At this point, the black-market coltan enters the global market. According to the United Nations, more than 20 international mineral trading companies import minerals from the Congo via Rwanda alone.

These imports, as well as others from Uganda and Burundi, end up in Asia, Europe and the United States. Sabena Airlines, Belgium's national carrier, regularly flies minerals out of the Congo, Uganda and Rwanda. American Airlines, in partnership with Sabena, also transports goods originating in the region throughout the United States. (Sabena says it transports coltan only from legitimate traders.) Tantalum is extracted from the ore by processing companies such as H.C. Starck, which produces 50 percent of the world's tantalum powder, and Cabot (CBT), the second-largest mineral processing company. These firms - which buy from international trading companies and also directly from large mines and local trading concerns - in turn sell refined tantalum powder to capacitor manufacturers - the largest of which are AVX (AVX), Epcos, Hitachi (HIT), Kemet, NEC (NIPNY) and Vishay. Their products go to the cream of the high-tech industry. Alcatel (ALA), Compaq, Dell, Ericsson, Hewlett-Packard (HWP), IBM, Lucent, Motorola (MOT), Nokia and Solectron (SLR) are all major buyers of tantalum capacitors. Chip firms such as AMD and Intel are also increasingly buying tantalum powder in its raw form to use in manufacturing semiconductors.

Chain Reaction

So far, high-tech companies have been reluctant to acknowledge they may be using materials originating from Congo rebels. That said, they can do little to prove they do not. "We first heard about this in April and immediately asked our suppliers if they used tantalum from the Congo," said Outi Mikkonen, communications manager for environmental affairs at Nokia. "All you can do is ask, and if they say no, we believe it."

And so it continues down the line. Tantalum capacitor makers place their faith in their suppliers. One of Nokia's main suppliers, for example, is Kemet of Greenville, S.C., the world's largest tantalum capacitor maker. "We have gone back to our suppliers to ascertain that the material we are buying is not obtained illegally from the Congo," says Harris Crowley Jr., a senior VP.

But tantalum suppliers can offer little assurance to capacitor manufacturers that their product doesn't come courtesy of the Congo rebels. "I'm not in favor of killing gorillas," says Dick Rosen, CEO of AVX, a tantalum capacitor maker in Myrtle Beach, S.C. But "we don't have an idea where [the metal] comes from. There's no way to tell. I don't know how to control it," he says.

Epcos, a tantalum capacitor manufacturer in Munich supplying the mobile phone industry, is also quick to place the responsibility on its suppliers - which include Cabot and H.C. Starck, as well as smaller

processors in Europe and Japan. Heinz Kahlert, a spokesman for Epcos, pointed to a press release issued by H.C. Starck that states "we only purchase raw materials from established trading companies that have worked in various African countries for a long time and are headquartered in Europe or the United States." The press release goes on to claim: "These trading companies have confirmed that H.C. Starck is not being supplied with material from the crisis areas of central Africa."

At some point though, the wall of plausible deniability starts to break down. While H.C. Starck is adamant it is not being supplied with black-market coltan, one of its own suppliers, U.K.-based trading company A&M Minerals and Metals, is less sure. A&M works mostly with Nigerian and Bolivian miners, but also buys up to 3 tons of tantalum-bearing ore a month from Uganda. "I couldn't tell you for 100 percent that this material [from Uganda] didn't come from the Congo," says managing director James McCombie. "It could have been smuggled across the border."

The company works with peasant producers and local traders, and McCombie admits that "once you get to that level, it is very difficult to check the provenance. It would be silly of us to try to pretend that we know the origin of every pound of [coltan] we get in our hands."

Then there's Brussels-based Sogem, another international trading company that sells the unrefined coltan it buys in the Congo and Rwanda to processing companies in the United States, Europe and Asia. It offers only a vague reassurance about the origins of the ore it resells. "We have been told that our money goes directly to the population," says Sogem spokeswoman Moniek Delvou. Sogem doesn't deal with rebel-backed traders and monopolies in the region, Delvou says. But she declines to name the mines and local trading companies that supply Sogem and admits she isn't 100 percent sure of the original source. "How can you be 100 percent sure of anything in life?" she asks.

With that kind of uncertainty creeping into public view, some high-tech manufacturers are worried that Congolese coltan will tarnish their reputations. Ericsson says it requires its suppliers to comply with company environmental, ethical and human-rights policies. "We are putting demands in place and will follow it up," says Mats Pellback-Scharp, environmental manager of consumer products. Meanwhile, Kemet says it will start requiring ore suppliers to certify that their tantalum does not come from the Congo, Rwanda, Burundi or Uganda. "If everybody takes a stance, maybe it will dry up," says Kemet's Crowley.

For its part, Intel has begun a review to determine the source of the tantalum it uses. "We'd like to be able to know the answer," says spokesman Chuck Mulloy. Compaq has issued a statement saying it "condemns the reported activities of illegal miners in the Kahuzi-Biega National Park and the Okapi Wildlife Reserve in the Democratic Republic of Congo." But, as spokesman Arch Currid says, "Most of the components that we get [come] from third-party providers, so where they get their raw goods is hard to determine."

Motorola also says it has asked its suppliers to ensure that no rebel-generated Congolese tantalum comes to them. "We deplore the activities alleged against illegal miners in the environmentally protected region

of the Congo and fully support the efforts of relevant authorities to protect regions where the environment or wildlife is threatened," says the company. Hewlett-Packard officials also denounce the situation in the Congo and say the company intends to work with the Electronic Industries Alliance to ensure no tainted tantalum ends up in HP products.

Other high-tech companies such as AMD, Dell, PMC Sierra and Solectron were unable to provide procurement guidelines or did not return calls seeking comment.

The Fight for an Embargo

The U.N. report calls for much more than guidelines. It proposes an all-out trade embargo on the import and export of coltan and other minerals from or to Burundi, Rwanda and Uganda "until those countries' involvement in the exploitation of the natural resources of the Democratic Republic of the Congo is made clear and declared so by the Security Council."

Trade groups, notably the TIC, say that would be unfair to the legitimate trading companies that do business in the region. "There have been exports from Zaire/Congo for 40 years," says the TIC's Wickens. "If there is an embargo, this will carry off the legitimate as well as illegitimate mining."

But given the problems in policing the coltan trade, Baldo of Human Rights Watch believes only an embargo will begin to reverse the tide of abuse in the Congo. "I would encourage the U.N. Security Council to adopt an embargo against Rwanda and Uganda, because they rely on international assistance," says Baldo. Sanctions imposed by foreign governments could thus have an immediate effect in the region. Rwandan and Ugandan rebels "are exploiting resources illegally and know sooner or later this will become unacceptable," add Baldo.

Implementing such an embargo is easier said than done. One member of a large, well-respected nongovernmental organization, which he didn't want to name because it is preparing a report on the Congo, says his group is "in support of sanctions and the withdrawal of all troops from the DRC." But the difficulty, he says, "is to come up with sanctions on minerals such as coltan that don't have an impact on the people."

It remains to be seen whether high-tech companies would go along with a U.N.-backed embargo. An Alcatel spokeswoman, for example, says that "once it is voted by the Security Council and becomes a resolution, yes, we would abide by it." But Ericsson is not in favor of dumping suppliers just because they might use some products from the Congo. "If we found out our suppliers were getting tantalum from the Congo, we wouldn't kick them out, that would not help," says the company's Pellback-Scharp. "We would rather try to influence them" to stop doing business there. But, he adds, "If there was a huge international boycott, we would support it."

The demand for coltan is not going away. As global consumers continue to crave the newest cell phone and

the latest computer, high-tech companies will continue to pay top dollar for tantalum capacitors, and their suppliers will continue to take tantalum from wherever it is available. Whether an unregulated industry can effectively police itself based on good faith and written assurances is questionable. But one thing is sure: The links between the cell phones and computers we use every day and the devastation taking place now in the Congo can no longer be ignored.

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“Bad ideas flourish because they are in the interest of powerful groups.” — *Paul Krugman*

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