Does that smart phone in your pocket contribute to rape and murder in the depths of Africa? Soon, you'll know: A new U.S. law requires companies to certify whether their products contain minerals from rebel-controlled mines in Congo and surrounding countries.

It's a move aimed at starving the rebels of funds and encouraging them to lay down their arms.

But experts doubt the law will stop the fighting. Furthermore, they say, it could deprive hundreds of thousands of desperately poor Congolese of their incomes and disrupt the economy of an area that's struggling for stability after more than decade of war.

"For many, many people, it's the only livelihood they have," said Sara Geenen, a researcher at the University of Antwerp in Belgium, who just returned from a trip to the Kivu provinces in eastern Congo.

At issue are three industrial metals - tin, tantalum and tungsten - and gold. Tin is used in the solder that joins electronic components together. Tantalum's main use is in capacitors, a vital component in electronics. Tungsten has many uses, including light-bulb filaments and the heavy, compact mass that makes cell phones vibrate.

Exports of these metals from eastern Congo have been the subject of a campaign by nonprofit advocacy groups for a few years, one that's borne fruit with the addition of a "Conflict Minerals" provision to the financial-regulation legislation that President Barack Obama signed into law Wednesday.

A recent YouTube video modeled after Apple Inc.'s well-known ads is titled "I'm a Mac ... and I've Got a Dirty Secret." The video says "a lot" of the world production of the four metals comes from Congo, though the contribution is relatively small.

While Congo has vast reserves, poverty and war mean most of the mining and processing is done by hand, so production is slow. The country produced 5 percent of the world's tin supply in 2008, according to tin research institute ITRI. The figure for tantalum ore, a rarer mineral, is higher, but the main sources for world supply are in Brazil and Australia.

Even though Congo's production is small by world standards, the minerals constitute much of the economic activity in eastern Congo.

Advocacy groups, the United Nations and academic researchers such as Geenen agree that the mines fund rebel groups, homegrown militias and rogue elements of the Congolese army.

But the academics say the advocacy groups have been overselling the link between the mines and violence, such as when John Prendergast, the co-founder of the Enough Project, told "60 Minutes" last year that minerals are the "root cause" of the fighting.

"The fight is not a fight over the minerals," said Laura Seay, an assistant professor of political science at Morehouse College in Atlanta, who studies and visits Congo. "The minerals are used to fund some of the fighting, but it's not a fight for control of the mines."

More important causes of the fighting, she said, are land rights and the status of the refugees and militias from neighboring Rwanda who flooded into eastern Congo in the aftermath of the Rwandan genocide in 1994. About 5 million people, mainly civilians, have died in off-and-on fighting in Congo since then, and armed groups have been accused of systematic mass rape.

Sasha Lezhnev, a consultant to the Enough Project and the director of an organization that tries to rehabilitate child soldiers, agrees that the fighting wasn't originally about the minerals. But Lezhnev said that has changed.

"The minerals are the chief driver and fuel for feeding the flames out in the East now. One of the main results of the military operations over the last year has been for one armed group to take control of minerals from the other armed group," Lezhnev said. "You have many people displaced from their homes because mines are being set up."

The U.S. law doesn't ban the minerals trade with the area, something the United Nations has avoided doing as well. Instead, it forces companies to report annually whether their products contain any of the four "conflict minerals" from Congo. The nine surrounding countries are included as well, out of concern that minerals might be smuggled out of the Congo to obfuscate their origin.

If companies find that they use minerals from any of the ten countries, they need to have audit done to determine "with the greatest possible specificity" which mine they're from.

Companies can label their products as "conflict free" if they manage to prove that their products don't contain minerals that directly or indirectly finance or benefit armed groups in any of the ten countries.

Nicholas Garrett, a consultant who's studied the issue with funding from the British and Dutch governments, worries that companies will take the easy way out and avoid buying minerals from the region entirely - even if they are conflict free. He estimates that 1 million people are dependent on the mining industry in eastern Congo.

John Kanyoni, who represents minerals exporters in Congo's North Kivu province, said business is already down because two major buyers of tin ore, Britain's Amalgamated Metal Corp. and Belgium's Traxys, have pulled out because of the "conflict minerals" campaign. That means miners, traders and the Congolese government's tax receipts are suffering, Kanyoni said.

Lezhnev acknowledges that a complete pullout by minerals buyers would do more harm than good. What the Enough Project really wants, he said, is reliable tracing of the supply chain and certification of the origin of minerals. That way, buyers could still do business with legitimate mines.

"We don't want (buyers) to disengage," he said. "We want them to take a hard look at where their materials are coming from, but also contribute to positive change out in the region."

Various groups have already started projects to trace the minerals back to their sources. The process is hampered by the lack of government control in parts of the region and by corruption where there is government control.

Congolese Information Minister Lambert Mende said the government welcomes the U.S. law. It encourages the country to put in place the proper tracing mechanisms, he said.

Two years ago, chip maker Intel Corp. started to alert its tantalum smelters, who turn the ore into the metal, that they will have to start certifying that their ores don't come from "conflict mines." The process will add some minor costs to the supply chain, spokesman Chuck Mulloy said, on the order of a penny per part.

Tin industry organization ITRI is running a pilot project to see whether the ores can be traced, but much remains to be done, especially because U.S. companies could need to certify the origin of their metals as early as next year.

"It's obviously a very difficult environment to work in," ITRI spokeswoman Kay Nimmo said. "We need to have enough time to put the system into place. Otherwise, it essentially will be an embargo on the trade."

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