



Tantalum, Tungsten, and Tin (“Conflict Minerals”)

Summary of Key Trafficking in Persons Issues in Tantalum, Tungsten, and Tin Production

- ✓ Structural Supply Chain Features Contributing to Trafficking in Persons Vulnerability
 - Long, Complex, and/or Non-Transparent Supply Chains
- ✓ Undesirable and Hazardous Work
- ✓ Vulnerable Workforce
 - Child Labor
 - Gendered Dynamics of Production
- ✓ Associated Contextual Factors Contributing to TIP Vulnerability
 - Association with Organized Crime/Armed Conflict

Overview of Tantalum, Tungsten, and Tin Production in sub-Saharan Africa

Trade

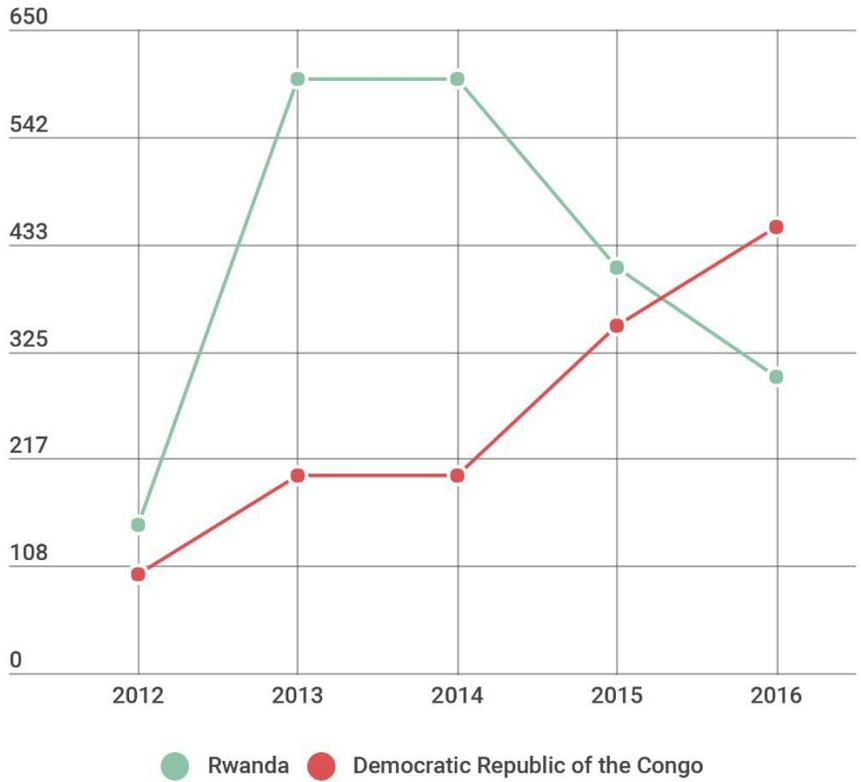
The Democratic Republic of the Congo is the epicenter of production of minerals that have become known as “conflict minerals” due to their role in funding the ongoing civil conflict in that country.¹

The three primary types of conflict minerals are tantalum (in columbite-tantalite or “coltan”), tungsten (in wolframite) and tin (in cassiterite).²

Rwanda and the Democratic Republic of the Congo are the top producers are tantalum.³



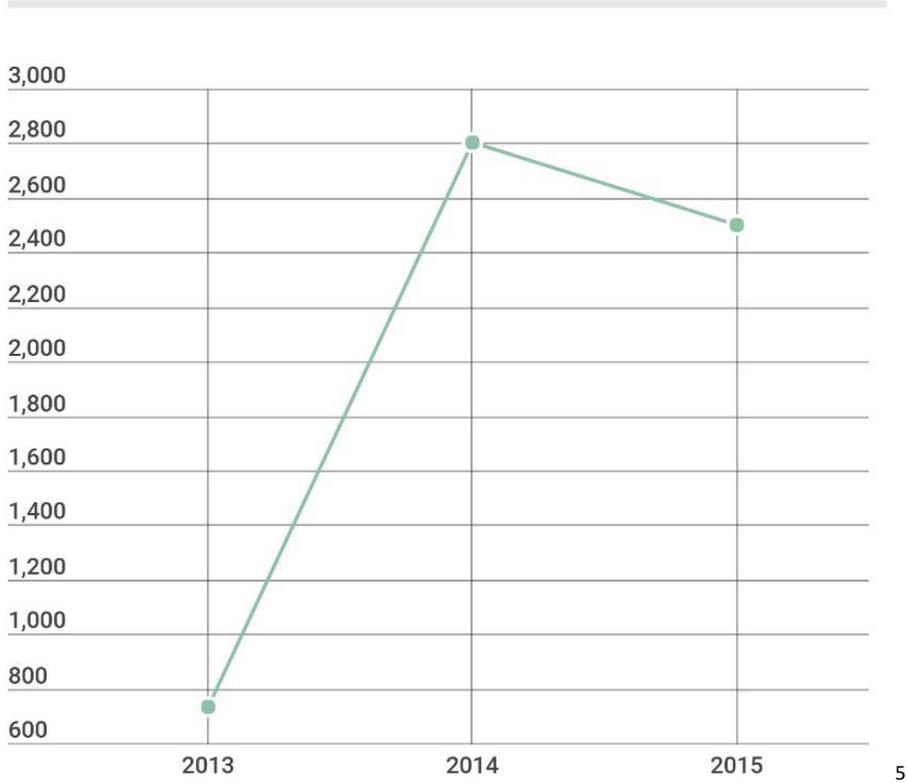
African Tantalum Production (Volume Metric Tons)



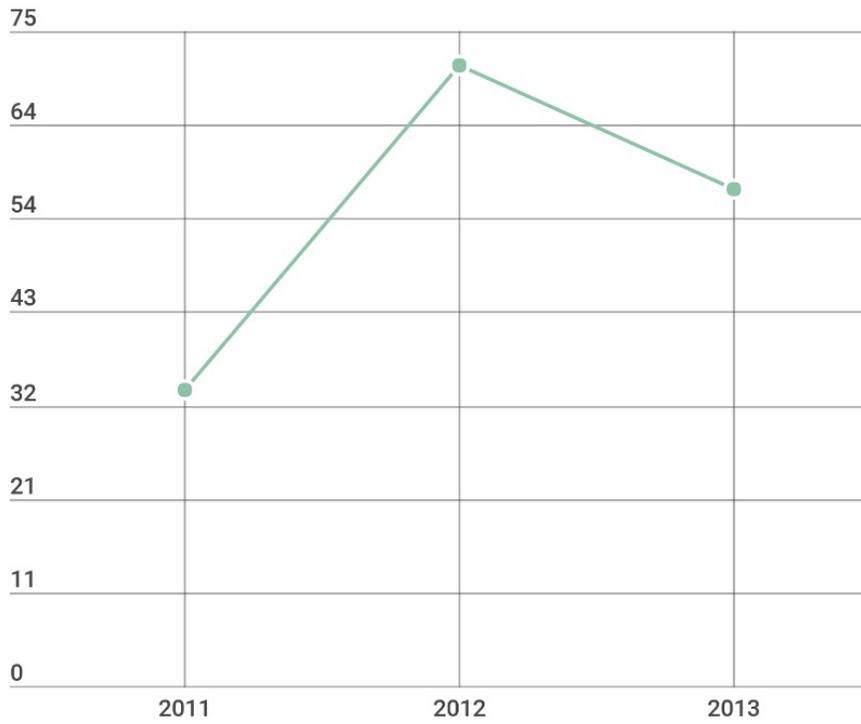
4



Rwanda Production of Tungsten (Volume Metric Tons)



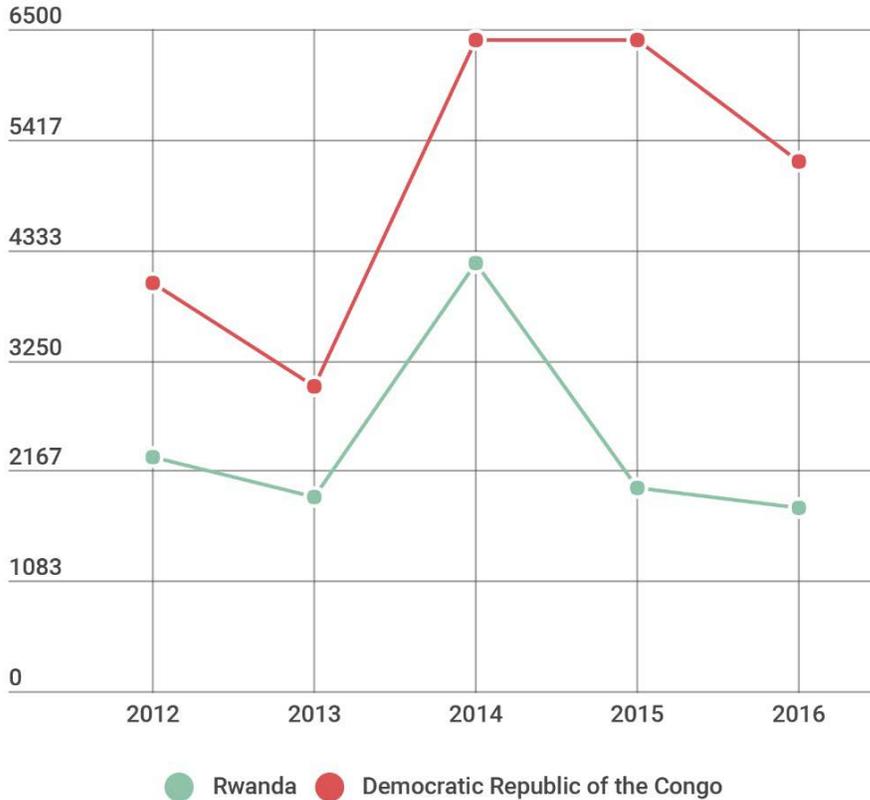
Democratic Republic of the Congo Production of Tungsten (Volume Metric Tons)



6



African Production of Tin (Volume Metric Tons)



7

Global Witness reports that the largest importers of tantalum are Belgium, China, Thailand, and South Africa. The largest purchasing countries for tin are Belgium, Thailand, the United Kingdom, Malaysia, and Rwanda, and the largest purchasing countries of tungsten are Belgium, the United Kingdom, the Netherlands, China, and Austria. For electronics purchased in the United States, minerals are usually shipped and processed in Asia before being sold as finished products.⁸

Features of Production and Supply Chain

The tantalum supply chain begins by accessing the mineral’s raw ore through artisanal and/or large scale mining, or by recovering tantalum from tin smelters or recycled scrap metal. Both artisanal and



commercial mining are conducted in the Democratic Republic of the Congo. Approximately 375,000 people are employed in industrial mining in the Democratic Republic of the Congo, supporting over 1.8 million people total. Comprehensive data on the scale of artisanal mining is unavailable, but according to the Electronics Industry Transparency Initiative, “10 million people, 16 percent of the Congolese population, are directly or indirectly dependent on small scale mining.”⁹

Artisanal mining is carried out without any intensive tools or technology. Most artisanal mining is technically illegal as most miners cannot afford the mining cards issued by the government and operate outside of government-designated “zones d’exploitation artisanale.”¹⁰ Instead, most mining takes place on formal mining concessions, which violates national law.¹¹

Although informal, there is a well-established structure to informal mining. Bosses usually oversee teams of diggers, porters, rock crushers, and washers on mining sites. Mining sites are either underground, open-pit, or alluvial. Underground mines can be 30 meters deep. Alluvial mining takes place in rivers.¹²

There are two supply chain models for minerals in the Democratic Republic of the Congo. The first is known as the trading house model. After the minerals are mined, they are bought by individual traders known as “negociants” who maintain relationships with the parties controlling the mines. The negociants sell the minerals to trading houses or “comptoir d’achat.” Some comptoirs may also buy minerals directly from the mines. These comptoirs are licensed and registered with the Congolese government.¹³

In the “closed pipeline” model, pre-assessed production sites, processing and export operations are vertically integrated so actors at each level are known to suppliers.¹⁴

Once the raw ore is sourced, it is concentrated by gravity and processed by first smelters, then refineries. Refining is most commonly performed by companies in East Asia, who may combine Congolese minerals with minerals from other countries.¹⁵

Despite government efforts to prevent it, smuggling of conflict minerals is prevalent within the Democratic Republic of the Congo. Al Jazeera has reported that while the introduction of conflict-free supply chains has increased the revenue of artisanal and small scales mines from which conflict minerals have typically been smuggled, the continued smuggling of these minerals “calls into question the traceability mechanisms” within the larger supply chain. Anti-smuggling efforts have included tagging bags of minerals with barcodes, which are then logged and tracked by companies operating in the Democratic Republic of the Congo and Rwanda.¹⁶



Key Documented Trafficking in Persons Risk Factors in Tantalum, Tungsten, and Tin Production

According to the U.S. Department of State's 2016 *Trafficking in Persons Report*, tantalum and tungsten are not mentioned by name but trafficking is reported in the mining of ores and tin.¹⁷

The 2016 U.S. Department of Labor's *List of Goods Produced by Child Labor or Forced Labor* also reports child labor and forced labor in coltan, tungsten, and tin in the Democratic Republic of the Congo.¹⁸

Undesirable and Hazardous Work

Underground tunnels from which minerals are mined are often structurally unsound and prone to collapse. Thousands have died while mining.¹⁹ Other health and safety issues identified include exposure to mercury and extremely poor living conditions in mining camps.²⁰

Vulnerable Workforce

Workers in conflict afflicted areas have few other livelihood options and can be desperate for the meager earnings that artisanal mining can provide, even under exploitive and hazardous conditions. For low-skilled workers, artisanal mining can be the only viable source of income.²¹

Child Labor

In the Democratic Republic of the Congo, child labor has been reported in the mining of coltan. Children and adult laborers work in narrow tunnels dug in river beds. Children are used for this process as their small size allows them to more easily navigate these passages.²²

Gendered Dynamics of Production

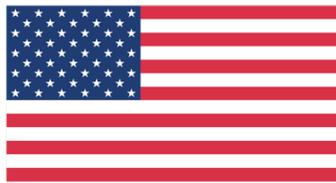
Women are typically not directly involved in mining, but are involved in processing – which carries a risk of mercury exposure – and transporting minerals. Women are also involved in providing auxiliary services around mining camps and performing domestic work. Studies have noted gender-based violence around mining camps.²³



Associated Contextual Factors Contributing to Trafficking in Persons Vulnerability

Association with Organized Crime/Armed Conflict

Until very recently, armed groups in the Kivu provinces of the Democratic Republic of the Congo controlled the majority of the mines. In some cases, the forces that control mining sites, often representatives of the armed forces or rebel groups, make local miners work at gunpoint without pay at their mining site for short periods of time – a process known as “solango.”²⁴ The groups controlling the mines are often the only source of credit in these impoverished regions, and they give loans to miners for money, food, and tools. Miners are then required to pay back these loans at hugely inflated rates, which can force them into a cycle of debt bondage. In addition, false or exaggerated criminal charges may be used to compel miners into service. Child soldiers are also conscripted into work at the mines.²⁵ In 2010, the U.N. Group of Experts stated that, “in the Kivu provinces, almost every mining deposit [was] controlled by a military group.”²⁶ As of October 2016, however, the studies have found that over three-quarters of miners surveyed in Eastern Province were in mines not directly affected by conflict.²⁷



Gift of the United States Government

This report was funded by a grant from the United States Department of State. The opinions, findings and conclusions stated herein are those of the authors and do not necessarily reflect those of the United States Department of State.



Endnotes

¹ The usage of the term “conflict minerals” varies. This report focuses on cassiterite (tin ore), wolframite (tungsten ore), coltan (tantalum ore) and gold from the Democratic Republic of the Congo and immediately surrounding areas that have been linked to the ongoing conflict and are specifically regulated under Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

² Gold from the Democratic Republic of the Congo is also considered a “conflict mineral.” For more information, see the Gold commodity report.

³ U.S. Department of the Interior. U.S. Geological Survey. *Niobium (Columbium) and Tantalum Statistics and Information*. <https://minerals.usgs.gov/minerals/pubs/commodity/niobium/>.

⁴ U.S. Department of the Interior. U.S. Geological Survey. *Niobium (Columbium) and Tantalum Statistics and Information*. <https://minerals.usgs.gov/minerals/pubs/commodity/niobium/>.

⁵ U.S. Department of the Interior. U.S. Geological Survey. *Tungsten Statistics and Information*. <https://minerals.usgs.gov/minerals/pubs/commodity/tungsten/>.

⁶ U.S. Department of the Interior. U.S. Geological Survey. *Tungsten Statistics and Information*. <https://minerals.usgs.gov/minerals/pubs/commodity/tungsten/>.

⁷ U.S. Department of the Interior. U.S. Geological Survey. *Tin Statistics and Information*. <https://minerals.usgs.gov/minerals/pubs/commodity/tin/>.

⁸ Global Witness. *Faced with a Gun, What Can You Do? War and the Militarization of Mining in Eastern Congo*. July 31, 2009. <http://www.globalwitness.org/library/faced-gun-what-can-you-do>.

⁹ World Bank. *Democratic Republic of Congo Growth with Governance in the Mining Sector*. May 2008. <http://siteresources.worldbank.org/INTOGMC/Resources/336099-1156955107170/drcgrowthgovernanceenglish.pdf>.

¹⁰ International Peace Information Services. *The formalisation of artisanal mining in the Democratic Republic of the Congo and Rwanda*. 2012. <http://www.cifor.org/fileadmin/subsites/proformal/PDF/RIPIS1212.pdf>.

¹¹ International Peace Information Services. *The formalisation of artisanal mining in the Democratic Republic of the Congo and Rwanda*. 2012. <http://www.cifor.org/fileadmin/subsites/proformal/PDF/RIPIS1212.pdf>.

¹² International Peace Information Services. *The formalisation of artisanal mining in the Democratic Republic of the Congo and Rwanda*. 2012. <http://www.cifor.org/fileadmin/subsites/proformal/PDF/RIPIS1212.pdf>.

¹³ International Peace Information Services. *The formalisation of artisanal mining in the Democratic Republic of the Congo and Rwanda*. 2012. <http://www.cifor.org/fileadmin/subsites/proformal/PDF/RIPIS1212.pdf>.

¹⁴ OECD. *Mineral Supply Chains and Conflict Links in Eastern Democratic Republic of Congo*. 2015. <https://mneguidelines.oecd.org/Mineral-Supply-Chains-DRC-Due-Diligence-Report.pdf>.

¹⁵ Global Witness. *Faced with a Gun, What Can You Do? War and the Militarization of Mining in Eastern Congo*. July 31, 2009. <http://www.globalwitness.org/library/faced-gun-what-can-you-do>.

¹⁶ Natasja Sheriff. “The losing battle against conflict minerals.” Al Jazeera. September 14, 2015. <http://america.aljazeera.com/articles/2015/9/14/the-losing-battle-against-conflict-minerals.html>.

¹⁷ U.S. Department of State. *Trafficking in Persons Report*. 2016. <https://www.state.gov/j/tip/rls/tiprpt/2016/>.

¹⁸ U.S. Department of Labor. *2014 List of Goods Produced by Child Labor or Forced Labor*. 2014. http://www.dol.gov/ilab/reports/pdf/TVPRA_Report2014.pdf.

¹⁹ Charles Lavery. “Plight of African child slaves forced into mines - for our mobile phones.” Labor Rights. July 6, 2008. <http://www.laborrights.org/in-the-news/plight-african-child-slaves-forced-mines-our-mobile-phones>.

²⁰ Pact. *PROMINES Study: Artisanal Mining in the Democratic Republic of Congo*. June 2010. <http://congominer.org/system/attachments/assets/000/000/349/original/PACT-2010-ProminesStudyArtisanalMiningDRC.pdf?1430928581>.



²¹ Pact. *PROMINES Study: Artisanal Mining in the Democratic Republic of Congo*. June 2010.

<http://congominer.org/system/attachments/assets/000/000/349/original/PACT-2010-ProminesStudyArtisanalMiningDRC.pdf?1430928581>.

²² Charles Lavery. "Plight of African child slaves forced into mines - for our mobile phones." Labor Rights. July 6, 2008.

<http://www.laborrights.org/in-the-news/plight-african-child-slaves-forced-mines-our-mobile-phones>.

²³ Charles Lavery. "Plight of African child slaves forced into mines - for our mobile phones." Labor Rights. July 6, 2008.

<http://www.laborrights.org/in-the-news/plight-african-child-slaves-forced-mines-our-mobile-phones>.

²⁴ Pöyhönen, Päivi, Kristina Areskog Bjurling and Jeroen Cuvelier. *Voices from the Inside: Local Views on Mining Reform in Eastern DR Congo*. FinnWatch and SwedWatch. October 2010. http://somo.nl/publications-en/Publication_3586.

²⁵ Fitzpatrick, Terry. "Several Types of Slavery Linked to Congo's Mining Industry." *Huffington Post*. September 2, 2010. http://www.huffingtonpost.com/free-the-slaves/several-types-of-slavery-_b_702827.html.

²⁶ BBC News. "DR Congo minerals: Most mines 'conflict free' since US law." June 10, 2014. <http://www.bbc.com/news/world-africa-27782829>.

²⁷ Enough Project. "Enough Project Comment to State Department in Support of Conflict Minerals Rule." May 18, 2017.

<http://enoughproject.org/blog/enough-project-comment-to-state-department-in-support-of-conflict-minerals-rule>.

