



Copper

Summary of Key Trafficking in Persons Risk Factors in Copper Production

- ✓ Undesirable and Hazardous Work
- ✓ Vulnerable Workforce
 - Child Labor
 - Migrant Labor
 - Casual Labor
- ✓ Associated Contextual Factors Contributing to Trafficking in Persons Vulnerability
 - Association with Environmental Degradation
 - Association with Organized Crime/Armed Conflict

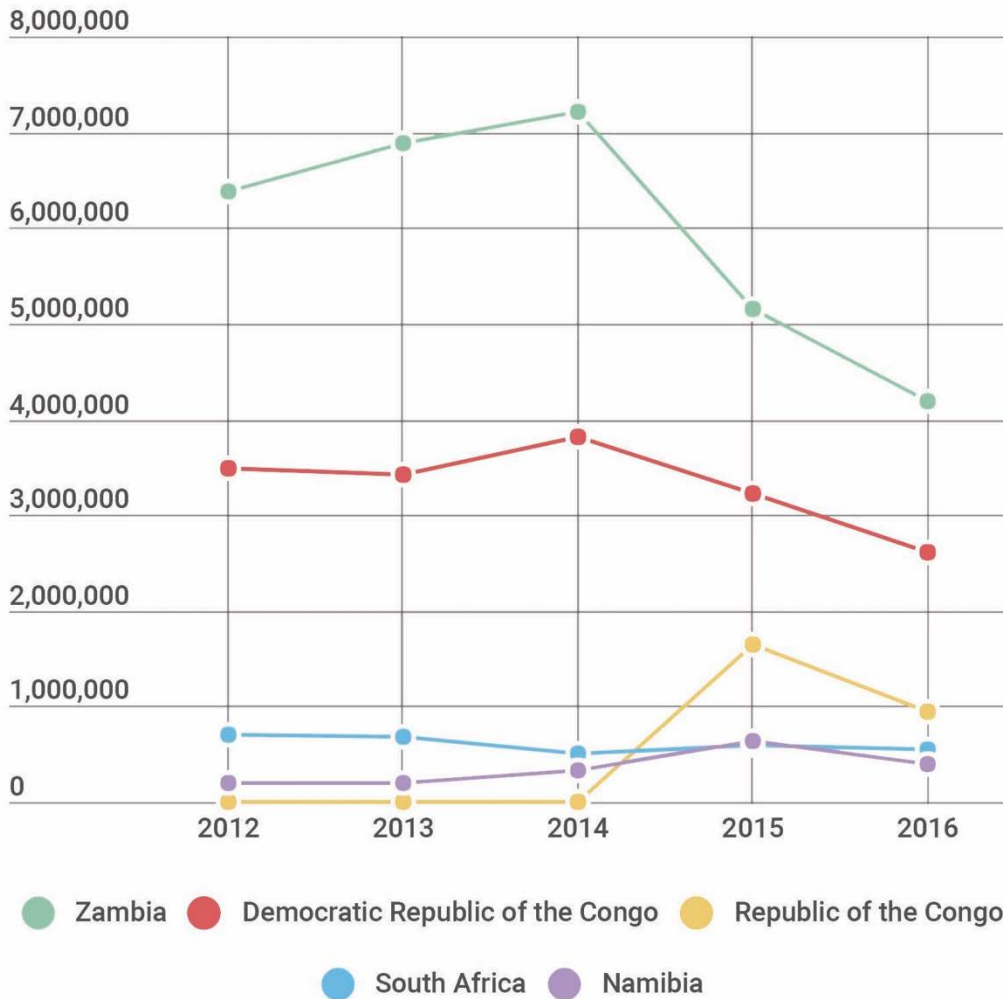
Overview of Copper Production in sub-Saharan Africa

Trade

The top exporting countries of copper from sub-Saharan Africa are Zambia, the Democratic Republic of the Congo, Republic of the Congo, South Africa, and Namibia.¹



Top Exporters of Copper (Value USD/Thousands)



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The top importing countries of copper from Africa are China, Korea, India, Italy, and Saudi Arabia.³

The Zambia/China trade relationship is particularly strong, with copper export values approximately 40 times larger in 2016 than 2000. China invests significantly in Zambian infrastructure projects.⁴ China is Zambia's second largest trading partner and leading foreign investor; when China's economy struggles, Zambia experiences a second-hand economic slowdown.⁵ In 2015, several large Chinese owned mines drastically slowed production or cut back their operations, leading to job loss and economic depression in the Zambian Copperbelt.⁶



Features of Production and Supply Chain

Copper mining is resource intensive for high efficiency mining and is typically managed by large scale commercial operations.⁷ That said, small-scale mining operations in Zambia have been increasing.⁸ Opportunistic artisanal copper mining has also been noted in the Democratic Republic of the Congo.⁹

After ore is mined, it is sold to middle men who sell to regional smelters. The middlemen may also be direct agents of the smelters.¹⁰ Smelters are often owned by international companies.¹¹ The smelted product, called a “blister” is used to create “semi-finished” products such as rods, tubes, and wires that are used in consumer and industrial goods.¹² Once the ore arrives at the smelter it can be difficult to maintain visibility into the origin mine because the ores are all refined together.

According to U.S. Geological Survey, copper is most frequently used for “power transmission and generation, building wiring, telecommunication, and electrical and electronic products.” Copper wires and plumbing are used in construction, telecommunications, and vehicles.¹³ Global demand for copper is expected to boom in coming years, as copper is used in a variety of consumer tech products, including electric cars.¹⁴

Key Documented Trafficking in Persons Risk Factors in Copper Production

According to the 2016 U.S. Department of State’s *Trafficking in Persons Report*, forced labor or forced child labor is involved in copper production in the Democratic Republic of the Congo and Zambia.¹⁵

Undesirable and Hazardous Work

Human Rights Watch (HRW) has reported serious exploitation, including indicators of human trafficking, of adult Zambian workers in Chinese-state owned copper mines. In 2011, HRW documented that workers in Chinese-state owned copper mines face threats and retaliation for refusing dangerous work, lack of protective equipment, and exploitation of contract miners.¹⁶ Zambian President Michael Sata, whose presidential campaign promised an emphasis on labor rights, made efforts to improve oversight of the mines, but the enforcement of labor laws and worker protections, especially with regard to freedom of association, working hours, and health and safety conditions, remained insufficient.¹⁷ In 2015 and 2016, it was reported that the Chinese economic downturn significantly decreased mining activity and many workers were laid off or at risk of losing their jobs, angering local unions and economically devastating towns in the Copperbelt.¹⁸



Vulnerable Workforce

Casual Workforce

Even miners employed in commercial copper mining may be casual, temporary workers who lack formal employment relationships or benefits.¹⁹

Child Labor

The U.S. Department of Labor's 2016 *List of Goods Produced by Child Labor or Forced Labor* notes child labor in the production of copper in the Democratic Republic of the Congo.²⁰

Children involved in copper mining are most likely working in artisanal production schemes. Miners, including children, spend their days in unstable, hand-dug mine shafts, collecting stones infused with copper. Children and adults work in mines often without safety equipment, ventilation, or proper lighting. They are vulnerable to illness, collapsing mine shafts, lung damage from dust, repetitive motion stress injuries, injuries from falls, carrying heavy loads, and working long hours. At some mining sites, children are involved in ancillary activities such as fetching water, transporting stone, and preparing and selling food. In some cases, women and girls may be sexually exploited in mining camps.

In the Democratic Republic of the Congo, there are reports of children as young as eight years old working in copper mines. World Vision released a report in 2013 documenting widespread child labor and job-related sickness or injury in addition to reports of worker death and serious injury. Child workers interviewed for this report discussed working long days and being unable to attend school. The report noted that 40 percent of artisanal miners in the Democratic Republic of the Congo are children.²¹ In 2012, a BBC documentary showed children and juveniles in the Democratic Republic of the Congo working in copper mining operations owned by Swiss-based company, Glencore. Miners without safety equipment were filmed climbing down mineshafts in the Tilwezembe concession. Glencore executives claimed that although they maintained ownership of the concession, they had halted operations and the mines had been overtaken by artisanal mining operations. However, the BBC documented that trucks from the mine traveled to a processing plant owned by Glencore's partner in the Democratic Republic of the Congo. According to the BBC, it also appeared that copper from Tilwezembe was sent to a Glencore smelter in Zambia after leaving the processing plant.²²

A Bloomberg News article described the life of Adon, a homeless, orphaned 13-year-old working in artisanal copper mining operations in the Democratic Republic of the Congo. Adon found work in the mines after he was accused of witchcraft and thrown out of his uncle's house. He was injured in a collapsing mine shaft accident caused by flooding that killed four of his friends. Adon was paid a flat rate of three dollars a day by a middleman, which he felt was reasonable because some middlemen did not pay at all.²³

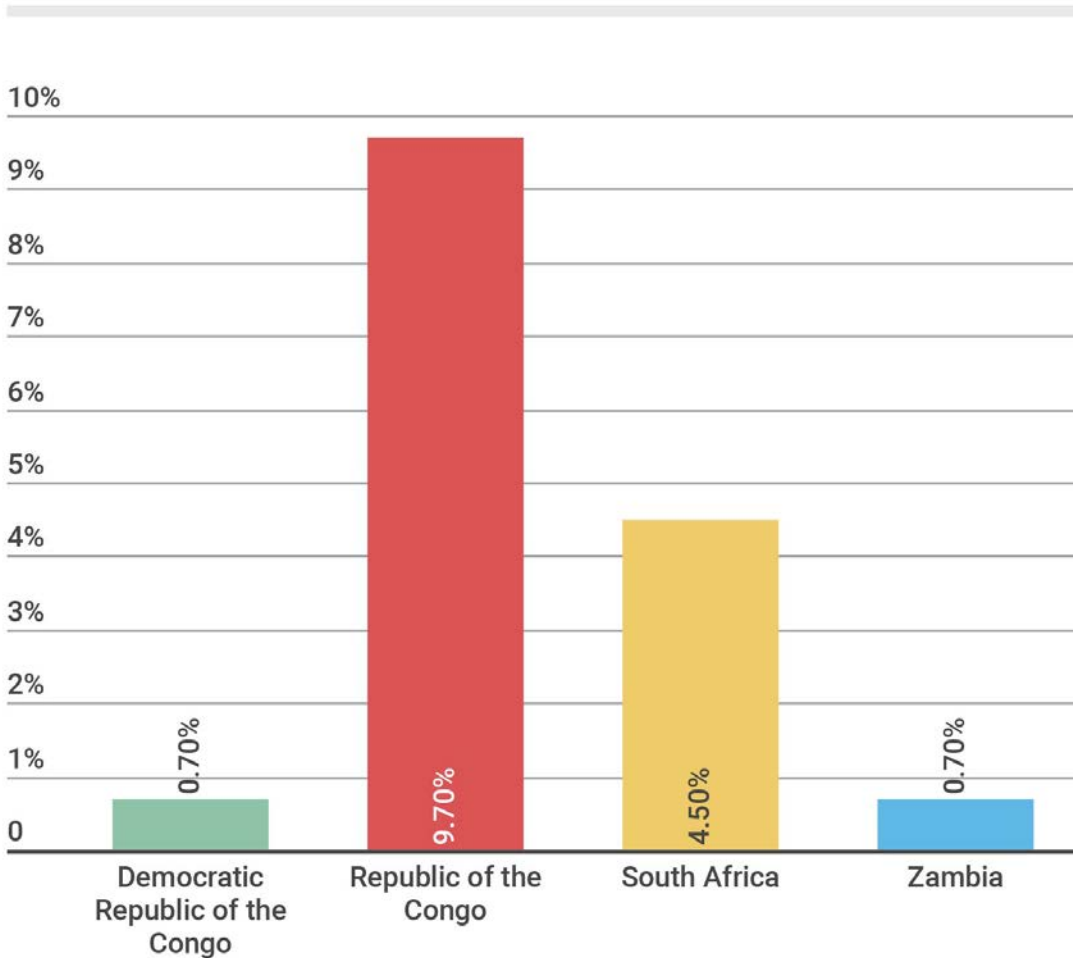


The U.S. Department of State also reports that children in Zambia may be forced by gangs to load copper onto trucks in the copper belt region.²⁴

Migrant Labor

According to the U.S. Department of State's 2015 *Trafficking in Persons Report*, Chinese-owned mines in Zambia exploit South and East Asian men.²⁵ Significant rural-urban internal migration has been noted around mining cities in Zambia – approximately 22 percent of the population in mining areas are migrants, compared to approximately 17 percent of the population in other areas.²⁶

Percentage of Migrants in Copper Exporting Countries



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Associated Contextual Factors Contributing to Trafficking in Persons Vulnerability

Association with Environmental Degradation

Copper production has serious environmental consequences. Gasses from processing contribute to air pollution and reports have demonstrated serious environmental impact from copper mining, including long term water pollution in Zambia.²⁸ Sulphuric acid is used in copper extraction creating “acidic mists” which “harm people’s skin, eyes and lungs” and “destroy crops, deteriorate the quality of the land, and damage nearby buildings.”²⁹ The mists are also carcinogenic, according to the International Agency for Research on Cancer.³⁰

In 2015, villagers in a Zambian mining region sued a mining company for catastrophic health and livelihood damage. Danwatch reported on a leaked report detailing sulphuric acid that had spilled and leached into the drinking water and soil, making local villages uninhabitable.³¹ Copper mining also produces a large amount of industrial waste which is dumped in surrounding areas.³² For example, one region in Zambia produces about 93,000 tons of waste a year.³³

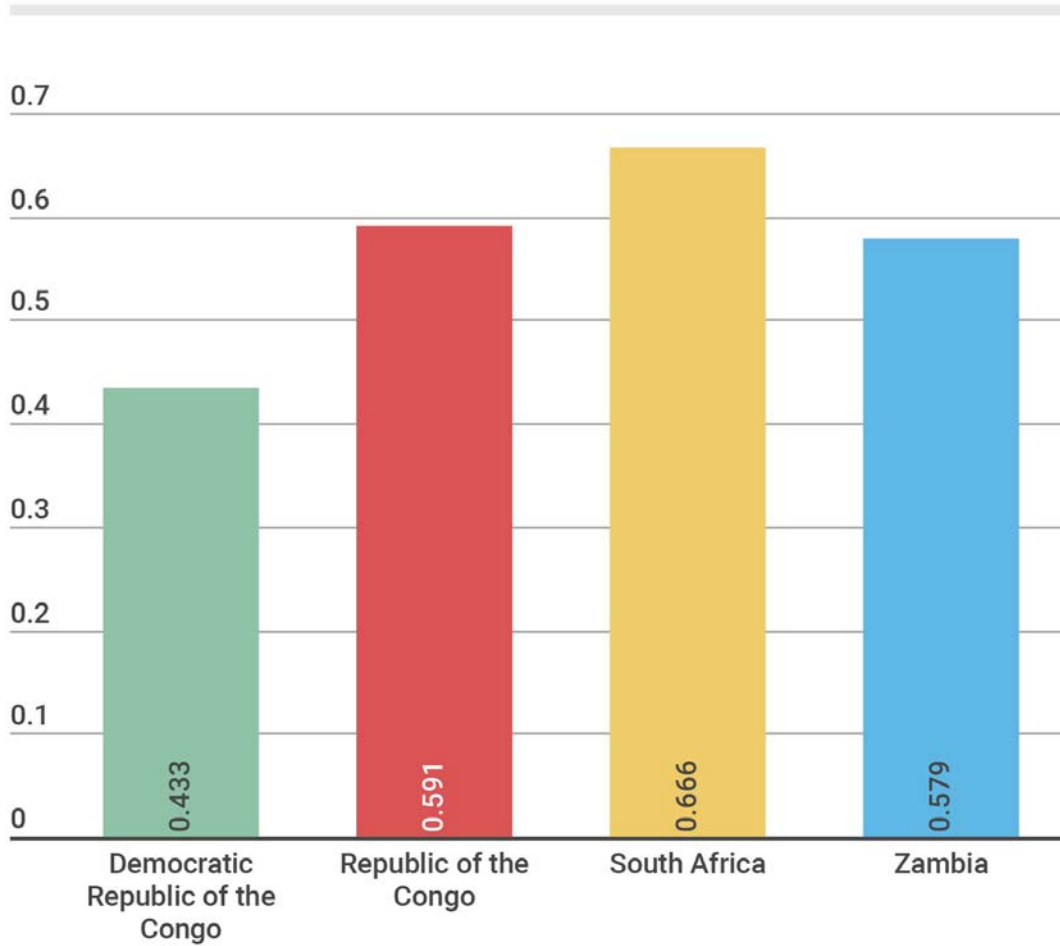
Association with Organized Crime/Armed Conflict

In Zambia’s Copperbelt, organized criminal groups are involved in copper theft and illegal copper mining. Illegal mining also represents a serious health and safety risk for individual miners in the case of mine collapse. Typically, illegal miners steal already-mined copper waiting for collection or work in abandoned shafts. While some illegal activity is conducted by individuals, organized criminal groups operate in a structured manner with local gangs called “jerabos” to mine ore. Illegal miners primarily sell to licensed copper traders, some of whom are influential organized crime figures. They may own legitimate mining operations to serve as a front for the illegal copper. There is some evidence of collusion with local law enforcement officials.³⁴



Comparison of SSA Exporting Countries on Key Indicators

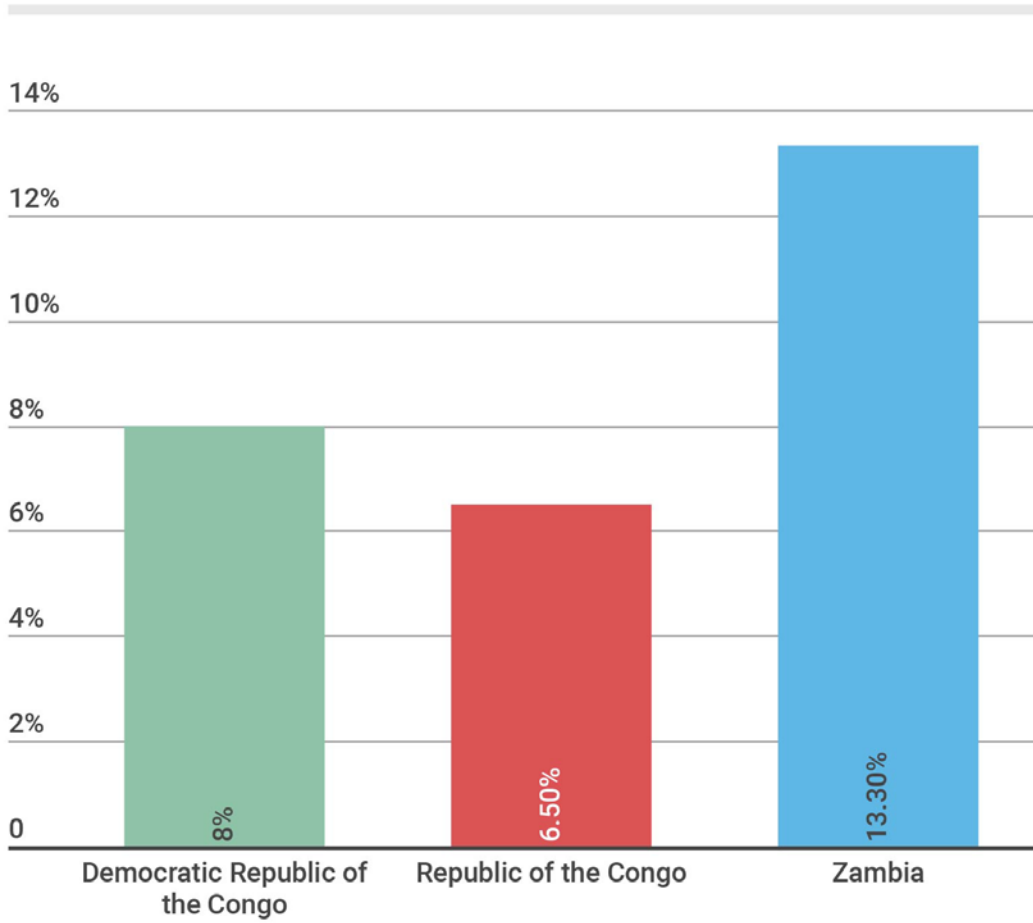
United Nations Human Development Index Score in Copper Exporting Countries



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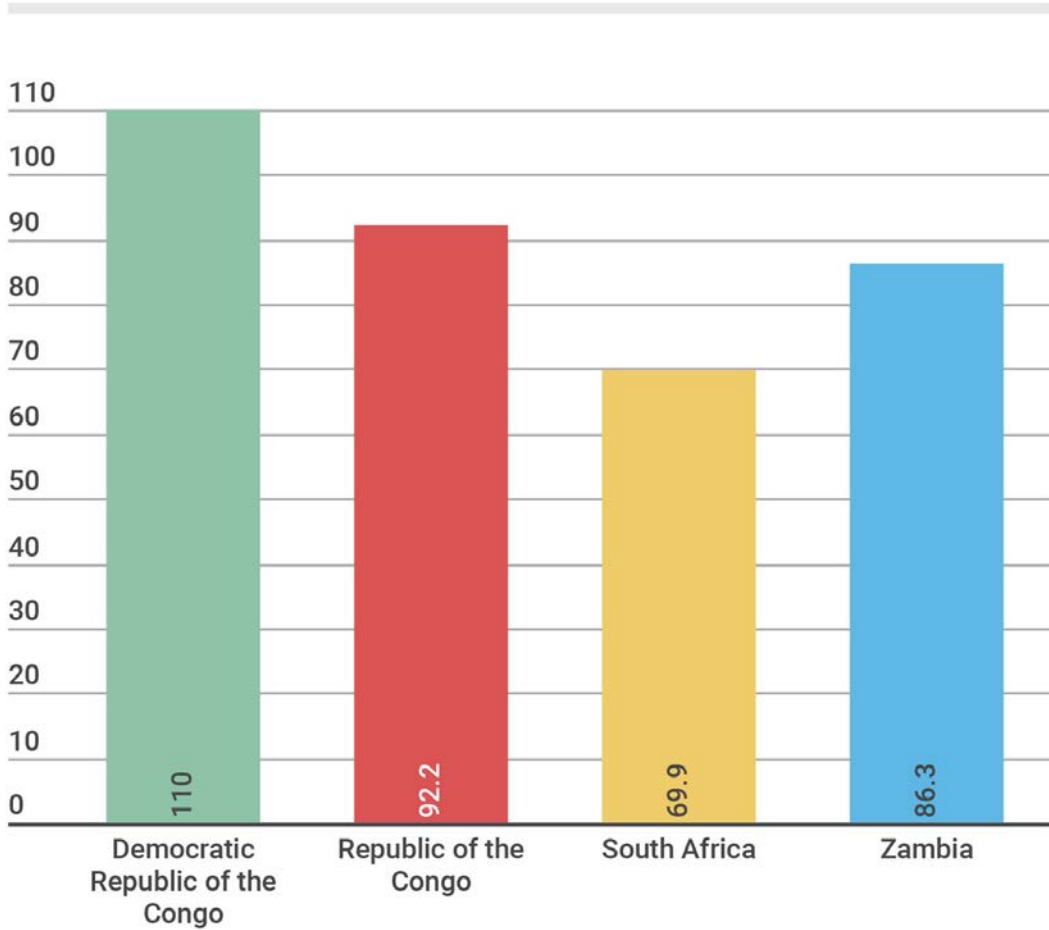
Percentage Unemployment Rate in Copper Exporting Countries



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Fragile State Index Score in Copper Exporting Countries



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Gift of the United States Government

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Endnotes

- ¹ International Trade Centre. Trade map. <http://www.trademap.org/Index.aspx>.
- ² International Trade Centre. Trade map. <http://www.trademap.org/Index.aspx>.
- ³ International Trade Centre. Trade map. <http://www.trademap.org/Index.aspx>.
The list of importing countries includes importers from all African countries.
- ⁴ Li, Feng. "China is in the Middle of Diplomatic Spat with One of its Oldest Allies in Africa." Quartz Africa. June 07, 2017. <https://qz.com/999630/china-and-zambia-are-in-a-diplomatic-clash-over-illegal-copper-mining/>.
- ⁵ Wang, Celine. "China and Zambia's Resource Nationalism." East Asia Forum. March 31, 2017. <http://www.eastasiaforum.org/2017/03/31/china-and-zambias-resource-nationalism/>.
- ⁶ Financial Times. "Zambia bears the brunt of China's economic slowdown." September 9, 2015. <https://www.ft.com/content/065afc1e-556b-11e5-a28b-50226830d644>.
- ⁷ U.S. Geological Survey (USGS). *2013 Minerals Yearbook Congo (Kinshasa) [Advanced Release]*. 2016. <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-cg.pdf>.
World Bank. *What Would It Take For Zambia's Copper Mining Industry to Achieve Its Potential?* 2011. [http://siteresources.worldbank.org/INTZAMBIA/Resources/copper-mining-summary-note\(online-copy\).pdf](http://siteresources.worldbank.org/INTZAMBIA/Resources/copper-mining-summary-note(online-copy).pdf).
Casa Mining. *Country Profiles: Democratic Republic of the Congo – DRC*. 2011. <http://www.casamining.com/location.php>.
Wilson, Nicholas. Department of Economics, Williams College. *The Early 21st Century Copper Boom and HIV/AIDS in Zambia*. 2010. <http://web.williams.edu/Economics/seminars/WilsonCopperMining.pdf>.
- ⁸ Zambia Development Agency. *Mining Sector*. 2012. <http://www.zda.org.zm/?q=content/mining-sector>.
- ⁹ Kabemba, Claude. "Artisanal Mining in the Middle of a City: The Kasulo Story in the Democratic Republic of Congo." Southern Africa Resource Watch. October 21, 2015. <http://www.sarwatch.org/drc/artisanal-mining-middle-city-kasulo-story-democratic-republic-congo-0>.
- ¹⁰ Clark, Simon, Michael Smith and Franz Wild. "China Lets Child Workers Die Digging in Congo Mines for Copper." Bloomberg News. July 22, 2008. <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aW8xVLQ4Xhr8>.
- ¹¹ Sweeney, John. "Panorama Questions Over Glencore Mines." BBC. April 16, 2012. <http://www.bbc.com/news/17702487>.
- ¹² International Copper Study Group (ICSG). *The World Copper Factbook 2013*. 2013. <http://www.icsg.org/index.php/component/jdownloads/finish/170/1188>.
- ¹³ U.S. Geological Survey (USGS). *Copper Statistics and Information*. 2016. <http://minerals.usgs.gov/minerals/pubs/commodity/copper/>.
- ¹⁴ The Economist. "Mining Companies Have Dug Themselves Out of a Hole." March 11, 2017. <https://www.economist.com/news/business/21718532-electric-vehicles-and-batteries-are-expected-create-huge-demand-copper-and-cobalt-mining>.
- ¹⁵ U.S. Department of State. Office to Monitor and Combat Trafficking in Persons. *Trafficking in Persons Report*. 2016. <https://www.state.gov/documents/organization/258876.pdf>.
- ¹⁶ Human Rights Watch (HRW). *You Will Be Fired If You Refuse: Labor Abuses in Zambia's Chinese State-owned Copper Mines*. 2011. <http://www.hrw.org/reports/2011/11/04/you-ll-be-fired-if-you-refuse>.
- ¹⁷ Human Rights Watch (HRW). *Zambia: Safety Gaps Threaten Copper Miners Government, Chinese State-Owned Subsidiaries Make Uneven Progress*. 2013. <https://www.hrw.org/news/2013/02/20/zambia-safety-gaps-threaten-copper-miners>.
- ¹⁸ Lusaka Times. "Mopani Lays off Over 4000 Workers as Mines Minister Condemns Decisions." November 19, 2015. <https://www.lusakatimes.com/2015/11/19/mopani-lays-off-over-4-000-workers-as-mines-minister-condemns-decision/>.
Bloomberg News. "Glencore Zambian Move to Halt 26 Percent of Country's Copper Output." September 7, 2015. <http://www.bloomberg.com/news/articles/2015-09-07/glencore-zambian-move-to-halt-26-of-country-s-copper-output>
- Davies, Matthew. "Low Copper Prices Cripple Zambian Towns." BBC. February 12, 2016. <http://www.bbc.com/news/business-35559473>.
- ¹⁹ Geloo, Zarina. "Cursed By Copper in Zambia." Open Society Initiative for Southern Africa (OSISA). 2013. <http://www.osisa.org/openspace/zambia/cursed-copper-zambia>.
- ²⁰ U.S. Department of Labor. Bureau of International Labor Affairs. *2016 List of Goods Produced by Child Labor or Forced Labor*. 2016. https://www.dol.gov/sites/default/files/documents/ilab/reports/child-labor/findings/TVPPRA_Report2016.pdf.



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- ²¹ Talaga, Tanya. "Children as young as 8 working in Congo copper mines" Toronto Star. May 23, 2013. ["https://www.thestar.com/news/world/2013/05/23/children_as_young_as_8_working_in_congo_copper_mines_in_democratic_republic_of_congo.html](https://www.thestar.com/news/world/2013/05/23/children_as_young_as_8_working_in_congo_copper_mines_in_democratic_republic_of_congo.html).
- World Vision. *Child labor: Children reveal horror of working in mines*. 2013. <https://www.worldvision.org/child-protection-news-stories/child-labor-children-reveal-horror-working-mines>.
- ²² Sweeney, John. "Panorama Questions Over Glencore Mines." BBC. April 16, 2012. <http://www.bbc.com/news/17702487>.
- ²³ Clark, Simon, Michael Smith and Franz Wild. "China Lets Child Workers Die Digging in Congo Mines for Copper." Bloomberg News. July 22, 2008. <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aW8xVLQ4Xhr8>.
- ²⁴ Human Rights Watch (HRW). *You Will Be Fired If You Refuse: Labor Abuses in Zambia's Chinese State-owned Copper Mines*. 2011. <http://www.hrw.org/reports/2011/11/04/you-ll-be-fired-if-you-refuse>.
- ²⁵ U.S. Department of State. Office to Monitor and Combat Trafficking in Persons. *Trafficking in Persons Report*. 2016. <https://www.state.gov/documents/organization/258876.pdf>.
- ²⁶ Wilson, Nicholas. Department of Economics, Williams College. *The Early 21st Century Copper Boom and HIV/AIDS in Zambia*. 2010. <http://web.williams.edu/Economics/seminars/WilsonCopperMining.pdf>.
- ²⁷ United Nations Department of Economic and Social Affairs, Population Division. *International Migrant Stock: Total*. <http://www.un.org/en/development/desa/population/migration/data/estimates2/estimatestotal.shtml>.
- ²⁸ The Guardian. "Zambian Villagers Take Mining Giant Vedanta to Court in UK over Toxic Leaks." August 1, 2015. <https://www.theguardian.com/global-development/2015/aug/01/vedanta-zambia-copper-mining-toxic-leaks>.
- ²⁹ Danwatch. *Impacts of Copper Mining on People and Nature*. August 15, 2015. <https://www.danwatch.dk/en/undersogelseskapitel/impacts-of-copper-mining-on-people-and-nature/>.
- ³⁰ Danwatch. *Impacts of Copper Mining on People and Nature*. August 15, 2015. <https://www.danwatch.dk/en/undersogelseskapitel/impacts-of-copper-mining-on-people-and-nature/>.
- ³¹ Danwatch. *Impacts of Copper Mining on People and Nature*. August 15, 2015. <https://www.danwatch.dk/en/undersogelseskapitel/impacts-of-copper-mining-on-people-and-nature/>.
- ³² Sikaundi, Gift. Environmental Council of Zambia. *Copper Mining Industry in Zambia: Environmental Challenges*. 2007. [https://unstats.un.org/unsd/environment/envpdf/UNSD_UNEP_ECA%20Workshop/Session%2008-5%20Mining%20in%20Zambia%20\(Zambia\).pdf](https://unstats.un.org/unsd/environment/envpdf/UNSD_UNEP_ECA%20Workshop/Session%2008-5%20Mining%20in%20Zambia%20(Zambia).pdf).
- ³³ Danwatch. *Impacts of Copper Mining on People and Nature*. August 15, 2015. <https://www.danwatch.dk/en/undersogelseskapitel/impacts-of-copper-mining-on-people-and-nature/>.
- ³⁴ Institute for Security Studies (ISS). *Organised Crime Watch*. 2009. <https://issafrica.s3.amazonaws.com/site/uploads/ISS2JUN09.HTML>
- ³⁵ United Nations. *Human Development Reports*. 2016. <http://hdr.undp.org/en/2016-report>.
- ³⁶ World Bank. *Unemployment Rates*. <http://data.worldbank.org/indicator/SL.UEM.TOTL.ZS>.
- ³⁷ Fund for Peace. *Fragile States Index 2016*. <http://fundforpeace.org/fsi/>.

