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Amazon Gold: The Curse of El Dorado

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Abstract

The purpose of this paper is to present a case study related to the negative impacts of gold mining in the Amazon. The case describes the concept of the resource curse syndrome to explain why the negative costs of gold mining in the Amazon could outweigh the positive benefits. Environmental and human rights issues that are discussed in the case study include: the use of mercury in the mining process; deforestation; the impact on indigenous people and the use of child labor.

Key Words: *Gold Mining, Amazon, Human Rights, Environmental Issues, Resource Curse Syndrome.*

Introduction

The search and discovery of gold has been an obsession for mankind for over a millennium. From ancient civilizations to present day, people equate gold with luxury and beauty. As a result, there has always been a demand for gold and there has always been financial rewards for those who have discovered and sold gold. In 1970, the inflation adjusted price of gold was approximately $220 an ounce. By February 1980, the inflation adjusted price was over $2000 an ounce. In November 2015, the price was approximately $1,060 an ounce. Despite losing almost half of this market price, gold is still over four times higher than it was 45 years ago.[i] As a result, there continues to be a strong incentive for not only corporations but small artisanal gold miners to mine gold. Artisanal miners are those individuals who work independently of a company and establish a small scale mining operation. Artisanal miners often have informal and illegal operations which do not follow the government regulations regarding gold mining within their country. Artisanal mining operations are very labor intensive, usually using manual tools in order to capture the gold.[ii] The illegal actions of the artisanal miners is a factor related to the perceived curse of having large gold deposits.

The Resource Curse Syndrome

The resource curse syndrome occurs when there is an imbalance between the positive and negative impacts of a country having a large supply of a valuable natural resource. While it is expected that this "windfall" of natural resources would result in an improved standard of living for the country, it is not necessarily the case. In fact, the discovery and development of valuable natural resources could actually lead to more negative than positive consequences for the country. The discovery of valuable natural resources often leads to corruption, political instability and potential violent conflict which could include civil wars within countries (Stanwick and Stanwick, 2016). Gold mining in the Amazon has had negative consequences related to environment issues, the displacement of indigenous peoples and the use of child labor.

Gold Mining in the Amazon

In 1890, an article in *The New York Times* described the vast potential gold deposits in the mountains of Peru (Anonymous, 1890). The discovery of vast gold deposits started a gold rush that continues to the present day in not only Peru but in other areas of South America including the Amazon Jungle. In Brazil, major alluvial gold deposits were discovered in 1958. Alluvial gold is gold that is found in loose pieces in ancient waterways and is found in sand, gravel and other water sediments.

In 1973, a new highway was built in the Amazon to help gold prospectors get better access to the gold. In a 1976 *New York Times* article, there was a description of gun battles and other forms of violence similar to the early prospecting day in the American West occurring in Brazil as some prospectors resolved disputes over claims by killing other prospectors. It was estimated that by 1976, a ton of illegally mined alluvial gold was smuggled out of Brazil for sale in the United States. The total gold production in Brazil during this time period was between 5 and 6 tons (Reuters, 1976).

Brazil

In 1980, there were an estimated 25,000 independent prospectors digging for gold in 49 different locations in Brazil. By 1985, it was estimated that up to 300 tons of gold would be mined annually in Brazil. The lowest paid workers in the gold operation receive an average wage of $20 a day which, in 1980, was five times the minimum wage in the cities of Brazil. To control the lack of law and order in one mining operation in Brazil, the government authorities took over control of the mining operation by not allowing any new miners to the site and stated that they would buy all the gold at 75 percent of the London Metal Exchange price and cancel any prospector's license who did not agree to those terms. After buying the gold, the authorities would sell it to the central bank for 10 percent above the purchase price (Hoge, 1980).
In 1984, the Gaviao Indian Tribe was given $1.5 million by a government owned mining company, Vale do Rio Doce, in exchange for allowing the mining company to build a railroad through its land. This value was based on negotiation between the tribe and the mining company which included differences in the estimate of how much land would be taken by the railroad. Vale do Rio Doce presented a map which showed the railroad would cut through 600 yards of the Indian reserve. The Gaviao tribe provided its own map which showed the railroad going through 9 miles of the Indian reserve. A number of people including anthropologists and church workers are concerned that after centuries of being self-sufficient, the Gaviao and other tribes which were given financial compensation of mineral access to their land will result in the tribes becoming more dependent on others and weaken the cultural fabric of the tribes (Simons, 1986).

By 1987, an estimated 400,000 people were working in gold mining in Brazil. The largest mining site in Serra Pelada was divided into 6,400 small claims with 61,000 workers at the site. Using pickaxes and shovels, the workers mine the gold manually. With this explosive growth, numerous diseases were reported including hepatitis, tuberculosis and malaria. Furthermore, without proper safety measures, workers have been killed by accidents and by violence over disputed claims. Furthermore, the creeks and rivers have become polluted due to the large volume of mercury that is used in the mining operations in order to separate the gold from the ore. Claims of corruption and payoffs have been made related to politicians and judges who have ignored illegal activities in exchange for these illegal payments (Simons, 1987). By 1988, the number of people working in the gold mining industry in Brazil had increased to an estimated 500,000. Because of this, Brazil had become the fifth-largest producer of gold globally. In 1987, Brazil's industrial mining companies had produced 13 tons of gold while the independent small gold producers had mined approximately 70 tons of gold (Simons, 1988). In 1992, the government of Brazil declared Serra Pelada a national historic reserve, eliminating all legal mining in the area. In 2002, the Brazilian Congress reversed that decision and allowed legal mining again. However, it is estimated that there was very little gold left in the site and the 300 foot deep pit where the gold was extracted had flooded. Furthermore, a multimillion dollar lawsuit was filed against the Brazilian government agency in charge of the site for establishing a

monopoly on buying the gold and underestimating the degree of purity of the gold bought from the miners (Rohter, 2004).

Environmental and Human Rights Issues Related to Amazon Gold Mining

"Somebody's poisoned the waterhole!" Woody- Toy Story

Use of Mercury

The amalgamation of mercury with gold in the mining process has been used for centuries. In the sixteenth century, Spanish explorers would use mercury to such an extent that between 1550 and 1880, an estimated 200,000 metric tons of mercury were released into the environment (Malm, 1998). While the Brazilian government has banned the use of mercury in the gold mining process, government officials admit it is difficult to enforce the ban in the rainforest jungle. The mercury is used in the sluicing function of the mining process. Sluicing occurs when the miners use water to separate the heavier gold from other materials. The gold lands in a sluice box and the mercury is used to help trap the gold dust (Simons, 1989). Mercury, which is a heavy element, bonds with the gold and floats to the bottom of the sluice box. The combined gold and mercury substance is then captured and the mercury is burned off leaving just the pure gold to sell. During the separation process of the mercury and the gold, approximately 50 percent of the mercury is released into the atmosphere as vapor which in subsequently inhaled by the miners or is later returned to the earth as part of rain water. The other half of the mercury that was used is trapped as residue or ash which is usually thrown into the nearby waterway. It is estimated that for every pound of gold that is captured by the miners, up to two pounds of mercury is released into the environment (Brooke, 1990a).

Deforestation

The Amazon basin contains approximately 60 percent of the world's tropical rain forest and is critical in biodiversity and the storage of carbon gases. Through logging, mining, farming and other activities, it is estimated that deforestation is occurring at the equivalent of seven football fields every minute (Laurance et al., 2002). It is estimated that gold mining in Peru has resulted in the destruction of 64,000 acres of rainforest. The Amazon rain forest is thought to have up to 25 percent of the world's terrestrial species. Furthermore, since the gold miners are seeking the gold laden deposits which are below the surface of the ground, mining operations in the Amazon will remove up to a depth of 50 feet of material in order to capture the gold. From 2003 to 2009, the estimated rate of deforestation in Peru has increased by 600 percent (Webster, 2012). In addition, it is estimated that an area equal to 1,680 square kilometers has been cleared in the Amazon rainforest and other South American forests from 2001 to 2013. The level of deforestation has increased as the market price of gold has increased significantly (Watts, 2015).

Impact of Indigenous People

In 1990, the Brazilian government implemented Operation Free Forest which was a two week operation in which approximately 15,000 illegal gold mining operators were forced to leave the Yanomami Indian owned lands. The Yanomami tribe is considered to be the last isolated tribe in the Americas. However, the government also offered gold miners the mining rights to approximately 7 percent of the Yanomami controlled land to appease the complaints from the miners. It is estimated that numerous Yanomami have died due to diseases that have been brought in by the miners including malaria, influenza and measles (Brooke, 1990). In March 1990, the new President of Brazil announced that he had ordered the authorities to blow up all approximately 100 illegal landing strips that had been built by gold miners. It was also announced that any miner that was found on the protected Yanomami land would be arrested (Brooke, 1990). When the government established a reserve for the Yanomami land in Venezuela, it had to start defending the land from Brazilian miners who had moved into the protected Yanomami land reserve. The Venezuelan government announced it was going to build six new military bases along the 2,000 mile

border with Brazil and Columbia in order to protect the Yanomami land reserve (Brook, 1992). In August 1993, gold miners killed 20 members of the Yanomami tribe near the Brazil Venezuela border. This occurred after five tribe members were killed in July 1993 without any public outcry or any repercussions over the action (Brooke, 1993). In July 2012, another attack of a Yanomami village in Venezuela was reported. Most of the 80 villagers were reported to be killed by illegal Brazilian gold miners. It was alleged that the miners came to the village via helicopter and used guns and possibly explosives in order to destroy the village (Neuman and Diaz, 2012).

Use of Child Labor

It is estimated that thousands of children in Peru are recruited by employment agencies to work the gold mines. As young as 12, the children work 10 to 12 hours a day and may not get paid. Many become malnourished and may eventually die from disease. Furthermore, the mine sites do not have public sanitation and the drinking water is taken directly from local creeks without a certainty about the purity of the water. In addition, there are claims of sexual abuse of the children working the gold mines (Nash, 1991). It is common for children to be "sold" to the mine operators to become permanent workers for the mine operations. The children are often told that they will be well paid for working at the mine and once they are taken from the village, they realize that this is not the case and that they had become a victim of forced labor.

When the children get to the mining camp, they are often told that they owed whatever money the recruiters had paid in order to transport the children to the mining camp. They would also be told that they had to work at least 90 days to pay off the debt before they would be given any pay or are allowed to leave the camp which is considered to be induced indebtedness. In a study by the nonprofit group Verite, it was found that workers had to work up to nine months in order to complete their 90 day contracts. It was also reported that some mining operators would employ children who appeared to be as young as 7 years old working in the mining camps. Verite found that over 61,000 children worked in artisanal gold mining operations in Peru (Kepes, 2014).

Conclusions

The discovery of gold in any region of the world should be a celebration of new found riches which could lead to the betterment of the citizens of that country. Yet, the pursuit of gold in the Amazon basin has led to not only the riches for some, but a large negative impact related to the environment, indigenous peoples and children.

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