
The Consequences of Mining in Peru

Forced migration and degradation of the nature from mining.

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Abstract

Under the capitalist train of thought, the increase of capital is the most important part. This has led to a world where the driving factor behind every political decision made been to increase the profits that can be made from the production. From the increase in growth, the development of the countries should come as a byproduct of the elite gaining a higher amount of wealth. As natural resources are discovered, the capitalist will immediately think about how they maximize the profits by extracting these resources.

The capitalist way of maximizing profits has led to a world where the regard for the natural environment and the safety of the workers always comes second to profit maximization. Latin America is one of the places in the world, where it is most visible. This development came as a byproduct of the neoliberal policies introduced in the 1980s and 1990s as an answer to the debt crisis the countries were in before.

In Peru, the privatization and opening for foreign investment and ownership had its start in 1990, as the government wanted the country to be more attractive to the investors. During the 90s the government did not have high regard for either nature or the indigenous or rural populations. Even though there were enacted policies for the protection of both, they were not followed through on, before a change in government in 2000. The Peruvian population has been through much in its history and is therefore not adverse to protests from the policymakers and the juridical system.

This has been necessary as the miners seldom have any care for either the natural environment or the indigenous population. Therefore, many people in the rural areas have lost their means of production, as the consequences of the mining sector keep getting larger, as the sector does itself. This is despite the prices decreasing, and productivity of the mines stagnating. The increasing sector has caused many people to feel they are not being heard regarding their fears of social and environmental damages caused by the industry.

Peru has entered a spiral of protest, and countermeasures being taking by the miners. These countermeasures are different when talking about the miners in the different regions of Peru. In some regions, the owners are paying for private security from the police, while in other regions the miners are defending themselves with whatever means they deem necessary.

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Introduction

The industrial revolution started an ever-increasing demand for minerals and metals to sustain the unprecedented growth there happened in the 1800s. The growth was however mostly centralized in Europe and the United States until the aftermath of the second world war. There the demand for growth exceeded the materials that could be gathered in the region, which led to the spread of the demand for natural resources and materials to the largely untouched places in the world. This is the so-called third world countries or as western countries like to call them, the underdeveloped countries. Many of the industries spread to these underdeveloped countries where already in place, but expanded manyfold, with the introduction of modern transportation and extraction techniques.

The global market needed to increase its capital, and therefore, was the resource extraction from the underdeveloped countries a new cheaper way to gain access to the much-needed resources for production. The technology advances after the second world war, made the distance from the third world countries to the developed world a minor problem.

Many people with the growth of the economy as the most important factor, saw the changes to the global chain of supply as fantastic development. Not only could they get the polluting extractive sector away from their homes, but they could also accumulate more resources for production cheaper. This gained the western countries a massive economic boom, while the third world countries wanted to use this opportunity to reach their own development goals, by selling to the more resourceful nations. While these nations, which previously was used as the supplier during the age of colonization because of their huge natural wealth.

Most of Latin America has seen the ugly side of their huge natural wealth, which varies from country to country. This was especially the case during the cold war, where the USA sought to keep their influence over the countries safe and keep the communistic influences away. This was often done, without thought spared towards the local population. The commodity market saw a giant boom in the 1990s, which saw the prices for minerals and metals skyrocket. This caused a huge expansion of both the investment into mining but also a huge increase in number mines in Peru. This investment came at the same time the government of Peru became more friendly towards foreign investment, and as such, gave up a large part of their natural wealth to foreign private owners. This thesis will analyze the consequences a country can face when it gives up its natural resources to foreign owners, without clear policies put in place to negate these consequences. There will be used political ecology to understand the severity of the ecological damages done by the

mining sector in Peru's wish to further enriching its government and population. What problems has these caused for the population living close to mining areas, and what actions have been taking to counteract the damages to the nature or escape from the destroyed environments. This has led to the following problem formulation:

What damages have the natural environment faced as a consequence of the booming mining Industry in Peru, and how has these damages changed the intranational migration in the affected areas?

Case context: History of Peruvian mining and its indigenous people

Peru is a country that is very rich in natural resources, mostly due to its geography. It is placed in the western part of South America and stretches from the Andes mountains to the western end of the Amazon rainforest. These mountains are very rich in natural minerals, which every historical leader of the empire or country controlling the lands of modern-day Peru have been aware of. This natural wealth the land of Peru contains has been central to all the people wanting to hold control of the land. This is seen throughout history, from the Incas to the Spanish Empire and all the way to modern-day democratic Peru.

Spanish colonial rule of Peru

The Spanish rule over Peru came to be, because a man named Francisco Pizarro got the rights to rule the land south of Panama from the Spanish royalty between 1527 and 1530. He wanted to gain control of the land, as he was convinced by his earlier travels, that there is considerable wealth in the mountains. This conquest of the Incan lands in Peru kickstarted almost 300 years of colonial rule over Peru. As the Spanish empire conquered and colonized the Peruvian lands, they set in place two systems which purpose was to maintain the control over the land as well as maximizing the profits from the various mines. These systems were the "Mita" and the "Casta". (Sarah O'Toole, 2012)

"Mita" was a system that was established in the viceroyalty of Peru, to not only receive tribute from the local population, but also to get labor out of them. This system dictated that the indigenous villages had to pay tribute for the protection of the Spanish empire against outside forces and corrupt internal officials. The labor the indigenous people were doing, was as mine workers, where

they often had long hours and bad work environment. As this labor in the mines where part of the “Mita” some of the Spanish colonizers felt, that the indigenous workers should be paid a day’s wages for each day they worked. The amount of indigenous people needed for the “Mita” was different, depending on the price for an African slave at a given moment. So, if the prices for African slaves was high, he mine owners would demand that more Andean people should do the “Mita”, for the sole reason of maximizing profits. (Sarah O'Toole, 2012)

The “Casta” is a caste system intended to divide the different ethnic groups into different tiers of value. In some forms the “Casta” was used in the same way as the modern definition of race. This is in the sense that a certain people group, in this case the Spanish people, want to establish a hierarchy, in which they have and can maintain their right to the power over the other people groups. In colonial Peru, the other notable people groups, is the mestizo, a people group with a mixture of indigenous and Spanish heritage, the indigenous and the Africans. Somewhere down the line, the people born in Peru with only Spanish ancestry was added to the hierarchy just below the Spanish born citizens. In many years, this caste system was used by the Spanish to stay in power in Peru, by establishing that certain people groups needed to behave in a pre-decided manner, which also locked these people groups into specific industries. So, in this “Casta” system people were expected to stay within their traditional roles within the society. (Sarah O'Toole, 2012)

[The treatment of indigenous people in colonial Peru](#)

At the time, the Spanish crown and the viceroyalty of Peru had ownership over the Peruvian lands, the Andean people where designated to stay in their villages. This was done, as the Spanish crown felt it was easier to protect them that way, but at the same time, it also made easier to suppress them, and therefore, make them work for free or very cheap. It can be argued whether the Andean people were slaves or not, but they were used to collect gold, silver, and other precious metals in the highland mines. This was done, as they were the newly conquered people, and therefore, were in the area in which the mines are located. This means that it was convenient use them to gather the precious metals they had conquered the lands for. (Sarah O'Toole, 2012)

In 1632 the Franciscan priest Bernadino de Cardenas finished his account on the difference between the labor of the slaves of African descent and the enslaved indigenous people. The major point de Cardenas used to differentiate the two people groups where that the black was defiant, and the Incan was pitiful. This was also the stereotype of the two people groups as seen from both the Spanish

people, the Spanish crown, and the colonizers. Therefore, the Spanish crown felt that indigenous were free to live in their villages but had to do their “Mita” and pay their protection money, while the African slaves were owned by the Spanish colonizers. (Sarah O'Toole, 2012)

The Spanish crown made it a mission to protect the indigenous population and made several laws against the enslavement and for the proper treatment of the conquered people. This was, however, very difficult for the crown to uphold, unless the Spanish officials in Peru was virtuous. This typically was a problem when the colonizers faced hardship, as the indigenous population was easy to use as cheap labor when the African slaves were too expensive. (Sarah O'Toole, 2012)

Postcolonial Peru: from colonial rule to oligarchical rule

During the first 100 years of self-rule in Peru, they had primarily liberal economic policies with an orientation towards commodity exportation. At the start the exportation was primarily nitrates, but later the mined resources became a bigger part of the exports. At the time, the leadership was mostly focused on the oligarchs residing near the bigger cities at the coasts. These oligarchs were the intermediates for the foreign capital flowing into country. (Bebbington, Abdulai, Bebbington, Hinfelaar, & Sanborn, 2018)

After Peru gained independence in 1821, the state was considered weak and had a limited capacity to control its territory. There was a giant instability, which lead to the formation of groups, that can be described as guerilla groups, with their leaders the “caudillos”. These was created out of fear for an uprising from the Andean people. They were very afraid of an uprising, as the Andean people had been suppressed in prior 300 years. This suppression led to loss of their native lands, subjection to forced labor and very large taxes, and therefore, the fear the “caudillos” and their groups had for a rebellion could be argued to be well reasoned. At the same time, the authorities often gave economic opportunities to foreign interests instead of developing their own industries.

The Aristocratic Republic was founded in 1895 after a crisis following the war of the pacific, where Peru lost a lot of its southern territory to Chile. This republic was in control until 1919, and under its control Peru saw a diversification in its exports, as they restarted their export of copper and silver, and started exporting oil. As the export began, there was a large presence of foreign investors, particularly from Germany, the United Kingdom, and the United States. These foreign investors came into Peru because of some very liberal economic policies. These liberal economic

policies came because of personal elitist parties, which also led to lesser suffrage for the general population, and especially for indigenous population.

In 1919 President Augusto Leguía started an authoritarian regime as a successor to the aristocratic republic. He started two big banks, as well as many infrastructure projects in the coastal regions. Furthermore, he gave legal recognition to the indigenous and created a central government agency for indigenous affairs. These were, however, not very efficient as the landowner elite had too much power over the government. This meant that the government were forced to sign new laws helping the elite and taking rights from the indigenous population, as well as forcing them into unpaid labor under feudal conditions. While the regime accelerated the foreign control and investment, it also opened for widespread corruption. The great depression in 1929 had a large negative effect on the Peruvian economy, where especially the emerging middle class and the workers were hit hard. This led to mass protest and ultimately, he was forced to resign by a military coalition.

During the depression years and the immediate aftermath, the push for more nationalistic economic tendencies were at the forefront for development in Peru. Therefore, the people of Peru created modern trade unions and mass based political parties, these political parties were AFRA and the socialist party. At the beginning both were critical of the US imperialism in Latin America, and especially of the foreign corporations acting as enclaves in Peru. This led to a period in where national small and medium sized mining companies began expanding the projects, which also led to more investment into public services such as education and health. Even though the small and medium sized mining operations saw progress, the big mining corporations were still owned by foreign investors. In the late 1950's the two aforementioned political parties were joined by many left leaning and reform based parties inspired by the peasants demands for land reform, as well as by other third world experiences, such as the Cuban revolution. One of these new parties, AP, won the election in 1963 on the background of promises of economic and land reforms, that they could not get through because of the opposition holding veto power against it. This led to the peasants forcibly taking over lands in the Andean highlands.

In 1968 a military group called GRFA took control of Peru through a coup. This started a military dictatorship which is very different from other military dictatorships, as GRFA were very independent from the interest of the oligarchies. Furthermore, they were seeking to become less dependent on other countries and their capital, instead seeking to focusing on the development and

integration of Peru and its inhabitants. Therefore, they ended the landed oligarchy as one of the main political actors, reduced importance of foreign capital and nationalized the extractive sectors. As GRFA failed to meet its own objective, the elimination of poverty and social inequality, they were ousted by another general.

Neoliberalism in Peru; influences on the mining sector

In 1990 Alberto Fujimori was elected as president in Peru. This was a short presidency, as he made a self-coup in 1992 with the help from the generals of the military. This was done as he wanted to distance himself from the more left leaning parts of the government. As he was successful in maintaining the power until 2000, he privatized the mining industry, which saw large investments and increased twentyfold in size. Peru did not only see the expansion of mines, in the central and southern areas where they were used to large scale mining, but also in the other parts of the country, where people were not used to large scale mining, as well as the local eco systems and agricultural needs. By the year 2000, eleven of the world's twenty largest transnational mining corporations had part in the extraction of minerals in Peru, either as partner of a national company or as owner. These transnational mining firms held the rights for the majority of the large new mining projects. The political power changed from the trade unions and professional associations to national industry leaders. During this period, international organizations such as the World Bank and IMF wanted the Peruvian policymakers to make legislation to protect the nature. This came in place, but the responsibility came to the same part of government, which should promote the mining industry to investment, which led to a conflict of interest. Therefore, the nature and the environment took a place behind the investment in order of importance. Artisanal mining the Amazon rainforest did not see any protective legislation in the early 90'es, but from 1995 they began taking small steps towards protecting the rainforest from mining. It did not help much, as it was during this time, artisanal mining saw it biggest expansion. (Bebbington, Abdulai, Bebbington, Hinfelaar, & Sanborn, 2018)

Peru returned to democracy when Fujimori fled the country after his large net of corruption was discovered. This did not change the government vision in the mining in the country, as mineral exports arose drastically from 3,2 billion to 27,4 billion US dollars in just ten years. This happened at the same time as more and more of the Peruvian land was conceded to mining corporations. At the same time, the artisanal mining also saw a big rise, especially in the Amazon rainforest. This

sector also had the support from local politicians and international organizations, as they saw it as a method to be included in politics. But as the gold fever of 2005 increased the productivity, and the government lost the ability to control the practices and methods used to extract the gold. At the same time, Peru saw political decentralization, which meant, that many of the regions in the Peruvian amazon were led by the artisanal miners, which either lacked the capabilities or motivation to enforce standards to protect the environment. In 2006 Peru committed to create a ministry of environment as part of a trade agreement with the USA. This along with the pressure Peru received from local and international conservationists, made them begin to repress and contain the amount the artisanal miners were mining. The government are seeing them as informal artisanal miners rather than illegal, but the international community has the opposite view. This created an atmosphere, where they tried to remove the artisanal miners rather than formalize them. The artisanal miners had overlapping claims to land with the large mining corporations, which made them say the government were favoring the large corporations, because of the shutdowns of the artisanal miners. As Peru returned to democracy, they opened for people to start social conflict on regards to the mass exploitation of their lands, which inevitably leads to the destruction of the resources necessary to live. There was a large variety of demands from the population regarding the mining industry and the government. Most of them focus on the rights of the indigenous population and the resources, that were either destroyed by mining or generated by mining.

Contemporary laws and regulations for the mining industry

In this chapter, three different regulations will be presented, to give an overview on how the Peruvian state have tackled the different problems and opportunities that exist with a large mining industry. the opportunities there exist, can mostly be measured in the extra money the state can get from taxing the mining companies, and how the income from the taxes is used. Some of the problems would be the environmental issues that arise when a country has a big mining industry, and how these issues impact the people living nearby the mines.

The first regulation, that will be presented is the taxation of the mining companies and redistribution of the money they receive from the taxation. In Peru, they tax the mining operations with about 30 % of the income the mining companies have, which is approximately average for countries with major mineral exports. In the start of this millennium, most of the money went to the central state. This changed after pressure from the local governments, so that 50 % of the income tax would be

redistributed to these local governments. The money that is going to the local governments are distributed in a manner, so that the regions with mining activity get all the money. Because of that, many of the poorer regions have stayed poor and underdeveloped, while the regions getting the money, has not had a plan to use them responsible. Furthermore, the mining operations must pay 2 % of their profits as windfall to their nearby communities. These payments should be used to develop the local areas. To secure these large mining corporations are paying the taxes they should, Peru became a member of Extractive Industries Transparency Initiative (EITI) in 2011. Therefore, a majority of the corporations in the extractive industry have voluntarily opened their books, so an independent regulator can secure they are paying what they should.

Peru adopted a modern environmental regulation in the 1990s, but as these were not really uphold, many grassroots and international organizations fought for the government to prioritize the environmental issues. Therefore, MINAM was created in 2008 to ensure the mining corporations follow the environmental regulations. Within MINAM there was established other agencies with their own responsibilities regarding the environmental standard in Peru. One of these agencies got the responsibility to review approved EIAs, but as they did not have any real power when deeming the EIAs too bad for the environment, it was proposed, that they should get the power from the line ministries. This should give the agency full power to maintain a high standard for the environment before handing out an EAI. These agencies were met with resistance from the Ministry of Economy and Finance, as they are afraid it would lower investment, and especially during economic hardships. But the enforcements of the environmental regulations in Peru has been difficult enforce, as the companies of the extractive industry have resisted the fines they have gotten, by taking their cases to the court.

ILO 169 is an international treaty that deal with the rights of the indigenous and tribal people. Peru signed the treaty in 1992. It, however, took more than fifteen years to get it ratified in the congress, on the background of violent protest from the indigenous population primarily in the Amazon rainforest. There has been resistance in applying the law of prior consultation when the topic has been mining in the Andean mountains. This resistance has come from both the central government and private investors. The first cases about mining in the Andean began in late 2015, but the Ministry of Energy and Mining lacked the intercultural competences to process these cases in an appropriate manner, while the Vice Ministry for Intercultural Affairs cannot guarantee all parties comply with the agreements reached during the process, as they lack the authority. In the regions

the Amazon, there have however been more than thirty cases that have reached an agreement between the indigenous people and the Peruvian government.

Methodology

Research strategy

The research of this paper will be done using a deductive method, with the help from a comparative case study. Political ecology and its proposed assumptions, which contains some assumptions from Marxist ecology, include factors such as environmental, social, and economic factors, will help the investigation of this thesis under a materialistic approach. Both qualitative and quantitative data will be used throughout the thesis, to explain the mining activities in Peru in a manner that give a more holistic picture of the mining in Peru.

As it is theme that stretches over a very long timeframe, and with many changes during this timeframe, the thesis will be narrowed down to 1990 to the most recent data. This is done because, the mining practice saw its explosion in Peru during the 1990s. To gain a picture of certain trends, data from before 1990 is used when necessary.

The theoretical framework will allow the research of the damages mining have caused to the environment, and its effects on the social demographics of Peru. Furthermore, a definition for migration will be used to help discovering if the migration happening is either forced or voluntary.

This migration definition will be used as an extension to the political ecology.

The comparative method will be used, to discuss the differences between mining in two wildly different regions of Peru, and thereby, grant an understanding of the differences and equalities of mining and migration and two largely different environments.

Research Design

There will be used a wide variety of primary and secondary sources for this thesis. These will be both quantitative and qualitative, from different databases. The sources used include academic articles, research papers, books, governmental and non-governmental sources, and news articles. The governmental sources used are from intergovernmental organizations, while the

nongovernmental are sources are gathered from websites of social movements and various organizations.

Limitations of data

There is used many resources throughout this thesis, where the majority have been English. There have however, been missing data, which are restricting the analysis, as some information have not been available.

The reason for the missing data can often be found in the controversial nature of the thesis. The government, which has the best possibilities to record the data, might not see the positive interest in obtaining the data from the illegalities happening within the mining sector. This can be with both the environmental as well as the social consequences with mining. There have been stated estimates in secondary sources, but no official numbers regarding the land grabbing or forced displacements.

Precise numbers regarding the environmental damages caused by mining have been difficult to find, due to the new nature of the topic. Furthermore, these data might be difficult to make, due to the vast area that Peru encompasses, and the environmental indicators can be difficult to trace precisely over that amount of land.

Research Outline

To assess the political ecology of Peru, and its consequences regarding forced migration due the environmental changes, the analysis will start at the beginning of Alberto Fujimori presidency in 1990. Here it will start with consequences of mining as a sector of the Peruvian economy, before focusing on the gold mining industry. The analysis starts at Fujimoris presidency as it was the start of the privatization of the mining sector, and therefore, the opening towards the foreign investment and ownership of the mines.

Following there will be a focus on the two case studies, the gold mine Yanacocha in Cajamarca and the illegal goldmining in the region of Madre de Dios. Here the focus will be on the natural and social degradation that have happened due to the mining activity in the regions. This will be used to gain a better understanding of the struggles the various communities undergo, either because of the mining or why mining could be a solution to their problems.

Lastly the case will be seen through the lens of Doughnut economics to discover whether the development model from Peru gain enough from the mining to outweigh the environmental and social cost there accompanies the contemporary mining sector.

Political Ecology

This chapter will present political ecology and discuss its history and the various forms it has taken over the years. Political ecology as a modern theory has its origins in the beginning of the 1970s, where it was referring to the study of the environment and the green politics. From that point it has evolved into many different branches, where each had had their own idea on what the focus of political ecology should be. The foundations of political ecology can be said to lie within the Marxist ecology, as it is critique of the capitalist way of exploit the resources of the nature. This thesis will focus on the Marxist ecology from the Grundrisse. Furthermore, to illustrate the problem modern society faces, Doughnut Economy will be introduced as a contemporary version the Marxist ecology.

Marxist ecology from the Grundrisse

The Marxist ecology focuses on the relation between the production and its effects on the nature. According to Marx, production was a way to increase need and power, while it was limited by boundaries of nature. Therefore, humanity always had to invent new ways to continue exploiting nature in ever increasing manners. This has transformed society and human needs to a point that put very high pressure on nature and its resources. The critique of Marx follows up with, that this circle will continue until the nature cannot keep up with the ever-increasing demand humanity put on it. (Foster, Clark, & York, 2010)

Marx described the relationship between nature and humanity, as one, where the organic humanity where living in the inorganic nature. Although, it does not seem logical at first, this analogy is used to illustrate, that humanity is dependent on nature to survive. Nature is described as the inorganic body of the human, which is meant as being the protective shell that is needed for the organs to survive. Nature is only linked to itself, meaning that it is not in the same way dependent on the humanity and other animals to function. By this, it is meant that nature will survive despite

humanity and its overproduction, as well as it will survive without humanity. (Foster, Clark, & York, 2010)

In Marx's Grundrisse it was described that the productivity of humanity was not constant, but on the contrary it with was in constant development. In the ancient times the production of humanity was seen as a way to satisfy the needs of humanity. Therefore, the productivity of humanity is used by humanity to survive, but also using the nature, to give humanity an easier way to survive. But as technology got more advanced, the needs changed, as well as the thirst for more power and wealth. Furthermore, the producers developed themselves, as it comes naturally for humans to want to develop their skills. They want to enhance their already known skills. Therefore, it created a spiral, where the producers wanted to become better, and produce new things, while humanity as whole did not need these new products to survive. At this point, there was created new needs for humanity for the sake of more production. This can be described as luxuries, but also as driving production for productions sake or as creating wealth because more wealth is wanted. Humanities mastery over nature only evolved as time went, as mean to generate power and wealth through human need with the help of human production. This was not meant to be for single generation, but to be further developed through the following generations. (Foster, Clark, & York, 2010)

Marx saw capital as a self-expanding value, that will always find a new starting point. By this he is saying that there is not an end goal for capital, as every time it reaches a new high point, it will just be the new start. For example, if the capital starts at 100 and reaches 1000, 1000 will be its new starting point. Therefore, capital always had to discover new approaches to not only exploit the nature, but also to increase the effectiveness of the human production of the natural resources. Therefore, it seems that capital and its desire to always increase in size will destroy even seemingly insurmountable boundaries to keep expanding its size. This can be either with something that seems impossible to change with the nature or the lack of proficient labor force. (Foster, Clark, & York, 2010)

Capital has an upper limit, which it will reach once it has exhausted the resources that nature has given to humanity. After it has exhausted the resources, it will end up destroying civilization or even life, as neither can survive without enough resources. Therefore, Marx said that it was required that the earths sustainability should be a requirement for humanities production in general. For that reason, humanity should obtain a conscious and rational land treatment, where the land should not

be overused. This would allow the successive generations to keep using the resources to satisfy their needs. (Foster, Clark, & York, 2010)

Environmental degradation under capitalism

Capitalism can be described as a system of contradiction, but it has two great contradictions, that seemingly only want to expand the capital. The first, which has some importance to this topic, is called “the absolute general law of capitalist accumulation” (Foster, Clark, & York, 2010, p. 207). This law dictates, that the wages given to the working class is just at the satisfactory level of the capitalism, for the sole reason to keep expanding the wealth. Meaning that as long as the capital is expanding at a satisfactory level, the wages given to the workers have a fine level, but if the capital starts to lose its satisfactory expansion, the wages will see a reduction. This will keep happening, until the workers start to refuse to take part in the production, and the capital, therefore, will have to seek other opportunities to cut the cost, and increase the expansion of wealth. This can be seen to some degree over the whole world, with some regions having more extreme levels of this practice. (Foster, Clark, & York, 2010)

This leads to the second contradiction of capitalism, which is called the “absolute general law of environmental degradation” (Foster, Clark, & York, 2010, p. 207). This can be harder to define, but can be shortened down to two existing poles, where one of them is amassing all the wealth, whereas the other is receiving all the condition of resource depletion. These conditions include things such as pollution, destruction of species and habitat, overpopulation and its following conditions like urban congestion and deteriorating social life-environment. This can also be described as the degradation of the mean of production. Another way to look at this, is that the leading capitalist do not have any consideration for the means of production, which for them will be the workers, as well as the nature which hold the resources. (Foster, Clark, & York, 2010)

The world economy has suffered a relative stagnation since the 1970s, which have seen the exploitation of both the labor force and later the nature. This has been done, by removing many of the protections that they had before. At the same time, the core of capitalism, have been shifting away from production, to focus more on financial assets, which has caused a speedup in the destruction of the remaining nature, as it is seen as a non-performing financial asset. As the nature is seen as a non-performing financial asset, the negative spiral for the environment is in full swing, as the resources of the nature is seen as an unlimited exploitable mean of production. The only

reason the capital feels there exist to stop exploiting the nature, is if its expansion of wealth is hurt. Therefore, the exploitation of the nature will only stop, when the conditions of the nature has deteriorated to the point, where it cannot be exploited anymore, unless a human intervention stops the exploitation. (Foster, Clark, & York, 2010)

Commodification of nature under capitalism

For the most of human history, the land and nature has not been considered as a good, as it instead was considered as the communal asset that provided food and raw materials necessary for the survival of its owners. As it got commodified, humanity felt a control over nature, and therefore, could begin to exploit the nature as a means of production. This has opened the path to the destruction of the environment for the thought of profit maximation. (Bermejo, 2014)

Nature in itself is not seen as a good, that can be traded, as a good is described as something, that is produced before it gains its value. Furthermore, goods tend to be separated from other goods, which mean if you want to destroy one good it will not affect other goods. The nature, on the other hand, is interconnected in everything it does. It provides services and goods for humanity, that can be found very hard to impossible to replicate. Furthermore, nature is meant to be of public usage because they might be very hard mercantilised, because the enjoyment from one person does not exclude others from enjoying nature. One of the reasons it is difficult to mercantilise the nature, is the size of it, some examples could be rivers, oceans, the atmosphere, or wildlife. Some have been privatized, but can still be considered public in nature, as their effect will influence the rest of the biosphere including humanity. Not only, does nature provide humanity with the resources to survive, but it also provides other functions for regulation, support, production, and information. (Bermejo, 2014)

As a capitalist society only tend to value what can increase the amount of wealth it can accumulate, it does not value the goods and services the nature provides, even though they can be vital for the survival of humanity. Therefore, a capitalist society will no think about the consequences when it prioritizes the reshaping of nature to fit its end goal. This leads to the destruction of anything the market cannot put a value on, as it is extracting the resources that has a value, the values parts of nature just get removed. As mentioned earlier, the nature is interconnected with itself, which means, that it will reuse or recycle most of the resources it has in a local area. Therefore, as it matures it does not need to import external materials to function. Now, humanity is very globalized, and have

for that reason specialized countries to focus on certain parts of production. Some will focus on the extraction of minerals, while other will focus on certain crops. This is very harmful to the environment, as nature needs biodiversity to sustain itself. (Bermejo, 2014)

Doughnut economics

This chapter will focus on doughnut economics, which was created by Kate Raworth, to face the challenges the world is facing in the 21st century. These challenges contain topics such as the environmental damages humanity has done to the earth, and their consequences for the livelihood of the humans living near them. As can be seen on the figure below, Doughnut Economics have the same thoughts about the way to use the nature as was discussed by Marx. Therefore, humanity should extract enough resources to be able to survive, without the destruction of the same nature, that is keeping humanity alive.

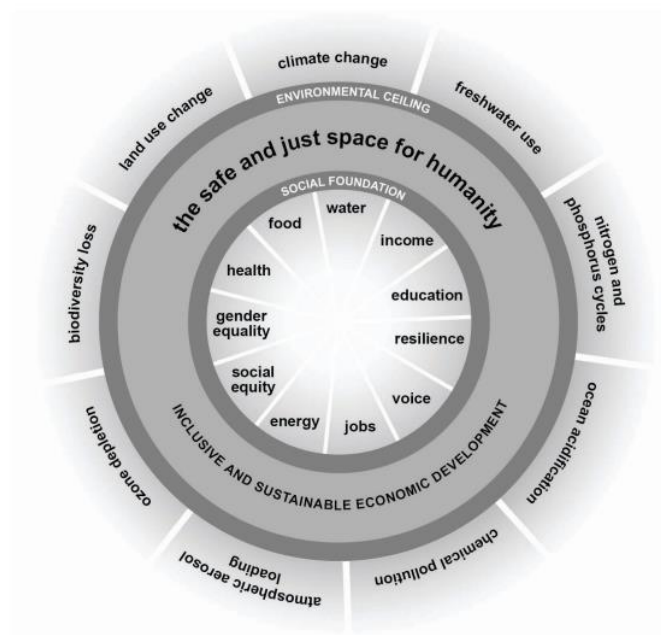


Figure nr. 1, (Raworth, 2017)

Doughnut economics is theoretical model, that outlines boundaries for economic development, wherein the minimum economic development is there to secure the human rights for the whole human population. The maximum economic development is the ceiling that the planet can sustain. Meaning that because the resources the earth contain is limited, there is a natural limit to how much resources humanity can extract from earth without destroying the environment that makes human

life possible. It can also be used to look at certain regions, where the extractive industries have a high importance within the regions income. The model does not imply that the humans should not extract the resources that they need, but that we should be conscious about the amount and the way we extract the resources. One thing that have been said about the environmental damages is that the extra growth will be used to repair the damages. But this has shown to not be the case, in the vast majority of the places in the world, as the people owning the companies in the extractive industries want more and more profits. Therefore, the gains from the extractive industries should be distributed to development in the regions of the country the companies operate in. Therefore, if it is used to distribute the nature's wealth to the society that live in the area and by extension in the country they operate, it should be possible to fulfill the so-called social foundation of the doughnut. The model maintains the position, that this should be possible without exceeding the environmental ceiling in any way. (Raworth, 2017)

Economies with a large extractive have it harder with not overusing their land, as it is the industry which is most damaging to the environment. This is because the industry is extractive and, therefore, by definition will change the environment it is placed in. It can be argued that the countries with large extractive industries always will be necessary for the countries, but it can be counteracted by developing the producing and the service industry, instead of only relying on the extractive industry. Thereby, the economic interest of the extractive industry can be counteracted by the other industries economic influence. (Raworth, 2017)

The Chain of Explanation of Political Ecology

The most important parts of the research of political ecology requires the analyst to focus on different parts of a particular environment. This can often be divided into three different analysis focus points.

The first part is to look at the access to resources within a given environment. The access to resources has a large influence in the way production and wealth accumulation functions, which further influences the social relations of the region. As the accumulation of wealth typically have a large effect on the power or political status within a region, and therefore, the individuals that have accumulated high values of wealth can determine other factors of power such as, gender, class, and ethnicity. These factors of power have been determined a long time ago, but they are ever evolving.

Some are evolving with different velocities around the world, but they are rarely standing still. (Batterbury, 2018)

The main theme of the second part is centered around the struggles of people trying to make a living. These struggles can come from a few different places. This might be the deterioration of the workplace environment, but also removal of resource access or the destruction of the natural environment, that makes living possible. This might be the pollution of a vital river for either crops or drinking water, or removal of access to vital goods for human survival such as medicine, or the lowering of wages to a point where the workforce cannot survive of the wages. After this, it is important to look at the resistance against the forces that seek to frustrate people attempt to make a living. The resistance comes in different forms, which includes political organizing from the people touched by this frustration, which might lead to protests. Furthermore, activists and social movements have often been the innovators in adopting new ideas that have had an influence over the policymakers or the people that have accumulated the wealth. (Batterbury, 2018)

This last sector focuses on the change in people's lives when they get incorporated in the global economy, either willingly or not. Therefore, it leads to the penetration of capitalist thoughts in the parts of the world, that previously did not have knowledge about capitalism. Furthermore, the appropriation of the local natural resources and labor force because of the commodification, from people outside the local region, is worrisome, as the local population seldom have many resources to fight against the capitalist without help. Therefore, it often ends with a large change in life for the local population, that involves the change social life, the way their economy functions, and environmental change as an effect of the new resource management system, that comes from the capitalist commodification. (Batterbury, 2018)

Forced migration a definition

This chapter will focus on distinguishing the different types of migration that is considered to be forced from those that are considered voluntary. This will be valuable knowledge when searching for the reasons for internal migration within the borders of Peru. This part will focus on the distinction between forced and voluntary migration within a country's borders, as that is what I needed for this thesis. A lot of the reasons to migrate to another country, can also apply to those that

migrate to another part of the country they are residing in, but it will exclude some cases of migration.

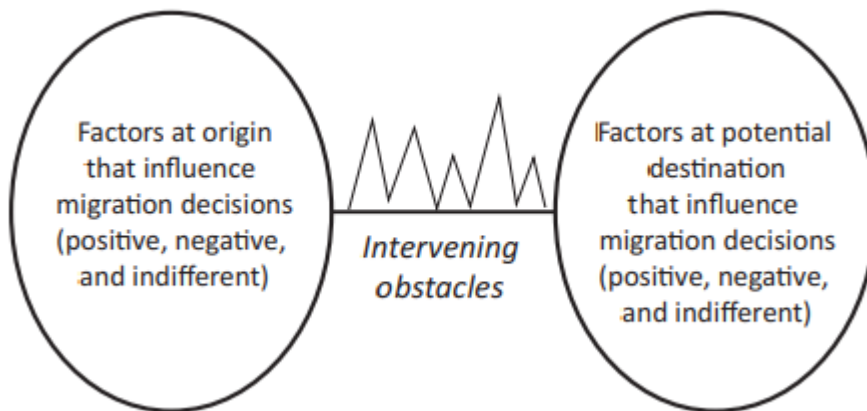


Figure nr. 2, (Piguet, 2018)

Migration as a phenomenon is for people to gain access to what they believe is a better life. As seen on figure 2, which explains how migration works, there are factors for both the origin and the destination which help and individual or a people group decide if they should migrate to another area. The intervening obstacles is the difficulties that exist when travelling from the origin to the destination.

The distinction between forced and voluntary migration is often very hard to outline precisely, as there exist many grey areas between them. To get an understanding of why these grey areas exist, it will be necessary to get an understanding of why forced migration and voluntary migration have the characteristics they have.

The theories for voluntary migration often have one thing in common, which is that the persons migrating have agency to choose for themselves whether it is a good idea to relocate or stay. One of the most common forms of voluntary migration is for monetary gain. This can happen for various reasons, one of them is that there exist a lot of jobs in another part of the country, but not in the part where an individual is born, where the individual then takes the opportunity to secure an income for its family. Another example would be, that an individual is moving to another part of the country because there exists a job opportunity that pays higher what the individual have at the moment. Furthermore, the accessibility of goods and services will also have a determining factor in people deciding to move across a country. This means that people will have an easier time in migrating to another part of a country if that part has good access to both basic and more advanced social

services. This can include but is not limited to the different levels of education, health care, transport infrastructure, and ease of dealing with public institutions. The accessibility of goods refers to how luxury goods might become easier or cheaper to obtain in certain parts of a country compared to other parts. (Piguet, 2018)

Forced migrations theories often focus on that have less choice in deciding if they have to migrate. This can also be defined as an individual have to flee the location they are living in, for some reason or another. As this thesis is looking at the national migration patterns, some forms of forced migration are not applicable. These forms will mostly be political or religious, where an individual needs to leave their home area, in fear of being prosecuted because of their beliefs. It might be possible to find some examples where it helps to relocate within a country if that is the case, but more often than not, they will be migrating to another country. War or civil war can also lead people to migrate to escape the poor living conditions that arise in a warzone. Sometimes people will relocate to another part of the country to escape the warzone if it is focus on certain parts of the country. If the whole country is part of the warzone, it becomes much harder to find security and acceptable living standards within the country and forces a much larger part of the population to migrate to find these things. So, personal security and reasonable living standards seems to be the main reasons to force people to migrate. The shortage of personal security and reasonable living standards can also arise after environmental or natural disasters. Natural disasters can cause local destruction that makes certain areas unfit for human habitation, which of course will lead people to migrate to another place, which can be within the country's border. Another thing that can destroy the living environment for people is the pollution created by an industry. This can destroy the parts of an area that the people living there is dependent on, to be able to survive. (Piguet, 2018)

In conclusion, the biggest part to distinguish between voluntary and forced migration is, if the individuals migrating have a choice to move. So, if the living standards deteriorate to a point, where human habitation is impossible it would be forced migration. If it becomes unsafe for a specific people group to live in an area will also be subject to forced relocation. The grey areas that were mentioned earlier is these examples, when is it unsafe enough to be classified as a forced migration, either personal or because of the dangerous environment. At the other end of the spectrum, if an individual move because of a better paying job, it is voluntary, as they have the possibility of staying, but is choosing to relocate to get better wages. But it is not black and white, because there might be other reasons to relocate than just the job.

Analysis

Mining sector in Peru.

The mining sector in Peru is a large part of the Peruvian economy. This can be attributed to the vast amount of minerals and metals situated in primarily the Andean mountains, but also flowing in the rivers through the Amazon rainforest. As the country was not performing well economically during the 1980s, President Alberto Fujimori opened for large scale foreign investments into the extractive sector in the 1990s, which gave the industry a renaissance, that made the materials mined the biggest export of Peru.

At the moment, the mining sector is approximately 60 % of the Peruvian export (Oxford Business Group, 2018). Therefore, it can be described as a pillar of the Peruvian economy, and they would find it difficult to get the necessities of the modern world, without the income they receive from their exports. As the Andean highland have many large mines, Peru is not expected to run out of its biggest export in the near future. However, the supply of resources in the Andean highland in Peru is not unlimited, and it is therefore a good idea to conceive an idea to diversify the economy, so it is not highly reliant on the export of the same resources.

In round numbers, the mining industry contribute to 12 % of the Gross Domestic Product of Peru (Oxford Business Group, 2018). This is a high number, but it can be expected as it is a nation with access to many resources, while simultaneously not have been developed during the industrial revolution like the traditional west. Therefore, Peru has been using the mining industry to get access to wealth, and thereby develop the rest of the country. As was said in Marxist ecology, countries can very easily be very specialized within certain fields of production. In some cases, it can make sense, as certain geographical regions foster certain kinds of production better. In Peru's case, there are much mineral wealth in the underground, and therefore, mining should be seen as a good specialization for the country. There will, however, come a time, where the resources run out, or the pollution from the mining, makes large areas of the country uninhabitable.

The industry directly employs 174000 persons, while indirectly contribute the employment of 1.5 million people (Oxford Business Group, 2018). The jobs that are created indirectly, are of a large variety, and goes from transportation to convenience markets in the mining cities and the official employees in the government branches that deals with mining and the environment. So, the mining

industry has given opportunities to start other types of work within Peru, just by existing and being a big source of income.

The extractive industry is ever increasing in Peru and covers a large variety of different minerals. Some of the most important to the economy of Peru is copper, gold, silver and industrial metals, such as iron ore and zinc. These minerals are often found in the high altitudes of the Andean highland, where the rivers have their source. This would lead to the pollution of these rivers, as the process of mining often incorporates the use of water and other chemicals such as mercury to clean the minerals. Figure x shows the increase in mining concessions in the northwestern part of the Andean highland of Peru from 1990 to 2008. A mining concession does not mean that there is an open mine in the area. It means that the social and environmental impact of opening a mine in the area are deemed lower value than the economic growth there will come from opening the mine. It must however be mentioned, that before 2008 there did not exist a ministry for the environment in Peru, and therefore, these concessions were given by the Ministry for Mines and Energy. As they wished for the expansion of the mining sector, they were more likely to take the sides of the mining corporations, than the side of the rural communities. (Bebbington & Bury, 2009)

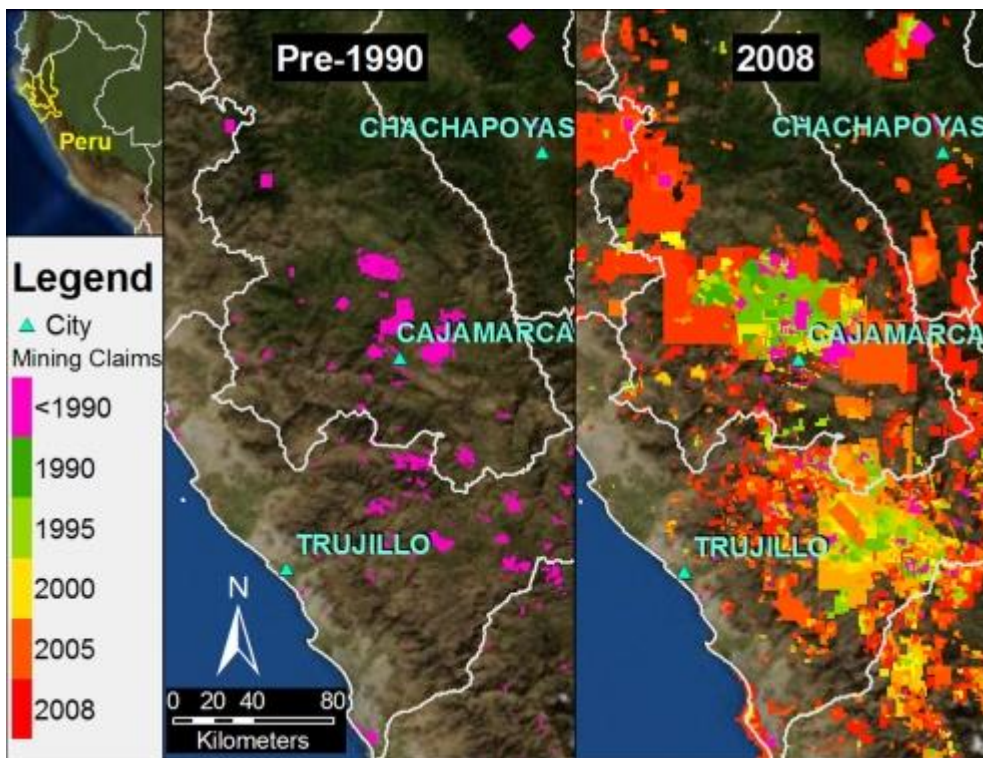


Figure nr. 3, (Bebbington & Bury, 2009)

Gold as a sector and export for Peru

As mentioned earlier, during the 1990s with Fujimori as the leader of Peru, the extractive sector became way more open towards foreign investment. This new attitude towards foreigners and their investment, opened for the foreigners to have more power in, when discussing the future of the mining development. This thesis will delve further into the gold sector and discuss its negative impacts as well as the positive impacts it can and have had on the Peruvian society. Many of the large gold producers in Peru, are today at least part owned by a transnational company. This has led to the point where Peru is the 8th large extractor of gold in the world.

The gold extraction industry in Peru can be divided into two parts, where one is the open mines in the Andean highland, and the other is the artisanal mining, which primarily is taking place in the amazon rainforest. They both come with their own problems, for both the government and the environment. The large mines in the Andean highland, have been easier to hold to the industrial standards of gold mining. Whereas the artisanal miners in the Amazon rainforest often are smaller in size, while being situated in the outskirts of rural Peru. For that reason, they have it easier with circumventing the environmental laws, without ending in a situation where they can be found and punished by the government. In Peruvian mining law, the corporations must pay 20 % of their earning in tax to Peruvian government, which in turn gives 50 % of that to the local authorities to the development of the local area. This process is made easier, when the government have to deal with transnational corporations, as they are locked to certain locations, and can't relocate to other areas, as they are owning the lands, they are mining. The artisanal miner, on the other hand, can just pack their tents and move to the next part of the rainforest, and begin extracting gold from there.

Since the turn towards privatization in the early 1990s the extractive sector and by extension the gold mining sector have exploded. In 1990 the mining corporations of Peru extracted around 10,000 kilograms of gold, while it already in 2005 reached the maximum of over 200,000 kg. the development of the extraction of gold from 1990 to 2018 can be seen on figure 4. Furthermore, it can be seen on the figure that the amount of extracted gold overall has been slightly declining since 2005. The reason for that, can be found in growing dissatisfaction from the rural population living nearby the mines, and from social movements, both of local and international descent.

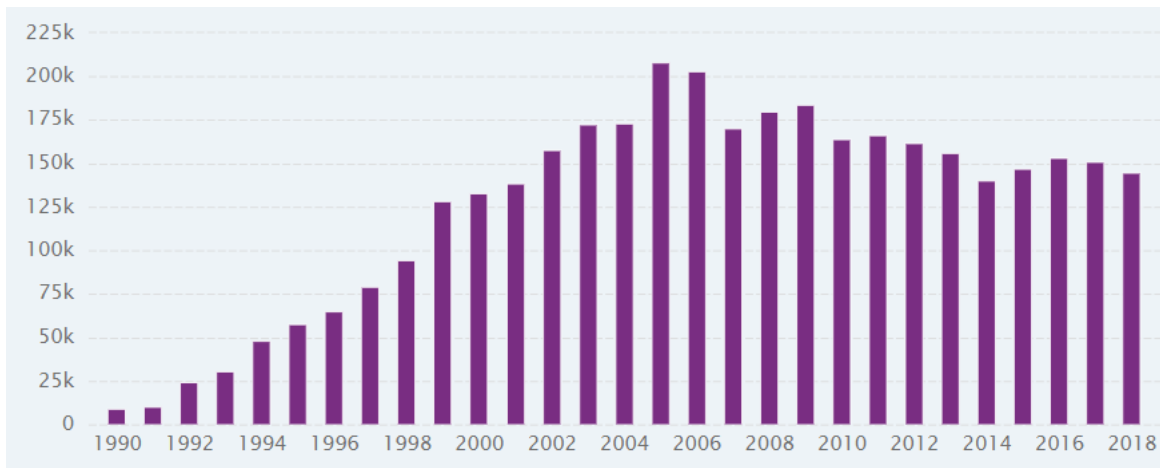


Figure nr. 4, (CEIC Data, n.d.)

The process of extracting gold from the ores existing in the mines, is not an easy one, and contains various steps, that can be considered as potentially damaging the environment. There is a difference in the effectivity between the large mines and the small-scale artisanal miners. Even though the large open pit mines are extracting more gold, and therefore, are using more of the damaging materials, such as mercury or cyanide, they have better possibilities of offloading it safely. The opposite is the truth for the small-scale artisanal gold miners. They might not use as much dangerous materials as the large open pit mines, but they do not have the same safety measures put in place, when they are extracting the gold from the ore. As the small-scale artisanal miners often reside in the rainforest, a long distance from the government in Lima, it is more difficult to get them to comply with the environmental standards of the gold mining industry.

The gold mining delivers a large amount of wealth to the Peruvian government, for them to use on development projects around the country. However, much of the wealth the mining industry and by extension the gold industry generates, ends up in certain regions, which does not have a plan or a need for it. Therefore, it could be used better to if they were used to develop the less fortunate parts of the country. This wealth does come at a cost for Peru, as the environment and the natural resources of the country are impacted by the extraction process of the gold. As the rivers get contaminated with the poisonous chemicals used to separate the gold from the ore, these chemicals get transported down the river system and will contaminate large areas of land used by rural communities.

Case Study: Gold mining in Yanacocha, Cajamarca

This chapter will focus on gold mining in the Yanacocha mine, which is partly owned by the American Newmont Mining Corporation and the local Compañía de Minas Buenaventura. This gold mine is described as a large open-pit gold mine. It is the 2nd largest gold mine in the world. Furthermore, gold was known to be in the area long before the mine opened, as the indigenous “Quechua” people living nearby called the local river for Corimayo or translated as “gold river”. (Earthworks, 2021)

In this area, the natural resources can be put into two different categories. The first is the natural resources that gets mined in the mountains, and therefore, does not have a direct influence over the local’s everyday life. This is to say, that the mined gold was not the primary livelihood of the rural population living in this area before the start of the mining operation in 1992. As this mining operation is mostly owned by a foreign corporation, they did not have respect for the local environment when they started mining. This has seen huge consequences for the other natural resources, that are more directly connected to the everyday life of the local population. This is namely the river and the environments it fosters. The first and most clear is the quality of water. This have been declining since the opening of the mine, while some household in the local area claims they also has less access to water. The river also has effects on the nearby grassing area, the local populations use for their animals. So, when the river gets polluted by toxic chemicals, it also has dangerous effects on other environments that are necessary for people to survive (Bebbington & Bury, 2009). The areas surrounding the mine where and are impoverished compared to the rest of Peru, and therefore, lacks the economical capacity to either combat the mining activity or find different solutions to the environmental hazards introduced to area by the mining activity. As the world is largely dominated by the capitalist train of thought, the political capital often lies with the individual having the economic power. Therefore, the power dynamics in the area has often been that the owners of the mine have had the power in the area and could more or less do what they wanted. An example of this, is the mercury spill that happened in June 2000. A truck transporting the mercury of the goldmine, spilled the toxic chemical on the road between the mine and several towns. Due to lack of education the rural population, had differing ideas, of what the mercury could do. Some thought it had healing effects, while others thought they could find gold from it. It was investigated, and the cannisters transporting the mercury was not secured, which caused the leak. However, the mine took responsibility and got most of the influenced humans to sign a document stating that they would pay for health insurances for conditions related to the mercury. The local

population have since felt new conditions from the spill, that is not covered by the insurance scheme. Furthermore, the contracts stated that the local population could not take legal action against the company, and the local population are therefore in a situation where they can not do anything against the symptoms, they have obtained because of the mercury spill. According to the Peruvian ombudsman, only about one third of the spill got cleaned up at the time (Moeys, 2020). From this story it can be concluded that part with more resources have more power, and thereby, can pay itself out of trouble with the law.

Since the opening of the gold mine, the local population have had it way more difficult in finding ways to make a living, than before the mine opened. This has been the case, because the natural environment they used to survive have been altered negatively in such a way, that they cannot live safely of off the lands. As the pollution spread through the rivers, the lands traditionally used to farm or grazing of animals have also been rendered unusable. This is the main factor for many of the local protest that have plagued the mine since it started producing gold. The local have often protested in front of the gates of the mine, or by blocking the road, so the transportation of minerals was made impossible (Earthworks, 2021). Despite these protests, the mining operations did only have to be stopped shortly, so that the owners did not feel the heavy burden of less accumulated wealth. They did, however, send Larry Kurtlander to Peru to investigate the environmental damages caused by the mining operations. He discovered that the mining operations had been damaging nature so much, that Newmont Mining Corporation could be held responsible in court. First at that point, did the executives of the corporation begin to act on the environmental disaster they had helped create. This started a new water treatment plan, where there was build two dams to contain the contaminated water, so it can be cleaned before it is let go (Corbin, 2006). In the local area, there is however still fears over the destruction the mining operation causes to the local landscape. The protesters stopped the expansion of the mining area, as Newmont Mining Corporation wanted to expand to the nearby Cerro Quilish. It was stopped as it is a spiritually important to the residents, while also sitting on a watershed. Instead, Newmont Mining Corporation is considering expanding to San Cerillo, which also act as an important water shed to nearby communities (Earthworks, 2021). Another thing, that is concerning regarding the protests of the mining operation, is that the local police have been hired by Newmont Mining Corporation. This is a big concern, as the police should be neutral in the case of non-violent protests. But they cannot claim to be neutral, when of they are on the payroll from one of the sides. This has led to both harassment and the killing of protesters.

The population of the region of Cajamarca is amongst the poorest of the in Peru (Bury, 2007). Therefore, they did not have the economic capabilities to combat and fight through the changes to the natural environment that happened because of the mining operations. As mentioned earlier the environmental change had negative effects on the way the population lived, as the water was not clean, they could not get the same amount of crops from their farmland, and the grazing areas were diminished. Furthermore, the local fauna living by the rivers were diminished or eradicated. This meant, that the rural communities could not gain the same income from their lands as they could earlier. The economy of the area also changed with the introduction of the mine. As Newmont Mining Corporation started buying the land surrounding the mine, the people moved to the city of Cajamarca or other communities in lower altitudes. The subcontractors the mine required, that is hired from the local area are often paid low, as it is low skilled work, as the people coming from the region of Cajamarca often does not have the education for the high skilled work. Therefore, many of the high skilled workers are hired from outside the area, which causes a migration towards the city. Therefore, the economic equality of the area is divided, between the high skilled workers from outside, and the local low skilled workers and farmers. Furthermore, there have been a change in the social demographics of the city, as people from outside started moving to city in the hope of getting work from the mine. It is, however, not everyone that gets work at the mine, which creates more criminal activity in the city, as the unemployed people are dissatisfied with the situation. The lands previously owned by the rural population is being bought by Newmont Mining Corporation, and the rural people cannot buy new residences outside the city, because of high prices for the land (Bury, 2007). This is creating a situation, where the rural people are moving to the city, away from their ancestral lands, and into the unknown capitalist system. This happening through the appropriation of land, from the more powerful Newmont Mining Corporation, as they have the means to dictate the price of the land surrounding the mining area. Furthermore, there exist histories where the policy paid by Newmont Mining Corporation is harassing local inhabitants if they do not want to sell their property to the mining corporation. Even though, it is illegal, it has forced some people to sell, while others are living through this harassment.

The migration that happens because of the Yanacocha mine can divided into two different groups, where the first group can be described as the people moving to Cajamarca in the search for job opportunities in the mine or the surrounding area. The second group can be described as the rural communities that are moving away from the areas surrounding the mine (Bury, 2007). The first group has clearly the opportunity to decide themselves, that they want to move closer to the mine in

order to get a job. Therefore, it can be hard to not describe them as voluntary migrants. It can, however, be discussed if these people do not have the opportunity to get a satisfactory job in the region they originally are coming from, and therefore, feel forced to move to the mine. The second group, mostly consist of people selling their land to Newmont Mining Corporation, and therefore have to move as they cannot afford to buy other land in the region. By that reason, it can be described, as the Newmont Mining Corporation is forcing them away from their ancestral lands, as they have an economic stranglehold over the land in the area. It can be discussed, if they are voluntarily selling their property to mine, and they for that reason are emigrating voluntarily. The context of the case is, however, a little different, as the land the rural population owns is being destroyed by the environmental damages caused by the mining. The deteriorating environment is making it more difficult for the rural population to make a living out of their lands, and they can be forced to sell the lands for that reason. Furthermore, as the police are helping Newmont Mining Corporation with securing more of the land surrounding their mine through harassment of the rural population, the living standards for them, can be described a low enough, to describe their emigration as forced.

Case Study: Gold mining in Madre de Dios

Gold mining in Madre de Dios function in an informal way, where people from all over Peru travel to the region in southeastern part of Peru. The region is the least populated in Peru, but is seeing the highest percentage of population growth, because of the new gold rush. Artisanal gold mining is the main economic activator, it is reported, that half the population is either involved in the gold mining or related services.

The process of gathering gold through the use artisanal mines can often be done with primitive tools, and a relatively low starting capital. Therefore, the people mining the area are often not very educated, and are just seeking their luck, by hoping to hit a large gold amount of gold in the sedimentary earth. Furthermore, most of them are informal, and have not been given the right to mine after gold in the area (Environmental Incentives, Foundations of Success, and ICF, 2020). The fight in this area of Peru over the natural resources is between the indigenous people of the rainforest and poor Peruvians hunting after gold. The indigenous people make a living off, what the nature have to offer to them, and are therefore harmed very much by the introduction of the toxic chemicals used to divide the gold from the earth. As the miners did not create a waste system, for

their chemicals, they usually just throw them in the rivers when they are done mining in a certain area. From the river, the chemicals can travel a long way through the many different ecosystems in jungle, and not only destroy the indigenous people's livelihood, but also the ecosystems in the areas nearby the cities (Duke University, 2018). The miners often do not recognize the indigenous peoples right to make their livelihood in the forest, or they just feel their need to make an income is of higher importance. This has created a situation, where large areas of the amazon rainforest have been destroyed as a byproduct of the mining. The government have, however, recognized the problem, this destruction has caused, both for the environment, but also for the indigenous people. They have therefore, started to formalize the artisanal mining in Madre de Dios, either by removing illegal miners, that does not want to incorporate, or giving the miners training and right to mine in certain areas. The damage is done to the way of life for the indigenous tribes, as they have been forced to become nomadic within the rainforest.

During the time period where the illegal or informal gold mining have taken place in Madre de Dios, there have been more international resistance towards the practice, than from either the indigenous population or from the Peruvian government. The indigenous population have often been seen as less important to the miners, and they have therefore been threatened to silence (Lang, 2021). The indigenous population often lacked the knowledge to take problems they encounter to the right department. As the region is very remote and covers a vast area, the government have often had difficulties with stopping the illegal mining activities. For that reason, it has become an international problem to stop the illegal mining activity. Many international organizations have made it an important problem to solve. They have been using the spread of information to people as one way to combat the destruction of rainforest. Furthermore, there have been started an incentive for gold importers around the world, to only import legal gold. Many of the retailers using gold have agreed to follow the legislation behind the No Dirty Gold campaign, in which the focus is that people living in the areas surrounding the gold mining have the decision to decide their future. This is good start to stop the illegal mining, but for initiative to be fully effective the whole branch should follow the instructions (Earthworks, 2018). If that one day was to become the norm, the illegal goldminers would find it more difficult if not impossible to find buyers of the gold. If there does not exist any buyers, there would be no reason for miners, to illegally destroy the nature for some profit.

As mentioned earlier there have been a big difference in the life of the indigenous people, as they have been forced to move, due to the destruction of their natural resources. This have changed their

way of life, as the places they used to live, no longer could support human life. The pollution of the rivers through the usage of mercury, have almost eradicated or poisoned all the fish life, that the indigenous population used to eat. The mining camps is mostly comprised of men, which are away from their family in the hopes of gathering enough gold to sustain their families. This has, however, caused a problem with human trafficking to these mining camps. They gather girls, women, and to a lesser extent boys to be used as sex slaves within these camps (USAID, 2021). This is a problem, that the USAID have put a large focus on eradicating. So, the illegal or informal gold miners are not only stealing land from the indigenous population, for their own monetary gain through the destructive practices that is used to separate gold from the sediments, they are also trafficking in people from other regions of Peru to be used as sex slaves.

The migration towards the mining areas in Madre de Dios can large be defined as voluntary, however, there is a small part there cannot as they a being trafficked to the region, for the pleasure of the miners. The large group is the people seeking to obtain wealth by mining the area. Therefore, it can be said, that they are moving for the job opportunity, even though the work they are doing are mostly illegal. As it is mostly the poor Peruvians seeking this opportunity to obtain wealth, it can be argued, that they are forced to move to Madre de Dios, due to circumstances they are born into. On the other hand, there is job opportunities in the large mining sector, so the people moving to Madre de Dios, can also be seen as greedy and wanting to circumvent the large mining corporations in seek of a higher amount of the money gained from the mining activities. The sex slaves transported to the mining camps, cannot be seen as anything but forced migration, as they often do not even have a decision to make regarding their migration to Madre de Dios. The indigenous populations of the Amazon rainforest in Peru, have been forced to move to better parts of the rainforest to be able to survive. Furthermore, if the threats towards the indigenous population from the illegal miners become more severe, and the miners start to actively making use of their threats against the indigenous population.

Comparison between the two

The gold in the two regions have been treated differently, as in the case of Yanacocha the gold has been conceded to Newmont Mining Corporation and their mining operations. Therefore, the environment has also largely been put at the mercy of how they operate the mine. In the beginning of the mining activity where many cases of bad conduct from the mining regarding the

environment, which have led to the destruction of some of the other natural resources nearby such as the rivers, and their surrounding farmland and grazing areas. As the protest got more severe and the executives of the Newmont Mining Corporation felt they could be prosecuted over the bad state of the environment, they started taking the protection of the environment a little more seriously as they began cleaning the water from cyanide and mercury poisoning and transporting the waste in safer canisters. In the mining areas in Madre de Dios, the miners are largely disregarding the consequences of their gold mining. This is done, because they started coming there as illegal miners, however, some of them have started to be formalized, and thereby, turned legal miners. The illegal miners typically operate in areas that are difficult to access, because they are harder to find. This allude to the fact, that they do not own the gold they are mining, as the areas they are mining is not owned by them. For that reason, they are also more reckless when they are getting rid of the toxic waste material. Therefore, the nature seems to have more value for the miners in Cajamarca than in the Madre de Dios. This can also be because of the earlier commodification of the nature started earlier in Cajamarca, and the social movements therefore have had more time to highlight the problems arising from that. The miners in Madre de Dios still largely have the opinion that the rest of the nature does not matter, as long as they get the gold from the underground. Therefore, nature does not present a capital value for the miners.

The largest differences between the opposition to mines, can be described as, in Cajamarca there are many locals protesting the against the mining in the area, while in Madre de Dios, it can be difficult for the local the protest, as the miners are hiding the Rainforest. That is one of the main reasons, that have been more international protest the mining activity in jungle. The miners from both regions are threatening with physical violence to stop the local protesters in both areas. In Cajamarca it is a big problem that some of the local police force is being paid by Newmont Mining Corporation to protect their interests instead of protecting the population against criminality. The population of both regions still fears the expansion of the mining operations, as there have been some progress in limiting the damages caused by mining, but not enough to limit the damages, to what it is now. The No Dirty Gold campaign can influence the illegal gold mining in Madre de Dios, but it is more restricted in how it can limit the damages done to the environment in Cajamarca, as the Yanacocha mine is seen as a clean mine, despite its destruction of nature.

The biggest change in the demographics can be seen in Cajamarca, while the biggest addition of population can be seen in Madre de Dios. The change of demographics happening in Cajamarca, is happening because of Newmont Mining Corporation buying the traditional farmlands from the

locals. This is being done, as the locals see them as less valuable because of the pollution from the mining activity, while Newmont Mining Corporation has the desire to obtain more land for possible future mining locations. Furthermore, the locals do not have the required skillset to work with the mining in Yanacocha, which in addition with the deterioration of the lands and increasing land prices are driving them away from the area. Instead, there are coming more high- and low skilled workers to Cajamarca to work in Yanacocha. Low skilled workers are streaming to Madre de Dios to work in the illegal mining camps, as they see it as a possibility to obtain parts of the social foundation and give them enough resources to give their kids the entire social foundation. As the mining sector have become such a big part of Madre de Dios have had very negative effects for the nature and the indigenous population living from the nature, as the indigenous population have had to become nomads to survive the increasing amount of pollution and destruction in the rainforest.

The migration patterns of the two regions are also very different. The largest difference come from the departing population of the Cajamarca region as there is not any departing the Madre de Dios. They are emigrating from Cajamarca, as Newmont Mining Corporation has used its economic power to restrict the locals from obtaining new lands, as they are forced to sell their own to Newmont Mining Corporation. The indigenous population of Madre de Dios are feeling the environmental pressure on their region, but are not integrated enough in the capitalist world, to be able to move from their home in the rainforest. As Peru is a country filled with poor people, there are many people immigrating to both regions to obtain work from either the illegals mining operations or to work as low skilled workers in Yanacocha. This can be determined to be a failure of the state, as it is not providing work to the people of the poorer regions. Furthermore, the people being trafficked to Madre de Dios must also be mentioned, as they are going there despite their wishes. Yanacocha also attracts high skilled mining workers, both from Peru and from abroad.

[Mining in relation to Doughnut economics](#)

Doughnut economic dictates that there should be a certain amount of economic development within a country. This can however not be done in such a way, that it endangers the environment in which the resources are being extracted. At the same time, there should be enough economic growth to foster the social foundation, which basically secures the human rights of the population.

The process of extracting minerals has its toll on the environment, as the practices that are used often uses dangerous chemicals the separate the valuable materials from the dirt. In the mining

regions of Peru, people have often been complaining about the diminishing amount of freshwater they have access to, as the mining operations use it in the mining separation process. Furthermore, the remaining water has often contained chemicals such as mercury or cyanide, as it has left the mining areas. This has led to a large loss of non-polluted freshwater emerging from the previously pristine rivers coming from the Andean highlands. The land use change has also been big in both Cajamarca and Madre de Dios, both originating with the mining. In Cajamarca, it has however been focused in the large area that is mined, while in Madre de Dios, it is not limited to mining areas, as the sedimentary change and the pollution from the chemicals spill out through the rainforest. This has also and will continue to have large implications on the biodiversity in the area. Both areas have seen a huge decline in aquatic life, due to the pollution of the rivers.

The social foundation should be seeing the gains from the higher income from the mining. It has seen progress in some areas, while not so much in other areas. The water sources have been diminished as the drinking water coming from the mountains has been polluted, and the population are losing their access to clean drinking water. It is not only for drinking they are using the water, as it also gets used for the farming. For that reason, they are also losing access to their means of producing food themselves. As the areas surrounding the mining activity is also polluted either from the mining or from accidents, the health of the population is also not improving. The government has, however, put in place some policies to improve the local development from the taxes they gain from the mining. These policies seek to improve the education and job security for the locals. This is a plan for the future of Peru, and there still needs to be improvement upon this development.

Peru is still largely dependent on the export of minerals, which means it is not possible to exclude this source of income for the country. Therefore, the future development of the mining sector should seek to diminish the environmental damages. As the world, probably will not lose its interest in the minerals and metals found in the Andean highland, as they are necessary for the production in the world, the Peruvian government could seek to gain a higher part of its value. This should be done to counteract many of the environmental damages done to the nature of Peru. Furthermore, a more streamlined development plan to secure the human rights of the population can be produced with extra resources from higher taxation of the profits from the mining of the Natural resources of Peru. It is however difficult as Peru are going through the process of modernization, that the western world largely is finished with.

Conclusion

With the introduction of Alberto Fujimori as the president in 1990, the extractive industry saw large changes in Peru. He wanted a new look for the sector, with large amount of privatization to encourage more investment into the industry, as he understood the value of the large amount of valuable mineral and metals in the Andean highland. This coupled with the exploding rise of the commodity market, saw a large rise in amount of mines resources. This development has also been the ground for rising conflict between the rural population, and the capitalist elite, that is exploiting the nature for the own monetary gains.

The opening of the mining sector to foreign owners, has seen the increasing disregard for local tradition and livelihood for an ever-increasing lust for profit. The times the mining corporations have taken actions to minimize the pollution they are creating, have come as a fear of losing their moneymaking mines due to the destruction of local environments. This has devalued the local means of production, and their ability to survive in the traditional ways. The indigenous populations have a history of being deemed worth less than the colonizing force, which still holds true to this day, the difference between then and now, is that the colonizers does not even have to be in the country to rob it of its natural resources.

The poor part of the Peruvian population does not even think about the consequences their gold mining ways have on their own environment or the indigenous population in Madre de Dios. If they are thinking about it, why should the foreign owners. This has caused major issues regarding the intranational migration patterns, where the rural population a moving away from the foreign owned mines, to achieve better standards of living. This is a contrast to Madre de Dios, where many poor Peruvians are trying their luck with the new gold boom, in the hopes of finding the jackpot.

During the 00's the Peruvian government enacted development policies, which should use the income from taxing the mined resources to further develop the local areas of where the mines are located. This has developed the educational sector some, while largely leaving the local environmental out thought, as the water sheds continue to be contaminated and thereby the ecosystems these rivers fosters. One thing the Peruvian government should have in mind before giving more mining concessions should be if the extra capital they gain from the taxes and investment is worth the extra environmental damage. This is because, at the moment they seem to prioritize the extra income they gain from having open mines over the wellbeing of parts of its population.

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