Introduction

Each year, approximately 10 million people are affected by large-scale development projects worldwide. These projects include industrial mining projects arguably meant to bring both national and local development. For example, in 2009, more than 55 percent of the US$890 million in foreign direct investment to Mozambique went to the natural resource extractive sector, primarily to begin development of coal deposits in the northwest province, Tete. Soon after the discovery of these deposits, some of the largest recent discoveries in the world, international extractive firms bid on mining concessions in which to build open-pit coal mines. Two firms received adjacent coal concessions and began construction of the mine infrastructure—a massive endeavor requiring significant swaths of land. Both projects required the resettlement of thousands of people and created strains on resources required to sustain the livelihoods of the residents.

In January 2012, approximately 500 families relocated by one of the companies barricaded the rail line that delivers coal from the mine to the port of Beira on the eastern coast of Mozambique, halting exports and costing the firm over US$1 million in a few hours. The protesters asserted that the company had not fulfilled promises it had made to them to improve their living standards or adequately compensate them for their displacement. As a result of their displacement, the local population was not able to grow and sell staple crops and the compensatory housing and farmland did not meet the standards the firm promised to the residents.

1 Cernea (2010).
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However, in the neighboring coal concession, there was no such protest. This coal mine also displaced local residents from their homes, creating competition over access to agricultural land, and yet it was able to avoid the kind of mobilization that was occurring just next door. The railroad was not barricaded and the extraction of coal was able to begin, uninterrupted by local resistance.

Narratives relaying these kinds of outcomes are frequently in the media – albeit with a flair for the more dramatic outcomes of protest, violence, and displacement. In Madagascar, mining company Rio Tinto halted operations because protesters threatened the safety of the subsidiary’s CEO, locking him in an office. The government responded by teargassing and arresting protesters. In contrast, in response to the protests in Tete, Mozambique, the national government compelled the company to provide the promised compensation. These instances are not limited to Africa. In Peru, police shot at residents protesting the environmental effects of a copper mine project in the Andes. In China, protesters near a manganese mine were beaten.

Yet not all regions of natural resources appear in the media, which is drawn to report on instances of social mobilization or violent government response. Some of these regions do not see any observable resistance at all, which begs the question: Why do some regions of natural resource extraction experience protest and others do not? And what forces shape how governments respond to them?

Resistance and repression in regions of natural resource extraction are well-recognized phenomena, and they can threaten the potential value of resource extraction as well as the broader stability of the state. The fixed nature of natural resources ensures that extractive firms, local populations, and governments interact strategically in a defined territory. This interaction yields a variety of outcomes, including firm provision of goods and services to local communities, localized violent protest in response to resource extraction, and government regulatory or repressive intervention. This book explores the conditions under which these outcomes occur in Africa, where natural resource extraction is a particularly important source of revenue for states with otherwise limited capacity on average. It argues that local populations are important actors

2 Rio Tinto Threatens to Exit Madagascar after CEO Is Trapped by Protesters (2013-01-11).
3 Peru Anti-Mining Protest Sees Deadly Clashes (2015-9-29).
4 Downey, Bonds, and Clark (2010).
in extractive regions because they have the potential to impose political costs on the state, and economic costs on the state and the extractive firm. Governments, in turn, must assess the economic benefits of extraction and the value of political support in the region and make a calculation about how to respond, managing trade-offs that might arise between these alternatives. The result of these calculations is a range of local outcomes in areas of natural resource extraction.

**Natural Resources in Africa: Territoriality and Global Capital**

Understanding variation in local outcomes around natural resources is of particular importance when the stakes are the highest: in developing countries where communities are likely to rely disproportionately on the natural environment for their livelihoods and where state capacity to provide basic services is limited. This is particularly true of many African countries, where the reach of the state may be minimal and agriculture remains a significant source of income. It should be noted here, however, that in spite of the lingering narrative that categorizing the entire continent as perpetually poor, the average overall output of countries in Africa in terms of gross domestic product (GDP) has increased since 1990. In part, this is due to investment by foreign companies, largely in the extractive industries. The stock of foreign direct investment (FDI) in Africa in 1990 was only 32 billion, but by 2014, Africa received US$54 billion annually in FDI inflows (up from US$3.2 billion in flows in 1989). New extractive projects accounted for US$22 billion, and the extractive industry accounted for a total of 31% of all FDI inflows. FDI inflows to the continent are still driven primarily by the extractive sector, even as manufacturing and services grow.

The distribution of the gains from FDI has, by all accounts, been uneven. It has been uneven across social and political strata, but it has also been uneven across space. Some countries have benefited more from this investment than others. These national differences in FDI are the result, in part, of international financial organizations and their evaluation of national level institutions, yielding patterns of distribution of foreign capital in a broad range of industries, including the extractives. Yet the costs and benefits of such extractive activities are often spatially
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distributed sub-nationally, in ways that do not merely reflect differences in sovereign boundaries. James Ferguson captures these uneven territorialisations of capital, observing that “What is noteworthy is the extent to which this economic investment has been concentrated in secured enclaves, often with little or no economic benefit to the wider society. There are significant differences in the ways that such enclaves are secured, and the ways they are governed (or not) by the states that have nominal jurisdiction over them” (Ferguson (2005), p. 377).

One reason for this variation is that natural resource deposits are exogenously located. One cannot decide where copper, or gold, or coal is located – nature decides this. We should therefore expect some variation in the outcomes of their extraction, given heterogeneity in subnational context. It is important to note that many actors and decisions shape whether these resources are found and extracted, and thus political, social and economic factors must be taken into consideration in understanding that process. Countries must first locate natural resources, a costly problem requiring the mapping of the country’s terrain where a country cannot be certain it will find sufficient resources to make up its cost – a sticky public goods problem that has led developing countries to rely on private companies for discovery. Once the resource is discovered, rights of extraction must be allocated and taxation and royalty schemes must be developed – also a thorny problem. Still, the geographical location of the resource is determined by nature, and it is the result of an historical timescale that dwarfs the human life span. Once natural resources are discovered, people are territorially stuck – they cannot pick up and move a copper deposit. As a consequence, the extraction of these resources must necessarily be, in Ferguson’s words, territorial – defined and constrained in space by the somewhat random chance that natural resources reserves exist on or under a given piece of land or water.

Nowhere are these economic enclaves more relevant than in Africa, which holds a significant portion of the world’s existing natural resources. Africa has approximately 30 percent of the world’s known reserves of non-renewable natural resources. In 2013, the continent accounted for 63 percent of the world’s cobalt production, 19 percent of the world’s gold production, 55 percent of the world’s diamonds, 11

7 This is particularly true of the subsoil resources that this book is concerned with, such as metals, minerals, gems, coal, and oil, often called “point” resources, as opposed to “diffuse” resources, such as forests, fish, and water.
8 African Natural Resources Center (n.d.).
percent of the world’s copper production, 7 percent of the world’s bauxite production, and 4 percent of the world’s aluminum production. On average, countries in Africa are believed to have natural resource endowments that are larger than the global average. This conclusion rests on three factors. First, many point resources require significant capital for extraction, and countries that are perpetually lacking capital are unlikely to locate and extract resources at the rate of other, more capital-rich countries. In 2013, the estimated capital cost of the first phases of a copper project in Democratic Republic of Congo was nearly US$ 5 billion, and a coal project in Mozambique was estimated at US$ 3.3 billion. Many African countries have traditionally been capital poor. As a consequence, resource reserves that require significant capital resources to extract have remained in the ground. Second, historical events shape the trajectory of resource extraction and consumption. Early discovery of natural resources, which are also likely to be resources that require less capital to discover and access (think oil discovery in Pennsylvania in the early nineteenth century in comparison to deep-sea mining off the coast of Vanuatu), means that a country with historically sufficient capital for extraction may have a much longer historical period of extraction and consumption, leading to fewer (finite) resources currently. And finally, evaluation of the amount of natural resources a country has is usually measured relative to other factors (industrial or human capital for instance). Relative to endowments in these areas, countries poor in capital and labor are seen to have much more in the way of natural resources. Furthermore, as Menaldo (2016) points out, countries poor in capital and relevant labor have limited choice but to focus on the extractive sector, even if they have to rely on foreign capital to do so.

While these characteristics can help explain the current abundance of natural resources in Africa, it is possible that Africa has even more than the 30 percent of the world’s known reserves that is estimated. This is because locating natural resources constitutes a classic public goods problem; knowledge of the location of resource reserves is difficult to exclude people from once it is available, but costly to provide. This is why it is the government that often provides this service in wealthier countries (consider the United States Geological Survey). Conducting geological surveys that allow governments to know the potential location of valuable natural resources is an expensive endeavor. For example, it was only

9 Yager et al. (2013).
10 Yager et al. (2013).
in 2006 that one of the world’s largest coal seams was discovered in the northwestern part of Mozambique. Globally, the rate of discovery has been declining, but Africa makes up an increasing percentage of new discoveries as large discoveries have shifted away from Canada, the USA, and Australia. Countries with fewer capital resources are less likely to be able to do this themselves. As a consequence, the search and location task is often contracted to exploration and mining firms. Given their role in locating and extracting natural resources, global extractive firms have become increasingly powerful actors. The importance of global capital is further heightened since so much of the world’s resources are likely to be in countries with limited capital. It is therefore critical that we develop a strong understanding of how the distribution of costs and benefits from extraction is achieved, and under which conditions there are incentives for this distribution to yield locally peaceful outcomes.

THE PUZZLE

In some regions of natural resource extraction, local communities receive goods and services and the environmental consequences of extraction are mitigated. Extractive companies often build schools and hospitals, roads and stadiums in and around the regions where they operate. Yet in other extractive regions, local populations receive few or no benefits from the resource extracted, and they often endure negative environmental externalities of extraction such as water contamination, noise pollution, increased cost of living, and increased competition over access to agricultural land. This often results in protests by these communities, occasionally leading to the destruction of property, barricading of roads, and threat to mining personnel. When these instances occur, governments are often compelled to respond, sometimes dispatching police forces to put down the protest, other times requiring that the firm rectify its behavior, and compensate the community members.

Of approximately 2,500 mines in Africa in operation between 1990 and 2014, approximately one quarter of them saw some form of social conflict nearby (within 20 km). Social conflict includes demonstrations,

11 Schodde (n.d.).
12 Mines collected from SNL Financial (formerly IntierraRMG) (2014) and joined to Social Conflict in Africa Dataset, Hendrix et al. (2012), by the author.
13 While social mobilization may take place without protest, the form of social conflict of interest, social mobilization is indeed a necessary condition for protest. For the rest of
riots, strikes, and low-level violence. While some countries certainly see more types and instances of social conflict than others, the likelihood of social conflict around mines varies significantly within a single country. Figure 1.1 is a map of the continent depicting mines and instances of social conflict. Among larger countries, approximately 43 percent of the 120 mines within the Democratic Republic of Congo saw social conflict, and in Nigeria, 59 percent. Within smaller countries, 37 percent of Liberian mines, and 32 percent of mines in Sierra Leone.

The likelihood of social conflict near a mine varies across nationalities of extractive firm as well. Of those mines with majority foreign equity, 25 percent saw some form of social conflict nearby. However, equity ownership is not a good predictor of variation in the likelihood of social conflict. Of the mines that saw conflict, approximately 31 percent of the book, I use social mobilization, social conflict, and protest interchangeably to refer to an instance of collective action reflecting a shared claim among participants, who gather in a physical space to express that claim, often interrupting local economic activity.
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these were Australian owned. In contrast, 5 percent of mines with conflict were Chinese owned. However, 31.4 percent of all of the mines are Australian owned, while approximately 2 percent of mines are Chinese owned. In other words, the fact that 31 percent of all mine-related conflict occurs near Australian-owned firms while only 3 percent of such conflict occurs near Chinese-owned firms is not a reflection of particularly problematic operations of Australian mines. Instead, it reflects that Australian firms own significantly more mines over this time period in Africa than Chinese firms do.

Of mines that saw conflict, 27 percent were South African owned, 20 percent were Australian owned, 14 percent had Canadian ownership, 11 percent were UK owned, and 3 percent were of Chinese ownership. However, as the table below demonstrates, the distribution of all mines by equity ownership is not significantly different from the distribution of mines with conflict by ownership. In other words, it does not appear that nationality of the firm makes some mines disproportionately likely to see conflict nearby. This is demonstrated in Figure 1.2.

Mineral type does not seem to explain which mines see social conflict either. Figure 1.3 demonstrates the distribution of mine commodity. Of those mines that saw social conflict, nearly 35 percent were gold mines, 20 percent were coal mines, and nearly 10 percent were copper

![Figure 1.2: Equity ownership and social conflict](image-url)
mines. This is roughly the distribution of these types of mines across the continent, suggesting that, on the surface, mineral type alone is not sufficient to explain why some mines see social conflict, while others do not.

How governments respond to these instances of social conflict varies significantly as well – countries repress social conflict at different rates. Figure 1.4 demonstrates the percentage of mines that saw conflict and
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percentage of conflicts that were repressed by country. To be sure, it is indeed the case that some countries repress social conflict near mines more often than others. Of the social conflicts that occurred in the vicinity of a mine, approximately 31 percent were repressed, with governments using coercive force, such as teargas, beatings, or killing participants in response to relatively low-intensity instances of social mobilization. Of those instances where repression was used, only 36 percent occurred in non-democratic countries and approximately 48 percent in democracies.\(^{14}\) Even consolidated democracies respond to instances of social mobilization near mines with repression in some cases. However, within countries too, there is variation in whether the government represses a social conflict occurring near a mine. In Ghana, 70 percent of social conflicts near mines saw government repression, while in Mozambique and South Africa, this was approximately 24 percent.

Why Should We Care?

These numbers suggest variation in (a) whether social conflict occurs near mineral extraction, and (b) how the government responds to this conflict when it occurs. This variation does not correspond to national boundaries, firm nationality, or natural resource type. Why should we care about these regions, and why is it necessary to have a theory just about them? The obvious answer is that having a theory could guide policy makers and practitioners in trying to avoid some local version of the natural resource curse, where natural resources coincide with violent conflict and low socio-economic development.\(^ {15}\) Having a generalizable theory about these regions can help us understand if and when such a local curse is likely to emerge.

But natural resource extractive regions are interesting for another reason: these are areas where trade-offs between government access to revenue and political support are particularly acute. The fixed and somewhat random nature of natural resource deposits makes the asset particularly vulnerable to protest and local resistance. The costliness of potential resistance shapes the strategic incentives of the extractive

\(^{14}\) Countries that scored a 0 or less on the Polity IV measure of democracy, democracies are those counties that score a 4 or above.

\(^{15}\) Recent works by Arellano-Yanguas (2011), Arce (2014), Arce and Miller (2016), and Haslam and Ary Tanimoune (2016) have paved the way for a closer look at a local resource curse.