



Extractivism, Profits and People: Environmental, Social and Economic Costs of Fluorspar Mining In Kerio Valley, Kenya

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Abstract

This paper examines the disruptive effect of resource extraction through fluorspar mining in Kerio-Valley. Focus is on how this process sparked off economic contestations, intense ecological crisis, and heightened social tensions. The discovery and subsequent mining of Fluorspar deposits in Kerio Valley has created economic opportunities and caused profound challenges for the indigene Keiyo community. Mineral extraction has caused environmental degradation, deforestation, water contamination, cultural desecration, and land dilapidation, which has adversely affected local agriculture and biodiversity. One thousand four hundred families have suffered the disruption of traditional livelihoods occasioning food shortage and hunger, leading to the cultural disintegration of a once vibrant and self-sustained community. Despite government efforts to manage these impacts through various policies and partnerships with multinational corporations, the socio-ecological crises persist. Using grounded theory, this paper argues that the benefits of fluorspar mining is negated by the long-drawn demands for adequate compensation, pollution, and social upheaval. This paper recommends a re-evaluation of governance frameworks and corporate practices in the extractive sector.

Key words: Keiyo, environment, fluorspar, mining, ecology, livelihoods, nationalism, extraction, multinational corporations, capitalism

Introduction

Since the late 19th century resource-rich countries in the global South saw a surge in extractive activities and exports of primary commodities, deepening a 'resource-based' development model (Bridge, 2008; Gudynas, 2013). This rapid expansion has been highly contested, with significant socio-environmental impacts and resistance from indigenous and campesino communities (Conde, 2017). Some local movements have scaled up their struggles, triggering political crises and national changes. However, most opposition to extractive activities or policies promoting them has faced violent state repression (Bebbington & Humphreys Bebbington, 2011).

Patrick Bond's work on resource extraction in Africa provides a critical lens upon which current debates and discussions on socio-economic and environmental repercussions of mining and resource exploitation is anchored. Central to his analysis is the concept of ecological debt, which posits that the environmental costs incurred by African countries due to resource extraction far exceed the economic benefits. In his work on "Climate, Violence, Resource

Extraction and Ecological Debt" (2022), Bond explores the link between environmental degradation, social violence, and historical injustices, particularly in South Africa's coal mining regions. Bond's critique extends to economic exploitation and the perpetuation of underdevelopment in Africa. In his seminal paper, *Looting Africa*, Bond argues that neo-colonial practices and unfair trade relations continue to siphon wealth from the continent, perpetuating economic dependency. The issue of exploitation is discussed by Bond in another of his erudite studies, *Capitalist Crisis, and Uneven Development Applied in Southern Africa* (2021), where he analyzes how global capitalism has exacerbated socio-economic inequalities in Southern Africa.

Bond critiques mainstream environmental approaches for neglecting grassroots climate justice movements in Africa and instead advocating for an eco-socialist framework that integrates environmental sustainability with social justice. Bond's work is pivotal in understanding the complex dynamics of resource extraction and its impact on Kenya's development, offering a critical lens on global capitalism's influence on the country. It is evident that extractive industries remain a source of violence and

the greatest obstacle to economic and social growth and development. Corruption within Africa's extractive industries remain a significant challenge, impacting economic development and governance across the continent. Scholars argue that corruption in this sector undermines transparency and accountability (Besada et al., 2012). The extractive industries, encompassing oil, gas, and mining sectors, are crucial to African economies, yet they often suffer from mismanagement and rent-seeking behavior (Le Billon, 2012).

Studies on extractive industries highlight how corruption hinders effective resource management, leading to revenue losses that could otherwise fund critical social services (Melese & Mutemeri, 2016). The lack of transparency in contract negotiations and revenue reporting exacerbates these issues (Besada et al., 2012). Moreover, weak regulatory frameworks and institutional capacity contribute to the persistence of corrupt practices (Le Billon, 2012). In recent years, initiatives such as the Extractive Industries Transparency Initiative (EITI) have aimed to mitigate corruption by promoting disclosure and accountability (Besada et al., 2012). However, challenges remain in implementing these measures effectively across diverse African contexts (Melese & Mutemeri, 2016). Evidence indicate that extractive industries in Kenya, encompasses sectors such as mining, oil, and gas, has significant potential to contribute to the country's economic development. Challenges abound regarding governance, environmental sustainability, and socio-economic impacts. Kenya's extractive industry holds considerable promise for economic growth. The discovery of oil in Turkana in 2012 marked a significant milestone, raising hopes for substantial revenue generation and economic transformation (Baker et al., 2015). The mining sector, including the extraction of minerals such as titanium and gold, also contributes to the national economy (Mwakumanya et al., 2016).

Discovery and Initial Exploitation

The history of fluorspar mining in Kerio Valley, Kenya, began in the late 1960s when M. Al-Amin, an independent local mineral prospector, discovered significant fluorspar deposits in the region. Initially, Al-Amin mistook the mineral for a gemstone and took it to the Department of Geology for analysis, which was the sole authority to examine and certify mineral finds at the time (Kariuki, 2015). The analysis confirmed that the deposits were indeed fluorspar and existed in substantial quantities, signaling their potential for extensive exploitation. After the discovery of Fluorspar in 1967 the Kenyan government established the Fluorspar Company of Kenya to facilitate large-scale mining operations. To enable mining and exploration activities, the government acquired approximately three thousand six hundred and sixty-four (3,664) hectares (9,000 acres) of land from about One thousand four hundred (1,400) families in the Kerio Valley (Odumo et al., 2014).

Mining operations commenced in 1970, capitalizing on the vast deposits of fluorspar; Kenya's second most abundant mineral after soda ash found at Magadi (Mwakumanya, Maghenda, & Mwamburi, 2016). Fluorspar, primarily used in the manufacture of fluoride for cooling plants, extracted extensively in the 970-acre tract of land, contributing significantly to the economy of the Kerio Valley basin. A sizable portion of the mined fluorspar was exported to India and Europe. By 1997, however, the company faced insolvency due to increased competition and falling prices following China's entry into the fluorspar market. Additionally, the removal of the export compensation mechanism by the Government of Kenya, as part of the Economic Reforms of 1996-

1998, further contributed to the company's financial difficulties (Odote, 2019).

In line with these economic reforms, the Fluorspar Company of Kenya was leased to the private sector. A Canadian entrepreneur Charles Field-Marsham acquired the company through an open tender process, revitalizing fluorspar mining in Kenya. Under the 1987 Mining Act, the newly privatized Kenya Fluorspar Company Limited acquired a Mining Operating License and a Special Mining Lease for twenty-one years, which expired in March 2018. This license allowed the company to conduct all mining operations and exploration drilling within the 3,664 hectares of leased land (Campbell & Hatcher, 2019). By 2011, the Kenya Fluorspar Company was producing between 100,000 and 130,000 tons of fluorspar annually, establishing significant market penetration with leading manufacturers in Europe and East Asia. The company employed a workforce that had grown to four hundred employees (Kariuki, 2015).

Despite its initial success, the company scaled down its operations in 2015 due to weak global demand for Fluorspar and ceased operations in 2016. The company's Mining License and Special Mining Lease expired in March 2018, coinciding with a global downturn in the fluorspar market, rendering operations unsustainable for the Kenyan mine (Conde & Le Billon, 2017). Consequently, the Kenya Fluorspar Company did not renew its mining license and lease, and the company was wound up in accordance with the Mining Act (Kariuki, 2015). In February 2024, six years after the Kenya Fluorspar Company ceased operations, Kenya's Ministry of Mining signed a new mining contract to revive fluorspar mining in Kerio Valley. This new contract was with the UK-based Soy-Fujax Mining Company, a joint venture between Soy Fluorspar (K) Limited, Fujax UK, and Fujax East Africa.

Clans and the Coloniality of Dispossession

The Keiyo situated in Kenya's North Rift region is historically resourced and composed of 17 clans with the Terik clan being most dispossessed. The traditional land spans three geographical zones; The Highlands (Teng'ut), The Middle Lands (Mosop) and The Lower Lands (Soin). Government actions and inactions denied Keiyo people full utilization of their land in line with tradition and ancestry. Environmental and ecological disturbances impacted traditions and livelihoods that depended on the natural environment. The long-drawn struggle for compensation and resettlement has not been successful despite legal and constitutional provisions such as Article 40(3) Constitution of Kenya which mandates the State to fully compensate. Those who claim Keiyo identity assert to be the descendants of a people first subjugated by colonial powers and to have survived the upheavals of imperial persecution. Over the course of history, colonial, post-colonial, and corporate forces have sought to impose social, political, and economic control on Indigenous peoples through an array of missions seeking to convert, civilize and modernize their bodies and practices and to exploit their lands and resources. A critical sentiment shared by all who identify themselves as Indigenous is a historical sense of having endured "illegitimate, meaningless, and dishonorable suffering" (Cf. Niezen 2003:13). However, most extractive industries present as economic necessities or welcome gifts to unsuspecting rural communities set up for persistent structural inequities and gradual displacement. Whether regarded resource curse, natural resource dependence, or the resource community lifecycle, these outcomes show that patterns of inequity develop around sites of extraction, where boom-bust cycles, persistent poverty, and spatial isolation remain

significant sources of structural inequity (Mayer, Malin, and Olson-Hazboun 2018; Brown and Schafft 2011; Carr and Kefalas 2010).

In 1973, the government earmarked an area covering 3,672 Ha (about 9,070 acres) under existing laws (Cap 28 of Trust Land Act Part IV) followed by gazette Notice Numbers 320 and 321 in 1975. Details of the Kenya Gazette Notices was accessible to government officials while the public was not privy. The gazette notice allowed the government to lease the land to the mining company for "21 years with an option of renewal". The one and final renewal was granted in 1997- 2018 after which the land would be reverted to community. However, come 2018, the Government of Kenya through the National Land Commission failed to surrender the land at the expiry of 42 years declaring is government land without justification nor conclusive litigations. The community with the support of community-based organizations continue to unravel how community land became government property

Extractivism and Indigenous livelihoods

For those Indigenous people conscious of their indigeneity, their identity often stands in tension with such state-condoned forms of capitalist development. Indeed, any understanding of the surge of indigenous identity witnessed across the globe over the past few decades should consider the technologies of power exercised by the state and transnational capital on Indigenous bodies and Indigenous-claimed lands. On one hand, the negative effects of resource extraction and economic development have increasingly disrupted traditional lives. And on the other, the expanded forms of communication and engagement have allowed ideas, identities, strategies, and technology to travel. In our case here, the Keiyo have been imbricated in global historical processes (Wolf 1982), and often their very isolation and difference is an effect of contact, not seclusion (Gupta and Ferguson 1992). As such, contemporary expressions of indigenous identity are the consequence of past and present experiences of exploitation and exclusion and the imaginings of an alternative social order. At the zenith of colonial rule in Kenya, the Keiyo emerged one of the powerful Indigenous ethnic groups. Despite becoming a 'pool' upon which the British drew migrant laborers they remained regarded as 'backward' and 'reluctant' participants to the international capital.

Pointedly, within the context of such flux and turmoil, there has been one striking continuity: their long-standing history and complex relations with each other and interesting response they have adapted to such forces of change. J.A. Massam described Keiyo then as "surprisingly honest people" that ... their tradition does not know thefts...they do not make or accept advances readily; they are friendly towards anyone who has been among them long enough to gain their trust (Massam, 187). The Keiyo community considered the natural environment intertwined with mystical powers, fertility, and healing, serving as a source of livelihood through game meat, wild foods, and medicines. However, they also believed these areas harbored pests and required annual burning to eliminate rodents, tsetse flies, and diseases affecting both livestock and plants. When these measures proved insufficient, the community would invite people from other villages to cultivate the land where the bush existed (Massam, *Ibid*). The Keiyo folklore and oral traditions are rich with narratives emphasizing the need to "survive" and "accumulate," which paradoxically could have detrimental effects on the

environment. Despite this, the natural world remained a source of power and wealth, necessitating prudent management.

The Keiyo Indigenous claims arise from various attachments that entwine an intimately lived landscape with a sacred site that secures a peoples' distinct place within the cosmos. Ancestral and spiritual powers inhabit physical geographic and biochemical nature. More than their existence, however, it is the historic and ongoing possibility of losing these attachments that makes their significance more palpable. Indigeneity has emerged in relation to histories of state-sanctioned forms of oppression (Mzee Wilson Rambaie, 2023, Kaptagat Hotel). The community viewed forests as mystical places. Folktales spoke of young men who attempted to cut down large trees without permission or necessity, only to abandon their efforts when the trees appeared to bleed, walk, or talk. Elders circulated these stories, with conservation in mind, although it is debatable whether their primary concern was aesthetic conservation or resource protection for the future. There is, however, evidence of a spiritual conservationism within the community. Certain animals and trees were sacred, with each clan venerating its own sacred tree; for example, the people of Kimwarer (epicenter of fluorspar mining operations) revered the oak. Hunters and tree-fellers made offerings to the deities responsible for forests and wild animals, showing respect for natural resources and assuring that their actions driven by genuine need. The power of certain animals, plants, and places derived from their believed large share of the vital forces released by the act of creation. This respect for the natural world also stemmed from "an appreciation of the beauties of nature, and the communion of man with his world" (Cf. Ruel, 1987).

Despite introduction of agrarian farming based on Western sociocultural and ideological frameworks stressing the domination and "domestication" of the African wilderness, including human communities and the environment, the Keiyo's relationship with nature persisted into the postcolonial period and was manifested in government collaborations with multinational corporations such as the Fluorspar Company. Moreover, the Keiyo had long practiced agroforestry techniques such as selective cutting, woodland protection, and intercropping, responding to competing pressures to retain or remove tree cover. Traditional religious beliefs, common property resource tenure, and farm forestry practices contributed to tree conservation. Indigenous agroforestry techniques and strategies mitigated the impact of deforestation by integrating valuable multipurpose trees into local production systems. Such Indigenous knowledge, especially in the African context is often ignored and maligned by Western scholarship ((Packard, 1981:3; Beattie, 1968:438).

The Keiyo Tragedy: Extractive Dilemma and Resource Nationalism

It has been argued that mineral resources and their by-products are essential for global industrialization. While these products are beneficial worldwide, the negative effects are localized (LeBillon and Duffy, 2018). For local communities, extractive projects often result in severe adverse impacts, such as pollution, land displacement, or water shortages, which can lead to disputes, conflicts, and violence (Conde and Le Billon, 2017). It imperative to understand how the governance of natural resources can mitigate negative impacts and benefit local communities while avoiding violent conflicts is crucial.

Studies indicates that prevailing governance arrangements have varied impact on the human security of local populations at

resource extraction sites (e.g., Grayson, 2010). The presence of police, military, or private security forces in project areas might reduce violence, but new conflicts over benefit distribution can arise within and between local populations (Arellano-Yanguas, 2011b). International organizations, policymakers, and academics advocate state-led participation and consultation mechanisms to transform conflicts, ensure rights, and avoid the 'resource curse' (e.g., Ahmadov, 2014). Studies in anthropology and political ecology, however, reveal that Extractivism often fails to enable genuine participation and instead used to expand extractive frontiers (Schilling-Vacaflor and Eichler, 2017).

Indigenecommunities can propose their own mechanisms to control extractive projects, such as communal environmental monitoring, or opposed projects by initiating globalized campaigns (Paredes, 2016). Additionally, non-governmental organizations (NGOs) can critically assess state and corporate activities to highlight human rights violations (e.g., Global Witness) or help establish new institutional rules (e.g., the Extractive Industries Transparency Initiative – EITI, Arond et al., 2019). Overall, the literature emphasizes that the effectiveness of governance instruments depends on the power imbalances and potential conflicts among actors who can implement or undermine the various formal and informal rules operating in each context and across different scales (Campbell and Hatcher, 2019).

Fluorspar mining in Kenya, particularly in the Kerio Valley region, has been a significant economic activity for decades. This mineral, essential for various industrial applications, has in general contributed to the local and national economy. However, the social and ecological consequences of fluorspar mining are substantially impacting communities and the environment in profound ways. Mining of this mineral has slowly affected soil, water, and biodiversity. One of the chief environmental concerns in this region has been land degradation. Mining operations involve extensive excavation, which disrupts the natural landscape and leads to soil erosion. This degradation diminishes land productivity, impacting local agriculture, a critical livelihood for residents in the region (Mwakumanya et al., 2016).

On the other hand, the mining process has emitted waste including toxic chemicals that can leach into nearby water bodies. Contaminated water sources pose a severe risk to both human health and aquatic life. Studies have shown elevated levels of fluoride and heavy metals in water bodies near mining sites, which can lead to serious health issues, such as skeletal fluorosis in humans and adverse effects on wildlife (Kiptum et al., 2017). Additionally, fluorspar mining has continued to threaten the Kerio biodiversity. The destruction of habitats due to mining activities displaces wildlife and disrupts ecosystems. Flora and fauna has not been spared by mining operations leading to a decline in species diversity and abundance (Odumo et al., 2014). The loss of biodiversity not only affects the environment but also the cultural heritage and livelihoods of local communities who rely on these natural resources.

The social impact of fluorspar on local communities includes loss of land hencedisplacement,destruction ofsocial structures, livelihoods, and cultural ties, causing long-term socio-economic challenges for the affected populations (Kariuki, 2015). Social conflicts can also arise from mining activities. Disputes over land ownership, resource allocation, and environmental degradation can lead to tensions between mining companies and local communities. These conflicts can escalate, resulting in violence and long-lasting animosities that hinder social cohesion and development (Mwakumanya et al., 2016).

Health problems are another major concern. Exposure to dust and pollutants from mining activities can cause respiratory issues and other health problems among residents. The presence of harmful chemicals in water sources exacerbates these health risks, leading to chronic conditions that strain local healthcare systems (Kiptum et al., 2017). Economic impacts, while mixed, often skew towards negative consequences for local communities. While mining operations create jobs, these are often temporary and do not provide long-term economic stability. Moreover, the benefits of mining are frequently unevenly distributed, with substantial profits flowing to mining companies and a small elite, while the broader community sees slight improvement in their living conditions (Kariuki, 2015).

Fluorspar mining operations in Kerio Valley have led to significant environmental pollution and degradation, causing considerable concern among affected landowners and the broader communities in Keiyo, Baringo, Marakwet, West Pokot, and Turkana districts (Jones 1982). Despite protests from residents and scientific evidence showing that the contaminated water was unsafe for human and animal consumption, irrigation, or other uses, the mining company persisted in discharging hazardous waste into River Kerio (Endoo). To obscure their illegal activities from both the local community and authorities, the company released industrial effluents into the river at night and during periods of heavy rainfall.

Community groups led by Sukutek-Kimwarer decry the desecration of ancestral resting sites by Fluorspar mining operators who periodically exhumed human remains from graves in mining areas without notifying the kin constituting severe social, cultural, and human rights violations (David Arusei, Sukutek-Kimwarer Community Based Organization). Open mining pits left behind pose dangers to the lives of people, livestock, and wildlife. The unresolved compensation issues for those who lost land have further exacerbated anxiety and distress among the local population. Fluorspar mining, which began in the early 1970s, has resulted in significant disturbances, including loss of land and livelihoods, and incidents of intimidation, threats, and harassment from mining authorities.

Kenya's efforts to implement local content policies in the mining sector, particularly in the fluorspar industry, have sparked significant public debate and sentiment regarding resource nationalism. Despite drafting these policies, experiences in extractive industries highlight persistent challenges. The Mining Act's local content requirements are weak and non-binding. Elite capture and patronage often undermine these policies, though cooperative support is a positive step towards community involvement. The heated debate on local content in the Fluorspar sector resulted in lenient legislation to avoid deterring investors.

Conclusion

The case of fluorspar extraction in Kerio Valley, Kenya, underscores the complex interplay between economic development and socio-ecological sustainability in the context of the extractive industries in Africa. Whereas mining operations brought significant economic benefits, including employment and infrastructural development, any gains are overshadowed by severe environmental degradation, socio-cultural disruptions, and human rights violations. The environmental pollution resulting from hazardous waste discharge into River Kerio and the unsustainable mining practices have had long-lasting detrimental effects on the local ecosystem and public health (Jones 1982; Endoo 2016). The disruption of local communities through land dispossession,

inadequate compensation, and the desecration of cultural sites has exacerbated tensions and highlighted the adverse impacts of poorly managed extractive projects. The lack of transparency and accountability, coupled with inadequate enforcement of environmental and social safeguards, has further deepened the crisis, leaving affected communities in a state of despair and ongoing struggle for justice. This study has extrapolated on extractive industries in Africa and in particular Kenya to show how they play a crucial role in the continent's economic landscape, driving substantial revenue generation and employment opportunities. The sector is, however, fraught with significant challenges that hinder its potential to contribute to sustainable development. Environmental degradation, socio-economic inequalities, and governance issues associated with resource extraction have sparked widespread debate and concern.

This study thus illuminates the urgent need for comprehensive reforms in the governance of extractive industries in Africa. Strengthening regulatory frameworks, ensuring fair compensation, promoting community engagement, and enforcing environmental protection measures are essential steps towards mitigating the adverse impacts of mining activities. Additionally, fostering greater transparency and accountability in the operations of mining companies is crucial to prevent the recurrence of such socio-ecological crises. Ultimately, the case of fluorspar mining in Kerio Valley serves as a poignant reminder that economic development must not come at the expense of environmental sustainability and social well-being. A balanced approach that integrates the interests of local communities, environmental conservation, and economic growth is imperative for achieving sustainable development in resource-rich regions of Africa.

Data Availability

Data availability from Corresponding Author

Conflicts of Interest

There is no conflict of interest whatsoever. The findings of the research are of no financial or monetary gain to the author. Only for academic purpose

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